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Original Articles

THE OBLITERATION OF THE CRAVING FOR NARCOTICS

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If some years ago any one had told me that it was possible to take away the desire for morphin, cocain, or alcohol in less than five days with a minimum of discomfort and suffering to the patient, I should have felt justified in treating the statement with a polite skepticism. Such, however, is the fact, if the treatment which is about to be described in this article is carefully carried out. I do not doubt that in my turn I shall be met with skepticism, and perhaps ridicule, and more especially from those members of the profession who have struggled and toiled to break up the morphin and cocain habits. Heretofore there has been nothing so discouraging, so trying to both physician and patient, as the endeavor to eradicate the craving for these drugs.

In my service in the alcoholic wards of Bellevue Hospital most of the patients were simply in the various stages and degrees of alcoholism, but there was always about 1 per cent. among the men and 2 per cent. among the women who were addicted to morphin and cocain. Many of these patients did not wish to be cured; many did earnestly desire to be rid of their enslaving habit. Many were the forms of treatment and drugs with which I tried to break off the habit and take away the craving. In a very few cases I sometimes believed that I had succeeded, but even in these cases there was always a doubt in my mind. In the vast majority of patients I knew that I had failed.

Five years ago Mr. Charles B. Towns, of New York City, informed me that he had a treatment by the use of which it was possible in about three days to remove the craving for morphin and cocain and also for alcohol. After this desire for the narcotics was gone the patients would be able to remain free from the use of morphin, and if it was worth while to the patients it was possible for them to abstain from the use of cocain and alcohol. Mr. Towns, not being a physician, was not bound to tell me the ingredients of this treatment. I begged him to publish it and to put it on an ethical basis, as otherwise I could not use it, but at that time it did not seem expedient for him to do so. Recently he has made the treatment known in all its details to the Opium Congress at Shanghai, and on his return from China he has given me the full details of the treatment and I have been using it in Bellevue Hospital during the last two months.

While the treatment was still unknown to me, and before I used it, I watched Mr. Towns treat various patients addicted to morphin, cocain and alcohol, and found that the claims he made for the treatment were true. I have, therefore, watched patients who ceased the use of their drug five years ago and have not returned to it, and recently I have myself carried out the treatment indicated below.

There are so many factors to be considered in treating those addicted to narcotic drugs that there is no intention here to claim an infallible cure. We are dealing very often with the morally perverted, with those who have been suffering mental or physical pain, with those who have endeavored to stimulate their flagging abilities to ward off failure in life and to spur themselves on by means of these drugs in the hope of succeeding where failure seemed inevitable. Every morphin habitué knows the ease and sureness with which morphin will relieve pain and distress, and if once off the drug and the temptation returns there is a full knowledge of how it may all be relieved. There is no stimulant like cocain, which so fully gives the feeling of being able to do all that one hopes and dreams possible; and there is no drug which so gives the feeling of physical and mental well-being. Added to this, after a few months' use of cocain, there arises a form of persecutory insanity which convinces those addicted to the drug that every one and all the world is against them, and they refuse to listen to any advice. Most alcoholics do not desire to cease from their drinking. When once the habit becomes thoroughly formed, they do not become drunk from haphazard drinking, but they deliberately drink to excess that they may blunt the knowledge of their unhappiness and the realization of their misery and their environment. Alcohol also in many cases brings with it actual physical lesions in the nervous tissues, so that with a deteriorated mentality the higher functions of the mind are destroyed.

The specific in this treatment is the old 15 per cent. tincture of belladonna and the fluid extract of xanthoxylum (prickly ash) and the fluidextract of hyoscyamus mixed in the following proportions:

℞.	gm.	
Tincturæ belladonnæ	62	℥ii
Fluidextracti xanthoxyli.............		
Fluidextracti hyoscyami ....āā	31	℥i

While this specific is being given, the patients do not suffer from the intense diarrhea which usually accompanies the withdrawal of morphin. On the contrary, the most energetic, drastic, cathartic medication is necessary to obtain the desired elimination and to make their bowels move satisfactorily. This cathartic medication forms one of the crucial points in the treatment. Unless it is properly carried out the treatment will fail and the patients suffer intensely and to no avail. If properly carried out, according to the directions given below, the sufferings of the patient are actually but little, and the treatment goes on to a successful issue.

The most useful combinations in my hands have been the compound cathartic pills of the Pharmacopeia, which contain:

R.	gm.	
Extracti colocynthidis compositi......	08	gr. i⅓
Hydrargyri chloridi mitis.......... .	06	gr. i
Cambogiæ	016	gr. ¼
Resinæ jalapæ	02	gr. ⅓

And also the pilule catharticæ vegetabilis:

R.	gm. or c.c.	
Extracti colocynthidis compositi.......	06	gr. i.
Extracti hyoscyami		
Extracti jalapæ ....āā	03	gr. ss
Extracti leptandræ		
Extracti resinæ podophylli.........āā	015	gr. ¼
Olei menthæ piperitæ................	008	M. ⅛

To these last I have added in each pill 1/10 (6 mg.) of a grain of the oleoresin of capsicum, ½ gr. (30 mg.) of ginger, and 1/25 minim (.0025 c.c.) of croton oil. I also found that the ordinary stock preparations of compound cathartic pills were too dry to be effective. I, therefore, had made up fresh masses of these preparations, and the mass equivalent to each pill put into a capsule. The preparations kept their freshness, and their effectiveness was very noticeably increased. I also had put in capsules blue mass in five-grain doses. I have thus gone into details because of their importance.

For brevity, I shall hereafter refer to the compound cathartic pills as C. C. pills, and the vegetable cathartic pills, as modified above, as B. B. pills.

The treatment of a case of morphin or cocain is as follows: Before beginning the treatment, give four C. C. pills and five grains of blue mass. It is also wise at this time to give an enema of soapsuds to clean out the rectum and sigmoid thoroughly. When these pills have begun to act, begin with the specific, 6 to 8 minims, and give it every hour throughout the treatment, or until some signs of belladonna intoxication are observed. Every six hours, increase the specific 2 minims until 14 or 16 minims are being taken every hour. Do not increase above 16 minims. If the signs of belladonna intoxication are noticed, such as dilated pupils, dryness of the throat, red rash, or a rapidity and incisiveness of speech, or sometimes a beginning delirium, stop the specific. When these belladonna symptoms have subsided begin the specific again in 8-minim doses. Some patients are very susceptible to belladonna, and one may have to begin again with 4, 5 or 6 minims. Give with the first dose of the specific from one-half to two-thirds of the usual total daily dose of opium, morphin, or cocain which the patient is taking at the time of his treatment. Divide this amount of narcotic in three doses and give them at half-hour intervals, by mouth or by hypodermic as the patient is accustomed to take it. After the first dose of the specific, wait fourteen hours and then give four C. C. pills and five grains of blue mass; again, six hours later, repeat the four C. C. pills or give four to six B. B. pills. It is essential that the cathartic should act at this time, and, if the above amounts do not produce the desired action within three or four hours, they must be repeated with five to ten grains of blue mass. It is astonishing how difficult it sometimes is to obtain a cathartic action at this period, but cathartics must be persisted in until a movement is obtained. If this is not done, the patients are liable to begin to vomit, and the distressing symptoms of the narcotic withdrawal will come out in full force. An ox-gall enema is sometimes of assistance.

After the bowels have acted, but not before, one-third or one-half the original dose of the narcotic may be given. This will make the patient comfortable and contented and ready for the final stage.

Twelve hours after the second dose of the narcotic again give 4 C. C. pills or 4 to 6 B. B. pills with five grains of blue mass, and six hours later give an ounce or more of castor-oil disguised in coffee or orange juice, but not in whiskey. Just before the castor-oil acts, one may have to give from two to five grains of codein phosphate hypodermically or by mouth to quiet the nervousness and discomfort. This is not always necessary, but it adds to the comfort of the patient and does not tie up the secretions as does opium or morphin. The castor-oil at this time will produce a characteristic stool, which shows that the entire treatment may cease. This is a liquid green stool, composed of mucus and bile. When this stool occurs, or shortly afterward, the patients often will feel suddenly relaxed and comfortable, and their previous discomfort ceases. The transition from discomfort to relaxation and contentment is often strikingly marked.

After the patient has been under treatment for thirty hours, one should begin to give some cardiac stimulant, such as strychnin, 1/30 to 1/60 grain, every three hours, or digitalis or strophanthus, either one of these separately or in combination. These tend to overcome the relaxation of the vascular system, which in these patients often produces a feeling of exhaustion.

During the treatment the patients should be given a regular diet of easily digested food, such as eggs, cereals, bread and butter, and vegetables; coffee or tea if they desire it. Many of these patients have a good appetite throughout and eat abundantly; some, of course, do not, and, beginning in a poor physical condition, do not begin to eat abundantly until after the treatment is ended. After they are through the treatment, their appetite becomes voracious, and during the first week care must be taken that they do not overeat, which they are very prone to do. If their stomachs should become overloaded the discomfort will often make them feel as if they were suffering from the symptoms of withdrawal of their accustomed narcotic. If this occurs, the best thing to do is to give them an emetic, and their distressing symptoms will soon cease.

The treatment of alcoholics with this specific differs slightly from the treatment of the morphin or cocain habitué. The same specific is used and in the same dosage, but it does not have to be continued for so long a time, although there may be some exceptions. Much closer observation is necessary in treating the alcoholic in regard to the symptoms of the intoxication of belladonna. The alcoholic is more sensitive to the belladonna effects. This is only a general rule, because, no matter what narcotic drug an individual may take, or how accustomed he may be to enormous doses of any given narcotic, he may have a marked idiosyncrasy toward any other drug. If, however, there is an idiosyncrasy against belladonna this sensitiveness will show within six or eight hours, no matter which one of the three narcotics under discussion the patient has been taking. The alcoholic is more prone to show a slight delirium from belladonna than are the patients who take morphin or cocain, and often a good deal of shrewd observation is necessary to differentiate the beginning

TABLE OF TREATMENT OF PATIENTS ADDICTED TO NARCOTICS

Case.	Sex.	Age.	Duration of Habit, yrs.	Drugs.	Daily Dose, Gm.	Mode of Admin.*	Alleged Cause.	State on Admission.	Initial Dose Drug, Gr.	Hours of Subsequent Doses.	No. Hours Specific Medication.	Average Hourly Dosage, Drops.	Hour Typical Stool Appeared.	Day of Discharge	Complications
1	F	33	12	M	18	h	Pain after operation.	Emaciated, depressed.	7	26-38-60	58	12	36	14	Vomiting.
2.	M	33	11	M	25	h	Experiment. with drug.	Good	6	28-39-60-63	58	11	58	11	
3.	F	45	⅔	H	4	h	Pain and nervousness.	Weak and nervous.	1	13-24-35-38	52	11	52	10	
4	M	33	2	M	12	h	Pain after operation	Good.	8	22-33-43-53	58	10	50	13	
5.	F	43	1½	M	12	h	Pain, acute rheumatism.	Good.	8	24-35 52-58-82	50†	9	44		Continued nervousness relieved by supplementary treatment.
									2	17-36	40	11	36	13	
6.	M	24	8	M	30	h	Pain.	Fair.	15	24-36	64	10	46	8	
			3	C	15	h	....								
7.	M	32	3	M	6	h	Acute rheumatism.	Weak and despondent.	2.5	25 67	45	12	43	11	
8.	M	24	¼	M	1	h	Rheumatism.	Good.	0.5	25	35	11	34	4	
9.	F	24	⅔	M	2	h	Prevent threat. abort.	Weak and nervous.	1		30	10	38	5	
10.	M	38	3	M	10	h	Stone in bladder.	Good.	4	24-32-41-47-53 11-21-27-35-48 54-64-74-81 97	42†	9	41		Bad condition. A previous "fake" treatment made this long course necessary. Final result excellent.
										101-111	123	3-10		26	
11.	M	50	4	M	2	m	....	Weak and hypochondriacal.	1	25	57	11	57	9	
12.	M	36	4	M	6	h	....	Fair.	3	23	48	10	48	12	
13.	F	27	⅔	M	4	h	Pain.	Good.	2.5	15-25-37	40	13	35	12	
14.	F	30	⅓	M	6		Gastralgia.	Fair.	2	36	54	12	55	9	Slight dyspnea due to heart.
15.	M	27	1½	M	7	h	Painful disease.	Weak and despondent.	5	26-33	61	10	59	7	Slight elevation of temperature.
16.	M	35	1/6	M	4	h	Alcoholism.	Fair.	2	14-27	48	11	48	12	
17.	F	59	20	M	12	m	By Phys. pain.	Feeble, nervous.	6	22-34	46	12	46	13	
18.	M	58	3	M	1	h	Grief, death relative.	Feeble, depressed.	0.5	26	56	9	58	13	
19.	M	35	⅔	M	30	m	Pain after operation.	Good.	20	26-38	50	8	41	11	
20.	M	58	12	M	5	m	....	Good.	3	24-38 7-22	49	10	47†		Persistent nervousness removed by supplementary treatment.†
										36-60	114	3-12		14	
21.	F	32	8	M	10	h	Environment.	Fair.	12	24 hrs. 4 grs. 52 hrs. Cod	52	13	48	22	
22.	F	23	3	M	12	h	Prescribed following typhoid.	Poor.	8	18 hrs. 2 gr.	52	13	48	11	Alcohol.
23.	F	30	7	M	12	h	Prescribed during illness.	Poor.	8	24 hrs. 2 gr. Cod. 5 gr. 47 hrs.	47	8½	47	12	
24.	F	28	8	M	10	h	Environment.	Very poor.	5	23 hrs 3 grs.	49	12	49	14	Anemia.
25.	M	32	1½	M	5		Lumbago.	Good.	2	30 hrs. 1 gr. 54 hrs. 5 Cod.	54	13½	54	10	Alcohol.
26.	M	39	3	C	12		Nasal catarrh.	Fair.	4	32 hrs. 1 gr.	40	19½	40	8	
				M	5				6	26 hrs. 2 gr.	45	11	45	17	
27.	M	36	2	M	6	m	Following operation.	Good.		22 hrs. 3 gr. Cod.					
28.	M	50	7	L	2 doz.		Following diarrhea.	Good.	2	24 hrs., oz. 1 Laudanum: 40 hrs. Cod. gr. v.	47	11	47	6	

*M stands for morphin; C for cocain; H for heroin; L for laudanum; h for hypodermically, and m for by mouth.
† Supplementary treatment indicated in text.

delirium of belladonna from the ordinary delirium of alcohol. The belladonna delirium is, I think, a less furious and less pugnacious delirium than that of alcohol. The patients are more persistent and more insistent in their ideas, and more incisive in their speech concerning their hallucinations than is the alcoholic. The hallucinations of alcohol are usually those of an occupation delirium; those of belladonna are not. The various hallucinations of alcohol follow each other so quickly that a man is busily occupied in observing them one after another. The belladonna delirium is apt to be confined to one or two ideas in which the patient is very insistent.

If these symptoms of belladonna intoxication occur, of course, the specific must be discontinued, beginning again with the original smaller dose. When an alcoholic is admitted in the midst of his spree, or at the end of it, the first thing to do is to put that patient to sleep, and the only medication which precedes his hypnotic is the four C. C. pills. The hypnotic which has given me the best results is the following:

℞.	gm. or c.c.		
Chlorali hydrati	1		gr. xv
Morphinæ		008	gr. ⅛
Tincturæ hyoscyami	2		ʒss
Tincturæ zingiberis		6	m. x
Tincturæ capsici		3	m. v
Aquæ ad	15		℥ss

This can be given and the dose repeated in an hour, with or without one or two drachms of paraldehyd.

If these are not effective within two hours, or even less, and the patient is of the furious, thrashing, motor type, a hypodermic injection of the following will almost invariably quiet him:

R.	gm. or c.c.	
Strychninæ sulphatis	002	gr. 1/30
Hyoscyamin sulphatis	0006	gr. 1/100
Apomorphinæ hydrochloridi	006	gr. 1/10

If the patient has been very hard to put to sleep and needed all these hypnotics, I let him sleep until he wakes naturally before beginning the specific. If, however, he goes to sleep easily with the chloral and paraldehyd, it is safe to wake him every hour for his specific, as he will quickly drop off to sleep.

I believe it wise to give most alcoholics 1/60 to 1/30 of a grain of strychnin every four hours. In the young robust alcoholic this may not be necessary, but in the majority of those at the end of a protracted spree it is more often indicated than not. Fourteen hours after the beginning of the specific the patient should again be given a cathartic. One must judge here from the severity of the action of the 4 C. C. pills whether the same dose should be repeated, or whether only 2 C. C. pills with five grains of blue mass should be given. Although I have never seen one of these patients overphysiced, we must treat them as individuals and not fall into the dangerous habit of routine treatment.

At this stage of the treatment the young full-blooded alcoholics may need a further dose of the hypnotic, and one may be able to carry them through the entire treatment without any alcohol; but the older alcoholics and those in a weakened and poor physical condition should have with their milk one or two ounces of whiskey about four times a day. This whiskey and milk is to be given only for the first twenty-four hours. During the second twenty-four hours probably only two doses of whiskey will be required, and after that it should not be given at all.

After the second dose of cathartics has acted, if the patients begin to show the characteristic green, mucus stools, they should be given an ounce of castor-oil, and from this dose the characteristic stool, as described under morphin, will appear and the treatment may cease. If, however, the green stool does not begin to appear at this time, further C. C. pills should be given, and as soon as the green stool begins to appear the castor-oil should be given.

After this treatment, with its vigorous elimination, these patients will feel languid and relaxed, but there is no craving for the alcohol. For the next two or three nights, if they can not sleep, they should be assisted with some hypnotic, such as sulphonethylmethanum (trional), and they should be given at regular intervals any good vigorous tonic that does not contain alcohol but will act quickly. For at least a week following this treatment they should continue their tonic, and they should live on a simple diet which is readily digested, but have an abundance of food.

It seems well to reiterate here, and to emphasize in the strongest way possible, that this treatment is not an infallible cure for alcoholism, for there is no such cure short of the grave. This does obliterate the craving, and establishes a patient's self-confidence to go on without alcohol; it will do all that can be done for the man who honestly desires to be helped; but as sure as that man lives, and just so long as he lives, he can not touch alcohol in any form whatsoever without danger of a relapse.

In the above description of the treatment for morphin, cocain or alcohol, I have spoken as if the patient was taking a single drug. Very frequently we encounter patients who are taking morphin and cocain or morphin and alcohol. When this treatment is given to the cocain habitué who is taking only cocain, or when morphin and cocain are combined, the patients sleep almost continuously throughout the treatment. Cocain is usually taken as a stimulant, an antidote against the depressing effects of the morphin, and this should never be forgotten; therefore, the initial dose of the morphin, in the very beginning of the treatment, when the two drugs are combined, should be smaller than when morphin alone is taken. Cocain is so strong a stimulant that when it is withdrawn it is often necessary, from the very beginning of the treatment, to give a stimulant, such as strychnin, instead of waiting thirty hours, as stated above.

The familiar symptoms in morphin withdrawal, such as intense diarrhea, intense joint and abdominal pains, and muscular contraction, do not occur when this treatment is properly carried out. They are most likely to appear just before the second cathartic acts, and for that reason, as emphasized above, the cathartic action must be obtained at this time. If this is not done, the patients are certain to have trouble.

The accompanying table gives in abbreviated form the course of the treatment in a number of patients and gives a statistical view of the various types of patients and the duration of their treatment. The duration of stay in the hospital may seem excessively long, but many patients remained in order that they might be built up physically after their treatment. Their craving for their drug ceased when the characteristic stool occurred.

As is well known, morphin is often taken to smother the pain of some underlying disease, or the distress of some disturbance of function. If these causes still exist after the morphin has been eliminated, the evidence of this former disease or this disturbed function will come to the surface again. At times the narcotic addiction is but a symptom of some abnormal mental state which is only diagnosticated after the narcotic craving in the patient has been removed. This treatment is not a cure-all for disease, a rehabilitator of all the disturbed functions of the body, but if properly carried out it will obliterate the craving for the narcotic and the patient starts anew where he was before taking the narcotic.

The details of this treatment have been given so minutely because it is necessary that they should be carried out, for the success of this treatment depends on the conscientious adherence to its many details. Unless this adherence is given, this treatment will probably not succeed. A successful issue is endangered when an attempt is made to carry out the treatment in the patients' homes and in their accustomed environment. They must be placed where they are alone and where they can be carefully watched. Morphin habitués never begin a treatment with any confidence of its success, but invariably with a dread of the distressing withdrawal symptoms. They will secrete the drug in the most unexpected places, and they are the most sly and resourceful creatures on earth, especially those who have ever tried to break it off. No physician is capable of taking this treatment himself and carrying it through successfully. If it is attempted, the old medical adage that the doctor who treats himself has a fool for a patient will be strikingly exemplified.

This treatment does not offer a cure of the perverted habits of the human race, or a regeneration of the mentally defective. It will obliterate the craving for narcotic drugs, and that is all that is claimed for it.

36 East Thirty-first Street.

THE PREVALENCE OF RABIES IN THE UNITED STATES *

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The identity of rabies as a definite disease appears now to be generally accepted, although there is still some question as to its etiology. The impression has prevailed, however, that the prevalence of the disease among both man and animals was exaggerated and that press reports of rabies among animals were in most instances erroneous.

That rabies has been endemic in the United States for more than a hundred years is shown by reports of cases and references to the disease in the medical literature from time to time during that period.

In reviewing the history of rabies in America, Ravenel states[1] that the first outbreak was reported from Boston in 1768, that it appeared in Philadelphia in 1779, that it was prevalent throughout the Northern states in 1785, and that soon after that time it spread to the Southern part of the country.

Reports of the disease have also appeared in newspapers from time to time for over a century; one of these, published in 1798 and recently quoted by Peters,[2] indicates that the disease prevailed in Massachusetts at that time.

There has undoubtedly been considerable variation in the prevalence of rabies from decade to decade, which fact has been responsible for inquiries in the past regarding the disease. Outbreaks in Massachusetts and other places have been observed within a year or two and invited attention to the desirability of further studies as to its general prevalence at the present time, and the means necessary for its control.

The Legislative Council of the American Medical Association, which met in Chicago, Dec. 10, 1907, adopted resolutions to the effect that rabies should be investigated by the U. S. Public Health and Marine-Hospital Service with the view to its prevention and control.

Provisions for investigations of rabies as it affects man had previously been included in a measure which was introduced into the Sixtieth Congress, and which it was expected would become a law. In view of the adoption of the above-mentioned resolution, however, it was decided immediately to resume laboratory investigations and to institute preventive treatment for the protection of persons bitten by rabid animals.

The Surgeon-General accordingly instructed the Director of the Hygienic Laboratory to undertake the preparation of rabies virus in connection with other investigations, and treat any persons who had been bitten by rabid animals and who might apply for such treatment.

The large demand for virus from different parts of the country indicated a widespread distribution of rabies throughout the United States. It, therefore, seemed desirable to determine as far as possible the geographical distribution of the disease as indicated by deaths among human beings and prevalence among animals.

SOME PREVIOUS REFERENCES TO THE PREVALENCE OF RABIES

In 1900 Salmon[3] reported an extensive investigation into the prevalence of the disease. He reported 230 deaths among human beings in seventy-three of the principal cities of the United States during the decade, 1890 to 1899. He also detailed reports of the existence of the disease in man or animals in the twenty-five states as follows:

Massachusetts
New York
Pennsylvania
Illinois
Iowa
Indiana
Missouri (?)
Wisconsin
Montana
Colorado
Nebraska
Minnesota
Ohio
Alabama
Tennessee
Maine
Maryland
North Carolina
Louisiana
Delaware
South Dakota
Kansas
Oklahoma
West Virginia
Wyoming

From the data presented, he concluded that rabies was much more common than had been supposed.

In 1906 Schroeder,[4] in discussing the prevalence of rabies, presumably in animals, quoted the Chicago *Chronicle* of Sept. 22, 1906, to the effect that rabies had existed during that year in the following fourteen states: Massachusetts, Ohio, North Dakota, South Dakota, New York, Michigan, Connecticut, Indiana, New Jersey, Kentucky, Pennsylvania, Delaware, Illinois and Rhode Island. In addition, Schroeder knew of cases in Maryland, Virginia, North Carolina and the District of Columbia.

In 1908 Hart[5] reported especially the prevalence of the disease in the District of Columbia, and stated that since 1903 positive cases had been diagnosed at the pathological division of the Bureau of Animal Industry from the following states: Virginia, Maryland, Indian Territory, Indiana, North Carolina, South Carolina, Georgia, West Virginia, New Jersey, Maine, and Wisconsin. He also referred to reports of its prevalence in Pennsylvania, Connecticut, Florida, Mississippi, New York, Illinois, and Minnesota, and stated that there was abundant evidence to warrant the statement that not a single state was free from the disease. Interesting facts on the prevalence of rabies are in the appendix to a report[6] issued in 1900 by the Committee on Public Health of the Medical Society of the District of Columbia. Among the localities mentioned is California.

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Ravenel, Mazyck P.: Bull. 79, Dept. of Agric., Pennsylvania, 1901.

[2] Peters, A.: Rabies in Massachusetts, Am. Jour. Pub. Hyg., February, 1907, p. 94.

[3] Salmon, D. E.: Year-Book Dept. Agric., 1900.

[4] Schroeder, E. C.: Circ. 120, Bureau of Animal Industry, 1908.

[5] Hart, G. H.: Circ. 129, Bureau of Animal Industry.

Many similar references might be made to reports of cases and estimates of its prevalence scattered through the literature. The assembling of such isolated references would be of much interest, but it is doubtful if they would render clearer our knowledge of the general prevalence of the disease.

In 1901 Ravenel[7] stated that there was no systematic report of rabies in the lower animals in any state, so that it was impossible to give any idea of the number of dogs or other animals affected yearly. He expressed the belief, however, that the disease was more prevalent than was generally supposed, and that it would increase unless controlled by means of efficient laws.

Moore[8] has also stated that the prevalence of the disease can not be accurately determined as there are no reliable statistics concerning it.

The same statement in a measure applies also with respect to the prevalence of the disease among human beings.

MORTALITY STATISTICS OF RABIES

On account of the almost uniform fatality of rabies among human beings, complete mortality statistics, if available, would give a fairly accurate idea of the geographical distribution of the disease. Unfortunately such statistics for the entire country are not available.

The Bureau of the Census has collected statistics[9] of rabies in the registration area, the deaths by years from 1900 to 1907 being given in Table 1.

TABLE 1.—DEATHS FROM RABIES IN THE REGISTRATION AREA OF THE UNITED STATES, 1900 TO 1907

1900	1901	1902	1903	1904	1905	1906	1907
33	41	45	43	38	44	85	75

The registration area comprised fifteen states, the District of Columbia, and seventy-eight cities, and contained an estimated (1906) population of 40,996,317. The total estimated population of the country during that year was 83,941,510.

The census statistics indicate that in 1906 and 1907 there were almost twice as many deaths from rabies as had occurred in any previous year since 1900. These deaths were distributed as shown in Table 2.

TABLE 2.—DEATHS FROM RABIES IN THE REGISTRATION AREA OF THE UNITED STATES, 1906 AND 1907

	1906		1907	
In Registration Area.	Cities.	Rural.	Cities.	Rural.
Connecticut	5	1	2	1
District of Columbia	0	0	1	0
Indiana	1	4	1	2
Maryland	2	0	0	0
Massachusetts	5	3	3	0
Michigan	2	2	1	2
New Hampshire	0	0	1	0
New Jersey	5	4	1	3
New York	15	1	27	3
Pennsylvania	10	4	2	10
Rhode Island	2	0	0	0
Cities in other states	19		15	
	66	19	54	21

PRESENT INQUIRY INTO THE PREVALENCE OF RABIES

When prophylactic treatment of rabies was begun by the service in April, 1908, preparations were also made to secure information regarding the occurrence of the disease throughout the country. Every effort was made to secure information regarding cases reported, and a letter was addressed by the Surgeon-General to health officers in every state and requesting their cooperation in the collection of data.

It was not expected that the facts elicited would by any means represent the exact prevalence of the disease, but rather its geographical distribution. This latter information is of importance from a public health standpoint as indicating where preventive measures are most needed and where prophylactic treatment should be made available.

For information regarding the disease, recourse has been had to state and territorial health authorities, including the District of Columbia; county and municipal authorities; the Bureau of the Census; Pasteur institutes, and press reports. Valuable assistance has been received through these agencies.

On account of the large number who furnished data, it is impossible to make personal mention, but acknowledgments are due and here made to all who contributed information, and whose cooperation rendered possible the collection of facts presented.

By making as careful inquiry as possible covering a certain limited period, it was thought that more definite information would be secured regarding the incidence of the disease. The facts collected and presented, therefore, relate only to the calendar year 1908.

Every effort has been made to include only authentic cases among human beings, and it is safe to say that no duplication of cases has occurred.

The same care has also been observed with respect to outbreaks among animals.

Table 3 contains the number of deaths reported among human beings in each state, and the number of localities in each state from which rabid animals were reported.

TABLE 3.—RABIES IN THE UNITED STATES DURING 1908

State.	No. deaths in man.	No. localities in which rabid animals were reported.
Alabama	1	13
Arizona	1	1
Arkansas	1	5
California	0	0
Colorado	0	1
Connecticut	1	7
Delaware	0	5
District of Columbia	0	1
Florida	0	11
Georgia	3	17
Idaho	0	0
Illinois	2	18
Indiana	5	57
Iowa	1	5
Kansas	2	4
Kentucky	1	7
Louisiana	4	3
Maine	0	0
Maryland	6	12
Massachusetts	5	9
Michigan	3	11
Minnesota	2	18
Mississippi	1	10
Missouri	8	9
Montana	0	0
Nebraska	1	5
Nevada	0	0
New Hampshire	2	7
New Jersey	11	41
New York	19	52
New Mexico	0	0
North Carolina	0	19
North Dakota	0	2
Ohio	4	32
Oklahoma	3	6
Oregon	0	0
Pennsylvania	14	25
Rhode Island	1	10
South Carolina	1	5
South Dakota	0	2
Tennessee	1	7
Texas	3	15
Utah	0	0
Vermont	0	1
Virginia	1	37
Washington	0	0
West Virginia	0	2
Wisconsin	3	42
Wyoming	0	0
	111	534

The accompanying map shows the reported deaths from rabies among human beings and outbreaks of the disease among animals.

There are 111 crosses, representing deaths, scattered over thirty states and territories. These crosses are

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6. Bull. 25, Bureau of Animal Industry, 1900.

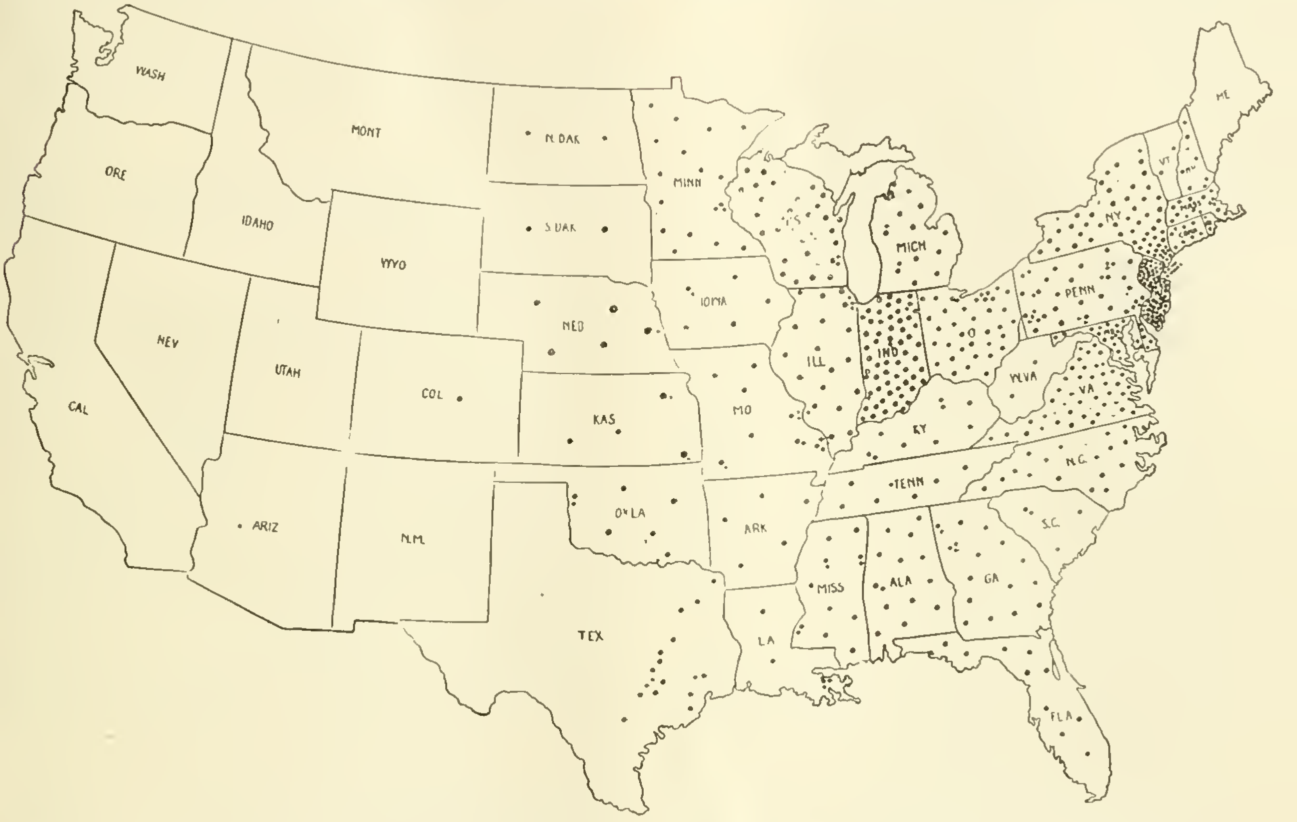
Ravenel, Mazyck P.: Bull. 79, Dept. of Agric., Pennsylvania, 1901.

8. Moore, Veranus A.: The Pathology of Infectious Diseases of Animals, p. 406.

9. Mortality Statistics, Bureau of the Census, 1904, 1906-1907.

placed as accurately as possible to show the exact location within the state where the infection occurred. This placing of the crosses was thought preferable for the purpose of this investigation to one in which the place of death would be indicated.

The dots represent 534 localities where rabies in animals was reported to have existed during 1908. They are not placed to represent the exact location of the disease, but indicate rather the number of places in each state where rabies existed. This arrangement was adopted in order to illustrate more strikingly the national prevalence of the disease. It is necessary to state in this connection that the apparent preponderance in certain states must be attributed in part to the receipt of more complete and detailed information from those sections.



Map showing results of inquiry into the prevalence of rabies in the United States during 1908. The crosses represent human deaths, their position showing where infection occurred. The dots indicate towns, etc., where animals were reported infected, the position in state not being shown.

In some states where comparatively meager data are indicated, a large number of rabid animals were reported, but the localities, not being mentioned, were necessarily omitted in order to avoid possible duplication.

The data presented represent foci of infection actually determined and not the number of cases among animals. The number of foci, however, would no doubt be greatly increased if complete reports from the various agricultural and veterinary institutions were at hand.

Practically all of the figures given, however, are compiled from official sources, representing 3,285 replies to inquiries sent out. Press clippings, on the other hand, furnished only a small proportion of the figures, and in no instance did a press report lack official confirmation. This is contrary to the general opinion that the cases reported in newspapers are usually without foundation.

The most striking feature brought out is the very general distribution of the disease throughout the Eastern portion of the country, and its almost complete absence from the extreme Western part, especially the Rocky Mountain and Pacific Coast regions. It must be remembered, however, that these sections, apparently free from rabies during 1908, have not always been exempt, cases having been reported by previous investigators from Montana, Colorado, California and Wyoming. The animals reported as having been affected were dogs, cats, wolves, horses, cattle, sheep, hogs, squirrels, and skunks.

It was among skunks that the disease was reported in Arizona, and the single death among human beings in that state followed the bite of one of these animals.

Dr. William Brumby, Health Officer of Texas, in a discussion of this subject at the Conference of State and Territorial Health Officers with the Public Health and Marine-Hospital Service, referred to the frequency of the disease also among skunks in western Texas and the dangers of the transmission of the disease through the agency of these animals.

Reports received from various sources indicate that a large number of laboratory diagnoses were made of the disease among animals during the year, but it was impossible to include many of these cases in determining the foci of infection for reasons previously mentioned.

FACILITIES FOR TREATMENT OF RABIES IN THE UNITED STATES

The reports thus far secured indicate that nearly 1,500 persons took the Pasteur treatment during 1908 on account of having been bitten by rabid, or supposedly rabid animals. On account of the futility of legal measures for the suppression of the disease, resort to prophylactic treatment to this extent was rendered necessary.

Pasteur treatment was no doubt a potent factor in the prevention of human deaths from this disease, but it must be regarded as a temporary and costly expedient to be maintained to save lives only until such time as more effective measures of attacking the disease at its root are being perfected and put in operation.

On inquiry, it has been ascertained that the Pasteur treatment is being given at present at the following institutions:

PASTEUR INSTITUTES, OR THEIR EQUIVALENTS, IN THE UNITED STATES

Montgomery, Ala.	Under State Board of Health.
Newark, Del.	Under State Board of Health.
Washington, D. C.	Hygienic Laboratory, Public Health and Marine-Hospital Service.
Jacksonville, Fla.	Under State Board of Health.
Atlanta, Ga.	Two institutions, one of them under the State Board of Health.
Chicago, Ill.	
Indianapolis, Ind.	Two institutions.
Iowa City, Iowa.	Under State Board of Health.
New Orleans, La.	
Baltimore, Md.	
Ann Arbor, Mich.	Under Board of Regents, State University.
Minneapolis, Minn.	Under State Board of Health.
St. Louis, Mo.	
New York City.	Two institutions, one of them under the municipal government.
Raleigh, N. C.	State Laboratory of Hygiene.
Pittsburg, Pa.	
Marietta, Pa.	
South Carolina.	One to be opened in July, 1909, under State Board of Health.
Austin, Tex.	Under State Board of Health.
Richmond, Va.	

There are thus over twenty institutions located in nineteeen states prepared to give Pasteur treatment, twelve of them being under official auspices.

VIRUS FURNISHED BY THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE

Since April, 1908, the U. S. Public Health and Marine-Hospital Service has been treating, free of charge, exposed persons who applied at the Hygienic Laboratory, Washington, D. C. At the close of the calendar year, ninety-nine persons had availed themselves of the privilege. In addition, virus has been furnished to state health authorities on their request and for administration under their direction.

The treatment of persons at a distance from the laboratory by means of virus, forwarded when necessary under the system maintained, has proved entirely satisfactory. By this means a supply of virus is made available at all times, and especially to persons unable to secure it themselves because of financial limitations.

The treatments are shipped by mail in response to telegraphic request, and on arrival are both pure and potent. Slight delay in delivery has seemed to cause no appreciable decrease in potency, a considerable number of treatments having been sent to the Isthmian Canal Zone and used there with complete success.

The Pasteur treatment is undoubtedly a powerful factor in preventing mortality, but the necessity for it will be obviated when measures for the suppression of the disease among animals become effective.

That the extinction of rabies is a possibility is a matter of historical knowledge, as evidenced by the brilliant results of effective legislation in England and other countries.

The prevalence of rabies to the extent shown by this inquiry is evidence that further measures of suppression are necessary. It is pertinent in this connection to refer briefly to the measures authorized in certain states concerning which information is at hand

In Connecticut a state law requires the registration and tagging of dogs and the destruction of dogs not registered and tagged. Local health officers are required to report the occurrence of rabies to the Commissioner on Domestic Animals, who may make regulations to check the spread of the disease, such regulations to be published and obeyed under penalty of fine. A state law also provides for Pasteur treatment when necessary at state expense. On the oath of a physician that the treatment is necessary it is furnished at the expense of the town, the town being reimbursed from the state dog license moneys.

In Delaware, patients are treated by the State Board of Health at cost.

In the District of Columbia, the District Commissioners are required to issue a muzzling ordinance on the occurrence of rabies. Exposed persons are treated at the Hygienic Laboratory, Public Health and Marine-Hospital Service, on application, and treatments are mailed free, on application by state health authorities.

In Florida, the duty is placed by law on the State Board of Health to prevent the importation and spread of rabies. The Pasteur treatment is administered under the general statutes by the State Board of Health at the patient's home.

In Indiana, the state veterinarian is authorized to order the muzzling of dogs on the appearance of rabies.

In Maine, the state law empowers the State Board of Health to make regulations preventing the introduction and spread of rabies.

In Massachusetts, the powers to take measures are delegated to the Cattle Bureau, except in the City of Boston, where the Board of Health has this authority. A resolution recently approved in the legislature provides that the State Board of Health shall cause suitable provision to be made for the treatment of rabies in man by appropriate remedies, and shall report as to the expense and advisability of preparing these remedies under the direction of the State Board of Health.

In Michigan, the prevention of rabies is provided for in the law relating to diseases in cattle, and indigent persons are treated at the expense of the township, city or village.

In Minnesota, by a regulation of the Sanitary Live Stock Board, a muzzling order may be issued by local boards of health where rabies exists. A state law provides for the free treatment of residents of the state, a special appropriation having been made for that purpose.

In New Hampshire, a law permits the local authorities to cause all dogs to be muzzled for such period as may be determined.

In New Jersey, laws provide for the issuance of a muzzling ordinance by the mayors of incorporated towns and the destruction of unmuzzled dogs; also for the notification to the State Board of Health of contagious or infectious diseases among animals, the investigation of reports by the board, and the taking of such precautionary measures as may be deemed necessary.

In New York, the restriction of the disease is placed under the control of the State Commissioner of Agriculture. A law provides that patients may be sent to New York for treatment at county expense.

In Rhode Island there is no state law controlling rabies. When the disease exists the local councils require the muzzling of dogs for a certain period.

In South Carolina, a law provides that the health officers shall, in case rabies exists, place restrictions to prevent its spread.

In Vermont, the public statutes empower the State Board of Health to make regulations to muzzle dogs when rabies is found, and to kill unmuzzled animals.

These serve to illustrate briefly the measures in use. A considerable number of states seem to have no provision for the institution of measures against rabies, while from others no data have as yet been received.

Notwithstanding the beneficent intent of these state laws and the good results to be expected of them, it is a matter of common observation that their enforcement is too often, through neglect or inability to overcome the obstacles which always appear, more of a failure than an effectual application of suppressive measures.

SUMMARY

To summarize briefly the results of this inquiry, there were 111 deaths in human beings from hydrophobia reported from 30 states during the year 1908. Rabies was reported in the lower animals from at least 534 localities in 39 states and territories, including the District of Columbia. Evidence has also been secured of nearly 1,500 persons who, on account of exposure to rabies, or presumably rabid animals, were obliged to take the Pasteur treatment.

The disease is disseminated throughout the Eastern three-fourths of the country, and seems to have been unknown during the past year only in the Rocky Mountain and Pacific slope regions.

The suppression of rabies in man merely affords another instance of the necessity of eliminating a like disease from among animals.

This means the destruction of infected animals and the proper muzzling of all dogs in infected areas.

ABSTRACT OF DISCUSSION

DR. H. M. BRACKEN, St. Paul: I hope that Dr. Kerr will revise the map before it is published. It is not quite fair to Indiana that it should appear to be so much worse than all other states, some of which undoubtedly have as much rabies. Probably Minnesota would be as badly spotted as Indiana is if all the cases of rabies had been reported. In Minnesota the reporting is under two departments, the Live Stock Sanitary Board and the State Board of Health. This map illustrates what I have always maintained, viz., that it is a mistake to have two sanitary boards, one for animals and the other for humans. Under the present Minnesota law the State Board of Health has no interest in a rabid dog until it bites a human being. There is a Pasteur Institute in Minnesota, where during the past year over 200 human beings were given prophylactic treatment. All had been bitten by a rabid (or supposedly rabid) animal. In a few instances we were not able to get the head of the biting animal, and therefore could not prove rabies, but a large percentage of the individuals were shown by the findings to have been bitten by rabid animals. I think the Minnesota State Live Stock Sanitary Board would be glad to furnish Dr. Kerr with the number of cases of rabies on its records, and I know that Dr. F. F. Wesbrook, director of the laboratories (and Pasteur Institute) will be glad to give data for the State Board of Health. I am glad to know that the material for prophylactic treatment put out by the United States Public Health and Marine-Hospital Service is to be sent only through boards of health. I do not think it is safe to put the prophylactic treatment for rabies in the hands of every physician in the country. Health officers know who the competent physicians are, and if a dog has bitten a person and prophylactic treatment is to be given, the health official is the proper one to determine who shall give the treatment. In Minnesota, when prophylactic treatment is necessary, this is given at the Pasteur Institute free of charge to residents of the state.

It may be interesting to know that in Minnesota the attorney general has given a ruling that the control of rabies comes under the same law as other communicable diseases, and, therefore, the expense connected therewith falls first on the municipality (city, village or township, as the case may be). The bitten person, if poor, does not have to stop and ask where the money to pay for traveling expenses, board, etc., is to come from. The local board of health sends the individual to the Pasteur Institute at once and the question of who shall pay the bills finally is determined.

DR. W. M. BRUMBY, Austin, Texas: I notice that very few cases have been reported from Texas, which I regret. So long as we have had so many cases, it is unfortunate that Dr. Kerr did not have the opportunity of making a better report possible from our state. The Pasteur Institute, however, is not under the state health department, but under the superintendent of one of the insane asylums. As many as 1,350 cases of hydrophobia have been treated at that institution in a little less than the last five years, with 6 deaths. The patients who died were invariably bitten fearfully, lacerated or macerated, many bitten as frequently as from 25 to 50 times, if I am not mistaken; 5 or 6 were children. At our institution the officials prepare their own specimens, and have been very fortunate in their work; very few instances of any septic trouble resulting are known. There is a uniform charge of $25 in each case—each patient treated; unless, of course, the patient is in needy circumstances, when no charge is made.

In 75 per cent. of the cases the individuals were bitten by skunks. There is more hydrophobia in west Texas, Arizona and New Mexico, apparently, in proportion to population, than east of that point. It is asserted that a certain skunk is very susceptible to this disease and it is known as a "hydrophobia cat." These animals have rabies and die with it. About 2 or 3 per cent., possibly, of the patients bitten, were bitten by wolves. Our institution at present has 27 or 28 rabies patients in it, and has had constantly, for the last twelve months, from 22 to 32 cases at a time. I forgot to get the exact number of cases treated last year; but I am pretty sure that there were about 400 such patients treated in the last 12 months in Texas, 80 per cent. of which were from the state of Texas. Others came from Mexico, New Mexico, Arizona and Louisiana.

DR. JOHN F. ANDERSON, U. S. Public Health and Marine-Hospital Service: It has been decided that in the lack of any special arrangements it was not wise to send out the emulsion ready for use; although that is done by some of the commercial firms, who send it out in a modified thermos apparatus. We sent out our cords, each treatment being in a separate glass vial. This is sent out to the state health laboratory, with full directions showing how the emulsion should be prepared, and stating the scheme of treatment—either mild or intensive. We have adopted the Berlin scheme; that is, the most attenuated cord we use is the one dried 8 days; whereas, in the Pasteur method, the 14-day cord was used in the beginning. In the Pasteur method, the 2-day cord is only reached at the end of 7 days; we reach it in 4 days; and in the intensive treatment the 1-day cord, which is given only once, is reached on the fifth or sixth day. It is interesting that Ferran in Barcelona has reported some good statistics in which he uses the fresh cord from the rabbit; so, after all, we may be losing a good deal of time in drying our cord and not taking it immediately from the rabbit.

DR. W. FORREST DUTTON, Walker's Mills, Pa.: Within the last few months there have been 25 or 30 cases of rabies in western Pennsylvania. I do not know what is ascribed as the cause; the disease seems to me to be increasing at a rapid rate. There is an efficient Pasteur institute in Pittsburg, but it does not seem to affect the increase in the rate at all. I do not know whether it is the fault of the authorities or some unseen thing that we have to deal with.

DR. M. F. GATES, U. S. Navy: Have any experiments been undertaken at the Hygienic Laboratory or elsewhere, with a view of determining whether or not there is any persistent infection in animals or men apparently cured or recovered from rabies, and to ascertain whether it is possible to redevelop a virulent virus from these cases? It seems to me that, in view of the tendency toward the injection of sera containing living organisms, this is an important point.

DR. JOHN W. KERR, Washington, D. C.: I shall be glad to revise the map to date if anybody will be kind enough to furnish additional information of definite location where rabies was found in 1908. To secure the data presented, over 7,000 inquiries were sent out, and in some instances we have received duplicate reports. In order to avoid misrepresenting a particular state or locality, therefore, we have had to exercise great care, and probably have had a few more reports of infected localities than are shown on our map.

Rabies is a striking disease because of the method of its transmission and uniform fatality. On this account, and on account of the relatively few cases that occur, one would suppose it to be, and it probably is, the easiest disease concerning which to get accurate information. I assure you, however, that a collection of definite data of this disease has been extremely difficult to secure, and this only represents the great difficulty of collecting morbidity and mortality statistics for the entire United States.

Dr. Stimson, my associate in this work, has had entire charge of preparing the virus, and he has made a special study of it, whereas my part of the work has been in connection with the collection of the statistics.

Dr. J. N. Hurty, Indianapolis: Indiana is very well spotted on the map. The reports come in very promptly since we had a symposium on the subject of hydrophobia in our health officers' school, which is held whenever the state board commands. We tried to get a law that would prevent hydrophobia. The idea was to place a heavy tax so as to get rid of all miserable curs, and then only the well-bred, well-cared-for animals would be kept. The bill failed to pass. At Bloomington, Ind., where the state university is located, and where there are from 2,000 to 3,000 students, it was found that in each fraternity house there were from 2 to 4 bulldogs. In one "frat" house a bulldog went mad and infected 21 boys. They all took the Pasteur treatment, and none of them had the disease. With all this horrible experience, the people can not be brought to the point of handling the dogs so as to prevent hydrophobia. I do not know that we can attribute it to stupidity. The people there are students of science and the college has a highly cultured faculty; and yet they will not take steps toward controlling the dogs, the source of the hydrophobia. When we consider educating people in preventive medicine, this experience is rather discouraging. Our statistics show that 3 per cent. of the cases of hydrophobia reported proceeded from cats. Cats and dogs only. We have no record of any other animals imparting hydrophobia.

One of the deaths at Indianapolis occurred eleven months after incubation. A woman's pet dog bit her; the dog afterward died of some disease not known—it may have been hydrophobia; and then the woman developed hydrophobia and died. The physicians who attended (I did not see the case) are confident that it was hydrophobia.

Dr. M. Frederick, Cleveland: We had an epidemic of rabies in Cleveland, so much so that at the present time every dog that bites is placed under the care of a veterinary surgeon at the owner's cost. The city treats every person bitten by a rabid dog free of charge. They are not guarded in an institution. They are allowed to go about their business. Any intelligent physician can administer the treatment. There is no need of sending these people hundreds of miles over the country. A physician who can inject antidiphtheritic serum can also inject antirabic serum.

Dr. W. Litterer, Nashville, Tenn.: Prior to 1900, rabies was a very rare disease in Tennessee. Since that time it has been progressively increasing, until now there are reported more than 100 cases occurring every year in dogs alone. I am sure I could put on the chart 100 dots as well as 3 crosses. One case occurred in Nashville; the patient died recently from typical rabies. I made an autopsy and found the Negri bodies in the cerebellum, in the hippocampus major and in other parts of the brain. A portion of the brain was emulsified and subdural injections made in 3 rabbits and 3 guinea-pigs; they all died from rabies in from 15 to 21 days. The pigs died sooner than the rabbits. When one studies this disease carefully, I am at a loss to know how anyone can doubt its existence. I want to call attention to the prevailing idea, especially among negroes and uneducated whites in my section of the country, concerning the therapeutic value of the madstone when one has been bitten by a rabid animal. The madstone is said to be an enterolith from the deer and is applied to the wound. Owing to its porosity it will stick and when put into milk it is said to turn the milk green. This performance is impressive to many of the lower classes and a number resort to this mode of treatment. I wish to say that such a practice is pernicious. In the first place, it creates in the mind a false security, and secondly, I have in mind a case in which the madstone actually produced the disease. It occurred after the following manner: A man was bitten on the hand by a rabid dog and a madstone applied; several hours later a vicious bulldog (not rabid) bit a 5-year-old child severely on the cheek. The same madstone was applied to the cheek of the child. In twenty-two days the child died from typical hydrophobia. No autopsy was allowed. The bulldog is living to-day, showing that the disease could not have been transmitted by it, but that the only means of transmission was by carrying the virus from one person to another by means of this madstone. As I said before, such a practice is pernicious and should be controlled by legislation.

Dr. A. C. Abbott, Philadelphia: From a limited experience with this disease in Philadelphia, I am convinced that the suggestions of Dr. Friedrich of Cleveland are both important and practical. The value of the treatment is no longer under debate. The time at which the treatment should be given is of immense importance. To waste time in discussing how the means are to be raised for a patient bitten by a rabid animal to go to a Pasteur institute, is, in my opinion, not justifiable. I do not think we should pause to determine who is to pay for this treatment. If the community wants to get rid of the disease and save the patient, it can fairly have the cost of this treatment charged up against it.

The plan that we have followed in Philadelphia in a small number of cases—some of which were certainly hydrophobic, some of which were doubtful in my mind, but which I considered of sufficient gravity to give the patient the benefit of the doubt—has been this: We have secured, at the expense of the health department of the city, materials from reliable laboratories (usually from the New York laboratory), and have detailed one of the physicians of the health department to administer the treatment. We have not had a single death in a number of cases, how many I can not state precisely, but probably twelve would cover them all. They were among people who could not have raised the means to go to New York and remain there long enough to get the treatment; and had they not received the treatment in the way given by us, they would not have received it at all; and I am convinced that there would have been some fatalities. As it was, there was no fatality. We pay $25 for material enough to treat a single case. I do not know the terms under which the emulsion can be secured from the government laboratory.

Dr. H. M. Bracken: It is free.

Dr. A. C. Abbott: I feel, therefore, that it is advisable for those in authority to keep a small supply of this material on hand for emergencies. There is no difficulty whatever about the injection; and so far as the results of the injection are concerned, as Dr. Friedrich says of the Cleveland experience, we had no more bad results than one would get from the injection of antitoxin for diphtheria.

Dr. Juan Guiteras, Havana, Cuba: This disease also extends to Cuba. We had been several years without any cases of rabies until last year, when there was a remarkable increase; and there was just as remarkable a falling off after the law in regard to street dogs was put in force. The disease is now rapidly dying out. We have a Pasteur institute there; and the patients receive the treatment with great success.

Clean Milk.—Preventive measures are better than corrective ones. Pasteurization can not atone for filth. Milk should be produced under clean conditions and kept clean, and it would not then have to be purified. But we must guard against enemies so long as they exist. We would all like to do away with the necessity for armies and navies, but present conditions demand their maintenance. The same is true of harmful bacteria in milk; so long as the average market milk is apt to contain these insidious foes, the only protection we have is to destroy them with heat.—M. J. Rosenau, in *Annals of Medical Practice.*

A NEW TYPE OF PHTHISIOPHOBIA *

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NEW YORK

In these twenty years of work in tuberculosis and with the tuberculous, I have come across a good many types of phthisiophobia. There is, first, the general phthisiophobia, that is to say, the exaggerated fear on the part of the layman of the presence of the consumptive. All physicians who have had anything to do with tuberculosis have seen this type of phthisiophobia. Then there is a phthisiophobia of communities which object to the establishment of sanatoria, tuberculosis dispensaries, day-camps, or even open-air schools. Nearly all our state commissions which have been entrusted with the establishment of sanatoria, have encountered this phthisiophobia, which has its origin in the fear that a sanitary or financial danger may arise to the neighborhood wherein such an institution should be established. In my books and articles[1] I have protested against this type of phthisiophobia more than once and have been able to demonstrate conclusively by statistics that the mortality from tuberculosis among the inhabitants in or near communities where sanatoria have been established has always decreased after the opening of the institution, and continued to decrease.[2] Furthermore, the financial prosperity of the community has been improved as compared with what it was before the establishment of the sanatoria in such localities.

Heretofore, phthisiophobia usually originated in the minds of laymen, although some years ago a young physician,[3] first quoting a number of other authors and then stating his own experience, denounced the average consumptive as having mental peculiarities which manifest themselves in psychasthenia, the loss of self-control, the rise of brute selfishness, all combining to distort the clearness of ethical perception. It was not very difficult to reply to this unjust, totally unwarranted, and unscientific accusation.[4] The best men in our profession came to my assistance. Such men as Osler, Biggs, Janeway, Trudeau, Otis, Tyson, and others gave the benefit of their experience, all showing conclusively that the average consumptive, far from being below the usual moral standard, more often has a higher ethical and humane conception of his duties toward his fellowmen.

Therefore, it was with a genuine feeling of sadness that I read in the *Survey* (New York) of May 22 and in various Oklahoma newspapers that the State Board of Medical Examiners of Oklahoma recently decided to refuse granting licenses to practice medicine to all physicians afflicted with tuberculosis. To justify their position it was held by the board that the interests of the patients demanded this action.

I confess that in all my experience with phthisiophobies I have never heard of such an inhuman, cruel decision. How often has it not been proved that the clean, conscientious, and trained consumptive is not a danger to his fellowmen, but is as safe to associate with as anybody else! Who in the world, in the name of justice and fair play, can be better trained, more careful, or conscientious than the physician who is afflicted with tuberculosis? I have had as internes in one of the great German sanatoria, and in later years as private patients, a goodly number of consumptive physicians, and, while I am willing to concede that they were by no means model patients when it came to resting when they ought to have rested, not once can I recall an instance when they were not scrupulously clean and careful with their expectoration, and in their general behavior the last persons who could propagate the disease.

Last, but not least, what would be our medical science of to-day, where our modern therapy of tuberculosis without the tuberculous physicians—a Laennec, a Brehmer, a Dettweiler, a Grancher, a Solly, a Trudeau, or the hundred others who, because they were tuberculous, devoted or are devoting their lives to saving others from falling victims to the same disease? Laennec taught us to auscultate the tuberculous chest; Brehmer founded the first sanatorium for the tuberculous in Germany and proved more than anybody else the curability of tuberculosis when he defended his celebrated thesis. *Tuberculosis primis in stadiis semper curabilis* (tuberculosis is always curable in its first stages). His most illustrious pupil, Geheimrath Dettweiler, my own immortal teacher, who elaborated on Brehmer's system by adding the rest cure, realizing the need of the greatest precautionary measures in sanatoria, invented the first pocket flask as a receptacle for tuberculous sputum. Anxious to let the masses also be benefited by the invaluable sanatorium treatment, he became the founder of the first sanatorium for the consumptive poor in Germany. And Grancher, one of my French masters, how much are we not indebted to him for proving the pathologic unity of tuberculosis long before Koch's discovery of the bacillus! How much do we not owe him for his clinical description of incipient tuberculosis, and what a beautiful example of brotherly love did he not exemplify when, though childless himself, he created and endowed the work of preserving children against tuberculosis (*œuvre de la preservation des enfants tuberculeux*).

Solly, a consumptive English physician, sought and found in hospitable Colorado and among the fraternal members of the medical profession of Colorado Springs a welcome and a home. He became an American and added glory to the American medical profession by his antituberculosis labors and climatologic studies. His book on climatology is one of the classic productions of the day on this subject.

I name our own Trudeau last, not that he is the least, but perhaps the greatest of them all, for if there ever was a tuberculous physician who typified all that is best in man and in our profession surely he is the one. Twenty-five years ago he arrived, a tuberculous invalid, in the Adirondack wilderness. He was not content to cure himself, but immediately set about to help others, and by hard work and study and with a heart for suffering humanity he has become one of the greatest authorities in the therapy of tuberculosis and the pioneer in the sanatorium treatment in the United States. Thanks to his indefatigable labors there exists to-day at Trudeau, the place named after its founder, one of the most flourishing and beautiful sanatoria, comprising over twenty cottages, infirmary, administration building, church, library, laboratory, etc.

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Tuberculosis, Its Modern Prophylaxis and the Treatment in Special Institutions and at Home, P. Blakiston's Son & Co., Philadelphia; Tuberculosis, in Twentieth Century Practice of Medicine, xx and xxi, Wm. Wood & Co., New York; Tuberculosis as a Disease of the Masses and How to Combat It, The Survey, New York; Public Measures in the Prevention of Tuberculosis, in American Treatise on Tuberculosis, D. Appleton & Co., New York; Tuberculosis a Preventable and Curable Disease, Moffat Yard & Co., New York.

[2] The Sanatorium for Tuberculous Patients, Its Medical and Social Mission, New York Med. Jour., Oct. 21, 1905.

[3] Saxe, G. A. De Santos: Psychical Relation of Tuberculosis in Facts and Fiction, New York Med. Jour., Aug. 1 and 8, 1903.

[4] A Plea for Justice to the Consumptive, Med. Rec., New York, Jan. 2, 1904.

I have named only six of our great therapeutists and antituberculosis workers who, though themselves tuberculous, saved, by their devotion to the cause, by their labor for science and love for humanity, thousands and thousands of consumptive sufferers who without their skill would have been doomed. But what would the places be where these men chose to reside had they not been made famous by the cures wrought by these tuberculous men of science? It was Brehmer who gave the reputation to Goerbersdorf and made of the sleepy village a prosperous town. Dettweiler did the same for Falkenstein. Solly added to the reputation of Colorado Springs, and Grancher to that of Pau, in the Pyrenees, while Saranac Lake, now one of our greatest American health resorts, certainly owes its prosperity to Trudeau.

But what we are most concerned with is not the economic but the purely humane and scientific consideration of Oklahoma's attitude toward tuberculous physicians. Scientifically, the decision of the Oklahoma State Board of Medical Examiners can not stand the test. Tuberculosis is the most prevalent of all diseases, and it has been demonstrated at the autopsy table that almost all of us either have or have had a little tuberculosis at some time or other in our lives. Physicians are not exempt from the disease, and many a one would have to lay down arms and retire should this cruel law of Oklahoma become universal.

And now one more word as to the humane consideration. The majority of tuberculous physicians were well and strong when they entered the profession of the healing art. When they contracted tuberculosis they contracted it in the performance of their duty. In my own life I can count, indeed, altogether too many whom I know became consumptive from overwork and exposure to infection. They had taken tuberculosis from others, but I know they have never given it. They have saved many lives and effaced centers of infection, but never became themselves a source of infection. To reward these men by excluding them from practice, by excluding them from any locality where they may recuperate, do good to others and support their own families, is the most cruel and most inhumane action conceivable by one physician toward another.

The medical profession of the State of Oklahoma can not afford to have the distinction of having created a new kind of phthisiophobia which is cruel, unkind, unjust, and certainly not fraternal. The authorities of that great state can not afford to have the unique stigma of inhumanity and selfishness, not to say lack of wisdom, attached to the fair name of Oklahoma. If the medical board of that state should maintain its attitude, I would consider it a reflection on the medical profession of the whole United States. And it is in the hope that the Oklahoma State Board of Medical Examiners may be induced to reconsider this decision by learning the sentiment of the American medical profession at large on the subject that I ask this Section to adopt resolutions,* for recommendation to the House of Delegates.

16 West Ninety-fifth Street.

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*Editor's Note: Dr. Knopf's resolutions set forth that the clean, conscientious, and trained consumptive is not a menace to his fellowmen, and that the scientific knowledge of tuberculosis has been vastly increased by physicians of the past and present who have been afflicted with tuberculosis; and expressed the regret of the Section at the action of the Oklahoma board and the wish that the restriction be withdrawn. The resolutions were referred by the Section to the House of Delegates, which body referred them to the Reference Committee on Hygiene and Sanitary Science, but no report was returned from that committee, so no action was taken by the House

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A SIDE-LIGHT ON THE ORIGIN OF TABES

DRAWN FROM A COMPARISON OF TABES WITH DIFFUSE SPINAL DEGENERATION AS SEEN IN CERTAIN ANEMIAS AND KINDRED DISORDERS OF NUTRITION *

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BOSTON

The opinion that syphilis is the usual cause of tabes is now almost universally accepted. Yet there still remains a certain percentage of cases for which the proof of this etiology is lacking, and students of the subject still seek for other influences, which may claim to share with syphilis the right to be considered as real causes or to represent agencies without the concurrent action of which the disease would not have occurred. The most prominent of these rivals of syphilis to the claim of being real or virtual causes of tabes is fatigue, in Edinger's sense; that is, not necessarily fatigue which is felt, but physiologic overstrain of special portions of the nervous system, carried to the point of seriously damaging the power of nutritive repair of the parts concerned.

I have myself seen, as we all have, cases in which, under the influence of severe exertion, tabetic incoordination has come on in an acute form. But I have seen exactly the same thing happen from severe and general nervous shock, unattended by physical exertion or by any obvious local strain, and, on the other hand, my personal observation has not led me to the view that local overstrain should count either as an exclusive cause of the tabetic degeneration or as capable of determining to any great extent the direction in which it will develop. I admit that these two opinions do not stand on precisely the same footing. The argument for the view that fatigue and local overstrain can not be adjudged sole causes of tabes is much stronger than the argument that they can not be regarded as capable of determining the direction of development of the degeneration. Still, the evidence is far from being overwhelming that one form of tabes is characteristic of brain-workers, another form, of muscle-laborers. We know as yet so little of the developmental influences or the influences related to local nutrition which so obviously help to make the optical apparatus more sensitive in one case, the sensory apparatus concerned in locomotion more sensitive in another case, that the argument for fatigue should not be accorded too much weight.

The failure of syphilis to cause multiple neuritis, in view of the facts that so many toxic agents do cause it and that syphilis exerts such widespread damage elsewhere, affords a cause for wonder, and both sets of facts intensify the suspicion that the really decisive causes of localization, where the syphilitic or the antisyphilitic virus is at work, lie deeper than the localizing influence of fatigue.

At all events, these two questions, whether syphilis is to be rated as the sole real cause of tabes, and as to the part played by fatigue, are still open for debate, and it has seemed to me that some light could be thrown on them by contrasting the tabetic group of cases with another group which bear, clinically, and also as regards the localization of lesions, a certain resemblance to tabes, and, like tabes, owe their characteristics to certain toxic influences, yet which are seen to differ widely from tabes when intimately studied.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The group of cases to which I refer are those presenting anatomically that form of degeneration of the central nervous system which sometimes accompanies pernicious anemia and which other observers and I have reported as occurring in conditions of nutritive debility not easily classifiable in one category.

The nervous symptoms characteristic of these cases resemble those of tabes in that they affect primarily and mainly the sensory or afferent functions of the nervous system, and thus lead to well-marked incoordination and paresthesias, usually with loss (though sometimes increase) of the knee-jerks.

If, now, the syphilitic infection so frequently met in conjunction with tabes was present mainly or wholly as a matter of coincidence, we might expect to find it present in this latter group of cases also, with at least reasonable frequency. But although I have seen, in hospital or private practice, nearly or quite a hundred instances of this disorder,[1] I have no record of a single case of undoubted syphilis. It is true that the majority of these patients have been women, and it is, of course, quite possible that an occasional instance of syphilitic infection may have been overlooked. In spite of these considerations, however, the contrast between these two groups of cases in respect to the frequency of syphilis is certainly very striking.

Still more striking is the evidence furnished by the comparison of these two sets of cases from another standpoint. The symptoms and lesions of tabes, although numerous, are singularly well defined and characteristic, and much the same may be said of the symptoms and lesions of the "diffuse degeneration." The two sets of cases resemble each other in various respects, but this resemblance is only superficial. In reality both disorders "run true" and show no tendency to overlap or even to approach each other. It is difficult to believe that this statement would be justified if each disease was due, not to one cause, but to any one of several different causes, and especially if the same influence, namely, fatigue, played any considerable part in both cases. Stated in other terms, the argument is as follows: We are dealing, here, with two disorders resembling each other superficially in certain respects, but at the bottom very different from each other, and each "running true" to a remarkable extent. Two hypotheses are advanced to explain their genesis, namely, (a) that they are due, respectively, to special toxins, modified and accentuated doubtless by fatigue and other influences, but not essentially modified; (b) that they may arise as the result of any one of various toxins or other causes, and that fatigue, or nutritive overstrain in particular, may play a notable part in determining the outcome. If the first hypothesis can be accepted the definite character of the two disorders is readily intelligible, and it need excite no wonder that they approach each other in some respects and yet do not really overlap. If the first hypothesis must be rejected and the second can be accepted, these facts are hard to understand. It would be going too far to say that the facts are unintelligible under the second hypothesis, because, of course, it may be that the tabetic degeneration and the diffuse degeneration of pernicious anemia do not owe their peculiarities, in any case, to the action of specific poisons, but represent only particular modes of breaking down of the nervous system under strain. This is probably the explanation of the neuroses, such as migraine. But if this is so and we are not dealing, in the case of the two disorders under consideration, with the action of specific poisons, analogous to diphtheria, but with native tendencies to particular forms of giving way of the nervous system, inducible by various causes, then it is hard to comprehend why syphilis appears to play such an important part in tabes and so trifling a part in the diffuse degeneration. It is also hard to comprehend, on this hypothesis, why these two disorders or modes of breaking down, implying special sorts of weakness, do not oftener coincide. Patients with migraine have also epilepsy at times, and show neurasthenic and hysteric tendencies, but tabetics do not have diffuse degeneration. This is especially striking in view of the consideration that fatigue, if it is an effective agent in inducing tabes, ought to be doubly prone to cause the diffuse degeneration, because it would find itself reinforced by its natural allies, anemia and nutritive debility.

In view of these considerations, taken in conjunction with the evidence already brought forward with relation to the frequency of syphilis in tabes in men, women and children, I think that the argument for a special toxin (or antitoxin) as the essential cause of the disease, while not proved and not to be asserted as positive for every case, is nevertheless a very strong one and deserves especial recognition as a guide to treatment.

106 Marlboro Street.

ABSTRACT OF DISCUSSION

Dr. C. L. Dana, New York: I suppose we all agree in the main with Dr. Putnam in regard to the relation of syphilis to tabes; however, we are not only neurologists but also physicians and are dealing with practical and human questions. It happens that I have seen families almost disrupted and even insanity produced by the bald assertion made to the patients, or indirectly to the patients, that because he has tabes he must have had syphilis. If, therefore, there is any justification in our assuming the position that a certain percentage of cases of tabes may be caused by something else, I think we ought to hold on to that view. I think it is an extremely painful sort of position often nowadays to make a diagnosis of tabes. At least one-third of my patients who have tabes honestly do not believe they have ever had syphilis; and yet if they have tabes must I say to them: you must have had syphilis? I should say no. And at any rate there is certainly a syphilis insontium which runs its course without the patients knowing it, and that fact ought to be acknowledged by us and used to soften the situation.

Dr. F. W. Langdon, Cincinnati: I agree that this question of what might be called the ethical relations of the diagnosis are so important that we should give the patient the benefit of the doubt. But there is another and very much stronger reason in that so careful and conservative, and we may say, prosyphilitic advocate as Gowers, positively states that in 10 per cent. of cases of tabes, syphilis can be absolutely excluded. Others give a much larger percentage of exclusion. But that statement of Dr. Gowers is well worthy of consideration in any discussion of this kind.

Dr. C. C. Hersman, Pittsburg, Pa.: It is well known that the foreign laboring class is a prolific source of the initial lesion of syphilis, and that this class receives but little treatment after the disappearance of the lesion, and yet tabes is not very frequent among these people. Now is the syphilis the cause of the tabetic condition or is it the mercury and iodid or whatever the treatment has been? Also the colored race, possibly the most fruitful source of specific infection, with little attention, is seldom seen suffering from tabes. Those who come to us for tabetic or paretic treatment give a history of from six months to two years' treatment, and often a time at the springs, and they are doomed in spite of the treatment.

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[1] Cf. A Group of Cases of System Scleroses of Spinal Cord, etc., Jour. Nerv. and Ment. Dis., February, 1891; Diffuse Degeneration of the Spinal Cord, Am. Neurol. Assn., May, 1900.

Dr. Julius Grinker, Chicago: Fatigue seems to exert a powerful influence in the production of tabes. Some years ago I examined a woman whose husband had infected her with syphilis and then died of some lung trouble. Being obliged to support her family, the poor woman exerted herself to the utmost, taking in washing at first, later working in the capacity of book agent, which necessitated being on her feet almost constantly. In due time she developed tabes. Her three children, the subjects of congenital lues, suffered from nervous syphilis or parasyphilitic disorders. The oldest boy, an intelligent lad of 19, showed signs of juvenile paresis and died within a year and a half from the development of the first symptoms. Another child, a girl, developed luetic endarteritis, which was followed by thrombotic hemiplegia and death from gummatous meningitis. The only surviving member of this syphilitic family is a blind tabetic boy who peddles newspapers in Chicago. In this family, reported by me in 1904, the element of fatigue seems to have played an important part in determining which part of the nervous system shall become affected. The mother, a hard-working woman, who was in the habit of walking and standing most of the time, developed tabes. The most intellectual of the family, a bookkeeper of unusual ability, suffered from general paresis. The remaining son, a newspaper vender, is the subject of tabes.

Dr. A. D. Brush, Brooklyn: In cases of tabes that I have had the character of the syphilis itself is sometimes overlooked. In a number of cases coming under my care in the hospital I have noticed that the secondary lesions have often been wanting. The patients have had the disease but the secondaries have been slight and the treatment has been little or nothing. If you look at these patients you will notice what has already been stated, that they are distinctly neurotic individuals, and the opinion which I have formed is that the tabes in these cases is due to the prolonged action of an untreated syphilis plus neurotic heredity.

Dr. M. Allen Starr, New York: Before the discussion closes I would like to put myself on record in this discussion as being against the position of Dr. Putnam in the statement that all tabetics are syphilitic. I have careful records now of over 500 cases of tabes in public and private practice. I admit that the histories of the public cases, and by that I mean dispensary and hospital cases, are sometimes insufficient, but in the private cases I have taken the greatest pains to explain to the individual the absolute need of knowledge on the part of the physician of any possible syphilitic causation, and on investigation very thoroughly of both the history and physical condition of the individual, I cannot shut my eyes to the fact that in 20 per cent. of my private cases there has been absolutely no evidence whatever of a syphilitic origin of the tabes. I therefore share Dr. Dana's opinion that to endorse this opinion, which first originated, I believe, with Moebius in Leipzig, that all tabetics are necessarily syphilitics, is to throw a certain amount of doubt on the statements of patients, and to engender a cause of great unhappiness in many families; that I do not think in view of the facts at the disposal of the world—not of any one individual, but of the world—is justifiable. For in a collection of the literature of tabes which I made not long ago, I found that reputable expert neurologists differed from Moebius on the one hand with his 160 per cent. down to a very reputable and very experienced Russian physician of wide hospital experience who took the other position that only 11 per cent. were syphilitic. And the range of neurologists can be put down between those two extreme individuals, and you will find that every neurologist almost in the world has put himself already on record with regard to his percentages of syphilitic cases of tabes, and they all differ. Now, so long as they differ, so long as there is no consensus of opinion, it seems to me unfortunate that the idea should become prevalent that all cases of tabes are syphilitic.

Dr. James J. Putnam, Boston: I should entirely agree with Dr. Starr and Dr. Dana in feeling that we have a social duty with regard to patients' families, and I have always taken the position Dr. Starr asserts, namely, that I was not willing to claim that a causal relationship between syphilis and tabes necessarily exists. But I think it is quite different when we are talking among ourselves and discussing evidence. I am not stating certainties but increasing probabilities, partly in the interest of treatment.

As regards Dr. Fisher's remarks, I believe and stated in my paper that I also have seen the incoordination of tabes brought on abruptly by a considerable exertion—a long march in the snow. I think that such fatigues act mainly like any general strain. I doubt very much whether any one can say broadly—although now and then it may be the case—that a march is bound to bring on incoordination of the legs when it could not bring on atrophy of the optic nerve or throat affection. I admit that there is something to be said for the localizing effect of fatigue and strain, but I have seen, for example, a fall from the steps of a street car also bring on incoordination very rapidly, almost abruptly. The case for overstrain as a localizing cause is not so clear that for the sake of it we should neglect the evidence for other causes of more obvious value, as genetic nutritive defects or specific toxemias. There are many exceptions to the rule that those who work with the eyes are especially prone to optic atrophy, those who use the legs to locomotor ataxia.

THE FEEDING OF IMMATURE AND ATROPHIC INFANTS *

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Predisposing causes to infantile immaturity and atrophy may at times be detected in the pregnant woman, and certain of them later may be of considerable value in determining why the usual milk formulas fail to nourish the child.

Scant consideration is given to the fact that an individual's existence really commences at the time of conception and too much importance is attached to the usual expression which merely states the dividing line between intrauterine and extrauterine life. At conception the child is endowed with all the ills or graces of a bad or a good ancestry and little can be done to counteract the immutable laws of heredity, but with environment, intrauterine as well extrauterine, the physician can do much either to harm or to aid the growing individual. It is a well-recognized fact that pregnancy associated with marked anemia or toxemia predisposes to poor fetal development, which may be evident at birth or which may be expressed later by failure to digest and assimilate properly the natural food of the infant or of the carefully prepared modified milk formulas. This is frequently seen in syphilis, alcoholism, poverty, gonorrhea and nephritis and in some cases of heart disease and tuberculosis. In large cities the combination of alcoholism, poverty and gonorrhea seems to be almost as serious to the child as is syphilis.

The long ten months of intrauterine life affords the physician a very favorable time for feeding the prospective immature or atrophic infant through the blood of the mother. Too little attention is paid the average case of pregnancy and too much is left to chance and Nature. It is wise to consider the husband and to remember that, no matter what his station in life may be, he may have a very bad past venereal history. In suitable cases, mercurial treatment antepartum is of more value to the child than a consideration later of intricate algebraic equations of theoretical milk formulas.

An infant with full forty weeks' intrauterine gestation may be decidedly immature, while another born at the thirty-sixth week may be full of vigor and good health. Weight is of more importance than age, and an infant weighing less than 2 kilos (4.5 pounds) at birth is immature.

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* Read before the Sacramento Society for Medical Improvement, March 17, 1909.

With this weight there is a paucity of subcutaneous fat, the muscles are poorly developed, the nervous system unstable and the powers of digestion weak. Atelectasis is more or less present, while the increased ratio of skin area to weight produces a condition of unstable heat regulation. Added to this the amount of blood and the capacity for producing new blood elements is much below par.

An atrophic infant, although normal at birth, tends gradually toward the type of the immature. The thickness of the intestinal wall is diminished and there is evidence that certain needed glandular structures are in abeyance. Changes have been reported in the adrenals, in the parathyroids and in the mesenteric glands, while Wentworth has recently demonstrated that secretin, which is necessary to activate the pancreas, is lacking in the epithelial cells of the intestines of new-born and atrophic infants. From recent investigations by Pawlow, Starling, Bayliss and other physiologists it seems probable that there exists in all vertebrates a number of so-called hormones whose function it is to stimulate or activate the different digestive ferments. They are undeveloped at birth and are functionally inactive in atrophic infants. Speculation is rife as to what aids and what retards the action of these hormones. Wentworth suggests that certain inherent properties of mother's milk are needed. However, immature and atrophic infants can be reared without resorting to mother's milk, and, while granting that mother's milk is of the greatest aid for a proper infant nutrition, I am inclined to believe that failure of development is largely due to food intoxication caused by improper feeding—particularly the too early resort to artificial feeding or to too high percentages of butter fat. With mother's milk failure can follow from the same reason.

A delicate infant must have fat, proteid, carbohydrate, salts and water of such quantity and relative proportions as will meet the possibilities of its digestion. Food is not in the body until it has been absorbed by the walls of the intestine, and the food that is absorbed is not of use unless it contains the food essentials competent to meet the needs of the body cells. Carbohydrate and fat are needed for immediate consumption to furnish energy or for storage purposes and padding. Proteid is essential to the growth of cells as well as for the production of new cells. The salts of milk plasma are needed by all the cells of the body and probably aid with the casein in the development of the digestive tract.

Excess of proteid is thrown off by the kidneys, causing an increase of nitrogenous elements in the urine. Excess of sugar may cause intestinal fermentation, may interfere with the digestion of fat, and aids in the production of systemic intoxications. Excess of fat not only causes food intoxications, but abstracts from the body valuable alkalies, which are used to make soap of the fatty acids in the intestines, and causes an increase in the ammonia excretion of the kidneys. Excess of salts interferes with the proteid digestion in the stomach and is a factor in the production of edema.

On the other hand, a deficiency of any of the food elements will cause sooner or later serious disturbances in nutrition.

In order to avoid the dangers of over-feeding or under-feeding various systems of percentage feeding have been suggested by a number of American authors. A great deal of good has been accomplished with the percentage method. It inaugurated a logical line of thought and placed infant feeding on a more or less scientific foundation, but practically it caused an over-feeding of babies. Certain French authorities, notably Budin and Heubner, have devised a system of feeding by which the caloric value of the food bears a certain relation to the weight of the child. This is another marked advance in infant feeding, for by asserting certain standards it has permitted not only a better knowledge of the proper food values, but has afforded a means for determining the relative amounts of the different food elements that should be fed. While it is of great value to feed normal babies according to the principles of the percentage method and while it is of greater value to feed them according to the caloric value of the food, it is most reprehensible to attempt to force an immature or atrophic baby to digest mathematics or to persist in feeding that which the baby does not want and can not digest simply because it looks well on paper. The baby must be studied clinically and physiologically and the food adjusted to meet the powers of its present digestion and to aid in the development of its digestive tract.

TABLE 1. CLINICAL CHART. IMMATURE INFANT

Day.	Date. 1908.	Stools.*	Skin.	Cord.	Notes.	Treatment.
B	Mar. 26	m ii....	Red...	Dry...	Cotton jacket incubator at 40° C.	
1	27	m iii....	Red...	Dry...	Unable to nurse, regurgitates food.	Gavage.
2	28	m iii....	Clear.	Dry...	....	Gavage.
3	29	m iii 6 i	Clear.	Dry...	Eyes puffed..........	Gavage.
4	30	g iii	Clear.	Dry...	....	Calomel, gr. 0.1; colon irrigation.
5	31	g ii y i..	Clear.	Dry...	....	Gavage.
6	April. 1	y ii g i..	Clear.	Dry...	....	Gavage.
7	2	y ii g i..	Clear.	Dry..	....	Gavage.
8	3	y i g i...	Clear.	Dry...	....	Gavage.
9	4	y iii.....	Clear.	Off. ..	....	Calomel, gr. 0.1.
10	5	y iv.....	Clear.	Dry...	Edema: hands, feet, eyes.	Colon irrigation.
11	6	g i y ii..	Clear.	Dry...	Slight edema: feet..	Gavage.
12	7	g i v ii..	Clear.	Dry...	No edema............	Gavage.
13	8	y iii....	Clear.	Dry...	....	Gavage.
14	9	y ii......	Clear.	Dry...	....	Castor oil min. xv.
15	10	y iii g i.	Clear.	Dry...	Slight edema: hands, feet.	Gavage.
16	11	y iii	Clear.	Dry...	Slight edema.........	Gavage.
17	12	y iii	Clear.	Dry...	No edema; nurses bottle.	
18	13	y ii......	Clear	Dry...	Nursing well.........	
19	14	y i......	Clear.	Dry...	....	
20	15	g i y i...	Clear.	Dry..	....	
21	16	y ii......	Clear.	Dry..	Removed from incubator.	

Condition on discharge, May 13, 1908: Eyes, nose, mouth, anus, genitals and extremities O. K. Navel healed. General condition good.

At the University of California Hospital I have developed a system of bottle feeding that not only succeeds with most of these delicate infants, but also is comprehensible to the nurse preparing the food and instructive to the student. The plan consists of insisting on careful observation of the physiologic condition of the baby and of maintaining a written record of the foods given and the effect the food has had on the child. Clean ingredients and clean apparatus are, of course, necessary. Certified milk is used and has proved of the greatest aid. This milk comes from tuberculous-free cattle, is produced according to the requirements of the Milk Commission of the San Francisco County Medical Society, has a germ count of less than 10,000 per c.cm., is cooled, bottled and sealed at the producing farm immediately after milking and averages 3.6 per cent. butter fat. Various top milks are obtained from the quart bottles of milk with a Chapin dipper which average as follows: Top 12 oz. 8.5 per cent., top 14 oz. 7.5 per cent., top 16 oz. 6.5 per cent., top 20 oz. 5.5 per cent., lower 20 oz. 0.5 per cent. fat. Whey from whole milk averaging 1 per cent. fat and 1 per cent. albumin and whey from skim milk are also used. The different milks average about 5 per cent. sugar and 3.5 per cent. proteid (except whey).

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* In this column, m means meconium, y, yellow, g, green.

For carbohydrates pure milk sugar and Robinson's barley are used. Other carbohydrate foods have at times been used and the barley has been dextrinized in certain cases of atrophy, but as a rule good results have followed the use of a limited variety of carbohydrates. The physician should know the actual composition of any prepared or patent food he uses. Knowing the actual ingredients of a proprietary baby food permits of its intelligent use, and with some cases of atrophy the different varieties of carbohydrate have considerable value, but their ignorant use, blindly following the commercially scientific directions accompanying them, leads only to confusion and is a mute acknowledgment that one is unfitted to cope with the difficulties of malnutrition. The so-called foods can all be prepared, if necessary, by dextrinizing the different flours.

TABLE 2.—FEEDING CHART. IMMATURE INFANT

Date. 1908.	Milk. Per cent.	Sugar. Lactose Per cent.	Salt. Nacl 20 per cent. Solution.	Water. Per cent.	Number of Feedings.	Total Amount. Ounces.	Calories.	Whey. Per cent.	Treatment.	Per cent. Fat.	Sugar.	Bar-ley.	Prot.
Mar.													
27	0	6	0	100	24	6	5		....	0	6	0	0
28	0	0	0	0	12	6	69	100	Gavage..................................	0 9	5 5	0	0.9
30	0	0	0	0	12	12	138	100	Gavage..................................	0.9	5.5	0	0.9
April.													
1	0	0	0	0	12	18	207	100	Gavage..................................	0.9	5.5	0	0.9
4	0	0	0	0	12	24	276	100	Gavage..................................	0.9	5.5	0	0.9
	Up 10												
6	5	5	2.5	0	12	24	447	92.5	Gavage..................................	1.2	10 2	0	0.9
9	7.5	5	2.5	0	10	24	467	90	Gavage..................................	1.4	10.2	0	1
11	10	5	2.5	43.5	10	24	360	44	Gavage..................................	1.2	7.9	0	0.7
13	12.5	5	2.5	42.5	10	24	381	42.5	Bottle..................................	1 4	8	0	0.8
14	15	5	2.5	41.5	10	24	401	41	....	1 7	8	0	0.8
18	20	5	2.5	77.5	10	24	336	....	....	1.8	6.1	0	0 7
20	22.5	5	2.5	75	10	24	360	....	....	2	6.2	0	0.7
22	25	5	2.5	72.5	10	24	384	....	....	2.2	6.3	0	0.8
								Barley 5%					
29	27.5	5	2.5	60	10	24	420	10	....	2.4	6.5	0.5	0.9
May.													
1	30	5	2.5	57.5	10	24	444	10	....	2.7	6.5	0.5	1
	Up 16												
6	32.5	5	2.5	55	10	24	357	10	....	2.2	6 6	0.5	1.1
10	35	5	2.5	52.5	10	30	520	10	....	2 4	6.7	0 5	1.2

Salts of sodium or magnesium (chiefly sodium chlorid) are used to aid the gastric digestion of casein and to promote the absorption of the different proteids. Occasional resort is made to buttermilk, malt sugars, and dextrinized gruels, but as a routine such feeding has not been found equal to the carefully prepared and modified fresh cow's milk.

Each immature or atrophic infant is fed according to its power of digestion as expressed clinically. The clinical chart is not difficult to keep and is absolutely necessary for success with these difficult cases. For the first few days little attention is paid to the percentage value or to the caloric value of the food. It is usually necessary at first to feed the immature and some of the atrophic babies by gavage. Body warmth must be maintained by artificial heat and stimulants if necessary must be given hypodermically or normal salt solution by hypodermoclysis. Calomel is usually necessary to clear the intestinal tract of the atrophic babies.

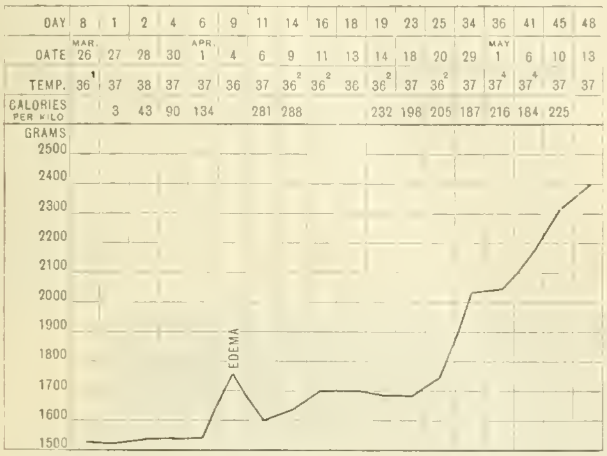
The immature babies are started with sugar solution (5 per cent.) or with salt solution (0.5 per cent.) and the atrophic babies with whey in order to ascertain the amount of liquid the infant will retain. Gradually the sugar solution is replaced with whey and the whey replaced with one of the top milk, whole milk or fat-free milk mixtures according to the behavior of the child. Barley water is not added until the food contains from 20 to 30 per cent. of milk, unless the sugars fail to agree. The quantity of food is increased to meet the desires of the child and its ability to retain. The relations between the weight chart, the clinical chart and the feeding chart are constantly studied. At intervals the percentage formula of the food and the calories, with the energy quotient and the proteid ratio, are estimated to avoid a continued over-feeding or under-feeding.

A description of the feeding chart used will elucidate how practically the food for these infants is ordered and controlled. The chart is ruled in columns, in one of which is indicated the quantity of food to be prepared, while in a second is noted the number of feedings to be given. In a third column marked "milk" is stated the kind of milk to be used—skim milk, whole milk, buttermilk, or indicated top milk—and the percentage that this milk shall make with the total quantity of food ordered. In a fourth column is placed the order for starch. It is here necessary to know the strength of the gruel prepared by the nurse. I have found that a rounded tablespoon of Robinson's barley to 12 ounces of water when cooked for half an hour and the water loss replaced makes a 5 per cent. solution of barley. In the column marked starch is stated the strength of the gruel and the per cent. this gruel shall make with the total food ordered. In similar columns the percentage of sugar, salt, limewater, or other ingredient desired is placed, and finally, and most important, must be charted the percentage of water necessary to be added to make with the other liquids 100 per cent. In preparing the food the nurse multiplies the total quantity of food ordered by the different percentages in the different columns in order to ascertain the amount of each ingredient to use.

When an immature or atrophic infant can digest whey, 10 per cent. of milk (usually top milk 16) is added and this is increased gradually but constantly until the baby can digest from 30 to 40 per cent. of milk. With this 5 per cent. of sugar and 0.5 per cent.

of salt is also given and 10 per cent. of the 5 per cent. barley gruel added and rapidly increased as the whey is eliminated.

It seems to me that as a rule these infants do better when the ratio of fat to proteid in the food is not more than two to one, and, while the number of calories needed for the normal infant may not be more than 100 per kilo of body weight, and can gradually be reduced as the child grows older, I have found that it is necessary to feed the immature and atrophic infants as high as 250 calories per kilo for several weeks at a time; and with food of this high caloric value I have seldom found signs of over-feeding, except when the fat calories ran high. However, when a baby digests fat all right it is fed fat, but is watched carefully and the fat is reduced with the first signs of indigestion.



Weight chart of immature infant. Birth expected May 3, born March 26. Mother i-para; one miscarriage at third month, two years ago; symptoms of toxemia during present pregnancy.

The weight chart urges always for more food, and the clinical chart acts to hold this in check. Intelligent interpretation of these two indicates the sensible way to feed in these interesting problems of malnutrition.

240 Stockton Street.

A TERATOMA OF THE HYPOPHYSIS *

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PATHOLOGIC REPORT BY MAXIMILIAN HERZOG, M.D.†

Neither from the earliest collation of cases nor even from the more recent ones do we seem in a position to estimate accurately the frequency of hypophyseal tumors. The cases are reported from such widely different premises, most often according to points of special clinical significance. Thus we find it necessary to search the records of ophthalmology, treatises on acromegaly, contributions to intracranial surgery, journals devoted to radiography, and so forth, in getting at information bearing on the pathology. Mindful of this difficulty encountered in making up an exhaustive tabulation of cases, I think we may, nevertheless, assume that tumors of the hypophysis and infundibulum are quite rare.

As concerns the variety of neoplasms, we meet with simple hyperplasia, adenoma, glioma, sarcoma, carcinoma and teratoma. The teratomata of the gland are, indeed, a very rare form of tumor. Boyce and Beadles, in their large collection of cases, include three of this variety reported by Beck, White and Sainsbury; in the last mentioned of these the tumor had its origin not in the gland proper, but in the region of the gland. This particularity as to the original seat of the growth should not be construed as an idle distinction, for there is a difference both in the pathologic and clinical aspects of a tumor arising from the gland or invading it from its immediate neighborhood.

The teratomata are in their nature a fetal type of tumor and present structural changes identical with those noted in the case herewith reported. Kon has very recently reported a case of cretinism with a teratoma in the hypophyseal region, a case of periepithelioma and one of angiosarcoma with extensive hemorrhage. I contend, and for reasons which the pathologic report will no doubt make clear, that the tumor in this case in all probability arises from the anterior portion of the gland.

Bearing in mind the embryonic development of the anterior or glandular portion of the hypophysis as derived from the oral ectoderm, it is to be wondered at that the teratoma is not a more frequent factor in the classification of hypophyseal neoplasms. Bruns divides the tumors of the hypophysis, which he says in the main arise in the anterior and spread to the posterior portions of the gland, into homoplastic and heteroplastic. The homoplastic growths are made to include the simple hypertrophies, colloid and cystic enlargements and the adenomata. The heteroplastic are the round-cell sarcomas, the teratomata with their epithelial, cartilaginous or bony content, the primary and metastatic carcinomas, lipomas, tubercles and gummata; of these, he states, the sarcomas are most commonly met.

The clinical notes of this case will appear somewhat abridged in favor of a more detailed report of the pathologic findings which, in my opinion, are unique and, so far as I have been able to learn, almost without precedent in the literature. My sincere thanks are due my friend and colleague, Dr. Isaac A. Abt, for the privilege of this case citation, and I owe grateful acknowledgement to Dr. Maximilian Herzog, formerly pathologist to the Michael Reese Hospital, both for his valuable interpretation and painstaking arrangement of the pathologic material.

REPORT OF CASE

Summary.—A tumor of the hypophysis, correctly diagnosed as regards neoplasm, but not localized; absence of sufficient focal symptoms; skiagraphs unsatisfactory but faintly suggestive of cerebellar involvement. Tumor not found at operation because of its deep situation. Termination in death six hours after operation. Autopsy reveals a tumor of the hypophysis proved to be a teratoma arising in all probability from the gland.

Patient.—K. F., a slender blond girl, aged 11, American born, was referred by Dr. Tieken to the care of Dr. Abt and admitted to the service of the latter at the Michael Reese Hospital, May 27, 1908. The parents were regarded as healthy; so were their direct and collateral antecedents, as far back as could be ascertained. The mother had experienced several miscarriages and a still-birth, these, however, occurring after the patient was born.

History.—The birth of the girl was spontaneous, at full term, and in all respects normal. Except for whooping cough, measles and varicella, her childhood was uneventful. At 8 she experienced three distinct attacks of appendicitis with general peritonitis. During a free interval the appendix was successfully removed and she regained her health, remaining perfectly well for the next two years. About one year before examination, at the age of 10, she complained of disturbed vision and headaches that made it difficult for her to pursue her studies. The headaches were frontal, most often occasioned by mental strain during study hours, and in their earlier exhibition were, on the whole, quite irregular. Five weeks after their onset they became increasingly severe and diffuse, extending well back to the nape of the neck, and attended with a feeling of more acute pain back of the eyeballs and in the ears. At this time vomiting appeared, at first only occasionally at breakfast, but later with regularity after each meal. The vomiting, far from being projectile, was preceded by a feeling of nausea, affording the patient sufficient time conveniently to leave the room and use some receptacle. Five weeks prior to admission the right eye turned strongly inward and remained so. Periods of dizziness were occasional. Always a sound sleeper, the patient now rested well only in the fore part of the night, after that tossing about with headache. Nervous irritability was marked at times and induced by the slightest noises, such as the ordinary footfall or the low-pitched soft voice. The mentality, according to reports, seemed in no wise impaired, nor had the child's disposition changed except for the late outbursts of irritability. Convulsive seizures had never occurred. Neither weakness of the extremities nor clumsiness in any of the voluntary movements had ever been noticed. There was marked constipation, but no difficulty with micturition. During the last five months of her illness there was an increasing aversion for food.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

† From the Pathological Laboratories of Michael Reese Hospital.

Examination.—The physical examination, made and noted under date of May 28, was as follows: The general nutrition was fair. The head seemed slightly retracted. Pupils were large, equal, regular, with normal response to light and accommodation. Photophobia was present, and in this connection it should be added that the eyes had received atropin for fundus examination. There was complete right external rectus paralysis. Dr. E. F. Snydacker reported bilateral choked discs, with two or three diopters of swelling in each eye. Ear examination made by Dr. Ira Frank proved negative. The teeth, somewhat irregular as to shape and arrangement, were otherwise normal. Some neck rigidity was present. There were no palpable glands. Heart, lungs and abdominal viscera were negative. Muscular strength seemed normal. The gait was not much disturbed, but on finer tests in the recumbent posture some loss of coordination in the legs was evident. Sensory symptoms were absent. A positive Babinski was obtained on the right side. The skin and tendon reflexes were everywhere present and equally brisk. Ankle clonus was absent; likewise spasticity. The stereognostic sense was not tested. Hearing was normal; vision was equally defective in both eyes to the extent that the patient could not read type, but was able to discern objects and differentiate those persons having access to the sick-room.

Clinical Notes.—On day of admission an afternoon temperature of 99; thereafter a daily variability of from 97.3 to 99. Pulse rate, 80 to 104.

Laboratory Data.—A. Blood findings, May 27, 1908: Hemoglobin, 95 per cent.; white cells, 10,600; red cells, 5,372,000. May 30: Leucocyte count, 82,000.

B. May 31: Von Pirquet vaccination test on right arm (Dr. Davenport), negative.

C. May 31: Ocular tuberculin test, one minim of a 1 per cent. solution injected in the left eye, likewise negative.

D. May 31: Blood. Tuberculo-opsonic index taken and found to be 1.19.

E. Skiagraphs doubtful, it having been thought by several who saw them that the shadow cast was, if anything, in the cerebellar area, thus prejudicing one in favor of a diagnosis of cerebellar tumor.

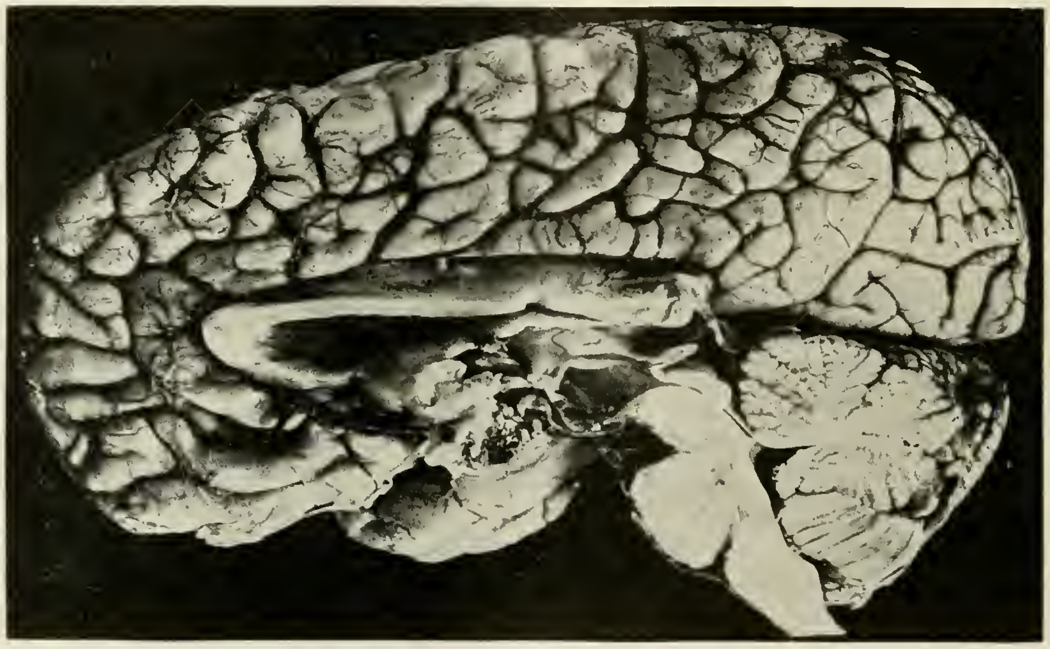

Fig. 1.—Median sagittal section of brain showing tumor of the hypophysis (Hecht and Herzog).

F. Daily urinalysis negative.

The patient was seen by Dr. A. Church, and later by Dr. L. L. McArthur, who performed the operation on June 8. The operative notes in very abbreviated form read as follows:

Operation.—June 8, 1908, by Dr. McArthur, Dr. Hoover assisting. Anesthetic, ether. Head prepared in the usual manner for brain operations for two days prior to operation. Fissures of Rolando mapped out on either side. Brain punctured near the left occipital and left posterior parietal regions. Punctures made with fine drill and aspirating needles. No fluid obtained in occipital puncture, but about 3 or 4 c.c. of a clear fluid containing three or four white, hard floccules was obtained by puncture in the posterior parietal region. Fluid saved for diagnosis. Semicircular incision, base downward, through skin and subcutaneous tissue to periosteum. Incision began a little above Reed's base line, about in a vertical line drawn through the left external auditory meatus, arching upward and backward, describing a semicircle, and ending about four inches posterior to its own origin. All bleeding vessels caught and ligated with fine gut ligatures. Periosteum incised in similar manner about 0.75 cm. inside scalp incision. Edges of periosteum raised with an elevator. Trephine hole.

about three-eighths of an inch in diameter, made in anterior lower angle of wound and the bone cut through from before backward with a rongeur forceps. Base not cut through. Upper edge of bone flap raised and steadily increasing pressure applied on elevators until bone fractured across the base. Bone and scalp flaps now laid back together. Dura found intact and apparently normal, but ballooning up strongly through skull opening, showing a greatly increased intracranial pressure. Aspirating needle again passed into posterior parietal region, needle passing inward, upward and slightly forward. Several cubic centimeters of fluid withdrawn. Dura carefully washed with warm normal saline; all rough edges of bone smoothed, and the bone flap replaced. Scalp incision closed with continuous waxed silk suture. Wound sealed with gauze and collodion, excepting about 1 cm. at posterior inferior angle. A large dry dressing applied. Stimulating enema given on table. Patient put to bed in poor condition. Foot of bed elevated.

Cerebral Fluid.—A smear of the cerebral fluid sent to the laboratory was reported on by Dr. Herzog as follows: A very few mononuclear cells seen in the sediment after centrifuging; some red blood corpuscles; no bacteria of any kind. Small solid particles and carbonate of lime, soluble in dilute hydrochloric, with giving off of carbon dioxid. No tubercle bacilli. No evidence of cysticercus or echinococcus. Shortly before exitus, which followed operation in six hours, one-half ounce of fluid was aspirated through the wound by Dr. McArthur, examination of which was negative.

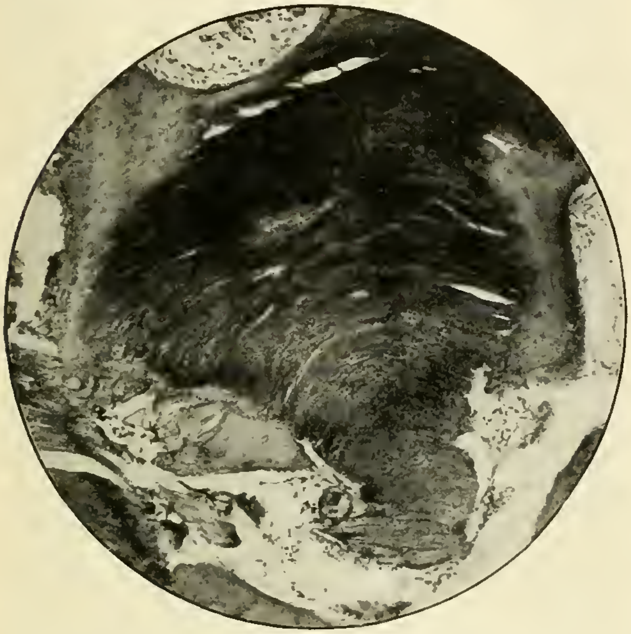

Fig. 2.—Section of decalcified osseous portions of tumor, showing strongly calcified bone fibrils. Magnified 100 diameters.

The autopsy was performed within six hours after death.

DESCRIPTION OF TUMOR

The following description of the tumor and histopathologic comment by Dr. Herzog is of interest:

"When the tumor was removed with the brain, it was found that it had markedly corroded, thinned out and excavated the sella turcica, on which it rested. The neoplasm (Fig. 1) is more or less globular in outline and has a diameter of about ¾ inch from above downward, and about one inch from before backward. Its longest axis is not absolutely horizontal, but is oblique, so that the anterior attached pole of the tumor is on a higher level than the posterior free end. At the anterior pole the tumor is attached in such a manner that it has become fused with and presses on the optic commissure. It is also fused to the corpora mamillaria and to the floor of the third ventricle. The pedicle of the hypophysis has disappeared. The neoplasm is apparently everywhere surrounded by a capsule, except where it is fused to tissue of the cerebrum proper. The tumor substance itself looks rather irregular, heterogenous, and contains small calcareous particles. The cavities of the lateral and of the third ventricle, although markedly enlarged, may, nevertheless, be considered of moderate size. The aqueduct and the cavity of the fourth ventricle are of normal configuration. In removing pieces of the tumor for microscopic examination, portions of the floor of the third ventricle had to be taken along with the tumor substance.

"The tumor tissue is composed of a variety of cellular elements. It appears that the original tumor parenchyma has been formed by epithelial cells of the anterior portion of the pituitary body. The proliferating cells have formed quite irregular gland-like or alveoli-like spaces in a stroma, of very loose vascular embryonal connective tissue composed of stellate cells. Where the proliferated tumor cells have arranged themselves into more or less globular spaces we find these alveoli either completely filled with epithelial cells, or there is present only an outer shell of epithelial cells and an inner mass of hyaline material. The latter, however, is not perfectly homogeneous, like typical colloid, but rather scaly and shows clearly its derivation from degenerating cells which have been moulded together in the interior of the follicles, but have not become completely fused into a homogeneous mass. On the whole, these bodies in the interior of the follicular spaces look somewhat like the epithelial pearls of cornifying carcinomata, although the material does not show any true cornification. It stains with Van Giesen from an almost pure yellow to deep yellow with some red, and even to a deep reddish orange. The epithelial cells forming the follicular spaces are cuboidal or short columnar. The latter shape occurs in situations free from pressure. Here the basal vesicular nuclei are oval, while the shorter cubical cells have spherical nuclei. The latter possess a rather finely granular chromatin, while here and there one or two nucleoli are visible. The protoplasm of these cells is very finely granular and takes but a very faint stain. These cells have not only formed the follicular or alveolar spaces, but have also proliferated in a very irregular manner, and this has led to the formation of irregular masses and tracts of cells. In some places giant cells with numerous centrally located nuclei are seen. The origin or derivation of these cells is not clear.

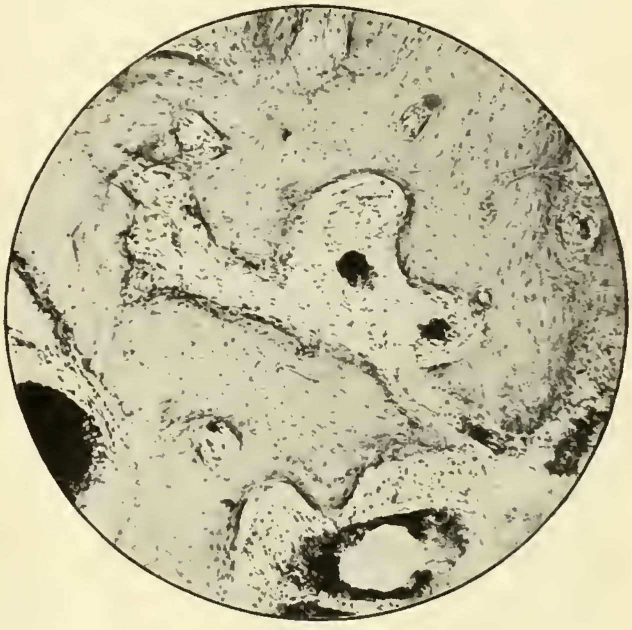

Fig. 3.—Same as Figure 2, showing marrow spaces and lamellated bone. Magnified 100 diameters.

"It is found on microscopic examination that the hard portions of the tumor which were noticed when it was cut consist of osteoid tissue. Part of the latter is composed of very coarse primitive fibrils and fibril bundles which are variously infiltrated with lime salts, some very little, others abundantly. Aside from the fibrillar structure, the bone substance here shows no other differentiation. Again, other portions of the bone show all of the osseous elements of bone—corpuscles, Haversian canals, concentric lamellæ and cellular marrow spaces.

"Where the tumor has become fused with the floor of the third ventricle, we find a loose edematous connective tissue, with numerous coarse and delicate wavy fibers, forming a wide-meshed reticulum. To the outside of it is seen a portion of the chorioid plexus; its ependymal cells have proliferated and formed branching villous excrescences. No cartilage was found in the tumor, nor any glia cells or fibers.

"This tumor, then, of a mixed type, shows epithelial elements derived from the anterior portion of the pituitary body, and osteoid tissue, very probably derived from any early embryonal inclusion."

DEVELOPMENT AND NORMAL STRUCTURE

Essential to any epicritic consideration of the pathologic features in the case at hand is a thorough understanding of the development and normal architecture of the hypophysis.

This structure, for so long called the glandula pituitaria, is a somewhat flattened oval body, slightly broader than long, of grayish-red color, with an average weight of 0.69 gm. (Boyce and Beadles), resting in the sella turcica of the sphenoid bone. Bilobate gland that it is, it consists of an anterior and posterior portion, united and enveloped in a fibrous capsule, which is a special prolongation of the dura. These portions are histologically and histogenetically dissimilar. The anterior lobe, the larger and darker of the two, is bean-like in shape and concave behind, where it embraces the smaller posterior lobe. It is glandular in structure, and, being developed embryonically from a hollow protrusion, derived from the primary oral ectoderm, is sometimes referred to as the oro-hypophysis. The distal end of this protrusion (Böhm and Davidoff) or pouch comes in contact with the anterior surface of the lower portion of the infundibulum and becomes loosely attached to it. As the bones at the base of the skull develop, the attenuated oval end of this pouch atrophies, the distal end becoming finally completely severed from the buccal cavity. When this has occurred, the anterior portion of the gland is situated in cartilages, which later on become parts of the sphenoid bone, and, as Dr. Herzog suggests, it is easy to see how some of these sphenoidal cartilages might become included in the anterior portion of the hypophysis and thereby become the matrix of a tumor containing bone. It is fair to assume that this is what actually occurred in this case.

Several writers have ventured the opinion that any variations noted in the size of the gland as a whole are perhaps due to the variable dimensions of this glandular portion.

Its close resemblance to the thyroid has been a matter of repeated comment.

The vascular supply to the anterior lobe comes from the internal carotid by five branches coming from the trunk within the cavernous sinus. The posterior lobe is supplied by arteries that pass down with the pia mater of the infundibulum.

The posterior lobe, connected by a solid stalk with the infundibulum and regarded as a continuation of it, is developed from that part of the embryonic brain which later goes to form the third ventricle. In marked contrast to the anterior lobe, it is in its nature a cerebral structure, and for that reason by some called the neurohypophysis.

103 State Street.

ABSTRACT OF DISCUSSION

Dr. Harvey Cushing, Baltimore: I think it important in relation to tumors of the hypophysis to distinguish between tumors arising from the hypophysis itself and tumors merely in the infundibular region. Tumors in the interpeduncular space may exist with or without disturbance of the hypophyseal function. That is what we are especially interested in. Tumors which disturb the hypophyseal function may be associated with over-activity or under-activity of the gland. Those are things which, as physicians and neurologists, it is incumbent on us to distinguish. The case that has been reported by Dr. Hecht is very similar to a case that was in my care a few years ago (also a teratoma), in which there were glandular elements, and I doubt not that there were active glandular elements in this case of Dr. Hecht's sufficient to enable this child to continue to live, for I emphatically believe that the hypophysis or a portion of it is necessary to maintain physiologic equilibrium.

It will be necessary, I think, in every case before one can say that this is a tumor of hypophysis or a tumor in its neighborhood, that serial sections be taken, and it is important in this case that a careful search be made for remnants of the flattened, possibly distorted pituitary gland. These elements which have been demonstrated are suggestive of the fact that the tumor actually may have been of hypophyseal origin; but we should bear in mind the developmental character of structures in this neighborhood, the favorite site for teratomata. The important thing to determine, of course, is what the growth in the neighborhood has done to the gland.

Dr. Hecht has devoted some of his investigations to considering the effect of the growth on neighboring structures. Of course, disturbance of the optic nerves and other structures in the neighborhood, such as pressure on some of the oculomotor nerves, often occur whether the hypophysis has been affected or not; but I think that primary optic atrophy is the usual early symptom of pressure here. That is the striking thing—a primary optic atrophy without an associated choked disc. One can have a choked disc, or optic neuritis if you chose to call it that, superimposed on primary optic atrophy. But I think you will always find in these cases, and I think it will prove to have been present in Dr. Hecht's case, that there was an internal hydrocephalus present when the child died, if it had choked disc of three or four diopters. The pressure of the nerves themselves, without the associated condition of hydrocephalus will induce a primary optic atrophy, and it is only when the growth in this neighborhood reaches such size that it interferes with the outflow of fluid through the foramina of Monro that it causes dilatation of the optic sheaths and leads to choked disc.

Dr. Maximilian Herzog, Chicago: Dr. Cushing has referred to the embryology, which has also been discussed in the paper; but in order that you may fully understand the histogenesis of the tumor, it is perhaps desirable that I should refer briefly to the development of the hypophysis. The latter takes its origin from a double source, one part develops from that portion of the brain which later becomes the floor of the third ventricle, it is called the infundibulum, while the posterior or lower portion is developed from an offshoot of the primitive oral cavity. So that, from an embryologic standpoint, the hypophysis is quite complicated.

I have not made a complete serial section examination of the tumor in question because that would have necessitated a destruction of the specimen, which was not desirable. The tumor shows epithelial portions which arise from the posterior portion of the hypophysis, that portion which develops from the early oral epithelium. Evidently those proliferating epithelial cells have retained their physiologic function; they have formed a material somewhat colloid in character; and as I understand the clinical history of the case, there was no disturbance of nutrition at all in the child, which would indicate that the hypophyseal physiologic function was not entirely missing nor greatly disturbed. The child did not die from the tumor, but the operation led to a fatal issue.

There are three types of mixed tumors or teratomata, one type which imitates a certain organ of the body, for instance, an ordinary dermoid of the skin; the second type, which imitates an entire embryonic region, the best type of which are the embryonal adenosarcomata of the kidney; and then, thirdly, tumors which may contain all the tissues of the body, and these are the most complicated mixed tumors, arising from the germ cells of the ovary or testis. This tumor belongs to the second type. It shows epithelial structures derived evidently from the early oral epithelium, and shows bone which is probably derived from the early cartilages which later form portions of the sphenoid bone.

PROF. MAX NONNE, Hamburg, Germany: I wish to speak of a case of a woman of 27 who has suffered for two or three years with a hypophyseal tumor which has caused acromegaly. Her hands increased gradually in size. At the time of her marriage her wedding ring was No. 8, whereas she now wears a No. 13. The size of her shoes has been changed from 5½ to 8; her frontal bones are very prominent; her nose has changed; the rows of front teeth do not meet, on account of the changes in the size of the jaws. She has complained of slight headache; there have been no eye symptoms; but she suffers from rheumatic and neuralgic pains all over her body. A radiogram shows excavation of the bone which makes the diagnosis of hypophyseal tumor certain. The patient has not consented to an operation as yet.

DR. WILLIAM G. SPILLER, Philadelphia: After a number of years the bitemporal hemianopsia from tumor of the pituitary body may diminish, as in a case reported by F. A. Packard about 1890 in the *American Journal of the Medical Sciences*. Some years later I obtained the specimen through Dr. Cattell, and found a large tumor filling the third ventricle. It had greatly enlarged the sella turcica, and the relief of pressure on the chiasm afforded in this way had lessened the hemianopsia. Recently, in consultation with Dr. Zentmayer, I examined a similar case in which the bitemporal hemianopsia diminished as other symptoms increased. Tumors in this region are frequently of slow growth. In the last case referred to the symptoms began many years before death. The patient was a woman over 40, and one of the earliest symptoms was cessation of menstruation occurring about the age of 20; other signs, such as bitemporal hemianopsia, have since developed. The early cessation of menstruation in this case indicates that the tumor probably has been growing more than twenty years.

SIR JAMES GRANT, Ottawa: I recall a case sent to Sir Victor Horsley by Sir Richard Gower, diagnosed as tumor in connection with the spinal cord. Horsley diagnosed it differently, cut down on the tumor, took out a large amount of material between the theca and spinal cord, scraped it out, injected it with bichlorid of mercury, and the individual shortly recovered and went back to his business, entirely restored as regards function of his extremities, and to-day enjoys perfect health. That shows the advances that surgery has made in the treatment of diseases of the spinal cord as well as of the brain.

DR. HUGH T. PATRICK, Chicago: That a central scotoma with this optic atrophy is relatively frequent I did not know. Within a week I have seen a case which bothered me exceedingly, and except for the fact that the patient had a large central scotoma on one side and a small one on the other, I should at once have made a diagnosis of hypophyseal growth; but not knowing that that was a symptom of hypophyseal pressure I was not willing to come to that conclusion, but now I feel certain. I might add that in this case menstruation ceased at 20. I have in mind also another case in which menstruation also ceased at 20, in which there was unilateral optic atrophy. I think we are apt to demand schematic cases when we have classical bitemporal hemianopsia and we are loath to recognize cases of unilateral optic atrophy with irregular fields as mentioned by Dr. Hecht and Dr. Cushing. I think if we keep this in mind we will more frequently make the diagnosis of tumor of the hypophysis and less frequently that of tabes with optic atrophy as the first and as yet only symptom.

DR. JULIUS GRINKER, Chicago: I recall a case in which optic atrophy was almost complete on one side, while there was temporal hemianopsia on the other. From the history I learned that it began as a bitemporal hemianopsia. The noteworthy feature in this case was the almost total absence of the knee and Achilles jerks. The diagnosis rested between tabes with beginning optic atrophy and tumor of the hypophysis. I decided in favor of tumor, but had no opportunity to verify the diagnosis. Recently I observed another case of tumor of the hypophysis in which bitemporal hemianopsia was pronounced. In addition there were intermittent dull headaches, which had lasted for several months. The temporal halves had been blind for six months. Acromegalic enlargement is only slightly indicated in the face, but on comparing the patient's photograph with one taken several years ago, the difference is not apparent. A radiogram shows distinct enlargement of the sella turcica. In marked contrast with my first case, this patient has normal reflexes.

DR. D'ORSAY HECHT, Chicago: Dr. Cushing's point in reference to the differentiation between tumors of the hypophyseal region and tumors of the gland proper is very well taken. I find in the literature that most writers are prone to refer rather loosely to tumors in the hypophyseal region, without due regard to the site of origin in the gland itself or its neighborhood. Dr. Cushing's remarks relative to optic atrophy are well borne out by Bartels' statistics, which tend to show that 50 per cent. of the cases are primarily optic atrophies. What Dr. Spiller has said with reference to the variation in the visual fields is most pertinent, but I may add that, particularly in the ophthalmologic literature, these variations in the visual fields and the extent of hemianopsia have been noted. In one instance, reported by Bartels, and observed by Erdheim, I think, the fluctuations were explained on the ground of cyst evacuation, which explanation was subsequently confirmed on postmortem. This variability, therefore, should be borne in mind. Dr. Patrick's point with reference to the type of tabes that presents early optic atrophy is well taken, and he is right in saying that in those cases, when other symptoms are conspicuous by their absence, we should be on the lookout for hypophyseal growth. Professor Nonne's citation of a case in point is most interesting and instructive.

THE CLINICAL VALUE OF RADIOGRAPHY OF THE MASTOID REGION *

SAMUEL IGLAUER, B.S., M.D.
CINCINNATI

The difficulties encountered in radiographing the temporal bone are due to its position at the base of the skull, to the thickness of the parts that the Roentgen rays must penetrate, and to the liability of superimposing the shadows of other portions of the skull on the skiagram of the temporal bone. By directing the rays in the anteroposterior (posteroanterior) axis of the skull Kuhne and Plagemann[1, 2] have taken radiograms of the projecting portions of both mastoid processes, and have drawn clinical deductions therefrom. Voss[3] and Winckler[4] have obtained more detailed Roentgen pictures of the temporal bone by directing the rays in the transverse diameter of the skull.

During the past year Dr. S. Lange, radiologist to the Cincinnati Hospital, to whom I am greatly indebted, has been kind enough to undertake the radiography of the mastoid region for me. After some experimentation, at my suggestion, the radiograms were taken in an oblique profile, i. e., the rays coming from the target were made to center just below the parietal eminence on one side of the skull and were directed through the cranium in the direction of the temporal bone on the opposite side of the skull. At this angle the best skiagrams were obtained. In this position Dr. Lange found that the axis of the *x*-ray diaphragm was tilted upward at an angle of 25 degrees from the base of the skull (Reid's line), and that it was inclined backward 20 degrees, from the vertical plane passing through both external auditory canals. Figure 1 illustrates this double inclination. In a previous paper on this subject[5] I have given further details concerning the technic, and these need not be repeated here.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Kuhne and Plagemann: Fortschr. a. d. Geb. d. Roentgenstr., Sept. 1, 1908, xii, No. 1.
2. Plagemann: Verhandl. d. Deutsch. Roentgen-Gesellsch., Sept., 1908, iv.
3. Vos, O.: Verhandl. d. Deutsch. Otol. Gesellsch., May, 1907, reprint pub. by Gustav Fischer in Jena; also abstr. in Ztschr. f. Ohrenh., July, 1907, liv, 208.
4. Winckler: Abstr. Ztsch. f. Ohrenh., July, 1907, liv, 209.

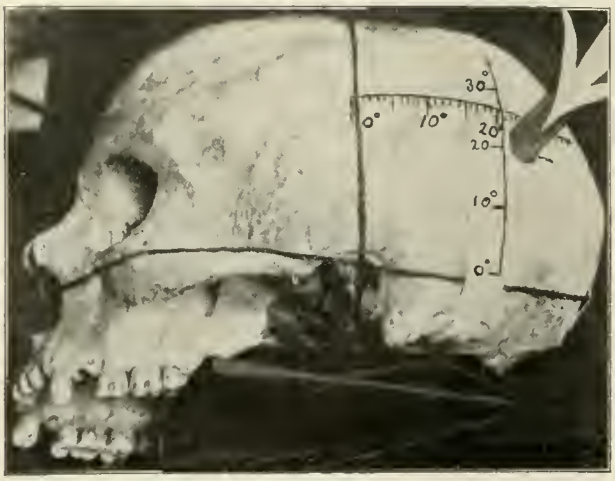

Fig. 1.—The arrow indicates the inclination at which the radiogram should be taken, *i. e.*, the *x*-ray diaphragm should be tilted backward 20 degrees from the vertical plane, and should be inclined upward 25 degrees from the horizontal plane. (As measured by Dr. S. Lange.)

RADIOGRAPHY OF THE NORMAL MASTOID REGION

In the normal subject; skiagrams obtained by this method delineate the following: (1) The mastoid process with its cells; (2) the position of the external auditory meatus; (3) the line marking the floor of the middle fossa; (4) frequently the position of the groove for the sigmoid sinus.

Many plates in addition show the floor of the posterior fossa, the ascending ramus of the mandible and the suture lines radiating from the asterion. Figures 2 and 3 show all the landmarks above mentioned. From these and similar plates it will be apparent that the internal anatomy of the temporal bone may readily be determined by radiography. Considering the great variability in the structures of this bone, the knowledge so obtained prior to operation will prove of great value to the surgeon.

RADIOGRAPHY OF THE PATHOLOGIC MASTOID REGION

Among the pathologic cases examined were seven cases of chronic otorrhea, one subacute case and four acute cases.

In cases of suppuration of long standing, attended with osteosclerosis and obliteration of the mastoid cells, the dense bone shows very distinctly, and the sigmoid groove very often stands out sharply in the picture. The position of the antrum may be indicated if the overlying bone is not too dense. Seven of the cases which had been radiographed came to operation and the *x*-ray findings were in a great degree confirmed. It may be interesting to recount these cases somewhat in detail.

RADIOGRAMS CONTROLLED BY OPERATION

Case 1.—L. K., male, aged 21. Diagnosis: Chronic suppurative otitis media on the right (of uncertain duration). *X*-ray examination showed a dense shadow over the right mastoid region, with the absence of cellular structure. The position of the sinus is indicated. The left normal mastoid region showed an enormously developed pneumatic process. Operation, Aug. 28, 1908, confirmed the findings in the right ear.

Remarks.—In this case it seems likely that the chronic suppuration retarded the development of the right mastoid.

Case 2.—M. S., male, aged 12. Diagnosis: Chronic suppurative otitis media, right and left, of seven years' standing. *X*-ray examination showed a diploetic mastoid, a high tegmen, and the line marking the position of the sinus. A meatomastoid operation (Nov. 21, 1908) showed the anatomic relations as in the radiogram.

Remarks.—The tip was not disturbed because it appeared normal in the radiogram. In the light of subsequent experience, the radiogram in this case would have indicated that operation might have been deferred.

Case 3.—A. Z., male, aged 55. Diagnosis: Subacute tuberculosis of left middle ear and mastoid. *X*-ray examination (two plates at different times) of left ear only, showed a very large pneumatic mastoid with hazy outlines of its cells. Radical operation revealed pus and granulations in the middle ear and antrum, and showed serum in the mastoid cells, some of which extended behind the sinus.

Remarks.—Some of these cells might have been overlooked had they not been delineated in the radiogram.

Case 4.—H. N., male, aged 62. Diagnosis: Chronic suppurative otitis media in left ear with caries of the promontory; unhealed radical mastoid in the right ear. Radiogram

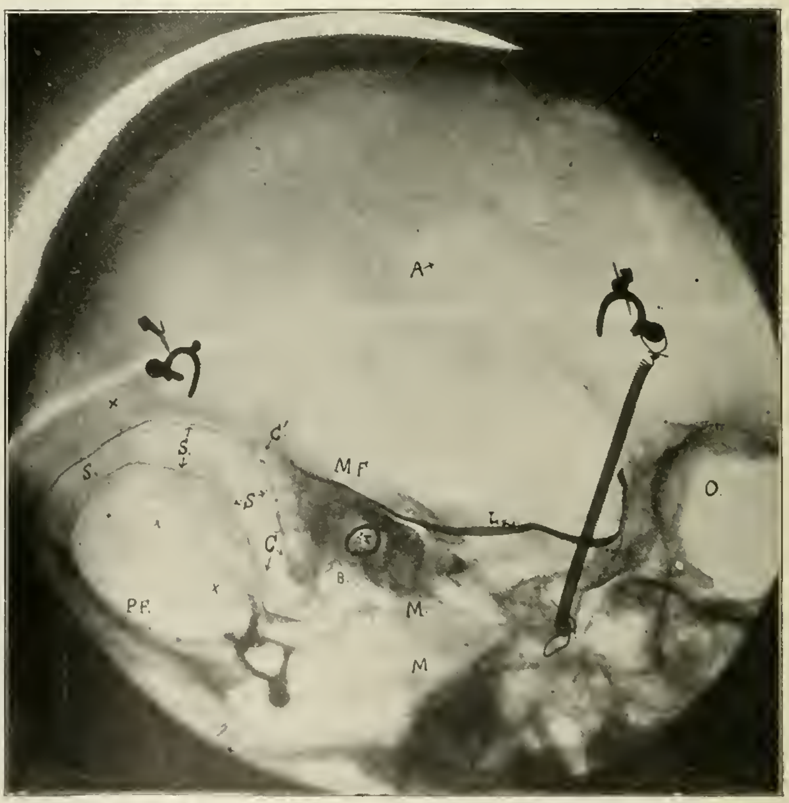

Fig. 2.—Radiogram of mastoid region of a skull: * auditory meatus; M F, middle fossa; L, lead foil in middle fossa; C, large cell at the mastoid tip; C,' smaller cell; S S, sinus (marked by wires); B, jugular bulb; P F, posterior fossa; O, orbit; X X, suture.

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[5] This article will appear in the Annals of Otology.

(Fig. 4) of left mastoid region showed dense shadow of osteosclerosis, and a few cells, just indicated, in the antrum region. A small break was noted in the line of the middle fossa and a tentative diagnosis of a defect in the tegmen antri was made. Radiogram of the right ear showed large opening made by a previous operation.

Operation.—Dec. 29, 1908. This revealed a dense sclerosed mastoid, large antrum filled with pus and granulations, and a defect in the tegmen antri with the dura covered with granulation at this point.

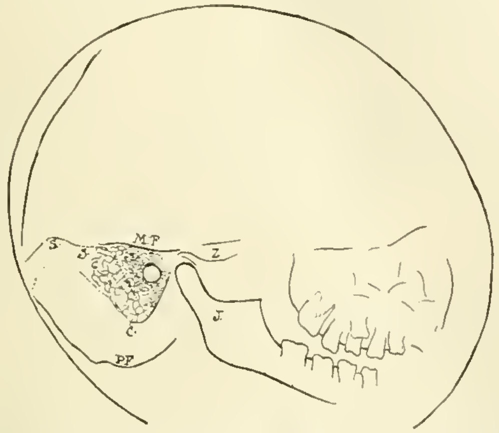

Fig. 3.—Tracing from radiogram. Normal. Mastoid region of a child. M F, middle fossa; C C, mastoid cells; S S, sigmoid sinus; J, jaw; Z, zygoma; P F, posterior fossa.

Subsequent History.—The patient died on the forty-first day after the operation. Postmortem revealed tuberculous lesions in apices of both lungs and a tuberculous caries of the right internal ear and pyramid. The temporal bone, showing defect over the antrum, was removed.

CASE 5.—H. B., female, aged 4. Diagnosis: Chronic mastoiditis on the left; right ear normal. *X*-ray examination: An excellent picture of the left side showed a dense shadow of osteosclerosis and clear zone corresponding to the middle ear and antrum, the sinus being sharply outlined (Fig. 5). The right mastoid shows normal diploetic bone and the sinus (Fig. 6). Operation Jan. 11, 1909, showed a small fistula in the external auditory meatus leading into the antrum, which was filled with granulations; the sinus was not uncovered.

Remarks.—There is a striking contrast between the radiograms of the right and left mastoid regions.

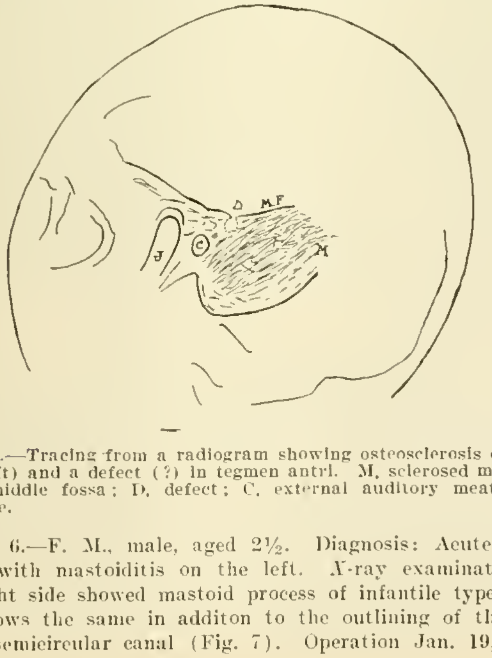

Fig. 4.—Tracing from a radiogram showing osteosclerosis of mastoid (left) and a defect (?) in tegmen antri. M, sclerosed mastoid; M F, middle fossa; D, defect; C, external auditory meatus; J, mandible.

CASE 6.—F. M., male, aged 2½. Diagnosis: Acute otitis media with mastoiditis on the left. *X*-ray examination of the right side showed mastoid process of infantile type. The left shows the same in additon to the outlining of the posterior semicircular canal (Fig. 7). Operation Jan. 19, 1909, revealed softened bone about the mastoid antrum.

Remarks. The outlining of the semicircular canal on the one side and not on the other would indicate that the bone over the canal was softened.

CASE 7.—J. R., male, aged 21. Diagnosis: Chronic suppuration in the right and left ear (of years' duration). *X*-ray examination (Fig. 8) of the right ear only (2 pictures) showed osteosclerosis, absence of cells from the tip region and a rather forward lying sinus. The meatomastoid operation (Feb. 3, 1909) uncovered a small deep-seated antrum with a few adjacent cells containing a few drops of pus; the sinus was not uncovered.

Remarks.—The tip of the mastoid was not disturbed, since the skiagram showed that it was not involved.

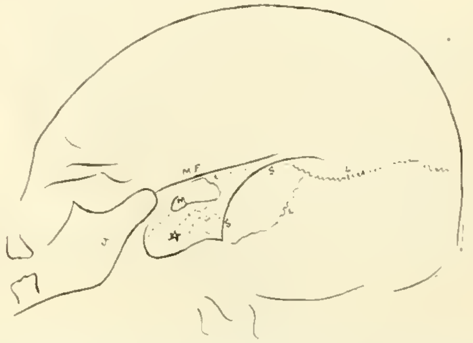

Fig. 5.—Radiogram tracing of left mastoid region, showing osteosclerosis of mastoid process*; M, middle ear; M F, middle fossa; S S, sigmoid groove; L L, suture lines.

In addition to the above, five patients on whom mastoid operation had been performed were radiographed after operation, and the appearance of the operation cavity noted. One of these skiagrams taken several months after a Schwartze operation was especially interesting, since it showed that a number of cells had not been opened, and still the patient had made a perfect recovery.

The number (four) of acute cases examined is too limited to permit of any definite conclusions being drawn. One of these came to operation as already described above. The second case, that of a little girl of 10, simulated mastoiditis. The Roentgen picture of the affected side showed a haziness of the mastoid cells with clear cells on the sound side. The patient recovered without operation, and the radiogram taken six months after recovery showed that the cells had regained their normal contour.

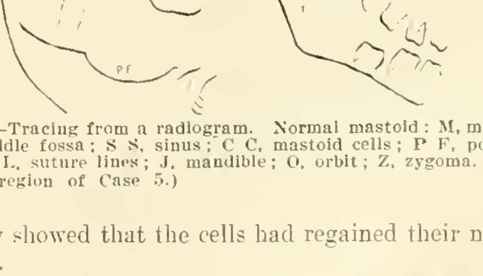

Fig. 6.—Tracing from a radiogram. Normal mastoid: M, meatus; M F, middle fossa; S S, sinus; C C, mastoid cells; P F, posterior fossa; L L, suture lines; J, mandible; O, orbit; Z, zygoma. (Right mastoid region of Case 5.)

The third case of acute otitis media showed similar clouding of the cells on the affected side. These two cases are interesting as confirming the contention of v.

Troelsch[6] and of Politzer,[7] that the mastoid process is involved in most severe cases of acute middle-ear infection. The skiagram in the fourth case, which is too recent for complete description, shows a fistula leading into a large abscess cavity in the mastoid process. It appears probable that repeated x-ray examination in acute cases will give valuable information concerning the progress of the disease.

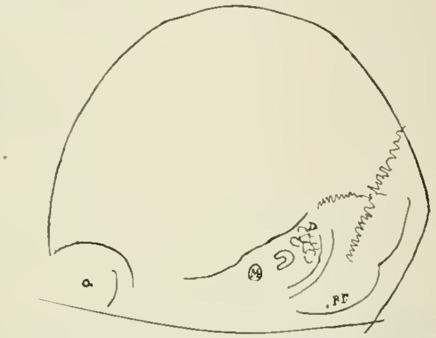

Fig. 7.—Left mastoid region, showing posterior semicircular canal: M, meatus; D, diploetic bone; P F, posterior fossa; O, orbit.

CONCLUSIONS

In conclusion it may be stated:

1. The most satisfactory Roentgen pictures may be obtained in oblique profile of the temporal bone.

2. The internal anatomy of the temporal bone can be determined prior to operation, and the knowledge so obtained is a great aid to the surgeon.

3. Osteosclerosis of the mastoid secondary to chronic suppuration can usually be diagnosticated by radiography.

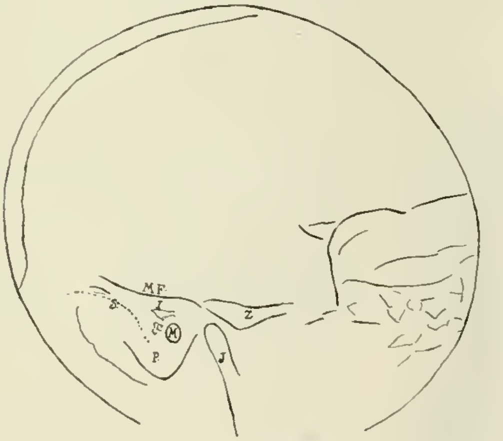

Fig. 8.—Tracing from radiogram: M, meatus; I, antrum (?); M F, middle fossa; P, sclerosed mastoid process; S, sigmoid groove; Z, zygoma; J, ascending ramus of upper jaw.

4. It is likely that defects in the limits of the temporal bone will appear in the radiogram.

5. Cases failing to heal after operation should be controlled by skiagraphy, as this may reveal the seat of the trouble.

6. The value of the Roentgen examination in cases of acute mastoiditis remains to be determined.

22 West Seventh Street.

ABSTRACT OF DISCUSSION

Dr. Sydney Lange, Cincinnati: When Dr. Iglauer first asked me to do some of this work for him it was with misgivings that I undertook it, for I did not believe we could get any practical results, but since starting the work, I believe that with perfected technic this method will form an important link in the chain of symptoms that go to establish the diagnosis of disease in the mastoid bone. The technic is very difficult. It is perhaps as difficult to examine a mastoid in this manner as to examine a frontal sinus and antrum after the method of Drs. Coakley and Caldwell. The whole thing narrows down to this: If the technic is right we have here a method of outlining the anatomy of the mastoid bone. If the tube is just right the anatomy will come out very clearly. The lateral sinus and mastoid cells can be seen very well. From examinations of the cadaver and normal subjects I have never failed to get an outline of the mastoid cells, and in comparing the two sides they have shown close similarity. Reading x-ray pictures of the mastoid must be in terms of increased or decreased density, and by comparing the two sides we can draw inferences regarding the pathology of the line. Increased density of one side as compared with the opposite side means sclerosis, decreased density with indistinctness of cell outline means inflammatory softening or necrosis. As in all x-ray work, the picture of the mastoid is just one link in the diagnosis and should be regarded as such.

I was very glad to have the subject presented here in order that expert Roentgenologists may take up and further develop the method from this humble beginning..

Dr. R. P. Scholz, St. Louis: Without question radiograms are of great value in diagnosing conditions in and about the temporal bone. I believe that skiagrams of the two sides should be made for comparison. As an aid in outlining the cavities of the temporal bone and of fixing certain landmarks, I would suggest the injection of bismuth, in suspension in peroxid of hydrogen, into the tympanum; having the patient hold his head so as to favor the settling of the mixture to the mastoid. I recommend that this be used as a final examination in patients to undergo shortly the radical operation. If these precautions be taken there need be no fear of bismuth intoxication.

Dr. J. Holinger, Chicago: This demonstration leaves the feeling that we are now more certain and safe in doing mastoid work. A sclerosed mastoid with deep-seated sinus comes out clearly. On the other hand, what we call a dangerous mastoid will show just as clearly. A short time ago we had a discussion in Chicago as to comparison of the mastoid processes of the two sides in the same individual. It was said that both mastoids are usually alike. I differed with that statement then, and do so now, inasmuch as I have often found in operating on both sides that the two mastoids differed markedly in the arrangement of the cells as well as in their size. I think if one mastoid is pneumatic, that is, contains many and large cells, the other one is similar and not likely to consist of one solid mass of bone. But I think the groove of the sinus may be shallow in one side and deep in the other. Large cells may be in one side along the sinus, in the other side they are in the tip of the mastoid, etc., and these are the points that interest us in the operation.

Dr. B. A. Randall, Philadelphia: As in all radiographic work, it takes an expert to translate the picture; with all his knowledge, the aurist himself may be at fault and the results in certain cases may not justify his anticipations. In one case, a large hyperostosis filled the canal and it was impossible to determine clinically where it had its origin. With the picture this was easily seen. Such information may at times be very valuable.

Dr. C. F. Welty, San Francisco: In taking up something new we must demonstrate how and why we are going to be benefited. In these pictures a lesion of the bone will show, but after all, what does that amount to? You have a case in question, a case of acute otitis, for instance; your indications for operative interference are quite well established now and generally accepted by all. If you follow these I do not think it is necessary to have an x-ray picture. When it comes to the chronic cases, if we follow the most approved indications for operation we can go ahead with our operative work without fear. As to the sinus encroaching on the wall, if we uncover it with the first blow of the chisel, we must know how to go ahead without getting into the sinus. If the dura is uncovered it is of little consequence. So, after all, while it is a very beautiful thing, I do not see that we profit a great deal by it.

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[6] Troelsch, A. von: Lehrbuch der Ohrenheilkunde, Leipsic, 1881, pp. 291-410.

[7] Politzer, A.: Ohrenheilkunde, 893, p. 417.

Dr. Frank Allport, Chicago: I do not feel that criticism such as that of the preceding speaker should be made without some challenge. We can not say that any progress, anything that sheds light on a case, should be brushed aside as of no use, or not of distinct use. Those of us who have operated on many mastoid bones will, I am sure, feel that we would have been glad if before we operated we had known the internal condition of things. I have many times found conditions that I would like to have known about before operating, and I certainly think it would be unwise to pass up such work and say that it is not of much use. It is unquestionably of great use.

Dr. S. MacCuen Smith, Philadelphia: This past winter Dr. Manges has been doing some of this work. It seems to be of little worth in acute cases, but it certainly is of considerable value in pointing out two features of the greatest interest to the operator—the position of the lateral sinus and the condition of osteosclerosis.

Dr. Samuel Iglauer, Cincinnati: I am very much pleased with the discussion and that Dr. Lange was able to take part in it. This work requires an expert radiographer as well as an otologist and I agree with Dr. Randall that it takes these two to make the diagnosis. It is important to take all the pictures in the same way and at the same angle. The suggestion concerning the injection of bismuth seems to me a good one. I believe Dr. J. Beck of Chicago is employing this method. I have put a piece of lead foil in the meatus and another piece on the tip, and the pieces of metal give two fixed points, which serve as guides in interpreting the radiograms. There is often a difference in the two mastoids, especially if one be diseased. Chronic inflammation in the mastoid retards development on the inflamed side. It is true that we have been able to get along without the *x*-ray, but that is true in general surgical work also. It might as well be said that fractures of the long bones can be treated without *x*-ray pictures. Of course they can; but we know that they can be treated to much better advantage with the aid of the *x*-ray. I am pleased to learn that Dr. Smith's findings correspond with mine, and agree that we can not as yet tell much about the acute cases.

BRONCHOSCOPY AND ESOPHAGOSCOPY

GLEANINGS FROM EXPERIENCE *

CHEVALIER JACKSON, M.D.
PITTSBURG, PA.

One hundred and five deaths, recorded in North America in five years, from foreign bodies in the air and food passages, or from ill-advised efforts at removal, show the necessity of acquainting the general profession with the advances already made and still being made in esophagoscopy and bronchoscopy. Further, I wish to report cases which point out lessons for us all. As evidence of the prevalence of blind groping after foreign bodies, 36 per cent. of the foreign-body cases that have come to me have been in a state decidedly the worse for the unjustifiable, obsolete attempts at removal, which, moreover, had failed to remove the intruder.

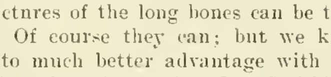

Fig. 1.—Specimen forceps tip to fit universal handle. The side jaw will bite into a flat lateral wall. The cross forms the bottom of a basket to hold the tissue removed.

In one case, seen in consultation, a child of 2 years was dying from acute esophagitis. A penny had lodged in the esophagus five days before. Forceps had been passed blindly, without an esophagoscope. Two days after this utterly unjustifiable procedure, the temperature was 104 degrees, pulse 150. When I saw the patient, five days after operation, the temperature was subnormal, pulse fluttering and uncountable, sloughs were being vomited, and the child was sinking away in the profound shock of a traumatic esophagitis. I concurred in wording the death certificate: "Death from acute esophagitis following the swallowing of a penny." It was really due to the absolute ignorance of the family physician who had never heard of esophagoscopy, and its safety in trained hands.

In another instance a prominent surgeon did a rapidly fatal thoracotomy for a glass bead which at autopsy was found free in the right bronchus. The pathologist who did the autopsy called the surgeon's attention to the fact that in such a case the foreign body could have been readily removed by bronchoscopy. The surgeon said: "What is bronchoscopy?" In that town were two men competent to remove that bead quickly and safely.

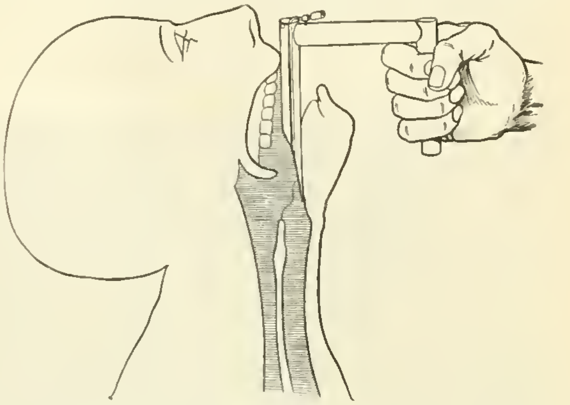

Fig. 2.—Misleading schema of direct laryngoscopy and bronchoscopy.

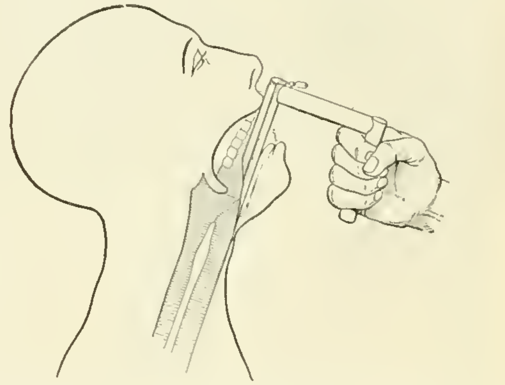

Fig. 3.—Schema showing correct position of patient and of the instrument in relation to the air passages. The instrument should touch the upper teeth very gently if at all.

There were three thoracotomies for bronchoscopically removable foreign bodies reported in 1908. They were published admittedly because the patient survived the operation. It is hoped that no one will misunderstand me. No criticism can attach to thoracotomy for the evacuation of an intrathoracic abscess following the lodgment of a foreign body that bronchoscopic methods have failed to remove. In the three cases mentioned the patients were never examined bronchoscopically, and there was no wait for abscess formation.

I have used the esophagoscope in forty-one cases for foreign bodies in the esophagus, in all but one of which the intruder was removed. In this one case, a child of 2 years had a double-pointed, partially straightened tack, shaped like a fish-hook, in the esophagus. One point had perforated and the other point had almost disappeared. Slight traction on this one point was found ineffective, and strong traction was deemed unsafe; the tack disappeared from the esophagus and wandered into the pleural cavity. The case was fluoroscopically watched by Dr. John W. Boyce. After abscess formation around the tack at the bottom of the pleural cavity, and not until then, Dr. Boyce advised thoracotomy, which was skilfully done by Dr. James McFarlane, who resected a rib, evacuated the pus and removed the tack. The child made a good recovery, and now, six months later, is doing well, though the fistula which communicated with the esophagus is still discharging.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

I have practiced tracheobronchoscopy on thirty-two patients with foreign bodies lodged in the air passages below the glottis. In twenty-eight of these cases the foreign body was removed, not removed in four. There were no deaths from any cause whatever within thirty days, which was as long as the cases were followed.

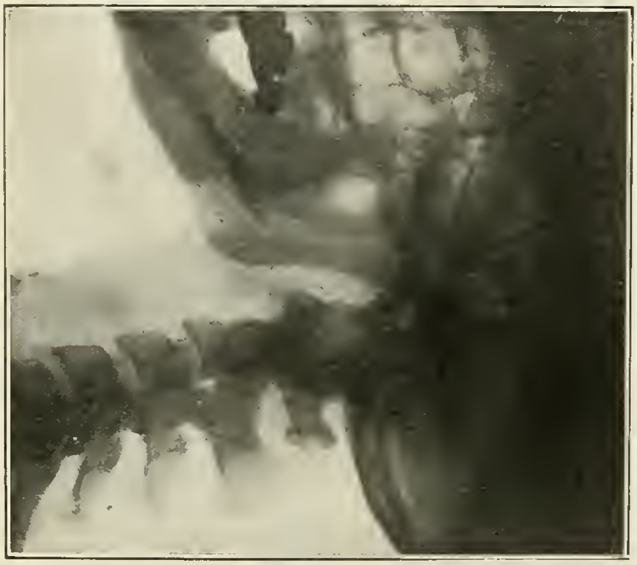

Fig. 4.—Correct position of the cervical spine for esophagoscopy and bronchoscopy. Radiograph by Dr. George C. Johnston.

By this I do not mean that there is no mortality from tube work. I have had two deaths from anesthesia for direct laryngoscopy. One patient, a child, died in convulsions three hours after the removal of papillomata from the larynx. Idiosyncrasy to cocain was the cause. The other patient, a man of 46, died about one week after direct laryngoscopy for the removal of a laryngeal neoplasm. There was a gangrenous bronchitis due to delayed chloroform poisoning. He had an old bronchial history. Anesthesia was impossible, and the anesthetic was abandoned, the operation being finished without an anesthetic. In neither of these cases was there any instrumentation whatever below the larynx. They were for diseased conditions, not for foreign bodies, and they were the only fatalities in over 300 cases of tube work. They point clearly to the necessity of developing such a great degree of skill that little or no anesthesia is needed. If as much time were spent in acquiring skill in tube work as in golf or billiards, tube work would be about the least dangerous of all surgical procedures.

ANESTHESIA

For esophagoscopy in infants I now do not use any anesthetic, general or local. It is not necessary, if the esophagoscope be very carefully and skilfully passed, and, most important of all, if the patient be held in the Boyce position by a trained assistant. In adults, the relaxation of a general anesthetic is advantageous, though not absolutely necessary, except in a few conditions. Foreign bodies in the esophagus are just as apt to cause dyspnea as those in the trachea.

In direct laryngoscopy the lessening of the cough reflex is usually necessary for careful work under direct inspection. The blades of the forceps must never be closed unless their closure is carefully guided by the eye. This necessitates a lessening, or, in some instances, the total abolition of the cough reflex. In children the sparing administration of chloroform is safer than the local use of cocain in most cases, though, of course, the bronchoscope must be instantaneously introduced into the trachea and kept there, if there is any respiratory difficulty. The bronchoscope is a better breathing channel than a tracheal wound. Oxygen and amyl nitrite can be administered directly through the tube, in any idiosyncratic chloroform intoxication. Respiration is more often arrested in the endoscopic removal of foreign bodies from the esophagus than in tracheo-bronchial cases, though laryngeally lodged cases are worse in this respect than any of the others.

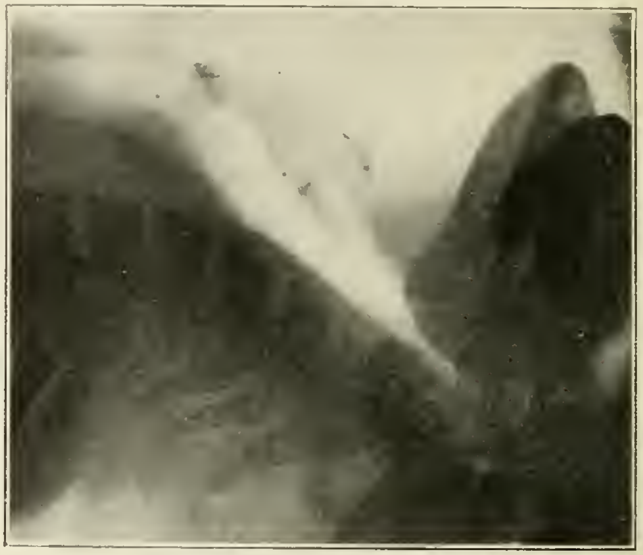

Fig. 5.—Curved position of the cervical spine in the Roser position, rendering esophagoscopy and bronchoscopy difficult or impossible. The devious course of the pharynx, larynx and trachea are plainly visible. Radiograph by Dr. George C. Johnston.

INSTRUMENTS

I have reduced my tubal armamentarium to four tubes and two slide speculums. It is impracticable to have one tube for adults and children, or the same tube for the esophagus and the bronchi. This means one bronchoscope for adults and one for children; one esophagoscope for adults and one for children. A good working set would be the following:

1 bronchoscope, 5 mm. by 30 cm. for children.
1 bronchoscope 7 mm. by 40 cm. for adults.
1 esophagoscope 10 mm. by 53 cm. for adults.
1 esophagoscope 7 mm. by 45 cm. for children.
1 adults' slide speculum.
1 childs' slide speculum.
1 aspirator for the esophagoscopes.
1 specimen forceps, long and short (Fig. 1).
1 foreign-body forceps.
3 Coolidge sponge-holders.

1 Sajous cotton-holding laryngeal forceps, for cocainizing the pharynx and upper laryngeal orifice.
1 double bronchoscopic battery.

No practical effort has yet been made to adapt the tallow candle or a kerosene lamp to endoscopy. We are compelled to use electric light of some kind. If the endoscopist is not of a sufficiently mechanical turn of mind to keep his electric lights burning he will not have the greatest success in foreign body work, for it is a question of mechanics from beginning to end. It does not require great brain power or high intellect, but in some cases mechanical ingenuity is taxed to the utmost to get out the foreign body without interfering with breathing and without traumatism to the tissues. If the surgeon is not a mechanical genius he should have a skilled instrument-maker in the operating-room, or, better still, a trained surgical assistant who has the necessary mechanical ability. The simplest, best and safest source of current is a double dry battery; that is, two sets of four cells each. Each set should have two binding posts and a rheostat. I find men working with all kinds of makeshift batteries, the current from which, with only a cell selector for control, jumps up from underillumination to overillumination and burns out the lamps. Dr. Ingalls (who is a leading authority on bronchoscopy) and I concur in the belief that all forms of rheostats devised for adapting commercial circuits to tube work are dangerous when attached to a tube which makes a moist contact with tissues so close to more or less of the course of the vagi.

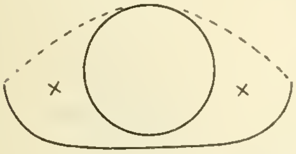

Figure 6.

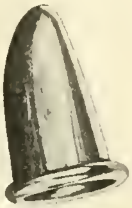

Figure 7.

Fig. 6.—Schema showing relation of the cricoid cartilage (the circle) to the posterior hypopharyngeal wall, in the dorsally decumbent patient, observer looking down the esophagus. The pyriform sinuses are at the position marked X.

Fig. 7.—Thimble gag or bite block for bronchoscopy and esophagoscopy.

TECHNIC

Direct Laryngoscopy.—The illustration (Fig. 2) is schematically correct, but is very misleading. It shows the head thrown too far back. This is the position into which the patient will throw his head if allowed so to do; but, if he is allowed, a very poor view of the larynx will be obtained, and the trachea will not be in line with the slide speculum. Further, nearly every one infers from this illustration that the upper teeth are used as a fulcrum; the chipping of the enamel from the teeth is evidence of an incorrect position. Nothing could be worse, and it is impossible to get a good view or to pass tubes easily in this position.

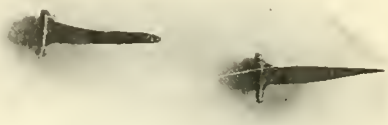

Fig. 9.—Tacks removed by bronchoscopy from posterior branch of right inferior lobe bronchus of a woman aged 41 years, referred by Dr. Lewis G. Cole.

Figure 3 gives a more correct idea of the procedure. The head of the patient is drawn forward by the forward pull of the tip of the slide speculum placed on the epiglottis. The hyoid bone and all its attachments as well as the base of the tongue are drawn forward. The axis

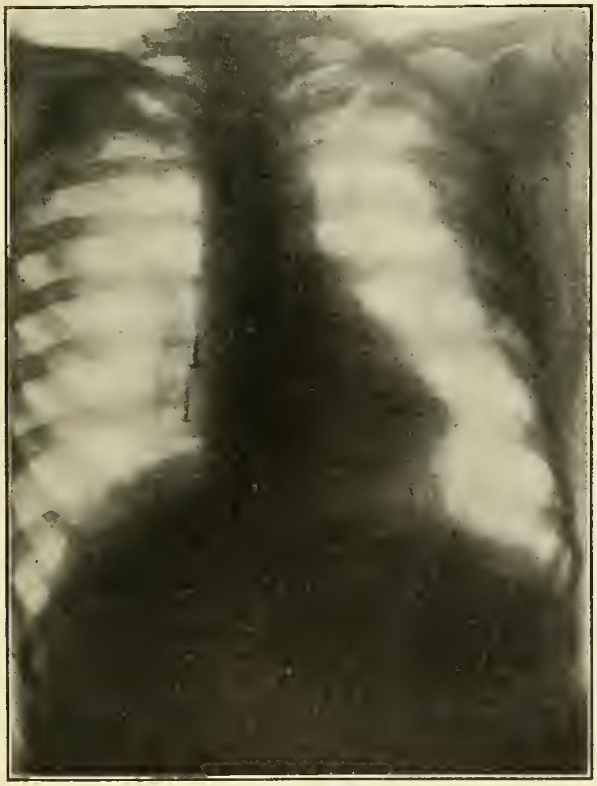

Fig. 8.—Radiograph by Dr. Lewis G. Cole, showing 2 tacks in a posterior branch of the right inferior lobe bronchus. Tacks removed by bronchoscopy through the mouth.

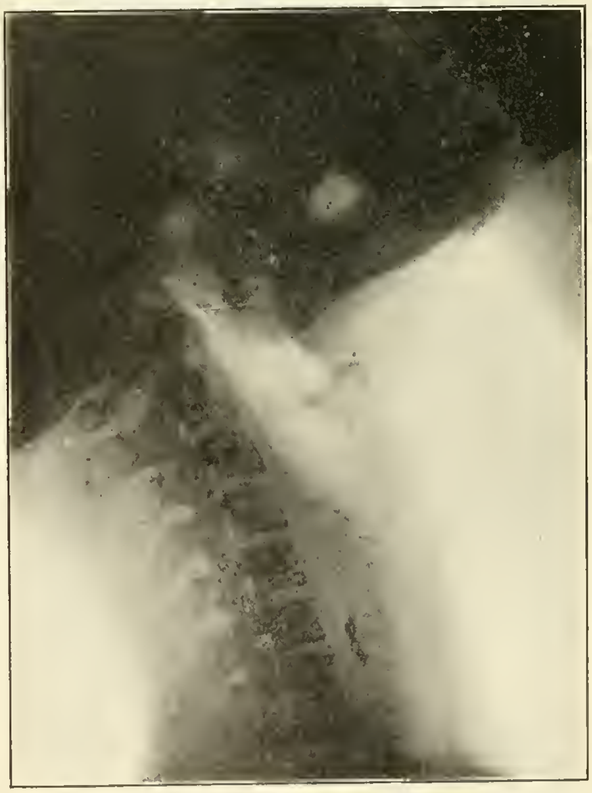

Fig. 10.—Radiograph by Dr. George C. Johnston, showing bone in the esophagus. Note the swelling of the esophageal walls and the clear outline of the air passages.

of the slide speculum corresponds to the axis of the trachea and this axis is not vertical, but leans forward toward the operator, about 20 degrees from the vertical. This exposure of the larynx is the whole art of introducing the bronchoscope. Until it is so mastered that the larynx can be exposed and held exposed to view indefinitely, no one should attempt bronchoscopy.

The foregoing description is of the technic in the upright position. In the dorsally recumbent position, the relation of the parts is the same, but an assistant must be trained to place the parts in the same position by raising the head, at the same time that it is squarely extended on the occipito-atlantal joint, not on the cervical spine. The shoulders slightly overhang the head end of the table, so that the head and neck are free to move under the control of the assistant who holds the head. This position not only brings the air passages in line, but the esophagoscope may be inserted with perfect ease and safety. The effort to use other and unsuited positions like the Roser and the lateral positions have led to accidents, and are especially dangerous in inexperienced hands. I have with the greatest ease slipped a tube down a patient on whom esophagoscopy and bronchoscopy was after trial by others said to be impossible.

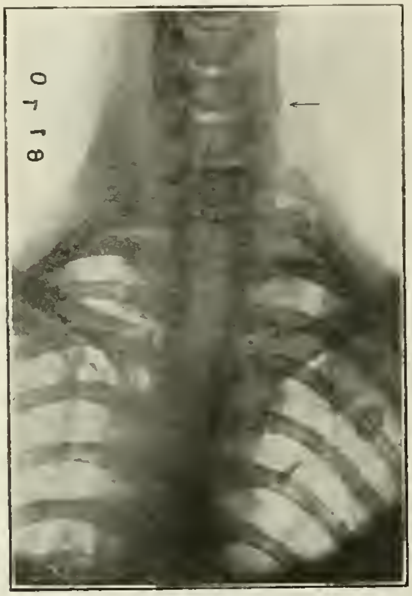

Fig. 11.—Radiograph of same patient. The piece of bone, though present at the level of the dart, does not show. An example of the misleading negative radiograph, and an indication for lateral as well as antero-posterior radiography.

This was in no case due to any superiority in skill, but simply to the head and neck being held in the Boyce position.

Esophagoscopy.—The esophagoscope is pointed as a billiard cue, the operator having a mental picture of the course of esophagus beneath the bared neck. If the head is held in the Boyce position the cervical vertebræ are parallel to the esophagoscope, so that they are (in the recumbent position) in the horizontal plane (Fig. 4). If the head is held in the dangerous (for this work) position of Roser, the cervical vertebræ are curved (Fig. 5) and the esophagoscope strikes almost vertically on the convexity and can not be introduced into the introitus esophagi. If the attempt be made to pass the esophagoscope in the middle line it encounters at once the cricoid cartilage which is pressing firmly on the posterior hypopharyngeal wall. Very often, too, in the center line the tube mouth will hook over one or both the arytenoids and the voice will be damaged if force be used, but the chief obstruction is the posterior half of the cricoid cartilage. Nearly every one, on meeting this obstruction, uses force; this is a serious and often fatal blunder. If the esophagoscope is inserted in the pyriform sinus the tube will glide down like a pencil in a pocket. The position of the pyriform sinus is on either side of the cricoid cartilage, as shown schematically in Figure 6, which is drawn to show as if the operator were looking down the esophagus of a dorsally decumbent patient. The circle represents the cricoid cartilage resting on the posterior hypopharyngeal wall. The cross shows the pyriform sinuses, one on each side of the median line. These are the normal food passages, but it is through the right one that is most convenient for esophagoscopy.

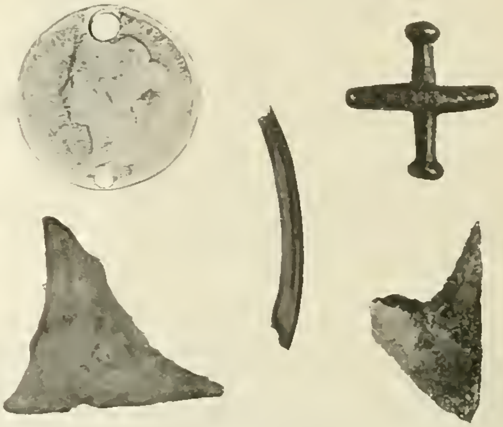

Fig. 12.—Foreign bodies removed from the esophagus by esophagoscopy at the Eye and Ear Hospital, Pittsburg, Pa. Six coins also removed are not shown because illustration of United States coins is forbidden by law.

A gag, properly so-called, should never be used. Some form of bite-block to prevent the patient biting the tube is necessary. The best and simplest is the thimble-gag of Boyce (Fig. 7). The slide speculum requires nothing, as it is of heavy metal that can not be damaged by biting. A widely spread gag may render bronchoscopy and esophagoscopy utterly impossible by jamming the lower jaw down on the hyoid bone.

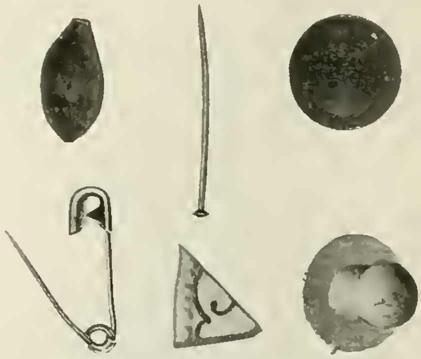

Fig. 13.—Foreign bodies removed from the bronchi by bronchoscopy bloodlessly through the mouth, at the Eye and Ear Hospital, Pittsburg, Pa. In addition 3 coins were removed.

In esophagoscopy for foreign bodies it is always better to introduce the esophagoscope without a mandrin, lest the foreign body should be located high up and be overridden. Every millimeter of the way down must be inspected, beginning with the pyriform sinuses. If even a start be given to the tube before the ocular watch begins, a very large foreign body may be overridden and sometimes the foreign body will crowd the trachea and impede respiration.

Space forbids the illustration of all the radiographs and foreign bodies.

Westinghouse Building.

ABSTRACT OF DISCUSSION

Dr. R. H. Johnston, Baltimore: Nothing was said about direct laryngoscopy in the flexed position. Mosher of Boston, in an article in the *Boston Medical and Surgical Journal* advocates the left lateral position, which is as follows: the patient is placed on the table with the head slightly flexed on the chest; the head is turned to the left until the cheek almost touches the table. The mouth is opened and his special instrument introduced until the epiglottis comes into view when it and the base of the tongue are pulled upward, using the left upper bicuspid teeth as a fulcrum. So far as I know, he has used it only under general anesthesia. Last summer I had a case of papillomata in a child of 4 years and tried in vain to use Mosher's instrument. I flexed the head of the child on the chest, introduced Dr. Jackson's child speculum, pulled the epiglottis and the base of the tongue up, and obtained a splendid view of the larynx. In my next case, a child of 6 years, with dyspnea, I placed the child on the table, had her head, arms and legs held and succeeded in getting a good view of the larynx. In this procedure little force is used, because the tissues in a child's throat yield easily to slight pressure. With the smaller speculum there is no danger of loosening or breaking the incisor teeth. This method in my opinion will prove of more value to most of us than the method in extension. It is very simple and it will be found preferable to the other method. The great trouble I find in extension is that the operator is in a cramped position and the muscles of the neck are so tense that it is difficult to get a clear view. In the few cases in adults in whom laryngeal tumors can not be removed by the extension method, the flexed position again comes into use. An assistant pushes the thyroid cartilage back and brings the anterior part of the larynx into view. I have used this method in a number of cases in the last twelve months in children from 14 months to 6 years and have never failed to get a good view of the larynx. For diagnostic purposes it is ideal and for operative procedures superior to the extension position. In a little child seen some months ago the diagnosis could not be made with the mirror; the patient was placed on the table without anesthesia and the obstruction found to be in the subglottic space. To those who have used extension without success I would recommend this simple procedure.

Dr. B. R. Shurley, Detroit: I would like to make a plea for more extensive digital exploration of the larynx in very young children prior to the use of the bronchoscope. In three cases in which I have had the instrument prepared for further investigation of these regions I have been surprised to find how far down I was able to reach with my finger. Having taken an *x*-ray picture in three instances in which a coin was lodged there the foreign body was located and I was able to dislodge it easily with the finger. The digital exploration of the larynx, if you are blessed with a long index finger, has many advantages.

Dr. R. P. Scholz, St. Louis: I believe that endoscopy is used too seldom; particularly is this true of the esophagoscope. I have observed that the esophagus has little or no pain and pressure sense and that even extremely large foreign bodies, lodged in the esophagus, produced mild or no subjective symptoms. One of my patients scarcely complained, with a piece of hog's vertebræ 2.6x2.8x0.8 centimeters in size, lodged in the esophagus 17 centimeters from the cutting edge of the upper incisors. This patient claimed to have a feeling of pressure over the superior notch of the thyroid cartilage. Dr. Jackson, while in St. Louis recently, told me that his patient, with a plate of artificial teeth in the esophagus, had only very mild if any subjective symptoms. This I believe indicates how readily foreign bodies in the esophagus may go undiscovered. I wish to cite a case which came to my notice while in the Pathological Institute in Vienna. A man, while eating fish, swallowed several bones. Esophagoscopy was performed and three large fish vertebræ were removed. Some time later when signs of mediastinal infection developed, it was attributed to the traumatism produced by the bone removed. The postmortem examination revealed a fourth vertebra lodged about 1 cm. below the lowest point of the esophagus explored. This case illustrates, I believe, how careful one should be to explore the esophagus thoroughly, and not be satisfied with the removal of a foreign body.

Dr. J. R. Fletcher, Chicago: I wish to emphasize the fact that more foreign bodies enter the bronchi than are now suspected. I had the pleasure of visiting Professor Killian's clinic in Freiburg some time ago. He told me that more foreign bodies were removed there than in all other parts of Germany together. He attributes this to the alertness of the physicians in the neighborhood. Because it was known that they were doing a great deal of this work patients are sent to them whenever foreign bodies are suspected. He showed me a patient under treatment who six years before had swallowed an upholsterer's tack.

CLINICAL MANIFESTATIONS OF ADENOIDS IN ADULTS *

OTIS ORENDORFF, M.D.
CANON CITY, COLO.

When we think of adenoids, a picture appears of a childish face, devoid of expression, dull eyes, thick lips and open mouth. This familiar face is so constantly before us that we almost recognize the listless type across the street. We are liable, however, to fail to recognize the disease when it occurs in a well-developed, apparently healthy adult, of age anywhere up to 50, giving a history like this: Catarrh was present during childhood, accompanied by the well-known symptoms of nasal obstruction. Perhaps there was also an attack of scarlet fever with a prolonged recovery. With the change from adolescence to maturity the symptoms of obstruction gradually lessened and troubles of a different type were noticed, for which the patient now seeks relief.

In order to make the clinical course clear I will diverge into the pathology. The reason that these patients frequently date the disease to an old severe attack of scarlet fever or measles is that bacterial invasions have more effect in enlarging and causing hypertrophy in the lymphoid structures of children than in adults. Again, the fauces and nares rapidly enlarge as the child grows older; hence the same amount of tissue would cause less and less obstruction and yet would retain its power of doing other damage. One would naturally suppose that the size of the vegetations would diminish as the individual advanced in life; this is probably true in nearly all cases.

Inspection in these patients shows the usual highly arched palate with the "adenoid fringe," or its remnants and the fauces and pharynx covered with a slimy sticky mucus. There is an enlargement of the lingual papillæ and there are nodules on the posterior wall—"granular pharyngitis." In my limited experience I have never encountered a case that did not exhibit this nodular condition on inspection high up on the posterior wall, and I have begun to believe that it will always be found as a complication in all adenoid patients over 15. The tonsils are usually sclerotic, burnt embers of the spent fires of the repeated attacks of acute or the slow destruction of chronic inflammation. The epipharyngeal mirror or the examining finger reveals the disease to be of a more fibrous nature than in children, having lost to a degree the fish-worm character and being more in furrows and folds which run in an anterior and posterior direction. Somehow the real size is deceptive and there is always more of the tissue than would appear to be from examination.

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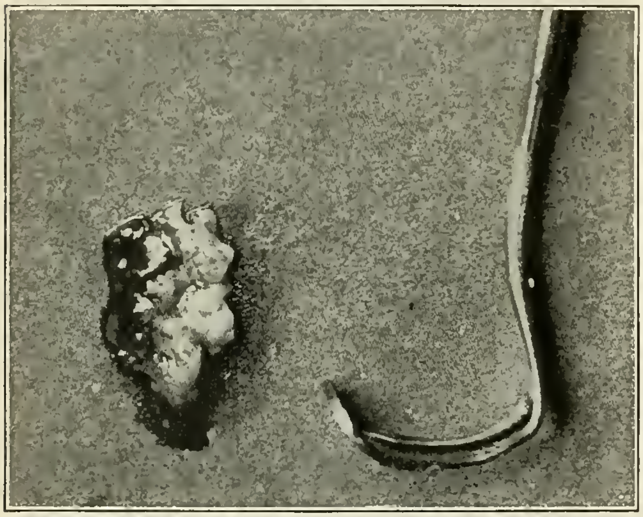
* Read before the Fremont County Medical Society, July 26, 1909.

These patients are apt to be dismissed in clinics with sprays and gargles, and in private practice with sprays and atomizers and other forms of what should be called "office suggestion." After a course of such treatment, patience ceases to be a virtue and the sufferer prefers to continue his unpleasant existence as it is rather than submit to the experiments which experience has taught him are of no avail.

In an average practice there should be four or five well-defined cases in a year.

The case from which this photograph was taken is one of the most instructive ones that I have recorded and it is presented as illustrating a type and also as a lesson in humility, as the underlying pathologic condition was overlooked by several good general physicians and by at least one specialist of reputation. When recognized it was not relieved by the first operation and for no other reason than that it seemed too simple for the exercise of careful technic. The accompanying illustration shows the real size of the specimen, with the old-fashioned curette which I have now discarded.



Second adenoid growth removed. The one removed the day before was fully as large.

Patient.—E., female, aged 38, single, well developed; home in Nebraska, temporary climatic resident of Colorado. (When an eastern physician exhausts his resources the patient is sent to Colorado for climate regardless of what the disease is.) She said that she had a dry mouth, slight deafness, frequent desire to clear the throat, which was not relieved by the almost constant hawking; ears hurt when nose was blown hard. At one time a douche was prescribed which brought on an attack of excruciating pain in ears which have been worse ever since.

Examination.—This showed the presence of adenoids, "granular pharyngitis," hypertrophied inferior turbinate on one side and the throat full of ropy mucus.

Treatment.—Only enough of the turbinate was removed to give clear space and the adenoids were supposed to be thoroughly curetted. The next day the voice was still muffled and examination showed the mass in the nasopharynx apparently as large as before although the quantity removed the day previously was fully as large as the specimen shown in the illustration. Local anesthesia was used as before and the mass removed under the inspection with the mirror by one sweep of the curette.

Remarks.—Evidently the tumor was bifurcated and the anterior portion was pushed forward into the posterior nares at the first operation. At the completion the patient at once remarked: "Doctor, you have removed something that has been stopping up my nose for years." She remained three weeks for treatment which consisted of massaging a strong solution of one of the silver salts into the nasopharyngeal membranes with use of the Eustachian catheter every third day.

Before operation the tuning-fork test was minus 30 and at the time of returning home three weeks later it was minus 15, both ears being about the same. A letter received two months later stated that the throat had given no trouble and that the mouth and ears were well.

Adenoids in adults are not common, as they usually disappear before maturity, but when they do not their character changes from those of childhood.

The patients are really sufferers and think that there is no relief because the "catarrh is in the system." There is no value in sprays and applications or internal treatments. Results of complete operation are satisfactory and permanent.

SUPPURATIVE ACCESSORY SINUS DISEASES IN WHICH AN INTRANASAL OPERATION IS INDICATED *

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ST. LOUIS

The great majority of the cases of suppuration of the accessory sinuses of the nose are amenable to intranasal treatment at some period in the course of the disease. Suppuration of the ethmoid labyrinth responds most readily to this form of treatment, with that of the maxillary, sphenoid and frontal, following in the order mentioned. Intranasal treatment may be of no avail in suppuration of any of these cavities, however, if the process has been long-continued, or if the infection is rapid and virulent. Between these two extremes lies the field of intranasal surgery as applied to the suppurative conditions which involve the accessory sinuses of the nose.

The methods by which good results are obtained are various, and for their success depend largely on the personality and equipment of the individual operator; for a method which is satisfactory in the hands of one thoroughly familiar with the technic may be without favorable result in the hands of another who is accustomed to a different plan of operative procedure. Inasmuch as this paper comprehends conditions rather than individual methods, only casual reference will be made to the latter where the discussion requires it.

Besides discussing processes which call for intranasal lessons which anatomy teaches with respect to surgical treatment, however, it will be the endeavor to show the treatment of the accessory sinus through the nose.

To bring this more clearly into view, there are here presented lateral reconstructions of twenty heads, showing forty groups of sinuses with their relations shown to one another and to the floor of the nose, the turbinates, and the external contour of the nose and upper lip. The frontal, sphenoid and maxillary sinuses, and the contour of the nose and upper lip are shown in unbroken lines, the posterior ethmoid in dotted lines, the anterior ethmoid in alternate dots and dashes, the infundibulum in broken lines, and the turbinates in feathered lines.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

This makes it possible to see the exact relations of each factor that is brought up for consideration. The nasal orifices of the sphenoid and frontal sinuses are indicated in black dots. The method employed in reconstruction has already been fully described in previous papers on the subject.

MAXILLARY SINUS

An intranasal operation ordinarily suffices for the relief of simple, uncomplicated suppuration of the maxilliary sinus, provided there is no dental cause. Even then, relief may follow the intranasal operation if there is no active process going on in the teeth or alveolus. Furthermore, good results may be obtained by combining with the nasal operation the removal of diseased roots of teeth.

While a simple puncture through the nasoantral wall is often sufficient, as a rule the best results are obtained only when an extensive resection of this wall is made. This naturally requires the removal of a portion of the inferior turbinate, in this way affording ample space for irrigation and drainage. The well-known tendency of all these openings to contract, and, in many instances, to close altogether, further calls for a large opening which would, at least, do no harm.

Considering the variability in the size and shape of the maxillary sinus, it is always important to be sure that the opening is made into the sinus and not into the tissues anterior or inferior to it. If the opening is made too near the anterior extremity of the inferior turbinate, it may escape the sinus altogether; as, for instance, in heads II left, III right, IV right, VII, VIII left, IX, X right, XI left, XII, XV, XVI, XVII, XVIII, XIX, and XX. In these heads the distance between the anterior extremity of the inferior turbinate and that of the maxillary sinus is more than 5 mm. This distance is greatest in VII right, IX, XV left, XVI left, XVII, XVIII, and XX.

In IX the maxillary sinuses are so small that only a careful operator who has anticipated the existing state of affairs would have been successful at the first attempt.

In the main, the inferior turbinate courses along the nasoantral wall in a horizontal direction, but in a number of instances it inclines sharply downward and backward from its anterior attachment. This is particularly well shown in X right, XIV, XVIII and XX, in which it reaches the level of the superior wall of the sinus, or even higher. In only one instance, IX, does the inferior border of the inferior turbinate reach a lower level than the sinus, though in several cases the distance between them is not great: VI left, XII, XVI, and XVII right.

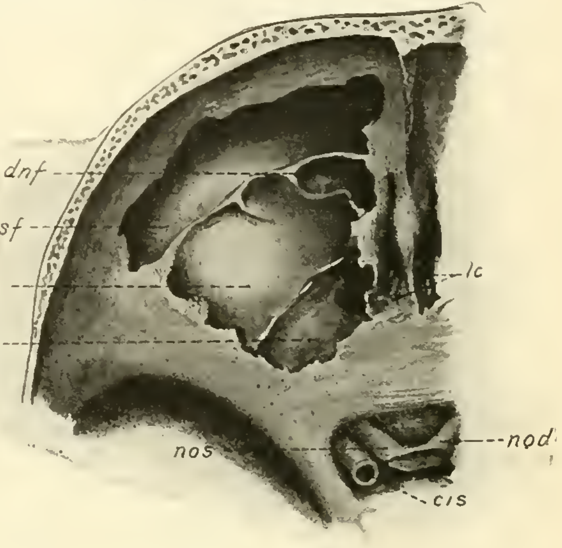
The position of election for opening the sinus, as ascertained by a study of these twenty heads, is just below the attachment of the middle portion of the inferior turbinate. This enters the sinus in every instance, and, in the main, at its most dependent part—at least, so far as possible, by using the inferior turbinate as a guide.

When the inferior turbinate has the great inclination already mentioned and the floor of the nose is widely separated from the turbinate attachment the portion of the nasoantral wall penetrated under this rule will be high above the floor of the sinus, so that it will be advisable to remove the wall below this for quite a considerable distance, easily determinable at the time of operation.

FRONTAL SINUS

In some acute cases, even when associated with ethmoiditis, operation through the nose will afford sufficient drainage and thereby result in cure. Even in the more chronic cases relief follows resection of the adjacent ethmoid cells and irrigation through the nasofrontal canal with or without enlargement. Although claims are made that well-marked cases of frontal sinus suppuration may be relieved by the various intranasal methods, it must be admitted that ordinarily nothing short of an external radical operation suffices.

A study of the reconstructions here presented throws some light on the accessibility of the frontal sinus to nasal operative procedures, and, at the same time, on the anatomic variations which make the operation uncertain, difficult or impossible. These comprehend the distance between the nasal opening of the frontal sinus and the anterior wall of the nose, the presence of an ethmoid cell or nasofrontal canal which reaches a high elevation, and, what can not be shown in these illustrations, septal irregularities, congenital narrowness, or new growths.



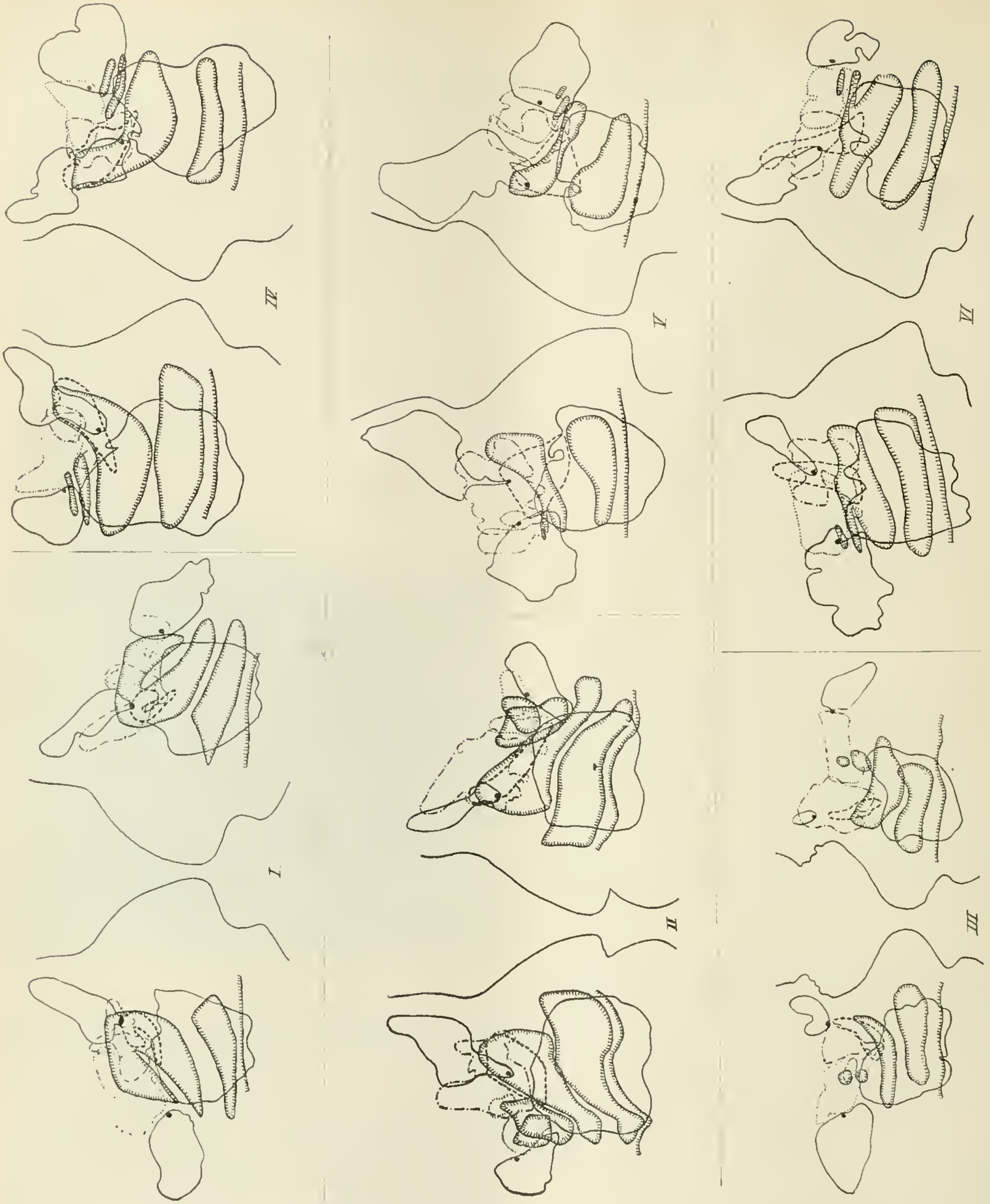
XXI

Frontal sinus (sf), anterior ethmoid cell (cea) and posterior ethmoid cell (cep), extending over the roof of the orbit; dnf, nasofrontal duct; lc, cribriform plate, nos, nod, optic nerves; cis, left internal carotid.

In the following a probe would readily enter the frontal opening without any likelihood of entering any other cell with which the frontal might be confused; of course, assuming that the operator understands the technic: I right, III right, IV, V, VI right, VII, VIII, X, XII, XIII right, XVI, XVII, XVIII, XIX right, and XX.

In only twenty-five out of forty instances, therefore, could the probing be accomplished with a reasonable degree of accuracy, and in several of these cases one who is not an expert might be deceived by the entrance of the probe into one of the adjacent ethmoid cells or nasofrontal canal. This can be more or less obviated by making a radiograph which would show how high upward the frontal extends.

In I left, II left, IX, XI, XIII left, XIV, XV, XIX left, an adjacent ethmoid cell reaches so nearly the superior level of the frontal that it would be practically impossible to state whether the probe was in it or



In these figures, the frontal, sphenoid, maxillary sinuses and the contour of the nose and upper lip are indicated by unbroken lines, the posterior ethmoid by dotted lines, the anterior ethmoid by alternate dots and dashes, the infundibulum by broken lines and the turbinates by feathered lines.

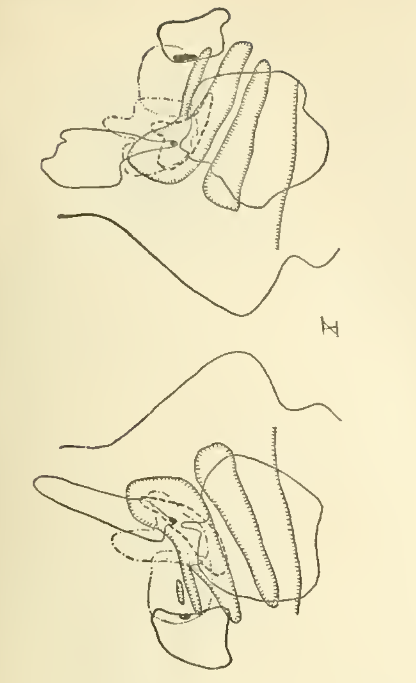
in the frontal, and in II right and VI left the nasofrontal canal occupies a similar relation. It is thus evident that there must be some doubt in almost half the cases as to whether the frontal sinus is being treated when intranasal operative measures are directed toward relief of frontal sinus suppuration. It must be admitted, however, that a careful study of properly taken radiographs will reduce this possibility of error considerably, but this involves lateral as well as anterior views, perhaps with probe *in situ*.

The intranasal operation has, therefore, a limited field of service, and is subject to much likelihood of error. There is, however, this saving clause—that, even if the operation is directed toward an adjacent cell, so much bone and other tissues will be removed that drainage from the frontal is promoted and the condition is relieved.

We do not anticipate a good result in those cases in which the frontal extends over the orbit and is affected in this portion.

ETHMOID CELLS

Ethmoid suppuration, when uncomplicated, practically always responds to intranasal treatment, for the entire ethmoid labyrinth may be exenterated by operation through the nose. The most anterior cells can not, sometimes, be freely opened and curetted on account of their nearness to the nasal bone. Hajek asserts, however, that it can always be done if the middle turbinate has been properly resected. There are occasionally



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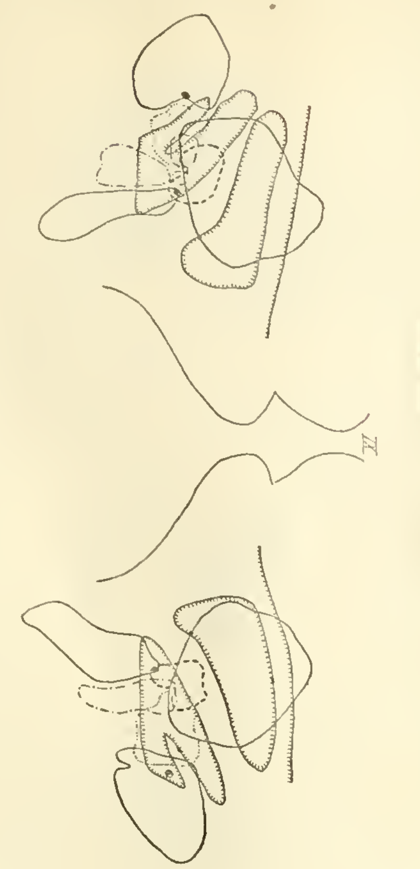

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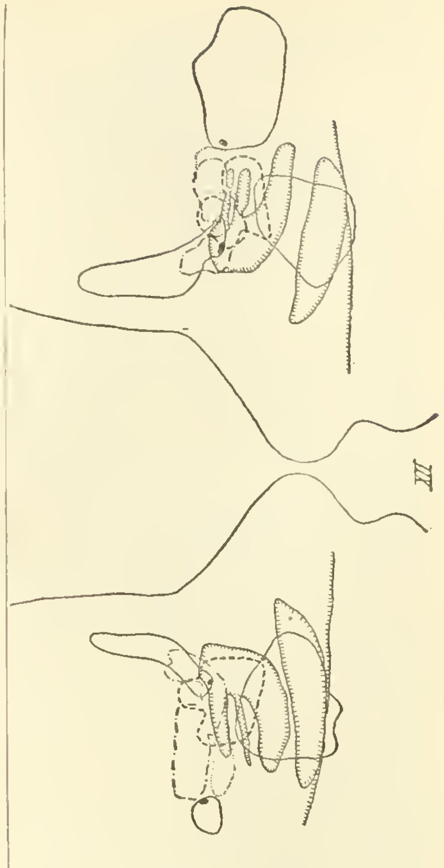

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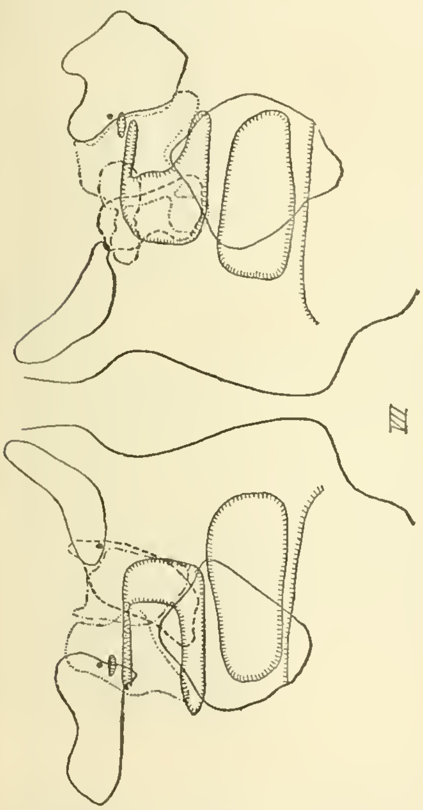

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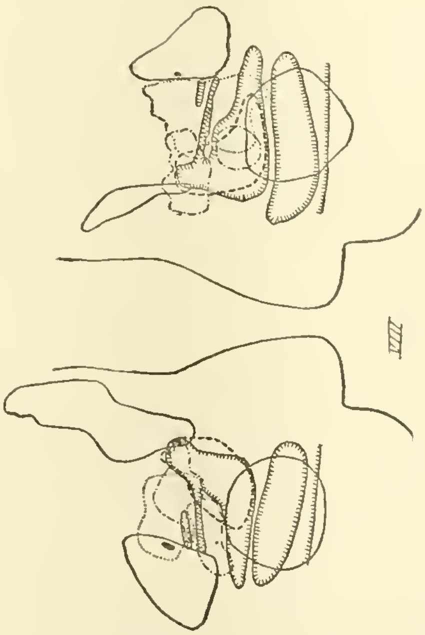

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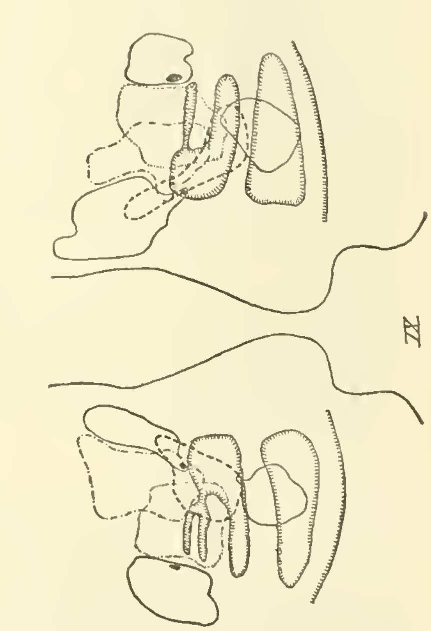
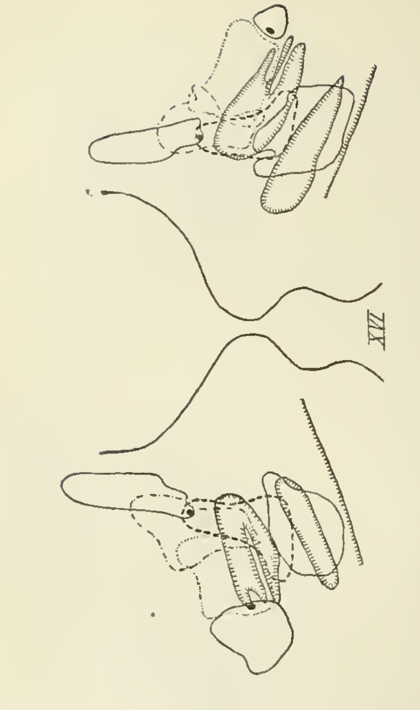


IX

anomalies of development of the ethmoid cells, which render the operation either difficult or unavailing. For instance, in XXI, it will be seen how both the anterior and the posterior ethmoidal cells extend, in this particular case, over the roof of the orbit. In this position the cells could not be properly exenterated through the nose and would probably escape observation in a radical frontal operation.

Of course, there is always some danger in working in the dark, as it were, and the process may be most marked in the most inaccessible portion of the cells, which extend farthest from the seat of operation. Yet, it must be said that, as in all suppurative conditions, drainage does a great deal toward affording relief, and the operative field being in the most dependent portion of the cells, drainage is apt to be secured.

The truth of Hajek's contention—that if the middle turbinate is resected the most anterior of the ethmoid cells may be exenterated—is borne out by the figures. In only nine instances—I, III left, VII, VIII left, XIV left, XV left, XVIII right—does an ethmoid cell extend as far forward as the anterior extremity of the middle turbinate; and in most of these instances the distance is insignificant, certainly not sufficient to inter-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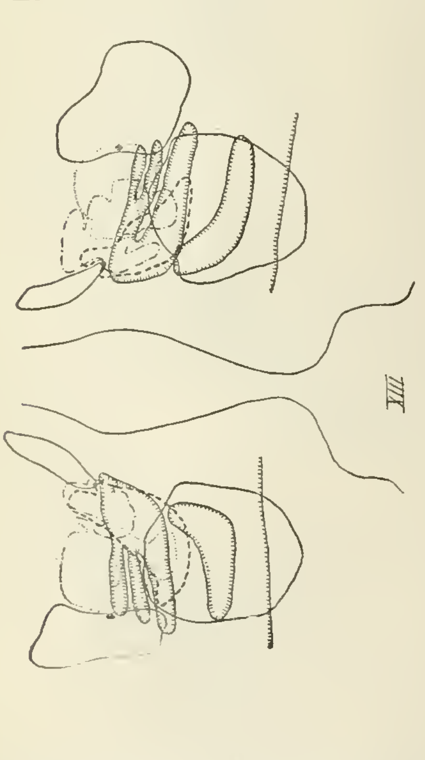
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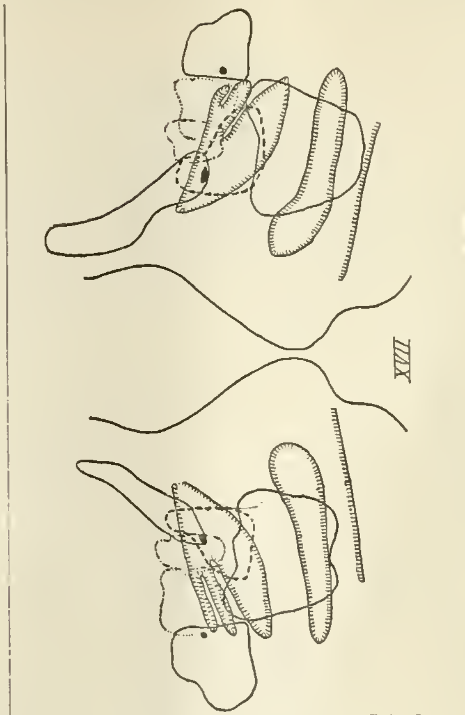
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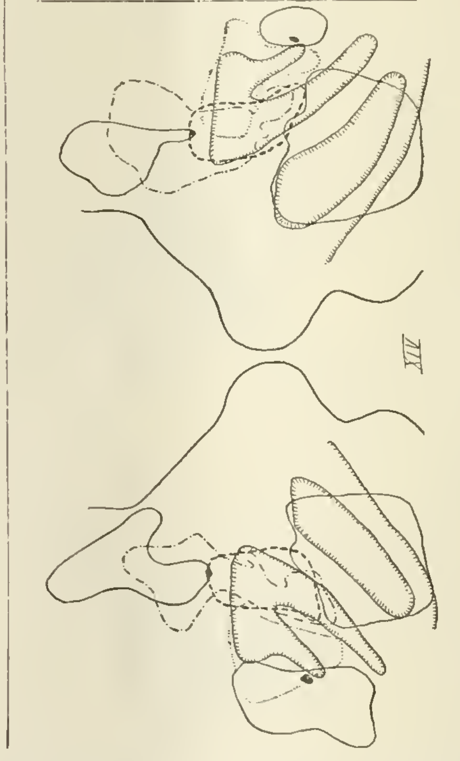
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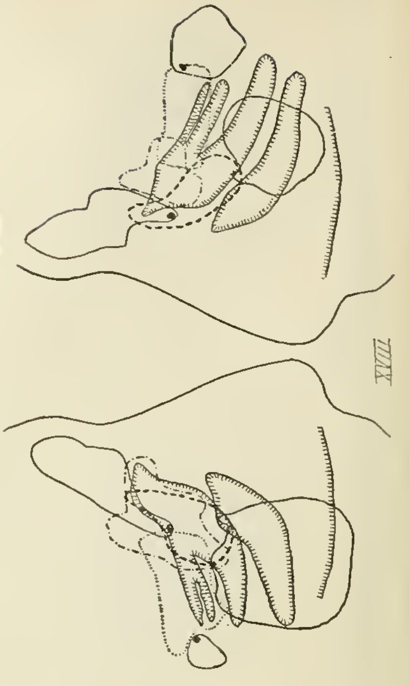
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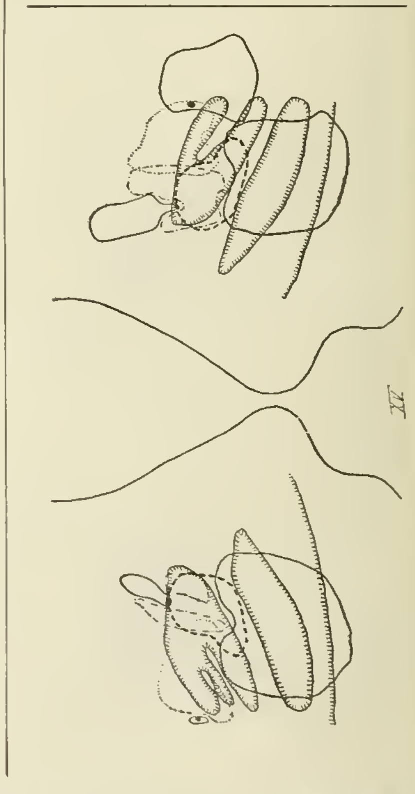

XX

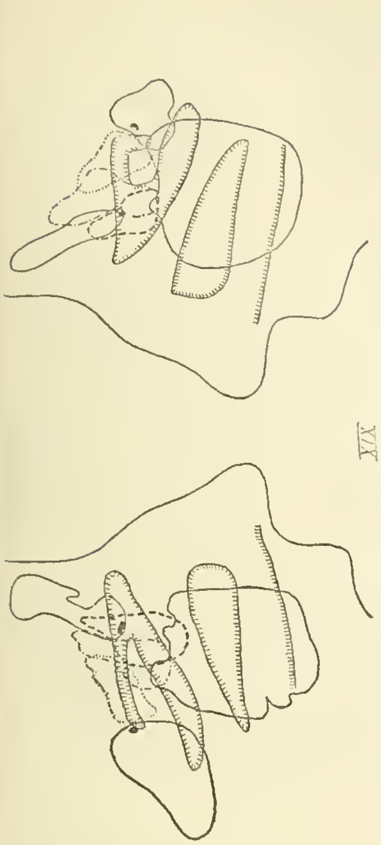
fere with the operation. The cells extend upward considerably in most of the heads, more than 10 mm. above the superior attachment of the turbinate in I left, II, III, V, VI, VII, IX, XI, XIII, XIV, XV, XVI, XIX and XX. This distance is very considerable in I left, II, III left, VI, XIII left, XIV, XV left, XVI and XX. In I left an ethmoid cell extends upward anterior to the frontal for a distance of 17 mm., while in IX right an ethmoid lying immediately behind the frontal reaches a higher level than the frontal.

These facts are important only in that they show how high up the ethmoid cells extend, thereby accounting for the recurrence of the polypi even after the floor of the cells has been removed; they emphasize the importance of thorough exenteration of the diseased part. It goes without saying that, however radical one may be in this operation, respect must be had for the cranial wall of the sinus.

SPHENOID SINUS

In uncomplicated cases, and those in which the ethmoid alone is involved with the sphenoid, the nasal route is the only one to be advocated. There is a growing disposition, even among those who formerly thought that the external operation was always to be advised, to rely more on the intranasal method.

The nasal operation can be of service only by the curettement and the improved drainage occasioned by the enlargement of the nasal opening. Whether this be



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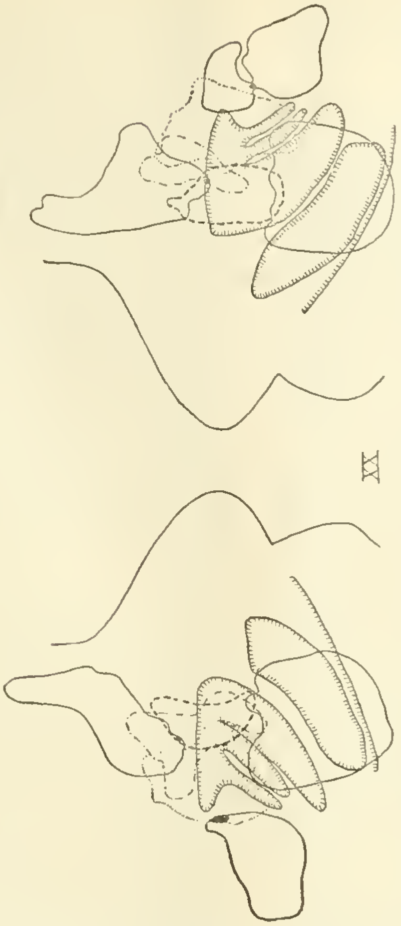

XX

confined to the pars nasalis, or, as Hajek suggested, made to include the pars ethmoidalis, the endeavor is the same.

The location of the nasal opening of the sphenoid is such that in any suppurative process affecting it there is a quantity of pus more or less constantly present. Practically all the sphenoids here shown have the opening so far from the floor that this must be quite general. In most comparison will show that even extensive resection of the anterior wall will fail to reach the floor. The drainage which results from this operation, however, provided the opening be permanent, will generally be followed by disappearance of the pus.

The distances between the sphenoid orifice and the tip of the nose and the anterior border of the middle turbinate are given in the table:

DISTANCE FROM SPHENOID ORIFICE

	Anterior Tip of Nose.		Anterior Border of Middle Turbinate.	
No.	Right.	Left.	Right.	Left.
I	77	77	36	31
II	77	74	43	38
III	64	69	33	39
IV	75	72	35	33
V	72	74	30	31
VI	75	80	37	44
VII	88	93	37	39
VIII	69	72	29	38
IX	70	71	37	32
X	72	70	36	33
XI	88	89	37	33
XII	91	88	41	34
XIII	77	77	38	35
XIV	84	82	39	34
XV	86	79	41	31
XVI	71	71	30	35
XVII	77	77	41	39
XVIII	80	80	50	40
XIX	77	77	42	36
XX	87	92	37	40

For the first, the variations are from 64 to 93, the usual (leaving out the five shortest and longest) from 71 to 88, the average 78.

In regard to the distance between the orifice and the anterior border of the middle turbinate, the variations are from 29 to 50, the usual (leaving out the shortest and longest five) from 31 to 41, the average 37. This gives a fair idea of the length of the probe and operative instrument required.

In a previous paper I called attention to the greater likelihood of optic nerve involvement, in cases in which the nerve lies near the level of the orifice, for this would signify that the pus would be separated from the optic nerve by a thin bony wall only, instead of the air, which would intervene if the opening was at a lower level. Whether this relation can be ascertained by radiographic study is still to be determined, with fair prospects of success. At any rate, sphenoid suppuration with only the slightest suspicious eye symptoms calls for immediate operation.

I wish, again, to call attention to an observation made before this body two years ago, with reference to the four heads reconstructed up to that time, that in cases in which the middle turbinate has an inclination downward and backward the floor of the sphenoid lies at a lower level than the ethmoid, or at its level. Compare I, II, V, VI, X, XI, XII left, XIV, XV left, XVII, XVIII left, XIX and XX. It will be noted that this is confirmed in every instance, except XV right, in which the sphenoid is only a little pit 2 by 4 by 2 mm.—and the left sphenoid, which occupies the space usually given over to the right, follows the rule. A glance at XV, right, shows that, even though the sphenoid be small, it lies considerably nearer the level of the floor than that of the roof of the ethmoid.

In the other instances in which the middle turbinates run horizontally backward the floor of the sphenoid lies above that of the ethmoid. The exact value which this will have will depend on the further confirmation of the observation and on the subsequent development of its utility.

Humboldt Building.

Ligation of the Jugular in Sinus Phlebitis.—R. Botey of Barcelona says that he will present a communication on this subject at the International Medical Congress, and the *Archives Internat. de Laryngologie*, August, has, rather prematurely, published it. He states that he has encountered 8 cases of thrombophlebitis of the lateral sinus in the course of 404 mastoid operations, and that the 4 patients who survived the phlebitis had not had the jugular ligated, while this was done in the 4 other cases. He used to ligate as a matter of course, but his own experience and review of the literature have convinced him that in most cases ligation is useless at best, and is liable to do actual harm. He advocates curetting the sinus in case of otitic thrombosis, without the Gerhardt sign, curetting from the knee to the bulb, without ligating the jugular. When the jugular is manifestly affected, and can be felt as a hard cord, it should be opened, ligated over the clavicle and resected. Pulsation in the sinus is not a sign of phlebitis, he adds, but is merely a transmitted pulsation from the brain tissue.

ACUTE INFLAMMATIONS OF THE ACCESSORY SINUSES, SYMPTOMS, DIAGNOSIS AND TREATMENT *

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From a general standpoint, acute inflammations of the accessory cavities may be considered as primary and secondary. An inflammatory process involving the mucous membrane of the nasal cavity is the most frequent cause of acute sinus disease. Irregularities as to contour of the nasal cavity, not only interfering with the drainage of the nasal cavity, but also directing the current of mucous toward the opening of the sinus, is a common causal factor. These same pathologic conditions would by directing the current of air toward the opening of the sinus tend to carry infectious material into these cavities. This is especially true of the frontal, ethmoid and sphenoid sinuses. The narrow, poorly developed nostril, which frequently is seen as a result of postnasal obstruction in childhood (especially from adenoid vegetations), is often a cause of acute sinus involvement, owing to the fact of the abnormal arrangement of the intranasal structures, interfering with the normal opening into the accessory cavities both as to size and situation, and also interfering with the size and development of the cavity. Such irregularly formed nostrils and intranasal structures would naturally predispose the individual to inflammations of the nasal mucous membrane, which in turn would predispose to sinus involvement and infection, such lesion, however, being secondary to the primary nasal involvement.

Primary involvement of the nasal accessory cavities is a very rare condition. It may, however, be brought about by injury, or contiguity of tissue in which the nose was not primarily involved. In some cases in which the cavity is apparently primarily involved, if a careful history is obtained it will be found that previously to the existing attack there had been some inflammatory condition in the nasal cavity, with slight involvement of the accessory cavity. The nasal irritation having cleared up, yet the cavity was left susceptible, and later an exacerbation may be mistaken for a primary involvement. An important pathologic subdivision of the acute inflammatory processes of the accessory cavities is simple acute inflammation without infection and acute inflammation with infection. However, in acute catarrhal inflammation, unless it clears up in from twenty-four to forty-eight hours, on account of the constant presence of bacteria in the secretions, the simple catarrhal inflammation will become an infective one, so that from the standpoint of treatment they can be considered under the same heading, the difference being one of degree and severity rather than variety.

Occupation is an important predisposing factor, when the individual is subjected to irritating dust, vapors, or fumes.

Irregularities and abnormalities in the formation of the accessory cavities, the antrum, etc., may explain many of the peculiar and unique cases often reported. It has been shown by sections of the skull, with a view to demonstration of the relation of the accessory cavities to the nasal chamber, and to each other, that almost any size or shape of cavity or thickness of bone is possible, the antrum cavities varying in size from a little larger than a pea to three times the usual size, and extending under the floor of the nose.

With the possible exception of the maxillary sinus, inflammation of any of the other accessory sinuses may be attended with curious mental phenomena, these phenomena depending entirely on the severity of the inflammation, and whether or not there is any existing systemic lesion.

Too much importance can not be attached to the relation of these cavities to headache and neuralgia, and curious eye symptoms. It is the duty of the rhinologist and of the ophthalmologist to look carefully into the history of the patient as to whether there was any previous history or associated history of epidemic influenza, and whether there is any pathologic alteration of these accessory cavities. It has been my experience that many cases of curious and ill-defined neuralgia about the head and face have been entirely cured when attention has been directed toward the accessory cavities.

Physiologically, the accessory cavities are practically closed cavities, and while the mucous membrane lining is somewhat similar to that of the mucous membrane of the upper respiratory tract, yet the glandular elements and the terminal nerve filaments are not so numerous as in the respiratory mucous membrane. The epithelial layer is also much thinner and the submucosa not so resistant on account of the deficient blood supply.

It is a well-known fact that the obstructive lesion which interferes with the ventilation and drainage of the frontal, anterior ethmoidal, and maxillary sinuses is usually not located in the sinuses, or even in their ostia, but is in the hiatus semilunaris and infundibulum, or in the structures in their immediate vicinity. Any cavity lined with mucous membrane is predisposed to infection and inflammation when its drainage and ventilation are impaired, and therefore any anatomic or pathologic condition which causes obstruction to the flow of the secretions from the infundibulum, via the hiatus semilunaris, will predispose the mucous membrane lining the sinuses draining into it to infection and inflammation. It is obvious that if the obstruction to the drainage and ventilation is removed, the predisposition to infection and inflammation will disappear.

The nasal obstruction may be produced by many conditions: The nasal septum is frequently deviated toward the lateral wall of the nose in the region of the anterior half of the middle turbinated body, often crowding the middle turbinal against the outer wall of the nose, thus obstructing the drainage and ventilation of the frontal, anterior ethmoidal and maxillary sinuses. The middle turbinated body is frequently enlarged by edema, hyperplasia, or by the presence of accessory ethmoidal cells in its body, and may in consequence block the hiatus semilunaris; or the middle turbinal may cling closely to the outer wall of the nose as to block the hiatus. The bulla ethmoidalis is located immediately above the hiatus, and when enlarged it may overhang and completely obstruct it. The lip of the uncinate process, or median wall of the infundibulum, may be the seat of accessory pneumatic cells which may obstruct the infundibulum. New growths, spurs on the septum, and congestion of the mucous membrane due to underlying systemic conditions, are allegorical important factors.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The accessory sinuses, even in a simple acute cold, are slightly involved, and after the cold has disappeared a slight latent irritation remains in the cavity and may suddenly light up into a serious acute attack. In all the infectious diseases, with high temperature and necessarily vascular disturbances, nasal congestion occurs and the accessory cavities become acutely congested.

One-half of the arc of the orbit is taken up by the accessory cavities and many eye symptoms are associated with or follow lesions of these cavities. Orbital abscess is secondary to disease of the sinuses, displacement of the globe may be occasioned by encroachment on the orbit by a distended sinus, and blindness may result from an involvement of the chiasm through the roof of the cavity or by an implication of the optic nerve as it passes through its foramen, in the sphenoid, as a consequence of inflammation in the cells within that bone. A general orbital cellulitis may be occasioned by an acute inflammation of any accessory sinus. Edema of the lids is one of the most significant symptoms of disease of the accessory sinuses, the edema usually starting directly over the sinus involved. Paresis, or even paralysis, of one or more of the eye muscles may occur as a consequence of sinusitis.

Inflammatory processes involving the mucous membrane of the sinuses do not differ from those occurring in any other mucous membrane, except that they pass through the various stages with greater rapidity, so that the difference is merely one of degree or intensity. Any infection of the accessory cavities would necessarily be preceded by or associated with some inflammatory process, which process involves the opening of the sinus and thus converts it into a closed cavity, causing retention of the infectious material. This, in turn, intensifies the already existing inflammation and produces rapid changes in the mucous membrane, which if drainage is not established, may lead to total destruction of the membrane and necrosis of the underlying bony structure. If the severity of the inflammatory process is not sufficient to cause destruction of the mucous membrane and denudation of the bony walls of the cavity, a fibroid formation within the basement membrane may take place, or, in other words, the physiologic function is interfered with, resulting in permanent pathologic alteration.

As a rule, a combined acute infectious process within the accessory cavities shows irregular systemic symptoms, unless there is a point where the physiologic wall of the closed cavity has broken down, and rapid general septic infection takes place, when the clinical phenomena are pronounced. In other words, acute involvement of the accessory cavities amounts to a walled-in process, and it is only when necrosis takes place that sytemic infection occurs.

A point of considerable importance in regard to systemic phenomena, as well as local symptoms, is the size and shape of the cavity and the variations in the thickness of its walls. For example, a frontal sinus with thin walls may result in perforation and involvement of the brain cavity. Dural and subdural abscesses frequently follow pathologic changes within the frontal sinus. Again, in the case of the antrum of Highmore, when the superior wall is very thin, there will be marked eye symptoms, while in another case with a thick bony wall the eye symptoms will be entirely absent.

In acute inflammation of the accessory sinuses there is usually a history of exposure to cold, acute coryza, riding in an automobile or railroad train, or of influenza or other infectious disease. The pain is always of the dull, aching or boring character, influenced by position. Tenderness, marked over the sinus region, extends all over the head in the beginning, usually bone tenderness; the pain and tenderness are increased by percussion. Swelling, not always a prominent symptom, may or may not be present, and is irregular in extent. The patient has a curious symptom referable to the eyes. He states that when he tries to read and looks up, the eye on the side of the sinus disease hurts, the muscles seem to be involved in the edema, and there is slight edema of the lids together with ptosis. This enables the physician to tell whether one or both sinuses are involved. There is tenderness at the inner angle of the eye on pressure, more marked in frontal sinus than in the others.

In acute involvement of the frontal sinus, usually the involvement is accompanied by symptoms of acute coryza with mucopurulent discharge and intense pain over one or both eyes, and at the inner angle of the eyes. The pain is intensified by stooping forward, straining at stool, coughing, or by any sudden movement. The pain is not continuous, and is apt to cease at bed time to begin on awaking with increased intensity, and unless relieved by frequent hot douches and hot applications over the forehead, it becomes intolerable. There is also headache, with a feeling of fullness or constriction in the forehead. The symptoms are aggravated by using the eyes for reading.

In inflammation of any accessory cavity there is always "bone soreness," and the pain on pressure is not limited to nerve points. Various tender spots pointed out by certain authors are often misleading, owing to the fact of frequent irregularity in the size and formation of cavities. This is especially true of frontal and ethmoidal cavities. Irregularity of eye symptoms would at once suggest irregularity in these two cavities.

From a standpoint of diagnosis, the use of the *x*-ray can not be overestimated. It shows the extent of the involvement, the relation of structures, and the formation of the cavity, so that irregularities can be quickly recognized and predisposing anatomic factors easily discerned. Transillumination, unfortunately, is nothing more than an adjunct. In my experience it has been misleading as often as it has been useful, and should never be depended on in itself. However, in association with the clinical history, the careful examination of the nasal cavity, the thorough observation of the patient, and also a careful study of the *x*-ray picture, transillumination may aid in the diagnosis and treatment.

In my previous writings on this subject, I have urged the conservative method of dealing with these conditions, and by persistently and carefully shrinking the tissues about the orifice of the accessory cavity, have been able, in the majority of cases, to open the cavity by the natural orifice; in other words, to reverse the pathologic process. The cavity, which is an open cavity, has been converted into a closed one. By what process? Simply by inflammation with its accompanying swelling of the surrounding structure as well as the orifice. Certainly, then, by shrinking these tissues at the right point, drainage by the natural orifice can be obtained

In making the application to these points, the contour of the intranasal structures must be carefully observed; otherwise, the application will not be made at the right point. This, I think, will explain the failure in many individual cases to secure drainage by the natural opening, and necessitate an unnecessary radical procedure. In my clinic at Jefferson Medical College Hospital, where from 10,000 to 12.000 treatments are made yearly, and also in my private practice, where many of these acute inflammatory involvements of the accessory cavities are observed, this plan has been successfully carried out for a number of years with such satisfactory results that radical interference has been practically eliminated in acute cases. In fact, in the last year, in only two cases, and they were of the chronic variety, was the radical operation necessary. Even in the chronic cases, unless there is bony necrosis, the same plan of treatment will give equally good results.

Since, in the majority of cases, the primary lesion is intranasal, the treatment, then, should be directed toward cutting short the inflammatory attack, reducing the swelling in the nasal mucous membrane, especially about the orifices of the opening of the sinuses, so as to allow free drainage of the accessory cavity. Once the normal opening is established it is remarkable how quickly an inflammatory lesion of the accessory cavity will clear up. The 2 to 4 per cent. solution of cocain is sufficiently strong to insure the proper amount of shrinkage of the inflamed and swollen tissue. Personally, I do not use the suprarenal extract, because in my hands I have observed that in many cases in which I have used this solution the after-irritation is so marked that it overcomes largely the beneficial results due to cocain. For this reason, I have ceased to use it. As stated before, it is essential to study carefully the individual case in order to locate the exact position of the orifice and its relation to the intranasal structure. For example, I have seen cases involving the maxillary sinus, in which it was said that it was impossible to open the natural orifice, in which the middle turbinate was of the scroll variety, and the solution had been applied on the outside of the turbinate and never underneath this body. With a little care and minute pledgets of cotton the mucous membrane underneath the scroll turbinate was shrunken and in a very short space of time the pus began trickling from the blocked up cavity. By keeping the membrane shrunken down, free drainage was established and without any surgical interference with the antrum, a permanent cure was effected.

This paper has to deal with the acute processes, and in an acute process necrosis would not occur. To be sure, if bony necrosis has occurred within any of the cavities, nothing short of opening that cavity and removing the necrosed tissue would effect a cure, but such cases must not be confused with acute inflammations, neither must cases that have become subacute or chronic, and are largely latent when lighted up by some acute process, be termed acute. This, I think, will account for many cases of disagreement as to diagnosis and treatment, whether or not it is actually an acute process, or whether there is some left-over inflammation which has been lighted up by some infection or nasal inclination. Illustrating this, a severe acute case was treated by this conservative method.

Patient.—A young man, aged 22, a medical student, was admitted to the hospital suffering with acute inflammation of the left frontal sinus. He had a temperature of 103 F., marked tenderness and swelling over the left frontal sinus, marked edema of the upper and lower lids, with considerable redness and discoloration. He was suffering from severe boring frontal headache, and the pain extended into the temporal region. He was restless and apprehensive. Two days before, following a slight cold, suddenly the symptoms of the sinus involvement began. The day before admission he had a decided chill, and these symptoms rapidly increased until he presented himself at the hospital as described above.

Treatment.—The application of a 2 per cent. solution of cocain was made at once to the swollen mucous membrane in the nasal cavity, and gradually carried up to the region of the frontal sinus opening. At the same time the general condition was treated by thorough cleansing of the intestinal tract by means of calomel and a saline purge. The application of cocain was continued until carried to the orifice of the sinus. In this particular case this was rather difficult, as the sinus opened rather high and posteriorly, and the superior portion of the nostril was narrow and obstructed. This was overcome, however, by making a short, sharp curve at the end of the applicator, and in this way carrying the cotton into the nasopharynx and bringing it forward and upward, it was possible to reach the opening. In less than two hours there was a free flow of pus from the frontal sinus. Heat was also applied externally and the resident physician was instructed to make the application at the first sign of blocking up of the sinus. In exactly three days all swelling and pain had disappeared.

Remarks.—At first examination the patient's condition was such that it seemed almost inevitable that the frontal sinus would have to be opened externally. This was obviated by the careful and faithful carrying out of the method of drainage by the natural orifice.

In 1898, I reported some cases in which apparently there was an acute involvement of the antrum, with all the symptoms pointing to such an acute inflammation, in which it was clearly proved afterward that the entire condition was produced by the accumulation of gas in the antral cavity. By directing the treatment to the orifice of this cavity the accumulated gas was allowed to escape and the symptoms rapidly disappeared. Since reporting those cases, I have observed the condition rather frequently, not only in my private practice, but in the out-patient department at the hospital.

From a general pathologic standpoint it should be remembered that the accessory cavities are truly such, and that they are not independent cavities. That they are accessory cavities to what? To the nasal respiratory tract. Hence, the origin of many pathologic lesions is the nasal cavity. It must be remembered also, that these accessory cavities are dependent on adjacent structures for nutrition. Also, when infected, the rhinologist is dealing with a closed cavity, but not a cavity of new formation, hence the pathologic alteration is not subject to the same law as that of a cavity of new formation.

I do not mean that never are we to perform the radical operation, but I wish to call attention to the fact that many patients who are subjected to the radical operation could and should be cured without any such procedure.

In general, then, the treatment should be directed to the cause and the removal of any interference with the natural drainage. Swelling of the nasal mucous membrane may be reduced by cocain or any solution that will shrink the mucous membrane; douching with warm alkaline solutions to favor drainage; measures directed toward the relief of the pain. Rarely, it may be necessary to wash out the cavity through the natural opening, an enlargement of this opening, or through exploratory puncture. If free drainage is not maintained the condition is likely to become chronic.

Value of Playgrounds. The twentieth century has caught the real meaning of the unsurpassed Grecian classical education; and modern cities in spending millions for playgrounds are repeating history and we are entering the new educational renaissance.—J. E. Peaus, in *Hygiene and Physical Education.*

DISEASED CONDITIONS INVOLVING ACCESSORY SINUSES IN WHICH EXTERNAL OPERATION IS INDICATED *

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A discussion of the choice of operative measures necessary to relieve or to cure any pathologic condition in the body frequently has to take into account many factors other than those directly connected with the disease in question. Nowhere, perhaps, is this so marked as it is in discussing the advisability of treating diseases of the nasal accessory sinuses by intranasal surgery or by an external operation.

Rhinologists at present are at considerable variance, and personally I find myself, as the result of wider experience, changing my views considerably from year to year as to the desirability of resorting to an intranasal or an external operation for the relief or cure in any given case of sinus disease.

External surgical operations undertaken for the cure of disease of the frontal, ethmoid and sphenoid sinuses require a thorough knowledge of the anatomy of this region, acquired not only from the many excellent monographs on this subject, but also from an extensive practical experience resulting from numerous dissections. The operator should also have had a thorough training in general surgical technic and have acquired skill and reasonable rapidity in operating before attempting these long major operations. The proximity of the brain and the great variety in the size, shape and relation of these cavities to the cranium renders unskilled work on the part of the operator likely to be followed by serious consequences to the patient.

In all but the very acute cases complicated by cellulitis, when an immediate external operation is indicated, before deciding on recommending to the patient the intranasal or external operative route, a complete examination should be made. This includes:

First.—The determination of the number of sinuses involved.

Second.—Having a skiagraph made which, if good, will show the size and shape of the frontals and the number of septa within them; the width of the ethmoidal area and the approximate size of the sphenoids.

Third.—The general condition of the patient. In chronic sinus disease, the presence of marked disease of the arteries, heart, lungs or kidneys makes the external operation far more serious and frequently undesirable.

Fourth.—Determine, if possible, whether the disease is acute or chronic. In very few acute cases, not complicated by the external manifestations described later, does the condition require an external operation.

Fifth.—If acute, decide whether the history points to a simple acute inflammation of a previously healthy sinus or to an acute exacerbation of a chronically diseased sinus. In the latter case it is wiser to defer the external operation until the acute symptoms have subsided.

Sixth.—The severity of the symptoms, more especially of headache and its effect on the patients. I have not yet been able to determine why some patients suffer so much more from sinus disease than others. There is nothing in either the character or amount of discharge to help us, nor even in the size of the sinuses as shown by the skiagraph. As a rule, those with very large sinuses suffer more than those with small sinuses, but I have seen many exceptions to this rule. If intranasal operations fail to give the desired relief, then an external operation is indicated.

Seventh.—The ultimate result of the treatment of chronic sinus disease should be carefully explained to the patient by his physician. Intranasal methods relieve and may cure. The cavities remain and may again become infected. External operations remove all the diseased membrane, obliterate the cavities and result in a permanent cure. There is a scar and frequently some deformity in a portion of the anatomy where it is easily seen by the patient, and this fact alone often deters some individuals from submitting to the external operation.

Eighth.—As intranasal treatment necessitates frequent operations at short intervals, many who can ill spare the time for such treatment prefer the more thorough and less time-consuming external operation.

Ninth.—The neurasthenic patient who is prostrated each time any intranasal operation is attempted and rarely submits to enough being done to make much headway against the disease should be urgently advised to submit to the external operation.

Tenth.—Very narrow nasal chambers add greatly to the difficulty of intranasal operations, and to such patients with chronic suppuration of the frontal, ethmoid and sphenoid, we recommend the external operation.

CONDITIONS REQUIRING THE EXTERNAL OPERATION

When considering the diseased conditions in the various sinuses requiring external operation, it would seem best to divide them into an acute and chronic type.

1. *Acute Frontal, Ethmoid and Sphenoid Involvement.*—Whenever acute involvement of these sinuses is accompanied by marked edema of the skin of the forehead, eyelids or side of the nose, exophthalmos, orbital cellulitis, local heat, great local tenderness, with or without a rise in the body temperature, an external operation is imperative and should be done without delay for fear of supervening meningeal or other intracranial complications. On the other hand, it must not be considered that we would invariably advocate external operation for the relief of very slight local edema and swelling without first attempting by intranasal treatment to relieve the condition. It is possible that deflections of the septum, or large bony exostoses, might render it impossible to give adequate intranasal treatment, in which case external surgery must be resorted to. The proportion of acute cases demanding external operation is few as compared to those which can be cured by intranasal treatment.

2. *Acute Maxillary Sinusitis.*—Very rarely one meets with an osteomyelitis of the superior maxilla associated with acute maxillary sinusitis. Such cases should be treated by a larger opening and drainage through the gingivo-buccal fold. All other cases of acute disease of this sinus may be satisfactorily treated intranasally.

3. *Chronic Suppuration of the Frontal, Ethmoid and Sphenoid.*—As all three of these groups are usually simultaneously involved, we will consider them together:

A. Those associated with multiple polyp formation in the nose. Most of these cases are accompanied by such extensive alterations in the mucous membrane lining the frontal, ethmoid and sphenoid, that intranasal treatment, while affording great relief, seldom affects a permanent cure. The polyps recur more or less rapidly in a large percentage of cases. An external operation may be relied on to cure.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

B. Frontal sinuses which are demonstrated by the skiagraph to be of large size with one or more septa and extensive prolongations over the roof of the orbit can seldom be so drained by intranasal operations as to prevent the recurrence of the symptoms with each succeeding attack of severe acute rhinitis. If the patient's general condition, therefore, will warrant it, I advise an external operation for this class of cases in preference to repeated intranasal treatments.

C. Closed empyemata of the frontal as evidenced by recurring attacks of supra-orbital pain without the history of any secretion from the nose or nasopharynx or occasional scanty secretion, which the examining physician fails to detect, and in which the skiagraph shows an evident involvement of the frontal, are best treated by an external operation.

D. Cysts of the frontal and cysts of the ethmoid region which do not bulge into the nasal cavity are proper cases for external operation. In this class of cases the anatomic structures are considerably altered and absorption of the bony wall of the cranium not infrequently has been observed. Any attempt to evacuate the cysts through the nose is too much a matter of guess work to be called good surgery.

E. Those in whom a fistula has formed leading from the frontal or ethmoid are advised to have an external operation. The question of scar does not affect these patients, as they already suffer a disfigurement which may be considerably improved after the operation.

4. Chronic Maxillary Sinusitis.—My present belief is that very few cases of chronic suppuration of the antrum need anything more than a thorough opening through the inferior meatus to effect a cure. If these patients do not recover promptly, I search for involvement of the ethmoidal cells or frontal sinus, and find that by curing the disease in this region the antrum promptly ceases to discharge. If, however, there is a tendency to recurrence of the disease two or three times a year as a result of attacks of acute rhinitis, I then recommend thorough opening of the antrum through the canine fossa.

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ABSTRACT OF DISCUSSION

ON PAPERS BY DRS. KYLE, LOEB AND COAKLEY

DR. ROSS HALL SKILLERN, Philadelphia: Dr. Kyle, speaking of the treatment of acute inflammation of the frontal sinus, makes the following statement: "The cavity, which is an open cavity, has been converted into a closed one. By what process? Simply by inflammation with its accompanying swelling of the surrounding structure as well as the orifice. Certainly then by shrinking these tissues at the right point, drainage by the natural orifice can be obtained." While this is, of course, true, it is open to modification. In the majority of cases we are able to bring about relief by the application of cocain to the hiatus and surrounding parts, but it has been my experience that this relief is often but momentary, from one to three hours, on account of the degree of inflammation and the narrowness of the nasofrontal duct. The mucous membrane quickly again becomes turgid with blood. In these cases I resort to a procedure which has invariably given good results, that is, infraction of the middle turbinate. It is a simple procedure which can hardly be dignified by the term operation, being done as follows: Apply 20 per cent. solution of cocain between the middle turbinate and processus uncinatus, wait five minutes, then introduce a blunt submucous retractor and pry the turbinate away from the lateral wall of the nose. Sometimes this will fracture the turbinate at the base, but more often it is necessary to introduce a long Killian speculum and spring apart the blades. This will invariably bring about the desired result. The advantages of this procedure are self-evident, as we procure good drainage room without sacrificing any tissue. The after-treatment consists merely in keeping the bowels open and giving aspirin one-half dram every two or three hours.

Dr. Loeb calls attention to the ethmoid cells which extend so high up as to be almost inaccessible to the intranasal operation. In the endonasal radical operation, suppuration in these cells may be overlooked and only be discovered at some later date.

They can easily be reached and opened by the Grünwald forceps. When operating on the nose we see the inferior edge of the middle turbinate far up in the nasal cavity, and it appears as though we are getting on dangerous ground when we penetrate a half inch beyond this point. As a matter of fact, this edge is approximately only half the distance between the floor of the nose and the lamina cribrosa.

In operating on the sphenoid sinus, a condition is liable to arise which may be very confusing. After one has exenterated the ethmoid cells, if the pars nasalis of the sphenoid sinus is very narrow one is apt to mistake the posterior ethmoid cell for the sphenoid sinus. This error can be discovered by measurement and exploring the wall near the septum where the end of the probe would strike the remainder of the nasal wall of the posterior ethmoidal cells.

Dr. Coakley states: "In all but the very acute cases complicated by cellulitis, when an immediate external operation is indicated, before deciding on recommending to the patient the intranasal or extranasal route, a complete examination should be made." I do not believe an external operation is ever indicated in an uncomplicated case of chronic frontal sinus empyema in which the patient has not as yet undergone an intranasal operation. In other words, I mean that the chances of relieving the symptoms are so great that the endonasal procedure should first be resorted to. I wish to emphasize the clause: "Relieving the symptoms" not curing the patient. After they are relieved it is a personal equation with the patient whether the discharge, occasional headaches, and possible chances of arising complications shall persuade him to submit to a radical operation.

This brings us to the following question: If the pain and the sensitiveness, together with the secretion, although improving do not entirely cease, how long shall we wait before advising a radical procedure? It seems to me that this will depend largely on the mental effect produced on the patient. As Dr. Coakley mentions in his sixth condition, some patients suffer much more than others in uncomplicated cases. In those who do not find the discharge and headache particularly annoying, it is wise to wait weeks and even months, for these cases often heal spontaneously; on the other hand, if the patient seems to be in a fair way of becoming a neurasthenic in consequence of his symptoms, no matter how trivial they appear to us, an external operation is indicated; therefore, fixing a time for a radical operation after the endonasal procedure depends entirely on the individual characteristics of the case.

Finally, in advising a radical operation, we must remember that it is by no means a minor procedure and every patient radically operated on does not always mean every patient radically cured.

DR. J. A. STUCKY, Lexington, Ky.: I fully agree with Dr. Skillern that frontal sinus, or any nasal accessory sinus surgery, is by no means minor surgery. I have recently had two patients with amblyopia due to trouble in the sphenoid sinus, who recovered after operation on the sinus. I have also had two cases of involvement of the frontal lobe of the brain due to suppuration in the frontal sinus. In one a large part of the anterior lobe was destroyed by suppuration.

I want to emphasize Dr. Coakley's remarks in regard to the skiagraph, and also, for the benefit of those just beginning this work, the necessity of proceeding cautiously. The last word has perhaps been said as to the time to operate on a mastoid, but this is not true regarding the operation on the nasal accessory sinuses. I am surprised that nothing has been said as to the mental disturbance in these conditions. I have published a paper on this subject and have now in course of preparation a paper going somewhat into detail as to the question of mental disturbance caused by sinus involvement.

Recently, I obtained permission to examine 1,000 patients in the Insane Asylum at Lexington, to determine the percentage having sinus trouble. The mental symptoms may be due to acute or subacute infection in the anterior part of the brain, the thickened and inflamed membrane being the cause. In no other way can we account for the subsidence of the symptoms after operation. Complete mental recovery may be predicted in many of these individuals after radical operation. I have proved this in five cases now and am surprised that more has not been written on this subject.

Dr. R. H. Good, Chicago: I am afraid to use a drill of any kind in the frontal sinus, but I am not afraid to use my frontal sinus rasp. Those who have read my articles will recall that I described chisels, but I am indebted to Dr. Joseph Beck, who has persuaded me to do the operation without chisels. The middle turbinate is removed in part or in its entirety; then I bite out the ethmoid cells up to the cribriform plate; then after having done that I use the rasp. There are rasps on the market that are not made smooth on one side—they should not be used. The instrument should be smooth on one side but cutting on the other side and in front. The rasp is introduced up to the floor of the skull. The orbital surface is smooth. You can rasp forward and you can not do any damage to the cranial cavity. If the ordinary methods of straightening the septum and removing the middle turbinate and some of the ethmoid cells fail, then it is time to do this operation. I do it in all cases in which a frontal sinus operation is indicated except when I suspect tumor or brain complication. The opening one can make with this rasp is large, and if the external operation is necessary afterward there has already been established a large opening into the nose. The rasping is away from the brain, and no damage can be done to the eye because that side of the rasp is smooth.

Dr. B. R. Shurly, Detroit: It has been my privilege for a decade or more to travel the middle road in the treatment of disease of the accessory sinuses. Waves of radicalism have come from Europe and the earthquake region of our country and waves of conservatism have come from the east and middle west, but I have still traveled on the same old middle road. There are many interesting points to be weighed in considering these problems. First, we might divide all here into three classes: first, those who form their views from clinical experience; second, those who derive their views from clinical experience and private practice, and, third, those who form their opinions from private practice alone. It seems to me the question we should ask in each of these cases is just how we should like that sinus treated if it were our own. The problem of the bacteriology of the condition is one not sufficiently weighed. We have more difficulty in controlling a sinusitis that is due to the streptococcus or *Bacillus prodigiosus* than one due to the *Staphylococcus albus* or *S. aureus*. And the resistance of the patient and personal equation are such important factors in this class of cases that they should have great weight with us before we decide on operative procedure. We all understand the necessity for drainage and the necessity for having as thorough drainage as possible. We should have an *x*-ray picture in every chronic case. In the acute cases we should treat the patients carefully with sprays, keeping up proper drainage from day to day, washing out the region carefully with antiseptic solutions. I am proud to say that the American physicians and surgeons to-day stand for first of all the comfort of their patients, and that is something we should all be proud of. The procedure in chronic cases can be carried on in a very conservative way in the beginning. We should find out what the resistance of the patient will be, and what we can do with irrigation or vaccine therapy when feasible and then proceed to the removal of the middle turbinate or an intranasal operation. If necessary, as a last resort, the radical procedure may be adopted.

Dr. Percy Fridenberg, New York: I want to speak from the ophthalmologic standpoint as to the choice of operation. The danger of the intranasal route is accentuated by bone-cutting instruments, drills, rasps, and so on, which must be used blindly and may easily penetrate the orbit, or cranial cavity. The dangers of infection, hemorrhage, and of traumatism to various important nervous and vascular structures, as the optic nerve, internal carotid and cavernous sinus, must be considered. Finally, the accuracy and completeness of the intranasal operation are problematical, and can be determined, as a rule, only by the subsequent course of the case. When there is evidence of involvement of the orbit to adopt the intranasal operation is simply a loss of time. In the development of this subject the ophthalmic surgeon and the rhinologist have seen the cases from a different standpoint. In the eye clinics the patients come for ocular conditions, motor paralysis, orbital abscess, exophthalmos and pain or intractable headache. These cases, as a rule, the rhinologist doesn't see, just as we do not see the milder cases with only nasal symptoms. The objection to the external operation has been from a rhinologic point of view, the fear of injuring the eye and the lachrymal apparatus. And I want to call attention to the fact that the external operation does not necessarily affect either of these structures. There is less danger of ocular injury in the external operation where the operator sees the cells and can gauge the operation by the conditions present than there is in the intranasal procedure where he can not know whether he has removed all the diseased area or not. In the external operation he does know this. Radiography gives us a great deal of information and is a great help in this work, especially in external operations.

Dr. H. C. Masland, Philadelphia: When there is pus in the sinus I have serious doubts as to the worth-while percentage of cures that are effected by treatment through the natural opening. The mechanics of the condition would call for drainage at the most dependent portion. The curved trocar is unsatisfactory, in that it can not be rotated without obscuring the vision, and if it is forced in it is liable to slip, to penetrate at the upper thinner part of the bony wall, or to lacerate the mucous membrane. A straight trocar can be rotated to cut, not force, its way through the thicker portion of the dividing wall at the floor of the antrum. A curved silver canula can be made in twenty-four hours to be inserted in this opening. It can have a collar at its inner end to be self-retaining. The curve fitted to each patient removes all questions of pressure distress; its outer end lies at the vestibule of the nose, obscured by the alæ of the nose. The patient with a suitable rubber bulb is thus permitted to give the antrum a thorough cleansing at home each day.

Dr. R. P. Scholz, St. Louis: Most of the speakers seem to agree that the conservative intranasal method, followed when necessary, by radical external operation, is the proper means of coping with sinus diseases. This being the middle path, seems to me to be the proper course. Ordinarily we should be as conservative as the case will permit, since after radical interference the nose is seldom so satisfactory an organ as when less radical means have been resorted to. Even when there are signs of the inflammation having spread beyond the limits of the sinus, as into the orbit, etc., it is often surprising what can be accomplished by the most conservative intranasal treatment, shrinkage of the nasal tissue so as to favor drainage, removal of polypi, lavage, etc. Of course, these patients need the closest observation on the part of the rhinologist, since many can only be coped with by radical external operative means. Not long ago two European writers described their methods of producing nasal suction. This principle (my statement being on the trial I have given it) is both an excellent diagnostic and therapeutic aid. I feel confident that it is one of our most valuable means of diagnosing ethmoidal suppuration. Not only is the pus sucked from the cavity as such but by the production of hyperemia (diminishing the size of the cavity) the pus is forced from the cell. One essayist claims polyp formation to be an indication for radical operation. To this I do not agree. Believing that in these cases often the polyp formation is the prolonging cause of suppuration. Frequently the simple removal of the polypi, thus establishing free drainage, will lead to entire restoration.

Dr. C. M. Robertson, Chicago: It seems to me that the first thing to do in treating cases of empyema of the sinuses is to determine whether the condition is acute or chronic; this is absolutely essential. The next thing is to determine the character of the inflammatory condition to be attacked. If it is of staphylococcus origin we can be more dilatory than if we have to deal with a more virulent infection. I operate very little on the frontal sinus, that is, radically. I think I am able to effect a cure in most of the cases intranasally by cutting away the anterior part of the middle turbinate and establishing free drainage. It is necessary, however, to have a skiagraph to determine the exact topography. If the sinus extends over the orbit or is divided by septa it is useless to try to treat it intranasally. With the anterior ethmoid cells intranasal treatment is more efficacious. I believe that it is necessary to conserve the turbinate tissue. It is a physiologic tissue and unless there is a great deal of disease we should try to save it. When polypi exist I have done the radical operation on the maxillary sinus and ethmoid cells and seen the polypi disappear. They shrink up when drainage is established, for they are nothing more than exuberant granulations. In the treatment of the posterior ethmoid cells and the sphenoid sinus I have not had such good results intranasally.

Dr. E. A. Crockett, Boston: We have heard a great deal about complete removal of the middle turbinate and intranasal removal of the ethmoidal labyrinth, and most of the gentlemen would leave us with the impression that it is a simple operation and that the external operation is much more difficult. Now, that does not accord with my experience. I always advocate extranasal operations in preference. It is easier for the man with limited experience. In Boston we have had no deaths from the external operation. On the other hand, I know of two deaths at the Eye and Ear Infirmary and two at the Massachusetts General Hospital following the intranasal operation. These statistics may not conform to the experience of men from other parts of the country, but the fact is significant that these patients were in the hands of four different men.

Dr. George M. Case, Elmira, N. Y.: During the spring of 1904, I spent some time in the clinic of Professor Jansen, of Berlin. It was not uncommon in one day to witness three or four operations for radical cure of chronic sinusitis. The operations were brilliant indeed; in three-quarters of an hour he would clean out frontal, ethmoid, maxillary and sphenoid sinuses, using drainage from each. It seemed a rapid way to cure these patients. But by inquiry and observation in the hospital I found many of these patients relapsed and required a second operation. Again, although the suppuration was lessened, these patients were uncomfortable, suffering intensely from dryness in the nose and throat, and requiring almost constant attention to have any degree of comfort. Of course, the middle turbinate was removed in all patients I saw operated on. My observations, both in Berlin and Vienna, and since, have taught me to be conservative in the management of these cases. Of course, if patients can not spend the time necessary to carry on a long and tedious nasal treatment we may be forced to institute radical measures early in the case. I think it poor surgery to sacrifice the turbinate and destroy nasal and lining mucous membrane of the sinuses, when we can get drainage by less radical measures.

Dr. C. F. Welty, San Francisco: I wish to report the death of two patients in San Francisco from the so-called intranasal operation. They were not my cases but came to my knowledge.

Dr. H. W. Loeb, St. Louis: A man can not be absolutely sure that he is in the frontal sinus. He may be in an ethmoid cell that is diseased and he may relieve the patient, but he doesn't know that he is in the frontal sinus. Dr. Coakley speaks of the impossibility of relieving sphenoid suppuration entirely by the nasal route. We have all seen patients operated on radically in which suppuration continued. Whether it is due to the impossibility of getting away all the diseased mucous membrane or not I am unable to say.

Dr. Crockett calls attention to the difficulty of the intranasal operation, but I think his inference is rather overdrawn in regard to the difference in the number of deaths in comparing the two operations. While there are thousands and thousands of operations done intranasally, there are comparatively few done extranasally, and not every one who has a death from the extranasal operation reports it. One trouble is that we do not look on the intranasal operation as a surgical procedure. Some rhinologists do it in the office. If we would take as much pains in operating intranasally as we do with the extranasal operation our results would be immeasurably better and there would be less danger of death. In the external operation we make the same preparation as if we were going to do an abdominal operation. The intranasal operation should be entitled to as much respect.

Dr. D. B. Kyle, Philadelphia: No one method will succeed in every case. The conservative method will fail occasionally and so will a radical operation. It is merely a question of judgment, the individual case, and the experience of the operator. Knowing when to operate is the most important thing, and we should always question whether we would do that particular operation on our own sinuses. If you try the conservative method you will find that you will not have to do the radical operation very often.

Clinical Notes

THE TRANSPARENCY OF MATTER FOR X-RAYS NOT AFFECTED BY TRANSVERSE RADIATION FROM A SECOND TUBE

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In a recent article[1] it was asserted that greater transparency and, as a result, better skiagraphs, can be obtained in *x*-ray work by having two sources of the rays at right angles to each other, radiating simultaneously on the body to be photographed. In order to test the truth of this assertion by the electroscope method the following experiments were undertaken:

Two *x*-ray bulbs, one which will be called the direct bulb D and the other the transverse bulb T, were arranged as indicated in the diagram, both being carefully enclosed in lead screens. Openings in the screens were made at a, b, c and d, through which the rays could pass and produce ionization in the three electroscopes, E_1, E_2 and E_3. These electroscopes were protected in such a way that they were unaffected by the radiation from the bulbs when the openings a, b, c and d were closed by lead shutters.

The two bulbs D and T were always run simultaneously during all observations. The electroscope at E_1 was used for observing, first, the intensity of the rays from D which pass through any body placed at A when the shutter c is closed and the shutter b open; second, the intensity of the rays from D which pass through the body at A when both b and c are open so that the body is being radiated on by both D and T; third, the intensity of the secondary rays which enter E, when b is closed and c open so that only transverse rays fall on the body at A. If the transverse rays from T increase the transparency of the body at A for the direct rays from D, the effect produced per second on E. when both b and c are open should be greater than the sum of the two effects produced per second on E_1 when b and c are opened successively.

The electroscopes E_2 and E_3 were used merely for eliminating irregularities in the rates of radiation of the two bulbs D and T. E_2 was affected only by D, and therefore served as a measure of the rate of radiation of D, while E_3 was affected only by T, and hence served as a measure of the rate of radiation of T.

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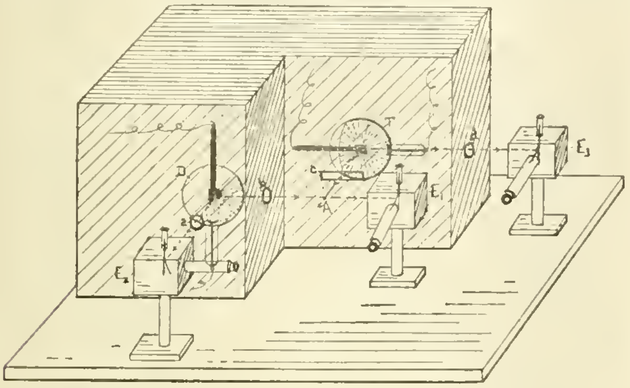
[1] O'Donnell, P. S.: A New Method of Taking X-Ray Pictures, The Journal A. M. A., April 17, 1909, lii, 1246.

The observations were taken in the following manner: There was first placed at A a piece of pine wood of such thickness that rays from D had to pass through 12 inches of pine in order to reach E_1. All of the shutters, a, b, c and d, were opened and the rays from D and T were allowed to pass simultaneously through this wood. The effects on all the electroscopes were observed. The openings c and d were then closed and rays from D alone allowed to pass through A, and the effects on the electroscopes E_1 and E_2 again observed. Finally a and b were closed, c and d opened, and rays from T alone allowed to pass through A, and the effects in the electroscopes E_1 and E_3 observed.

Now if we subtract from the effect produced on E_1 when both D and T are simultaneously radiating on the body at A, the effect on E_1 when T alone is radiating on the body, and call this corrected value e_1, and if we call the effect on E_2, e_2, and the effects on E_1 and E_2 when D alone is radiating on the body e'_1 and e'_2, then it is evident that the ratio $e_1 : e_2$ must equal the ratio $e'_1 : e'_2$, provided there is no increase in the transparency due to transverse radiation from T. This we found to be the case within the limits of our observational error.

The energy for the bulbs was furnished by two 12-inch induction coils, the primaries being connected in series with a Wehnelt interrupter on a 110-volt circuit. The current in the primary was varied from 10 to 25 amperes.



In the accompanying tables the numbers immediately under E_1, E_2, E_3 are the readings of the electroscopes before the bulbs were energized. The numbers just beneath these are the electroscope readings after the bulbs had been energized for a period of about six seconds. The third rows represent differences, and these are, of course, proportional to the amounts of ionizing energy entering the electroscopes under the conditions specified.

It will be seen that in the first three trials, in which the absorbing material was unchanged, the values of $e'_1 : e'_2$ agree with each other, as of course they should. It will also be seen that $e_1 : e_2$ agrees in every case with $e'_1 : e'_2$ within the limits of observational error, which were about 1 or 2 per cent.

In the fourth and fifth trials conditions as regards absorbing medium were changed, but $e_1 : e_2$ still agrees in each case with $e'_1 : e'_2$ to within the limits of observational error.

In each of the above experiments observations were made by two independent observers whose results always agreed with one another to within the limits of observational error.

These observations appear to demonstrate conclusively that under the conditions of our experiments the effects which can be obtained from D through A are altogether independent of the radiations of the transverse bulb T; i. e., the transparency of the body at A to radiations from D is altogether uninfluenced by transverse radiations from T.

TRIAL 1.—Wood Used as Absorbing Medium

E_1	E_2	E_3	
Both Bulbs (a, b and c open)			
0.5	1.5	2.6	
33.9	29.3	23.	$\frac{e_1}{e_2}=\frac{31.3}{27.8}=1.126$
34.4	27.8	20.4	
Direct Bulb (c and d closed)			
5.6	3.0		
39.6	33.4		$\frac{e'_1}{e'_2}=\frac{34.}{30.4}=1.118$
34.0	30.4		
Transverse Bulb (a and b closed)			
4.4	1.6		
7.6	22.6		
3.2	21.0		An apparent increase in transparency of 0.7 per cent.

TRIAL 2.—Wood Used as Absorbing Medium

E_1	E_2	E_3	
	Both Bulbs		
6.3	0.6	1.6	
39.6	26.6	21.8	$\frac{e_1}{e_2}=\frac{30.2}{27.2}=1.110$
33.3	27.2	20.2	
	Direct		
6.6	1.5		
37.4	29.		$\frac{e'_1}{e'_2}=\frac{30.8}{27.5}=1.120$
30.8	27.5		
	Transverse		
4.6	.6		
7.6	19.6		
3.0	19.0		An apparent decrease in transparency of about 1 per cent

TRIAL 3.—Wood Used as Absorbing Medium

E_1	E_2	E_3	
	Both Bulbs		
0.3	0.5	3.1	
37.3	29.6	25.5	$\frac{e_1}{e_2}=\frac{33.4}{30.1}=1.110$
37.0	30.1	22.4	
	Direct		
2.4	1.6		
35.2	30.8		$\frac{e'_1}{e'_2}=\frac{32.8}{29.2}=1.123$
32.8	29.2		
	Transverse		
.6	0.6		
4.2	21.5		
3.6	22.1		An apparent decrease in transparency of 1 per cent.

TRIAL 4.—Water Used as Absorbing Medium

E_1	E_2	E_3	
	Both Bulbs		
6.6	6.4	2.5	
24.2	33.4	23.6	$\frac{e_1}{e_2}=\frac{27.}{8.4}=3.21$
17.6	27.0	21.1	
	Direct		
2.2	0.8		
11.	27.4		$\frac{e'_1}{e'_2}=\frac{28.2}{8.8}=3.20$
8.8	28.2		
	Transverse		
5.4	2.8		
14.7	24.2		
9.3	21.4		An apparent decrease in transparency of 0.33 per cent.

TRIAL 5.—Water Used as Absorbing Medium

E_1	E_2	E_3	
	Both Bulbs		
3.6	1.6	3.2	
38.5	27.3	23.4	$\frac{e_1}{e_2}=\frac{26.5}{25.5}=1.039$
34.9	25.7	20.2	
	Direct		
5.4	7.7		
32.6	33.6		$\frac{e'_1}{e'_2}=\frac{27.2}{25.9}=1.050$
27.2	25.9		
	Transverse		
.9	.2		
9.5	20.9		
8.6	20.7		An apparent decrease in transparency of 1 per cent.

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AN OVARIAN ABSCESS CONTAINING A LUMBRICOID WORM WITHIN THE CAVITY

BACILLUS COLI COMMUNIS INFECTION *

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Patient.—M. J., colored, primipara, aged 23, was taken sick suddenly, Jan. 21, 1909, with pain in the lower abomen, followed by chills, restlessness, and vomiting. No information of importance was elicited from her family history.

History.—For some time before her present illness began, her appetite had been poor; she had suffered pain in her lower abdomen, and nausea after eating; her bowels usually moved twice daily.

Examination.—Jan. 23, 1909, she was admitted to Garfield Memorial Hospital. Her tongue was coated with a grayish white fur; facial expression was drawn; she was in dorsal decubitus position with knees flexed. Pulse was 132; temperature, 103; leucocyte count, 20,560. The abdominal muscles were rigid, especially the left rectus; there was tenderness on pressure over both ovarian regions; on the left side a mass was outlined as big as a hen's egg. Vaginal examination revealed double salpingitis and a large mass on the left side. The afternoon of the day of admission she vomited a lumbricoid worm about 10 centimeters long. Microscopic examination of the feces showed numerous ova of the *Ascaris lumbricoides.*

Operation.—She was kept under observation until the acute symptoms had subsided. Temperature fluctuated between 98 and 102.5 F., and remained normal after February 5. Leucocytosis was 14,750. February 9 operation was performed at my clinic, assisted by the house staff. The right appendage was inflamed and adherent. The left ovary and tube were adherent to the cornua of the uterus; the ovary was enlarged to the size of a hen's egg, the surface was smooth, and there were no intestinal adhesions. While enucleating the mass the ovarian wall of the abscess sac ruptured. About 30 c.c. of pus escaped into the abdominal cavity, and projecting from the abscess through the tear in the wall was a small lumbricoid worm about 6 or 7 centimeters long; it was dead and flattened. Both tubes and ovaries were removed. The patient made an uneventful recovery.

Pathologist's Report (by J. B. Nichols).—Ovary enlarged. Dimensions: 6 cm. long, 4 cm. thick; yellowish-white color. Section shows an abscess cavity throughout its entire length. This is irregular in shape and its wall is not smooth but ragged. The wall is pearly white in general with areas of light yellow throughout. Cavity contains pus and a single worm 6.5 cm. long, identified as *Ascaris lumbricoides* by Dr. B. H. Ransom of the U. S. Department of Agriculture. The outer surface of the ovary is smooth and the abscess wall is from 3 to 5 mm. thick, except at one point, where it is only about 1 mm. The external surface at this point is perfectly smooth.

Microscopic Examination.—Extensive aggregation of round cells, mingled, especially in places, with polynuclear leucocytes. These cellular areas broken up by strands of dense fibrous tissue. Round cell aggregations apparently inflammatory areas.

Bacteriologic Examination.—*B. coli communis* in pure culture from pus.

The female lumbricoid deposits eggs in the human intestine, whence they are expelled with fecal matter. Embryonic development takes place in water 5 or 6 months after expulsion. During summer heat the development is more rapid, but in autumn and winter the egg can remain five, six or seven months without presenting the least trace of segmentation. According to Blanchard,[1] the egg passed in the feces produces an embryo in time varying from several weeks to one or two years. Carried into the human intestine by drinking water, the embryo gains liberty from the egg envelop and grows into adult state. The development is rapid and the female worm extrudes ova at the end of one month. The life of the worm does not exceed one year.

Lumbricoid worms are expelled in feces; are vomited; are passed out through the mouth or nares; through the Eustachian tube and external ear; through the nasal fossæ and lachrymal ducts to the inner angle of the eye.

Lumbricoid worms travel extensively through natural and artificial passages. They are passed into the trachea and cause death by suffocation and by gangrene of the lung. They have been found in the pancreatic duct; in the common bile duct; in the hepatic and cystic ducts, and in the gall bladder. Hepatic abscesses have been caused by lumbricoid worms. They have perforated the intestines and escaped from the peritoneal cavity into the pleura; through the ventral wall; through umbilical and inguinal tumors and into lumbar and psoas abscesses. Hippocrates reported a worm expelled from an appendiceal abscess. Numerous cases of a similar kind have been reported since.

The genitourinary tract has not escaped invasion by the *Ascaris lumbricoides.* Blanchard mentions the following cases:

> Alghisi: Infant, 7 years of age, passed through the urethra in one year 60 worms—ascarides and oxyures.
>
> Chapotin: A negro, 20 years old, passed by the urethra a number of ascarides from 3 to 4 cm. long.
>
> Cases by Kingdom, Krakowitzer and Du Jardin of lumbricoid worms passed with the urine at intervals from eight or ten days to several months.
>
> A fistulous tract leading from the bowels to the bladder was demonstrated by autopsy in the cases of Pereboom, Kingdom and Krakowitzer.
>
> Aneiaux reported a woman who passed lumbricoides from the vagina by a fistulous tract to the bowels.
>
> Numerous cases have been reported of round worms having been found within the vagina. Bedel reported a case of hydrometritis complicated by the presence of a lumbricoid worm within the uterus.

The *Ascaris lumbricoides* gains access to the genitourinary passages of the male and female by passing from the intestines into the peritoneal cavity; by fistulous tracts communicating with the bowel; and by passing externally from the anus into the vagina or urethra.

The only case I can find recorded of the presence of these worms within the ovary is that of Dufour:[2]

> A girl, 17 years old, was operated on Aug. 28, 1904, at the Hôpital St. Pierre for a multilocular cyst of the right ovary. The intestines were adherent to the cyst, and in detaching them a tear in the cyst wall gave escape to a viscid, gelatinous substance, and projecting from the opening was found a lumbricoid worm. It was removed; a second worm was found, and then a third. They were alive. An examination of the portion of the intestinal wall that had been adherent to the sac revealed two small perforations.

In my case it is evident from the condition found at the operation and from the examination of the pathologic specimen that the lumbricoid did not pass from the intestine to the ovary. The only satisfactory explanation is that it migrated through the vagina, uterus, and tube to the ovary, where it gained access to the interior through a ruptured Graafian follicle.

Donation for Cancer Research.—The British Imperial Cancer Research Fund has received from the Duke of Bedford, the vice-president, a donation of $5,000.—*Science.*

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Traité de Zöologie médicale, Paris, 1889.

[2] Dufour, E.: Cas de kyste de l'ovaire renfermant des lombrics vivants; double perforation intestinale, Gaz. de gynéc., xx, 97.

PERFORATION OF APPENDIX BY ROUNDWORM *

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While there have been several reports of cases of perforation of the vermiform appendix by roundworm, these accidents are yet quite rare. The pathologic development of these cases, of course, varies, but as a rule it is believed—and with good reason—that the worm, finding itself shut in so narrow and blind a canal, bores through in its endeavor to escape. Once in the peritoneal cavity, the worm offers to the peritoneum a twofold insult, mechanical and bacteriologic. Outside of its normal habitat the worm soon dies and is walled off by adhesions. If all goes well, a well-circumscribed abscess surrounds the worm.

In the case I have to report the worm failed to get entirely through his own tunnel and probably died as a result of the constriction which took place around his neck, so to speak. In the Museum of the Royal College of Physicians and Surgeons, Lincoln's Inn Fields, London, is shown a roundworm which was strangulated in similar fashion on its ill-advised attempt to pass through the ring of a hook such as is commonly used in fastening women's dresses.

The roundworm is at times given to wandering and instances are on record in which it has been found in the stomach, nose, glottis, Eustachian tube, biliary and pancreatic ducts. In rare instances it may perforate the alimentary canal and escape into the peritoneal cavity and escape from thence by suppurative perforation into the bladder or through the abdominal wall. At times large masses of worms accumulate in the intestine, causing obstruction and requiring surgical aid.

Since the roundworm is cosmopolitan and the majority of people living in warm climates are infected, it is rather remarkable that more of these cases do not occur.

Patient.—A boy, L. M., of West Charleston, aged 12, of slight build, referred by Drs. W. A. McMillan and A. T. Mairs, was suffering from a typical attack of acute appendicitis of three days' duration. There was a well-defined mass in the right lower abdomen. There was a rise of pulse and temperature, marked leucocytosis, abdominal rigidity, etc. The history of the case presented nothing of special interest.

Operation.—An incision of medium length was made over McBurney's point, and, since the abscess was postcecal in location, it was carefully walled off with gauze packs and opened. After opening this abscess and sponging away about three ounces of pus, a whitish slough-like mass was seen to be projecting from the side of an inflamed appendix near its base. On opening the appendix it was found that a roundworm was tightly wedged in a tiny perforation, the appendical tissues having a sort of strangle hold about its neck. While the portion of the worm which had lain in the abscess was partly broken down, the intra-appendiceal part was well preserved and lifelike in appearance. This worm had undoubtedly perforated the appendix, become locked in the wall, and died *in situ*. The intraperitoneal part of the worm, acting as a foreign body, plus the infection, had resulted in an abscess.

The cavity was drained in the usual manner and the boy made an uneventful recovery.

Diet.—I. J. Wolf, in the *Journal of the Missouri State Medical Association*, states that after all it is not what we eat but what we digest and assimilate that counts. A superabundance of food, which causes the intestines to be filled with decomposed and putrefying matter, and which leads to malassimilation, is certainly a mistake and not wise and economic nutrition.

Therapeutics

ANEMIA

Before this condition can be properly treated, it should be determined whether it is a so-called blood disease or a condition caused by a disease of some other part.

Anemia is well divided into primary and secondary; the former denoting a disturbance of the blood corpuscles caused by disease or malcondition of the blood itself or of the blood-making organs, the latter being a symptomatic anemia caused by organic disease, loss of nutrition from gastrointestinal disturbances, suppuration, profuse secretion or excretion from any organ, especially from albuminuria, and from toxemias due to poisons or toxins that have gained access to or have been abnormally retained in the blood. Consequently, a diagnosis of the condition presupposes a careful analysis of all the organs and functions of the body, and not only a counting of the red blood corpuscles, but a study of the hemoglobin content and the shape and form of the corpuscles. In the future, a careful study of the blood plasma will also be found necessary to understand many of the disturbances of the blood. Excess of salts or lack of them, and excess or lack of some particular salt, will doubtless be found to play an important part in the causation of anemias.

Before deciding that a simple anemia is primary, all secondary causes must be eliminated, but there can be a primary anemia that is mild in form, which, if the cause persists, will become a pernicious anemia with the typical blood picture of that disease. In other words, a simple anemia may be caused by a mild type of the condition that is the cause of pernicious anemia, i. e., pernicious anemia may be mild in type, if one is allowed the paradox.

It having been decided that an anemia is secondary to some organic lesion or debilitating condition, it is useless to aim the treatment strongly at the blood condition to the neglect of the condition that has caused the anemia. In other words, the disease present must be correctly treated, and, even if organic, much help may generally be given. If the drain on the system can not be medically prevented, it is generally useless to wait for operative interference until medicinal or other treatment can improve the condition of the patient. Therefore, surgery should be brought to the aid, if surgery is indicated, at the earliest possible moment.

Everything possible having been done to remove, or ameliorate, or stay the cause of the secondary anemia, the number of red blood corpuscles may be increased and their health may be improved by treatment.

Perhaps the most important of all treatments of anemia is fresh air and sunlight, in the best possible hygienic and climatic surroundings. Some anemic patients will do best in the country, others best at the seashore, others best in the mountains.

The next most important element in the blood improvement is the diet, and a diet that contains sufficient meat, combined with such vegetable foods as contain iron, and arranged so as to be most easily digested and assimilated by the individual patient. In other words, the diet must be individualized.

The next consideration in the treatment of secondary anemia is that of drugs, and whether or not drugs can stimulate the organs concerned in the production of healthy blood corpuscles. The principal origin of the red blood corpuscles in the adult is the red marrow of bone, while the spleen may possibly produce red corpuscles before birth, and some physiologists believe it is possible, under certain anemic conditions, for the spleen again to assume such work. The spleen, however, may be considered as a storehouse for red corpuscles and the place for their destruction, although after serious hemorrhage the spleen doubtless gives up large numbers of healthy corpuscles to the needs of the blood. Also, under conditions of hemorrhage, nucleated red corpuscles will be found in the blood stream, having been prematurely given to the blood by the red bone marrow in the blood's need. This same need of the blood for erythrocytes seems to be one of the reasons for finding nucleated reds in pernicious anemia. The hemolymph nodes, glands near the vertebral column, partake more of the action of splenic tissue than of blood-forming tissue. That is, in serious anemic conditions they may become very active, but perhaps do not actually produce red corpuscles as does the bone marrow. The destruction of red corpuscles is evidenced by the splenic vein containing more hemoglobin than is found in any other part of the circulation. This going directly to the liver is quickly changed by the latter into material for bile pigments. Ninety-five per cent. of the contents of the red corpuscles is hemoglobin, a very unstable compound, and about 14 per cent. of human blood consists of hemoglobin, equal to about 750 grams in the sturdy adult of 165 pounds. Ninety-six per cent. of this hemoglobin is globulin and 4 per cent. is hematin, which contains iron. As this hematin is concerned in the oxygen and carbonic acid exchange in the lungs, if its iron content is insufficient or if the number of red corpuscles is much diminished, breathlessness and dyspnea on the least exertion occur. The amount of hemoglobin in each corpuscle is decreased in chlorosis and increased in pernicious anemia. While the number of the red corpuscles is decreased in the secondary anemias, and while the number is enormously decreased in pernicious anemias, the hemoglobin content of each corpuscle may be decreased or increased. It is, therefore, essential to determine the number of red corpuscles and the hemoglobin content before the best medicinal treatment may be inaugurated.

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* Reported before the Kanawha County Medical Society.

With such an investigation, an apparent anemia may be proved not to be such, and sometimes even the reverse. Many neurasthenic, pale patients really have a plus red blood count in the peripheral blood. Certainly iron is not needed by them. It will also be found of value to take the blood pressure of anemic patients, as many patients with abnormally low pressure will have a general improvement of all metabolism if circulatory stimulants are given, possibly cardiac tonics, and possibly vasoconstrictors. Certainly patients with impaired, sluggish circulation, possibly a tendency to pendent edemas, cold hands and feet, perhaps dilated peripheral vessels, and sluggish circulation in the stomach and intestines will not recover with iron, arsenic, or other so-called blood-making drugs. Such patients certainly should not be urged to take physical exercise, when by their blood condition they are absolutely unfitted for it. The harm from the exhaustion caused is far in excess of any good that will be done by the exercise. Massage and sometimes gentle hydrotherapeutic measures are of value as tending to tone up the skin and muscle circulation and, therefore, improve the general circulation.

It having been determined that the patient has a loss of hemoglobin in excess of the loss of red corpuscles, iron is certainly indicated, but the amount needed is theoretically very small, when it is remembered that from 0.005 to 0.006 gram daily is all that occurs in an ordinary diet, and that from 0.003 to 0.005 gram of iron a day will preserve the normal iron equilibrium in normal individuals. The feeding of much iron will not increase the iron output in the urine, which is always very small, but it will increase the output in the feces. The food iron, or iron administered as such, is absorbed in small amount from the duodenum, circulates in the blood, and is mostly excreted again by the epithelial cells of the intestine in the lower part of the canal. The iron content of the liver has been found increased by the administration of iron, and iron has been found in the epithelial cells of the duodenum. The epithelial cells of the lower intestine and cecum will give the reaction for iron some time after it has been administered. The administration of iron also does not much increase the amount of iron that is in the bile. Almost all the iron administered, then, passes off through the intestines without having ever been absorbed, and the excess of even the iron absorbed is quickly excreted by the epithelium of the lower intestines; therefore, the body really uses daily but a minute amount of iron. Consequently, if the iron in the hematin of the red corpuscles is all that is needed to improve an anemic condition due to diminished hemoglobin, the need will be completely satisfied and more than satisfied by one grain of iron a day. Also, it is a fact beyond all reasonable doubt that an inorganic iron is just as efficient in raising the hematin content of the hemoglobin and of stimulating the hematopoietic organs and improving the anemic condition as is any organic iron, and there is positively, absolutely, no excuse whatsoever for ordering a patient to buy a dollar bottle of some proprietary iron product, no matter how elegant that product may be. A frequent excuse made for ordering such iron preparations is that other iron does not agree with the patient's stomach, or causes indigestion, or causes headache, constipation, and other unpleasant symptoms. The only reason that such symptoms ever occur from an inorganic iron is because too much is administered. One drop of the tincture of the chlorid of iron in a little clean lemonade or orangeade is sufficient to satisfy the blood need and can never cause any harm. The sugar of iron tablet (*Eisenzucher*), i. e., the saccharated oxid of iron, in a three-grain tablet, given once a day, can cause nothing but good to the patient. The Blaud pill, or the dry carbonate of iron capsule are other elegant preparations of iron, and if three a day cause headache one a day is sufficient. The reduced iron capsule is the only other form of iron that is positively needed in the Pharmacopeia. If iron is badly needed in serious anemia, there is nothing that is such a stimulant to digestion and to the organs concerned in the production or nutrition of red corpuscles as the tincture of the chlorid of iron, and five-drop doses, in a sour menstruum as suggested may be given, in serious conditions of infection, three or four times in twenty-four hours, with marked benefit to the patient. In fact, in serious illnesses, and especially in septic conditions when the diet is perhaps iron-free, one or two doses a day of a simple iron will often protect the blood corpuscles from hemoglobin loss.

To return to chlorosis: The cause has not been definitely determined. For some reason or other these patients do not metabolize to blood iron the food iron that they ingest. This may be a gastrointestinal chemical mistake, or it may be some secretory disturbance. In this kind of anemia large doses of iron have sometimes been found of more benefit than small doses, possibly because they satisfy the chemical mistake in the intestines. Frequently the same beneficial results have been obtained by the administration of small doses of salines, as Rochelle salt or other simple laxative. This must again be improvement caused by correcting chemical changes in the intestines that are pernicious, or possibly a freer action of the bowels may prevent autoinfection from causing disturbance of the blood.

From the standpoint of disturbance of internal secretions, if chlorotic girls also have the condition of amenorrhea, there is no drug that will be of more benefit than thyroid if administered in small doses. Menstruation develops and chlorosis disappears in a large proportion of cases. It should be emphasized that the dose of thyroid in chlorosis should be small, three grains of the official preparation a day, except, perhaps, for the first week of treatment.

It is perhaps true in the conditions just discussed that manganese, in the form of the dioxid, will be of as much value as iron, but when small doses of iron are sufficient, why consider or ponder the value of manganese? Why ever use a drug of secondary importance when the drug of primary importance suffices?

Now as to the value of arsenic in this condition of chlorosis. Arsenic may be a slight stimulant to the bone marrow, and sometimes is. Fatty degeneration of the bone marrow has been caused by arsenic, as well as fatty degeneration of other organs. It is a foreign element in the system, and theoretically is a poison. It stimulates many secretions, principally that of the thyroid gland, and the administration of arsenic in exophthalmic goiter cases has repeatedly made the symptoms worse. Its slight irritant action to the stomach certainly does increase the appetite, and we are all aware of its bad digestive action when such stimulation is excessive. It may also have some antiseptic action in the bowels which may be of value in chlorosis. In chorea salol and salicylic acid, both bowel antiseptics, will often do as much good as arsenic, and it is quite possible that the choreic disturbances proceed from some kind of intestinal infection. When arsenic is in the blood in sufficient amounts to produce symptoms of its activity, such as edema under the eyes in the morning, besides gastrointestinal disturbances, it is also in sufficient amount to irritate the kidneys, and if the urine be carefully tested it will be found often to contain albumin. During such intense action the arsenic is also likely to cause a sudden loss of red corpuscles, which is the opposite of the action from it that is desired. While small doses of arsenic may be of value in chlorosis, its medicinal value is not comparable to that of iron or even thyroid.

In secondary anemias it is only necessary medicinally from the blood standpoint alone to administer daily a small dose of inorganic iron. If the cause of the anemia can be stopped, the blood will improve.

If primary anemia does not from its blood picture present the condition of pernicious anemia, and yet no secondary cause can be found, we must believe that an incipient stage of pernicious anemia may be present, and should treat the condition as actively as though the blood picture of that disease was in evidence. In these cases and in pernicious anemia the content of the red blood corpuscles is perfect or even plus, and iron does but little good. While the red marrow of bone may be actually diseased, and an insufficient number of red corpuscles be produced, or while there may be enormous destruction of the red blood corpuscles in the spleen or elsewhere, there is probably always an intestinal cause, and there may be serious liver disturbance. The frequent record of improvement in anemia from large doses of arsenic is constantly offset by the reports of cases in whom the apparent first improvement was followed by sudden, great and serious loss in the number of red corpuscles. This is especially true if, during the arsenic treatment of pernicious anemia, any infection attacks the patient. In other words, while arsenic is perhaps the most frequently successful treatment of pernicious anemia, if the patient is helped at all, it may also be a frequent cause of increased blood defect. Certainly when large doses are given, the danger of general fatty degeneration, and the danger of kidney inflammation, and the danger of localized or even general neuritis, is great. Like the bad effects of other treatments, serious injuries from arsenic have been rarely reported, and perhaps many times have not even been recognized.

It has been stated that arsenic has many times been given hypodermically with better success than when given by the mouth, and doses thus administered have been gradually increased to the point of poisonous symptoms. Recently Dr. William L. Harris, of Providence, R. I., has advocated the hypodermic injection of iron, arsenic and mercury, in small doses, as a treatment for inoperable cancer, and he states he has had good results from such treatment. He has had prepared for him by a pharmacist in Providence little glass aseptic ampoules containing the trioxid of arsenic, 1/40 of a grain, and the citrate of iron, ⅓ of a grain, in 15 minims of distilled water. If one decides to use arsenic hypodermically in anemia, certainly this combination would be a good one to use.

Sometimes most successful stimulation of the red blood-forming organs is caused by the administration of preparations of red bone marrow. It is of frequent occurrence in any kind of anemia to find the red blood corpuscles increased in number under the administration of red bone marrow.

While it can not be decided from the blood picture that a patient is not in the incipient stage of pernicious anemia, other symptoms may bear out the possibility of such a condition. It can also never be stated that a patient suffering from well-developed pernicious anemia can not improve and be practically well for a long time. Patients apparently in the last stages of exhaustion from the disease have been known to recover and to remain well for a long time. Improvements, however, in pernicious anemia are likely not to be permanent. On the other hand, some patients without the typical blood picture of pernicious anemia, and with no other evident cause of the anemia than a blood condition, go continuously and persistently down hill in spite of all treatment.

Successful Operative Treatment of Gastric Crises.—O. Foerster of Breslau calls attention to the fact that the gastric crises of tabes are always ushered in by the pain, and that this may persist alone for some time before vomiting and hypersecretion occur. The trouble is evidently the result of morbid irritation of the sensory nerves of the stomach, probably the seventh to the ninth spinal roots. He reports a case of gastric crises in a syphilitic man of 47. During the last two of the six years since they began they have been practically continuous, the vomiting keeping up for three weeks at a time, with intervals of only five or six days when, under morphin, he was able to retain food. No treatment gave relief until Foerster advised resection of the nerve roots, which he regarded as the source of the disturbances, and Küttner resected the seventh to the tenth dorsal roots. The day after the operation the patient called for food and retained it, and there has been no vomiting and no more pain in the gastric region during the two months since the operation. The case is reported in the *Allg. med. Central-Zeitung*, April 3, 1909.

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[*For other information see second page following reading matter*]

SATURDAY, SEPTEMBER 25, 1909

THE RELATION OF THE SPIROCHÆTA PALLIDA TO GENERAL PARALYSIS

The *Spirochæta pallida*, concerning the etiologic rôle of which in syphilis there now is no question, has been demonstrated in chancres, syphilids, the tissues in cases of congenital syphilis, gummas, and in a few cases of syphilitic aortitis, but in so-called parasyphilitic disease, *e. g.*, general paralysis, it as yet has not been seen. By means of the Wassermann reaction, however, chemical changes peculiar to syphilis have been demonstrated in the blood serum of individuals suffering from general paralysis and locomotor ataxia and on this account the question arises as to the exact relation between the spirochete and parasyphilitic diseases. For the purpose of illuminating certain phases of this problem Browning and McKenzie[1] call attention to the points of resemblance between syphilis and trypanosomiasis. The principal points are: In trypanosomiasis the infecting agent is a protozoon, and this, they say, probably also is the case in syphilis; in experimental trypanosomiasis there occurs a change in the blood serum resembling that in syphilis and parasyphilitic diseases and manifesting itself by giving the Wassermann reaction; there is considerable similarity in regard to the early involvement of the lymph glands; the early febrile and constitutional disturbances with eruptions, the periods of latency, and the later involvement of the central nervous system, roughly correspond fairly well in the two diseases; and then the cellular changes are the same in both—lymphocytes and plasma cells playing a prominent part in the reaction, the perivascular proliferation of general paralysis being similar to that in sleeping sickness, which is the final stage of human trypanosome infection. In sleeping sickness, however, trypanosomes occur in the cerebrospinal fluid; and the failure to demonstrate the spirochete of syphilis in general paralysis is an important missing link in the chain of comparison. It is also noteworthy that, while both diseases may be transmitted to animals, yet the mode of natural infection in the case of syphilis is far different from that in the case of trypanosome infection, which is conveyed by a biting fly (*Glossina palpalis*).

In spite of the failure so far to find *Spirochæta pallida* in the cerebrospinal fluid in general paralysis there are a number of points that may be considered to speak in favor of the contention that it is still active in this disease. Thus general paralytics appear to be immune to syphilis reinfection. It will be recalled that Krafft-Ebing failed to inoculate with material from a typical hard chancre nine general paralytics who had no history of syphilis. Naturally this might be interpreted as the result of immunity to syphilis, but Neisser has shown experimentally that in monkeys reinfection is impossible if the spirochete is still present. The occurrence of a latent period between active syphilis and so-called parasyphilitic diseases has also been explained as the result of an acquired immunity, but it is also explainable in other ways. The early and effective use of drugs may cause a complete disappearance of the symptoms of syphilis, but apparently without killing the organisms completely, because the disease may reappear after some time; and a mother who gives birth to syphilitic children without herself showing the symptoms undoubtedly harbors the virus. Hence it is not unlikely that the germ of syphilis may remain latent in the body for long periods and yet be capable of giving rise to disturbances on the occurrence of favorable changes concerning the exact nature of which we know little or nothing.

It has been claimed that failure to respond to antisyphilitic treatment speaks for the view that general paralysis is not a true syphilitic disease. Here, again, the possibility that the virus may have become serum-resistant, or drug-resistant, a condition which is now well known in experimental trypanosomiasis, should not be lost sight of. Assuming that the spirochete may occur in the cerebrospinal fluid in general paralysis, Browning and McKenzie suggest that antisyphilitic treatment may not be effective in this disease on account of impermeability of the spinal membranes, which are held to be more or less impermeable not only to bacterial antibodies, but also to certain drugs, as, for instance, potassium iodid.

In view of these considerations these authors feel that the independence of syphilitic and parasyphilitic disease has not been established and that, especially in general paralysis, search for the organism of syphilis should be continued. They also suggest that, in view of the likelihood that the disease is the result of an active process, intraspinal injections of remedial agents might be tried.

A PHYSICIAN'S DAUGHTER

With the passing of Sarah Orne Jewett some time ago there went a sterling American writer who portrayed affectionately and to the life "the dry, shrewd, quick-witted New England type." She was born "down East" in Maine, the daughter of a country doctor. Making the rounds with her father amid the New England folk, she learned to know, to respect and to love them, and no one has done greater honor than she to the homespun virties, the sharp humor and the real kindliness beneath the sometimes bleak exterior of the country folk of Maine and of New England generally. She was a true artist, seeking not to produce effects, but to reproduce character and life as she saw it. What she has written will live, then, doubtless for generations after much of the present-day writing that seeks merely after effect and does not go below the surface of things has been forgotten.

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[1] Review of Neurology and Psychiatry, June, 1909.

We who are physicians can scarcely help but feel that she owed much to her intimate relations with her father that enabled her to get so near the heart of truth in life. Indeed, she as much as says so herself. "You doctors ought to be our historians," says a character in her novel, "A Country Doctor," "for you alone see the old country folk familiarly and can talk to them without restraint." Doubtless there is more than one reminiscent, if not biographic touch in this appreciative sketch of the country physician who joined knowledge of personality and of human nature to his skill in diseases, which last grew to be "a wonderful second-sight." Such, for instance, is this: "The doctor told Nan many curious things as they drove about together: certain traits of certain families, and how the Dyers were of strong constitution, and lived to a great age in spite of severe illnesses and accidents and all manner of unfavorable conditions; while the Dunnells, who looked a great deal stronger, were sensitive, and deficient in vitality, so that an apparently slight attack of disease quickly proved fatal. And so Nan knew that one thing to be considered was the family, and another the individual variation, and she began to recognize the people who might be treated fearlessly, because they were safe to form a league with against any ailment, being responsive to medicines, and straightforward in their departure from or return to a state of health; others being treacherous and hard to control, full of surprises, and baffling a doctor with their feints and follies of symptoms; while all the time Death himself was making ready for a last, fatal siege; these all being representatives of types which might be found elsewhere."

The great body of country physicians in America may well be proud of Miss Jewett and her work because it shows their attitude toward humanity in so sympathetic a light.

INTERNATIONAL CONFERENCE ON VITAL STATISTICS

The successful completion of the labors of the International Commission for the Revision of the Classification of Diseases and Causes of Death is highly gratifying to all those interested in uniform, complete and accurate vital statistics. It also marks a degree of uniformity and cooperation hitherto unattainable in this work. For many years, attempts were made in the old International Statistical Congress to formulate a classification of diseases that could be universally accepted. These efforts, however, were not successful, and until comparatively recently each nation and, in the United States, practically every city and state, followed its own methods in compiling mortality statistics. Consequently one could never be certain on examining a statistical table whether the figures given were in any way comparable to those found in other reports.

The first definite attempt at a solution of the problem was made at the session of the International Statistical Institute at Chicago in 1893, when Dr. Jacques Bertillon submitted a system that has since become recognized as the International Classification of Causes of Death. In 1898 at Ottawa, the American Public Health Association formally adopted this classification and recommended its use in all national, state, provincial and city reports in the United States, Canada and Mexico. The committee of that association at that time recommended a decennial revision in order that the classification might be kept up to date. This recommendation was approved by the International Statistical Institute, and in 1900 the French Government called the first meeting of the international commission at Paris. Unfortunately for the progress of vital statistics in the United States, however, medical men and registration officials were not represented, and as a result the revision was not in all ways satisfactory. The delegates to the second decennial revision, however, were admirably chosen, and it is anticipated that their work will help to solve the problems of vital statistic registration in this country.

Particularly gratifying is the recognition given the medical profession and the American Medical Association in the selection of three representative physicians, one of them the chairman of the Association Committee on Nomenclature and Classification of Diseases, to represent the United States on the International Commission. The work of Dr. Foster and his associates is of the utmost importance and is deserving of the recognition which has been accorded it.

TREATMENT OF PELLAGRA

Much interest has been aroused during the last two or three years in the subject of pellagra. A study of the disease in the United States has thus far shown that it is widely distributed throughout the south, and is present in some localities in the north and middle west. The question of prognosis and treatment is naturally, therefore, one of much interest. Dr. C. H. Lavinder,[1] of the U. S. Public Health and Marine-Hospital Service, who for more than a year has been devoting his time to a study of the disease, in a recent article, has given a brief review of the subject.

He states that the prognosis must invariably be considered as grave, and that complete recovery can seldom be assured. Reliable statistics on the subject in the United States are practically limited to asylum cases, and give a mortality of 67 per cent. It must be borne in mind, however, that asylum cases are undoubtedly the more advanced and hopeless ones, and for that reason will give a mortality much above the average. Lombroso gives statistics of hospital cases in Italy in 1883 and 1884, showing a mortality of 13 per cent., whereas Wollenberg gives Italian statistics for 1905 showing a mortality of a little over 4 per cent. The disease resembles tuberculosis, both in that it is an insidious and chronic condition, and that much depends on early diagnosis and treatment, prognosis in early cases being far better than in advanced ones. The importance of this is apparent when it is considered that the disease is an intoxication, and that it is probably associated with diseased corn products used as food.

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[1] Public Health Reports, Sept. 10, 1909. Copies of this article can be obtained by making request to the Surgeon-General, Public Health and Marine-Hospital Service, Washington, D. C.

Predisposition is believed to be an important factor in this disease. Lowered physical resistance, worry, insufficient food, bad housing and alcoholism are supposed to render an individual more susceptible. In Italy, laws have been passed regulating the use and storing of corn and its derivatives, institutions have been established for the care and treatment of pellagrins, improved agricultural methods are encouraged, and assistance is given to the sick in many ways by the government.

In the treatment of patients, Lombroso recommends a liberal diet; in some cases he uses baths and cold douches, believing them to be of benefit in certain cases with nerve and skin manifestations; he has found arsenic a valuable remedy, and sodium chlorid of service.

Good results have been reported from the use of arsenical preparations, and transfusion of blood from cured individuals to the sick has been tried with apparent success.

THE UNSATISFACTORY CANADIAN PATENT MEDICINE ACT

On another page[1] we give the essential features of the new Canadian "Act Respecting Proprietary and Patent Medicines." A careful perusal of this act will leave the impression that the law has been framed with a view rather to appeasing public clamor than to furnishing public protection. The law defines "proprietary or patent medicine," in the sense in which the terms are used in the statute, as any artificial remedy or prescription whose name, composition or definition is not to be found in the various pharmacopeias or approved formularies or—and herein lies "joker" number one—which has not the "true formula or list of medicinal ingredients, which must not contain cocain," printed on the label or wrapper. This would seem to mean that nostrums of the most dangerous and objectionable type would not come under the jurisdiction of the new act, providing they contained no cocain, and their ingredients were published on the label. That is to say, such nostrums as Peruna and Orangeine, whose manufacturers claim to publish the "formulas," would not be "patent medicines" within the meaning of the new Canadian law! Nor is this the only weakness in the new statute. A poison schedule is given and any "patent medicine" containing one of the scheduled drugs must have the name of such drug—nothing is said of the quantity—"conspicuously printed" on the label and wrapper. Provided, however—"joker" number two—that if the manufacturer tells the authorities the quantity of any such scheduled drug his nostrum contains he may be permitted to sell his "patent medicine" without printing the name of this drug on the label "if it appears to the minister that the proportion of the drug used is not dangerous to health"! The potentiality for harm of this provision is limited only by the judgment of the man to whom is entrusted the enforcement of the act. It would seem that the new law will actually protect the Canadian public against cocain-containing nostrums; but from the innumerable other vicious forms of self-administered medicaments the act seems to offer tempting opportunities for the unscrupulous manufacturer to profit at the expense of the people. It may be that if the law is broadly interpreted and wisely administered our northern neighbors may obtain that measure of protection which they evidently desired; should it be enforced, however, with that slavish adherence to the letter, rather than to the spirit, that too often characterizes the execution of laws, we fear that Canadians will soon awaken to the fact that their representatives have handed them a legislative "gold-brick."

Medical News

CALIFORNIA

Will Teach Tropical Medicine.—The faculty of Oakland College of Medicine has instituted a chair of tropical medicine, the first occupant of which is Dr. Creighton Wellman.

Hospital Notes.—The San Jose General Hospital was formally opened to the public September 3.——Plans have been completed for the new St. Francis Hospital, San Francisco. The building, equipment and furniture will cost about $200,000, and will be under the direction of Drs. John Gallwey, Walter B. Coffey, Wallace I. Terry, John H. Graves and Malcolm O. Austin.

New Medical Department Opens.—A meeting of the assembly was held September 8, for the formal assimilation of Cooper Medical College, San Francisco, with Leland Stanford, Jr., University. The address of the occasion was delivered by Dr. Henry Asbury Christian, Dean of Harvard Medical School, on "A Career in Medicine and Present-Day Preparation for It." Dr. Henry Gibbon spoke on behalf of the corporation of Cooper Medical College and President David Starr Jordan on behalf of the university.

Personal.—Irving Hardesty, Ph.D., of the University of California, has been appointed professor of anatomy in Tulane University, New Orleans.——Dr. Harold A. Miller has been elected president and Dr. Lewis W. Stidham, secretary, of the board of health of Alameda.——Dr. William A. Weldon, San Pedro, Dr. John F. Spencer, Gardena, and Dr. Pierronnette, Wilmington, have been appointed assistant health officers of Los Angeles county.——It is announced that Dr. Wallace I. Terry, San Francisco, chief surgeon of the Emergency Hospitals, will resign to take effect October 30.——Dr. Henry C. McClenahan, for six years superintendent of the Gardner Sanitarium, Belmont, has resigned, and will go to Europe for a year.

GEORGIA

Tuberculosis Clinic for Negroes.—A clinic and dispensary for the treatment of tuberculosis among negroes was opened August 3 in Atlanta, with Dr. J. Ansley Griffin in charge, and Drs. Julius E. Sommerfield and Wesley E. Taylor as assistants.

Personal.—Dr. Harry H. McGee was appointed city physician of Savannah, ad interim, vice Dr. Lawrence Dee, resigned, September 1, and Dr. B. H. Gibson was elected city physician September 8.——W. D. Sloan, Milltown, and Jack Standifer, Blakely, have been appointed by the governor beneficiaries of scholarships at the Medical College of Georgia, Augusta.

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[1] Pharmacology Department, this issue.

ILLINOIS

Bequest.—By the will of Lawrence McMahon of Urbana, St. Elizabeth's Hospital, Danville, receives a bequest of $700.

Presentation to Dr. Greene.—On September 11, Dr. James L. Greene, recently appointed alienist of the State Board of Control, was called to the amusement hall at Kankakee State Hospital and presented with a diamond shirt-stud by the employees and a silver fruit dish and grape shears by the heads of the departments.

Personal.—Dr. Frank Parsons Norbury, Jacksonville, formerly resident physician of the Pennsylvania Institute for the Feeble-Minded, assistant physician of the Jacksonville State Hospital, and later proprietor of a private sanitarium in Jacksonville, was appointed superintendent of the Kankakee State Hospital, September 16, vice Dr. James L. Greene, resigned.——Dr. Francis W. Barton and family, Danville, sailed for Europe, September 22.——Dr. Carl J. F. Rochow, physician in charge of the Illinois Asylum for Feeble-Minded Children, Lincoln, has resigned.——Dr. Karl F. Snyder, Freeport, has succeeded Dr. John F. Fair, resigned, as local surgeon to the Illinois Central Railroad.——Dr. C. R. Spicer, Springfield, was elected national medical examiner of the Yeomen of America, September 17.

Chicago

Personal.—Drs. E. Fletcher Ingals, George E. Shambaugh and W. E. Buehler have returned from Europe.——J. B. Gookin, city chemist, resigned September 17, to take a similar position in the state food laboratories.—Dr. Robert H. Gault has been appointed instructor in psychology in Northwestern University.

Medical College to Open.—The opening exercises of the College of Physicians and Surgeons, the College of Medicine and Surgery of the University of Illinois, will be held September 28, in the college assembly hall at 8 p. m. Dr. William Allen Pusey will deliver the opening address.

Sources of Infection.—The chief of quarantine and disinfection of the health department has made investigation to determine the sources of infection of cases of scarlet fever and diphtheria reported during the week ended September 18, and finds the following to be the most prominent factors:

> Association with unrecognized case at school—10 cases. Association with a case in the immediate vicinity—20 cases. "Following a cold"—only a predisposing factor, if true. More likely, the first signs of the illness were taken for a "cold." And here is where a danger lies to the patient and the community. At the playground. By coming in contact with mild undeclared or convalescing cases—4 cases. From unreported case—3 cases. Insanitary premises, only a predisposing factor. Previous case in family—2 cases.

It is always association with a previous case, in one way or another. The largest number of cases are found to originate from other cases in the immediate vicinity, and here the blame falls directly on the parties concerned.

IOWA

No Signs for Physicians' Homes.—It is reported that medical men of Des Moines are planning a campaign for the elimination of physicians' cards or signs from their residences.

Personal.—Dr. O. B. Hawley, Corning, received painful injuries in a fall from an automobile, September 1.——Dr. Smith A. Spillman, Ottumwa, who was operated on, August 26, for the removal of gall-stones, is reported to be securely convalescent.——Dr. Louis B. Carson, Maquoketa, has been seriously ill with septicemia due to an operation wound.——Dr. Robert J. Nestor has been elected health officer of Waterloo, vice Dr. Guilford H. Sumner.

KENTUCKY

Donation to Sanatorium.—Hon. R. T. Lightfoot, Paducah, and Superintendent Will Thompson of the McCracken County Sanatorium, have donated to the county the concrete material and rough lumber necessary for the erection of a tuberculosis hospital at the county poor farm.

National Guard Appointments.—Dr. Charles W. Hibbitt, Louisville, has been promoted from captain and assistant surgeon to major and surgeon of the First Infantry; Dr. George H. Day has been commissioned captain and assistant surgeon in the same organization.——Dr. Thomas C. Holloway, Lexington, has been commissioned major and surgeon.——Dr. Lee C. Redmon, Lexington, has been commissioned captain and assistant surgeon and assigned to duty with the Second Infantry.

MARYLAND

Fountain Dedicated.—At Middletown, on September 11, a public drinking fountain was dedicated, the gift of Dr. S. Philip Appleman, Braddock Heights, in memory of his deceased parents.

State Society Meeting.—The semi-annual meeting of the Medical and Chirurgical Faculty of Maryland was held at Braddock Heights, September 15. In his presidential address, Dr. George M. Linthicum, Baltimore, took issue with the national referee board as to the harmlessness of benzoate of soda. The association is making plans to use its influence in the next legislature in behalf of a pure food, drug and beverage law; a slaughter-house and meat inspection law; a dairy and cow inspection law; a law providing for the state care of the insane; a midwifery law; adoption of the Crede method of prevention of ophthalmia neonatorum, and provision for an appropriation for hospital and medical schools and for the library and hall of the faculty.

Baltimore

Personal.—Dr. Robert Talbott Miller, Baltimore, has been appointed surgeon in chief of St. Francis Hospital, Pittsburg.——Dr. Benjamin Frayser has been appointed resident physician of the Pottsville (Pa.) Hospital.——Dr. Charles Metcalfe Burns has been appointed instructor in Johns Hopkins Medical School.

MICHIGAN

New University Planned.—A plan is proposed to amalgamate the Detroit College, Detroit College of Law and the Detroit College of Medicine and Surgery into an institution to be known as the University of Detroit.

Personal.—Dr. Henry W. Stiles of the University of Michigan has been appointed assistant professor of anatomy in Tulane University, New Orleans.——Dr. Edward V. Howlett, Trimountain, a member of the staff of the Copper Range Consolidated Mining Company, has resigned.——Dr. Nelson R. Gilbert, Bay City, has been reelected for the seventh time president of the board of control of the Home for Feeble-Minded and Epileptics, Lapeer.

MISSISSIPPI

Tuberculosis Camp to be Permanent.—The trustees of the Mississippi Insane Hospital, Jackson, have decided that the tuberculosis camp established there during Governor Vardaman's administration, shall be made permanent.

Personal.—Dr. W. R. Card, for six years assistant physician at the East Mississippi Hospital for the Insane, Meridian, has resigned to take effect October 1, and will move to Biloxi.——Dr. William W. Mathis, Orwood, has been appointed a member of the State Board of Health, vice Dr. Robert A. Seale, Holly Springs, resigned.

NEW MEXICO

Sanatorium Improvements.—The Cottage Sanatorium, Silver City, is erecting an administration building to provide the necessary accommodations for the medical and business staffs of the institution.

Do Not Wish Names Mentioned.—At the meeting of the Santa Fe County Medical Society, August 26, the secretary was instructed to request editors of local papers to prevent the appearance of the name of any physician in connection with the announcement of sickness and accidents of any person in the community.

Medical Society Organized.—The Pecos Valley Medical Society was organized in Roswell, August 31, with thirteen charter members and the following officers: Dr. J. E. Caldwell, Hagerman, president; Dr. O. R. Haymaker, Roswell, vice-president; Dr. Frederick J. Walters, Roswell, secretary-treasurer, and Drs. David H. Galloway, Roswell, Frederick F. Doepp, Carlsbad, and William W. Phillips, Roswell, censors.

NORTH CAROLINA

Pellagra in State Hospital.—Dr. James McKee, superintendent of the State Hospital for the Insane, Raleigh, reports the presence of 14 cases of pellagra in the institution.

Medical Colleges Open.—The seventeenth annual session of the North Carolina Medical College, Charlotte, opened September 8, with about 100 students in attendance.——The eighth annual session of the University of North Carolina Medical School, Raleigh, began September 8. The new members of the medical faculty are Dr. Watson S. Rankin, professor of general hygiene and preventive medicine; Dr. John S. McKee, demonstrator of obstetrics; and J. M. Harper, assistant demonstrator of pathology. A free out-patient clinic is to be conducted in connection with the school.

NEW YORK

Health Department at State Fair.—Arrangements have been made for an extensive exhibit illustrating the work done by the State Department of Health to be placed in the State Fair to be held in Syracuse on September 13 and subsequent days.

Tuberculosis Exhibitions at Fairs.—The State Charities Aid Association and the State Department of Health are once more cooperating in a joint campaign for the prevention of tuberculosis. Exhibits will be sent to 42 county fairs this fall.

Need of an Alcoholic Ward.—The vice-president of the State Prison Commission, in a report on the city prison in Raymond street, Brooklyn, complains of lack of accommodation for the care of persons suffering from alcoholism. It is absolutely impossible under present conditions to do them justice. He suggests that an alcoholic ward be installed in the Cumberland Street Hospital as soon as possible.

Superintendent of Hospital Responsible.—Attorney General O'Malley has advised the secretary of the board of trustees of the State Hospital for Tuberculosis, Raybrook, that the treasurer of the institution is not responsible for the defalcation of about $9,000 discovered last June in the accounts of the purchase clerk, and that as the purchase clerk was subordinate to Superintendent Garvin and his agent, and as the custody of the funds was placed in the superintendent's charge by the law, he was personally liable for the amount of the defalcation.

New York City

For Crippled Children.—The Darrach Home for Crippled Children has received $10,000 from the estate of the late Benjamin Ellis Martin.

Steamers Held at Quarantine.—The steamer *Martha Washington* from Patras and Palerma was held up at quarantine because of a case of smallpox in the steerage.——The steamer *Neapolitan Prince* from Rotterdam was also detained at quarantine for a thorough inspection.

For Tuberculous Children.—The Board of Education is making an effort to provide for tuberculous children and for those who may become tuberculous if not given proper care. They have asked for money to fit up twenty practically open-air school rooms for these children. Classes for the blind have also been established in connection with the public schools.

Reception to Pole-Finder.—On September 14, at a meeting of representative medical men of Brooklyn, in which the medical societies of Brooklyn and Long Island were represented, a committee composed of Drs. Walter B. Chase, Elias H. Bartley and Alfred Bell was appointed to tender a public reception to Dr. Frederick A. Cook at such a date as may suit his convenience.

Money for Charity.—The will of Michael Horn leaves bequests to forty-three charitable and philanthropic institutions. Among the larger bequests are $5,000 to Mount Sinai Hospital; $2,500 to the Montefiore Home; $500 each to the Flower Hospital, J. Hood Wright Hospital, German Hospital, Nursery and Child's Hospital, and Sydenham Hospital; and $750 each to Blackwell's Island Hospital, Beth Israel Hospital, Home for Aged and Infirm Hebrews and Jewish Hospital, Brooklyn.

Buffalo

Medical Examiners of Schools.—The acting health commissioner, Dr. Francis E. Fronczak, has appointed the following medical examiners for public schools: Dr. Franklin W. Barrows, District A; Dr. William C. Callanan, District B; Dr. David E. Wheeler, District C; Dr. Arthur C. Schaefer, District D, and Dr. Daniel V. McClure, District E.

Maternity Department in General Hospital.—Work which has been under way for several months at the Buffalo General Hospital for the perfection of a maternity ward, has been completed, and the city now has a modern obstetric department in which patients will be cared for by nurses specially trained for this class of work. Several nurses connected with the hospital who were sent to New York for a course of study at the Sloane Maternity, have now returned properly equipped for the care of cases in the ward.

District Society Meeting.—The fourth annual meeting of the Eighth District Branch of the Medical Society of the State of New York was held in Buffalo, September 8, and the following officers were elected: President, Dr. Edward Munson, Medina; vice-presidents, Drs. Thomas H. McKee, Buffalo, and John S. Wright, Perry; secretary, Dr. Carl S. Tompkins, Buffalo, and treasurer, Dr. Charles A. Wall, Buffalo. The society adopted resolutions urging the city of Buffalo to build a new isolation hospital at the earliest possible moment.

OHIO

Cocain Sellers Fined.—G. W. Reese and Manie Strauss, druggists of Cleveland, charged with the illegal sale of cocain, are said to have been found guilty and fined $700 each. The prosecution was undertaken by the State Board of Pharmacy.

Sanatorium Notes.—The commissioners of Clark, Champaign, Madison and Greene counties met in Springfield, August 27, and purchased for $35,000 the Hazelwood Place as a site for a joint tuberculosis hospital. The formal transfer was made on September 4.——The Ohio Sanatorium Company has sold its Columbus property known as Park View Sanatorium for $27,500 to the Protestant Hospital Company.

Personal.—Dr. Joseph C. Placak, for several years medical director of the Tuberculosis Sanatorium of the Department of Charities of the City of Cleveland, Warrensville, has resigned, to take effect October 1.——Dr. Charles H. Browning, Oberlin, who has been ill in the Cleveland Hospital, has returned much improved in health.——Dr. Frank C. Chvatal has been appointed city physician for the sixteenth district of Cleveland, vice Dr. John A. Hurt, resigned.

Elections.—At the annual election of the Stark County Medical Club at New Berlin, Dr. James Fraunfelter, Canton, was elected president, and Dr. Olivia G. Ricksecker, Wilmot, secretary-treasurer.——A Medical Library Club has been organized at Columbus, which will install and maintain a medical library in the public library. The following officers were elected: Dr. David N. Kinsman, president; Dr. Charles J. Shepard, vice-president; Dr. T. O. Fred Fletcher, secretary-treasurer, and Drs. Francis W. Blake, James F. Baldwin, John H. J. Upham, and William J. Means, members of the executive committee.

OREGON

Case Not Bubonic Plague.—After careful examination to determine the disease from which John McCarthy died at Portland, August 8, Dr. Ralph C. Matson, who has conducted the investigation, announces that he had found no positive signs of plague. He believes the case was one of septicemia.

Dedicatory Services.—The Bishop Morris Memorial Chapel in the new addition to the Good Samaritan Hospital, Portland, erected at a cost of $115,000, has been formally dedicated by Bishop Scadding. The addition to the hospital is a memorial to the late Right Rev. B. Wistar Morris, formerly Bishop of Oregon.

Personal.—Dr. Henry C. Jefferds, Portland, is reported to be critically ill with cerebral hemorrhage in the Good Samaritan Hospital.——Dr. Esther C. Pohl, Portland, is reported to be ill in St. Vincent's Hospital.——Dr. William Kuykendall, Eugene, has been elected grand physician by the executive council of the Women of Woodcraft.——Dr. Calvin S. White, who has been seriously ill in St. Vincent's Hospital, is reported to be convalescent.

PENNSYLVANIA

Memorial Tablet Unveiled.—A mural bronze tablet in memory of the late Dr. John Fay was presented and unveiled at the Altoona Hospital, September 16. Dr. William H. Howell presided and Dr. William S. Ross made the presentation of the tablet. The tablet was accepted by H. J. Cornman on behalf of the board of trustees of the hospital.

Personal.—Dr. William J. Davidson, physician to the Pressed Steel Car Company's works, McKee's Rocks, was severely wounded in the neck and arm during the recent labor riots.——Dr. George W. Carr has been appointed associate ophthalmologist to the Wilkes-Barre City Hospital.——Drs. Thomas G. Jenny and Henry Klinzling have been reappointed members of the Pittsburg Typhoid Fever Commission.

Unused Hospital to Be Opened.—St. Margaret's Memorial Hospital, Pittsburg, which was completed ten years ago, but remained unused because no funds had been provided for its maintenance, will be opened early next year, as the interest on the bequest now amounts to a sufficient sum to justify the opening of the institution. The building was originally erected by money from the Shoenberger estate, but as a provision of the will required that it be operated as a strictly sectarian institution, it was thus cut off from state aid.

Aids for the Decrease of Infant Mortality.—In the bulletin of the Department of Health and Charities of September 5, attention is drawn to the small number of deaths of children under 5 years of age, as compared with that of one year ago, namely, 2,004 children during the summer of 1909, or 14 per cent. less than during the summer of 1908. In 1908 the mortality was 2,341 children during the summer months. As many of these deaths were due to improper feeding and poor ventilation, Director Neff is anxious that the Philadelphia Alliance for the Care of Babies, the Board of Education, Home School League and allied societies who commenced in the late spring to educate the young mother in the care of the baby in hot weather through lectures and home visitations should continue these demonstrations during the winter, and ask for volunteers in this life-saving work. There are many private schools in the city in which a smaller allowance per cubic feet of air space for each pupil is provided than is required in the tenement houses in the slum districts.

Philadelphia

College of Physicians Nearly Completed.—The new building for the College of Physicians at Twenty-second and Ludlow streets, which is practically completed, is to be formally opened November 10. The library of 300,000 volumes has already been installed, and the lecture, reading and reception rooms are receiving their finishing touches.

Personal.—Drs. Ross H. Skillern, Milton B. Hartzell, Theodore H. Weisenburg, R. R. Sinclair, Henry W. Cattell and Edward Martin have returned from Europe.——Dr. Paul G. Weston has been appointed pathologist at the Municipal Hospital.——Dr. Frank N. Yeager has been appointed physician to the health department and detailed by Dr. Neff to study infantile mortality and its causes.

Medical Colleges Open.—The annual opening of the Medico-Chirurgical College was held September 23.——The eighty-fifth annual opening of Jefferson Medical College was held September 24, and the annual address was delivered by Dr. J. W. Holland, dean of the faculty.——The exercises introductory to the session of 1909 and 1910 of the Woman's Medical College of Pennsylvania were held at the college September 22.

Class Reunion.—The class of 1885 of Jefferson Medical College announces its intention of holding a reunion in Philadelphia about April 2, 1910, on the occasion of the twenty-fifth anniversary of the graduation of the class. Members of the class are requested to communicate with Dr. Joseph D. Orr, class president, 215 Second street, Leechburg, Pa., and thereby facilitate the necessary arrangements for this social function.

Patients Benefited at the City's Farm for the Insane.—The result of the first year's work at the city's farm for the mildly insane has been highly satisfactory. More than a year ago the Byberry farm of 878 acres was purchased and a large number of the mildly insane patients formerly housed in the insane department of the Philadelphia Hospital were transferred to Byberry. The work on the farm has been executed by the insane patients and the receipts from vegetables and crops raised on the farm will aggregate $10,000. The principal object sought, namely, the improvement of the patients, and the pure air and steady exercise has brought about most excellent results. In some instances patients have been restored to mental health. Fifty patients are being treated at the farm at the present time and accommodations will be made later on for all those who can be trusted in outdoor work. Dr. Howard E. Bricker is in charge.

TENNESSEE

Pellagra Contagious.—At a meeting of the Tennessee State Board of Health, September 14, it is reported that it was decided to order the isolation of all cases of pellagra, the board expressing the opinion that the disease is communicable.

Tuberculosis Ward to Be Built.—It is proposed to erect a separate tuberculosis ward to be known as "The Boyd Memorial Tuberculosis Ward," in connection with the Knoxville General Hospital, in memory of the late Dr. John Mason Boyd.

Personal.—Dr. Frank S. Raymond, Memphis, is reported to be critically ill at the Ranch Sanatorium in Lincoln, N. M.——Dr. Ebb C. Johnston, Chattanooga, who had a cerebral hemorrhage at Hot Springs, Ark., August 16, has been brought home and taken to Erlanger Hospital.

Medical Schools Open.—Vanderbilt University, Nashville, opened for its annual session September 22.——The new medical college formed by the union of the medical departments of the University of Tennessee and the University of Nashville opened for its initial session September 12. Dr. Henry S. Morris has been elected to the chair of genitourinary diseases in the college.——Chattanooga Medical College opened for its twentieth annual session September 23.——The medical department of Lincoln Memorial University, formerly known as the Knoxville Medical College, will open for the year, October 1.

WASHINGTON

Hospital Annex.—The addition to St. Joseph's Hospital, Bellingham, the foundation of which has already been completed, is to be two stories in height and will cost $45,000.

Sanitaria Burn.—Two upper floors of the Kearney Sanitarium, Spokane, were burned September 4. The nine patients in the building were removed without injury.——The private sanitarium of Dr. Charles B. Alexander, Mabton, was totally destroyed by fire, September 8, with a loss of about $5,000.

Rush Alumni in Washington.—At the recent meeting of the Medical Association of the Pacific Northwest, the Rush Medical College Alumni Association of the State of Washington was organized, and the following officers were elected: President, Dr. Samuel J. Holmes; secretary, Dr. Frederick Bentley; and treasurer, Dr. Edward P. Fick.

Tuberculosis.—King County Antituberculosis League appeared before the Seattle council finance committee, September 3, asking an appropriation of $30,000 for the carrying on of the additional antituberculosis campaign during the coming year.——King county has given up the attempt to establish a camp for tuberculosis in the suburb of Tukwila, as the mayor protested and threatened arrest to any one who attempted to install a camp in that place.

WISCONSIN

To Erect Sanatorium.—The Wisconsin Council of the Improved Order of Red Men, at its annual convention in Galesville, August 12, decided to build a tuberculosis sanatorium in Douglas county, to cost $7,000.

Personal.—Dr. John F. Brown, physician at the state penitentiary, Waupun, has been appointed superintendent of the State School for the Blind, Janesville.——Dr. Louis Breitzmann, Menasha, is said to have been declared insane, and committed to the Northern Hospital for the Insane, Oshkosh.——Dr. J. P. Williams, formerly of Dodgeville, who was arrested at Janesville on the charge of practicing medicine without a license, is said to have been discharged on proving his registration.

Women Physicians Organize.—The Wisconsin Medical Women's Society was organized at Oshkosh recently, and the following officers were elected: President, Dr. M. Adeline Riddle, Oshkosh; vice-president, Dr. Anna S. B. Corr, Juneau; secretary, Dr. Minnie M. C. Hopkins, Oconto; and treasurer, Dr. Johanna M. Droppers, Milwaukee, and board of censors, Drs. Luella E. Axtell, Marinette, Belle Painter Nair, Port Atkinson, and Ella Chaffee-Fay, Whitewater. The next annual meeting will be held in Milwaukee.

GENERAL NEWS AND COMMENT

New Medical Journal.—The latest aspirant for honors in the field of medical journalism is the *Journal of the National Medical Association*, an association with a membership limited to colored physicians, dentists and pharmacists. The journal is published quarterly at the Tuskegee Institute, Alabama, and is creditable in every way.

Personal.—Dr. Juan Guiteras has consented to remain as director of sanitation and chairman of the National Board of Health for Cuba, as the government has now appropriated sufficient funds for the work of a department of sanitation.——Dr. Charles E. Ruth, Ponce, Porto Rico, formerly of Keokuk, Iowa, is said to have been mulcted in damages of $20,000 recently, for leaving a piece of gauze in the abdomen after abdominal section.

Mississippi Valley Medical Association.—The thirty-fifth annual meeting of the Mississippi Valley Medical Association will be held in the Southern Hotel, St. Louis, October 12-14, under the presidency of Dr. John A. Witherspoon, Nashville, Tenn., and gives promise of exceptional excellence, both from a scientific and a social view-point. Dr. Sherman G. Bonney, Denver, will deliver the oration in medicine, and Dr. John B. Deaver, Philadelphia, the oration in surgery. Among the interesting topics for discussion at this meeting are exophthalmic goiter, pellagra, and uncinariasis. The St. Louis Medical Society is the host of the association, and has made extensive plans for the entertainment of its visitors.

Individual Drinking Cups.—The Illinois Central Railroad is making arrangements to place individual drinking cups in all coaches of every description over the entire system. These cups will be placed in slot machines beside the water cooler, but will not displace the glass or free cups heretofore in use.——The Chicago and Northwestern Railroad has acceded to the request of the Iowa State Board of Health to abolish public drinking cups on all their trains in the state. The company has informed the secretary that it will place sanitary paper cups on sale in its cars.

BUDAPEST LETTER

(From Our Special Correspondent)

BUDAPEST, Sept. 7, 1909.

International Medical Congress

[An account of the scientific proceedings of the Congress will be found in the Department of Society Proceedings.]

The eventful week is over. No longer are Congress badges to be seen on the breasts of thousands of strangers hurrying to and fro. Budapest has returned to its normal state of existence. It was with some apprehension that I returned to the capital of Hungary for another congress; but to-day it is a satisfaction to be able to record the solid progress that has been accomplished. When last at Budapest the press representatives had to threaten to go on strike before any sort of facilities could be obtained; while, on the present occasion, all they asked was immediately granted. But in the interval the medical press has been organized into an international association. The demands now made are no longer the sometimes querulous and divergent exigencies of isolated individuals; they embody what the authorized representatives of the medical press, after meeting and discussing, agree to be necessary.

Modern Hungary and Scientific Progress

The Congress of 1894 was the first attempt made on a large scale to show that Hungary desired to join the comity of self-governed nations and was now attempting to play its part in the advance of universal science. For this reason it seems to be of the greatest interest to hark back and compare the Congress of 1894 with that of 1909, and see what has been accomplished by the childhood of a new nation.

In one sense, Hungary may claim to be an old nation. It is old enough to have been conquered and overrun by the Mongols in 1241. After recovering from this invasion, and till the all-conquering Turk came in 1541, there may be said to have been a kingdom of Hungary. That kingdom was shattered by the Turkish domination, which lasted 150 years. Finally the Germans helped to drive the Turks away and Hungary became attached to the Hapsburg dynasty and had no regular existence of its own till the restoration of a separate Hungarian constitution in 1867. Hungary then ceased to be a part of the Austrian Empire and the Austrian Emperor was solemnly crowned king of Hungary. Consequently, whatever shortcomings there may be, there is a tendency to plead, as an excuse, that Hungary has only been an independent nation for a very short time. Hungary, however, was more free before the constitution was proclaimed than is generally admitted, and is not so free, since 1867, as the patriotic Hungarian would make believe. In any case, it is hard to place much faith in the freedom of a country where only a very small proportion of the inhabitants have the right to vote. It is true, however, that modern methods of existence are spreading to Hungary. It is no longer an exclusively agricultural country. In 1869 the proportion of the population engaged in industrial pursuits only amounted to 4.19 per cent. of the total. This proportion had increased to 13.5 per cent. in 1900. In 1880 there were only 1,197 workshops, factories, etc., employing more than 20 workmen, and in 1900 there were 2,474 such establishments. The railway lines in 1869 measured 2,736 kilometers, while in 1901 their length amounted to 17,274 kilometers. This rapid economical development, rather than mere political modification, better explains the awakening interest of Hungary in all that relates to the progress of science, whether it be medicine, hygiene or chemistry.

Congress Rivalries

The question now naturally arises whether the difference between the Budapest Congress of 1909, when compared with the Congress of 1894, corresponds in due ratio to the growth of the nation as illustrated by the statistics given above. To imagine that such congresses are purely scientific meetings is of course a complete illusion. A government and a municipality do not spend large sums of money merely for the abstract love of science. Though the Congress was organized only for medical men, many of its members are official delegates of the governments of their respective countries, act under direct instructions from the minister of foreign affairs of their country, or are officials holding high positions in administrative services. This indeed complicates the situation. Thus, at Budapest, instead of planning to organize a congress where the discussions should be of the greatest possible use, therefore limiting the number of papers and members so as to secure the highest quality of contributions, the object, on the contrary, was to attract the largest possible crowd and to produce a dazzling effect. There were eighteen sections of the last Congress which met at Lisbon three years ago; then there must be twenty-one sections at Budapest. There were close on 3,000 members inscribed for the Lisbon Congress; then there must be 4,000 or 5,000 members for the Budapest Congress. Brilliant receptions and festivities were held at Lisbon; then something far more vast and extravagant must be done at Budapest. It is all very well to talk of medicine and of science, but first of all the world must be taught to admire Magyar magnificence and be made to realize that henceforth Hungary is worthy of a more important place in the comity of nations. Of course the Congress is not political, but all the same the above were the predominating considerations. Now, in such endeavors, it must be admitted that, in 1894, the Hungarians were not altogether successful. There were, on that occasion, about 2,500 members. The sections were very badly attended, though they contrived to carry more than a hundred different resolutions. But what marred the effect of the Congress was the admittance of a great number of irresponsible individuals. It would be better if local individuals should be made to pay an entrance fee four or five times higher than the members who come from abroad, as the former have but slight or no traveling expenses to bear. In 1894, a great crowd, who had little or nothing to do with hygiene, paid the $4 entrance fee, and in exchange participated in banquets, excursions, etc. On the other side must be placed the abundant hospitality shown, the excellent deportment and refined manners prevailing at some of the private receptions, the wonderful and pleasurable excursions organized, and the great cordiality displayed on every occasion by the Hungarian hosts towards their foreign guests.

The Present Congress

To-day there is a distinct improvement. Either things have been better managed, greater care has been taken regarding people admitted to the Congress, or better manners have been acquired in the lapse of fifteen years. In any case, during the Congress just terminated, while difficulties arose, mainly due to the fact that visitors were too numerous, there was no behavior of a character likely to compromise the dignity of the Congress. There is another important step forward to be recorded. The Hungarians have recognized that this is above all the century of social legislature. The creation at the universities and faculties of a chair of medical social science was urged by more than one speaker. The literature distributed by the local organizing committee was all intended to show that Hungary feared to be thought backward in this good cause. There was one volume describing the poor relief and the hospitals of Hungary. Another volume dealt with the sanitary services of the country, a third with the care of childhood, and a fourth with the treatment of the insane. Then the minister of public worship and public education, Count Albert Apponyi, sanctioned the issue, at the public expense, of a large and elaborately illustrated volume describing the faculties of medicine of Budapest and of Kolozsvar. A copy of this ponderous volume was given to all the members of the Congress. Like the other smaller books, it is printed in French, so that the great majority of the members will be able to read and understand this very notable effort to show that Hungary desires to take rank in regard to higher education and the social legislation. Unfortunately, much remains to be done. Misery is widespread among the people. Medical relief is not so readily forthcoming as a perusal of these books might lead a casual observer to imagine. For a population of 19,900,000 there were in 1906 only 5,370 physicians, 12,800 midwives, and 2,204 dispensing chemists. This was equal to 26.4 doctors, 62.9 midwives, and 11.3 dispensing chemists for every 10,000 inhabitants. There were during the same year 443 hospitals containing 37,545 beds where 366,200 patients had been treated or 815 patients per hospital. Altogether, there had been 11,182,000 days of treatment, which equals 2.2 hospitals and 1,789 days of treatment for every 100,000 inhabitants. Thus Hungary only stands in regard to hospital accommodation on a level with Galicia, Bukovina, Dalmatia and the most backward provinces of the Austrian Empire. But it is improving. For instance the statistics of the year 1902 show that there were 21.4 doctors, 40.5 midwives, and 9.7 dispensing chemists per 10,000 inhabitants. Comparing these with the similar figures just given for the year 1906 it will be seen that the increase is very considerable for so short a period as four years. But if the figures as to the wages earned by the population are investigated, then we shall wonder how and by whom these medical practitioners can be paid. In the rural districts the agricultural laborers earn $60, $80 and $100 per annum. In the United States I have seen these same men merely working as day laborers and yet earning as much in a day as they were able to obtain in their own country as the reward of a whole week's work.

The Archduke and the Right to Happiness and Health

Bearing these facts in mind, I was not a little startled by the speech with which the Archduke Joseph inaugurated the Congress. He said: "To be at the service of humanity, to consecrate all the physical forces and intellectual faculties that God has given us, to the well-being of our fellow-men, remains always the ideal object of our existence. We cannot do without the help of others, and the individual value of each man augments in due measure as his work is more profitable to other individuals or to humanity at large."

Therefore a man is to be estimated not according to the fortune he amasses for himself, but in accordance to his usefulness to others. The Archduke went on to say:

"What is true in regard to a person is still more true in regard to an entire profession. In this respect all equitably minded people must recognize that there are few professions exercising on the individual, or on the family, and, as a last consequence, on the whole life of states, an influence so profound and so widespread as that of the medical profession.

"Every living being has the desire and the right to be happy, and this for as long a time as possible. And it is no new truth that the fundamental condition of happiness on this earth is a healthy, satisfied and long life."

I could not help asking myself how were the toilers of Hungary to be satisfied and live a long healthy life on $2 a week. But the Archduke had said they had a "right" to be happy. Therefore they have a right to work and to receive a minimum wage which shall be high enough to provide what is necessary for health and happiness. An agitator proclaiming these principles at a street-corner meeting would run the risk of being roughly treated by the police. At the ceremonial opening of the congress a ready response was given to the Archduke by Professor Landouzy, dean of the Paris Faculty of Medicine, president of the French delegation and representative of the ministry of public instruction and fine arts of the French Republic. The most perfect silence prevailed, for Professor Landouzy's oratory is justly popular. I will endeavor to translate the passage which may be taken as a reply to the Archduke's remarks:

"Numerous are the reasons which have attracted so many colleagues to Transleithania. It is not only the renown of your thinkers, of your artists, of your scientists. It is not only the peaceful beauty and then the torrent force of your Danube, or the wealth of your Tisza, from whose banks flow your wines which are of gold in color and in value. Nor were we attracted by the souvenirs and the monuments of your glorious city. We came to see what you show with justifiable pride: the palaces, the libraries, the schools, the museums, the institutions which you have consecrated to the worship of the Arts, the Sciences and Charity. You are proud and rightly so of your institutions for the relief of the poor, for the spread of education and the spirit of human solidarity by which you desire that throughout Hungary the practise of medicine, having henceforth become as much the art of preventing as of curing illnesses of the mind and of the body, shall be exercised with more justice so that, to promote the psychical and physical health of the people, there shall be a better distribution of material and moral well-being among individuals and collectivities."

Professor Landouzy proceeded to allude in terms perhaps more flattering than the facts justify to the fall in the death rate of Budapest and how the working class were better housed. In this respect considerable improvement has been effected; but terrible conditions still prevail and much yet remains to be done.

From Budapest to Washington

Thus it will be seen that in spite of all efforts to help these congresses on the neutral ground of pure science, there is no preventing the overlapping, I will not say of party politics, but of the higher considerations of policy bearing at least indirectly on practical legislation. If this is so for a medical congress, this must be more emphatically the case at the hygiene congresses. Therefore, all these details and explanations will, I trust, be of use in view of the next great international assembly which is to be held next year in the United States. The Fifteenth International Congress of Hygiene and Demography is to meet at Washington a year hence, and there many questions of social reform must be discussed. There will be great debates on what the French call the "laws of human solidarity;" and it is to be hoped that the description of the congress just terminated at Budapest will give suggestions that may help in preparing for next year's gathering at Washington.

(*To be continued*)

PARIS LETTER

(From Our Regular Correspondent)

Paris, Sept. 4, 1909.

Men of Feeble Constitution in the Army

According to the law of 1905, men summoned to military service are divided into three classes: (1) those fit to bear arms; (2) those who have good constitutions, but are excluded from the armed service because of some infirmity (excessive myopia, deformed feet, etc.), and who cannot possibly be used except in the auxiliary clerical service; (3) those who are sometimes called semi-fit; that is to say, those who have no definite physical defect, but whose feebleness of constitution is a bar to their bearing arms. The law was passed in the belief that regimental life might assist many of this last class to perfecting their physical development; therefore these men, at the end of a year of service, undergo a second examination as to their fitness to bear arms. The medical statistics of the army show that in regard to almost all affections the morbidity of the recruits is often twice, and sometimes more than twice, the morbidity of the soldiers who have undergone twelve months of service.

Now, to confine these "doubtful recruits," whose number is more than 20,000 a year, to clerical work, as is frequently done, is not to favor their physical development at all, but to destroy their usefulness for the defense of the country. What again would be realized, on the contrary, if these enfeebled men, instead of being treated as supernumerary clerks, were developed into real soldiers! With this idea in mind, some officers have constituted in the regiments platoons of the weaker recruits, who are put under a special regimen of work and of food, under the joint direction of officers and of the physicians of the corps. Serious difficulties, however, were encountered from the first, and the results were far from meeting expectations. The regimental medical service, already overworked, has not sufficient time to give to the weaker men; and their presence in the regiments is detrimental to the healthy men. At present, physicians and colonels are agreed in condemning the system of regimental platoons of weaklings.

An army physician, Dr. Solmon, has had the happy idea of withdrawing these soldier candidates from their regiments and of bringing them together at special points on the seacoast or in the mountains, chosen solely for hygienic reasons. The objections to the regimental platoons do not apply to these formations. They do not require much extra expenditure—a slight increase in nourishment and perhaps some expense for hygiene—and in return they permit much economy in respect to hospital treatment. No doubt only part of these semi-fit recruits will become sufficiently strong at the end of a year to become real soldiers, but even if only a half or only a quarter are so much improved, that would be 5,000 or 10,000 more men a year for the defense of the country. Even if the result is not completely attained from the military point of view, still the men will be returned to their families more vigorous than at their arrival in the regiment, and will have learned good habits in these schools of hygiene, which they will be ready to disseminate. The idea of platoons of invigoration (*pelotons de robusticité*), then, has a much higher purpose than merely the increase of our effective military forces. Its application would result in the marked physical regeneration of a large part of the population.

Illegal Practise of Pharmacy

Not all pharmacists practise their profession personally. There are, in fact, large pharmacies whose proprietors employ a great number of non-pharmacist clerks, who are engaged in the preparation of medicines. This being the case, the Paris medical society (*Syndicat Médical de Paris*) has just passed a resolution that the inspectors should exact that in conformity to the law, the preparation of medicines be carried out exclusively by graduate pharmacists in all the laboratories and manufactories of pharmaceutical products, and that all infractions of the law be severely repressed.

The society also has called attention to the anomaly in pharmaceutical studies, in that the pharmaceutical student, before entering on his theoretical studies, undergoes an apprenticeship in a laboratory, being entrusted with the preparation of medicines; while in all the other professions, the practical stage in general follows the theoretical studies, and is, so to speak, their consummation. The society, therefore, has passed a resolution that the apprenticeship ought to be at the end of the pharmaceutical course.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Sept. 1, 1909.

Naunyn's Seventieth Birthday

September 2 Professor Naunyn celebrates his seventieth birthday. Considering the great eminence in medical science of this renowned investigator, both at home and abroad, his birthday without doubt will be observed by many of his former pupils and colleagues. In his scientific success and in his entire personality, Naunyn may be reckoned among the classicals of medicine.. In his keen criticism, his incorruptible love of truth and his excellent disposition, he is excelled by no one. Naunyn was born in Berlin. He was for a long time an assistant of Frerich, and in 1869 became professor of internal medicine at Dorpat, later at Bern and at Königsberg, and in 1888 went to the newly founded Kaiser Wilhelm University of Strasburg. His principal investigations are in the field of metabolic diseases. His work on diabetes mellitus and on the clinical relations of cholelithiasis are standards in medical literature. He was one of the founders of the *Archiv für experimentelle Pathologie und Pharmakologie* and of the *Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie* (Communications from the Borderland of Medicine and Surgery). Five years ago he retired from the faculty of the university and betook himself to his villa near Baden-Baden. He has, however, not taken leave of his scientific work. Not only does he take part in medical congresses, but since his retirement he has published several works, among others a new edition of his monograph on diabetes. His last work is a spirited treatise on the general pathology and therapy of old age in the "Text-Book of Diseases of Old Age," published by Professor Schwalbe.

International Exhibition of Hygiene in Dresden in 1911

In 1911 there will occur a great exhibition of hygiene in Dresden, for which preparations are even now being energetically pushed forward. The king of Saxony will assume the protectorate of the exhibition. At the head of the honorary presidents are Prince Bülow and the present imperial chancellor. Koch, Behring, Ehrlich, Rubner and others belong to the honorary committee. The scientific management is in the hands of Weber, a member of the imperial board of health.

Left-Handedness in the Army

A short time ago a military surgeon presented to the army medical society the results of his studies on the occurrence of left-handedness in the army. He examined 300 left-handed soldiers. At least half of these came from families in which this peculiarity also occurred in other members; it appears to be twice as frequent among males as among females. Enuresis, feeble-mindedness, stuttering and other disturbances of speech occur much more frequently among left-handed than among right-handed people. The frequency of left-handedness is greatest among the recruits and diminishes with the length of service. The speaker reaches the conclusion that the left-handed are both physically and mentally less suited to military service than the right-handed.

Assistance of Physicians in Prussia

The arrangements existing in Prussia in previous decades for the assistance by physicians of their colleagues who are in want were considerably extended by a law passed in 1899. By this law each medical council, or *Aerztekammer*, was authorized to exact a yearly contribution to cover the expenses of the assistance bureau from the physicians in the district who are entitled to a vote. If the contribution was not voluntarily paid, compulsory collection could be enforced. From the contributions obtained in this way, most councils appropriate a sum for the assistance of physicians in need, and such aid has of late years become quite extensive. In 1908 the Berlin-Brandenburg medical council appropriated $12,000 (50,000 marks) for purposes of aid, and of this sum about $11,000 (46,000 marks) were expended; the assets of the assistance bureau at the end of 1908 were about $95,000 (395,000 marks). The bureau collects from every physician entitled to vote a fundamental tax of $2.50 (10 marks), and from all with a total income above $12,000 (50,000 marks) an additional sum of 5 per cent. of the state income tax. Besides these assistance bureaus of the medical councils, there are in Prussia a number of private aid societies which annually pay large sums to colleagues who are without means. For widows and orphans there are special funds provided; that of the *Leipziger Verband* is especially extensive and receives annually many voluntary contributions from the members.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Sept. 9, 1909.

The International Association of the Medical Press

The occasion of the International Congress was utilized for two other congresses. The one was the otologic congress, the other a convention of the International Association of the Medical Press. The latter discussed a project, prepared by the British section, which is thought will bring order into the present chaotic conditions of modern congresses. It is proposed to select an international committee to arrange everything in regard to congresses and to secure by proper payment the services of a reliable permanent international secretary, who would have to devote all his time to this work. Then the press could also obtain within a very short space the abstracts of all papers read in English, French and German, perhaps also in Italian, which was officially recognized at this congress as one of the congress languages. Dr. Dawson Williams (London) seconded this motion which was adopted, and London was selected as the place of the next congress, to be held in 1913.

The Otologic Congress

The Otologic Congress held its sittings on three days, and some good work was done. Of the papers read the following may be mentioned: Alexander (Vienna) read a report on "Suppurative Labyrinthitis" in which he recommended great care before deciding to operate; he does not operate unless the acute stage is over or when there is indicatio vitalis. Barany (Vienna) read a paper on "New Methods of Examination of the Hearing." Neumann (Vienna) spoke on the bacteriology and pathology of brain abscess and meningitis. Professor Denker (Erlangen) discussed the "Pathologic Changes in the Inner Ear of Deaf-Mutes." The Lenvall prize for the best work in otology was awarded to Drs. Neumann (Vienna) and Gray (Glasgow) together. Dr. Neumann's prize-winning work was on "Local Anesthesia in Otology," and the monograph "Suppurative Labyrinthitis." The next otologic congress takes place in 1912 in Boston.

Reform of Midwifery

Dr. von Haberter, who was appointed a short time ago to the post of chief inspector of health, is directing his main efforts toward a reform of the midwifery act now in force. The most important of the features of a bill prepared by his advice is the lengthening of the curriculum of the midwives from six months to two years. Of these twenty-four months, six are to be devoted to preliminary and theoretical, eighteen to practical instruction. The present regulations in many places permit any woman to call herself a midwife without having obtained any proper teaching at all. The want of midwives, especially in the poorer mountainous districts, is very keen; especially as medical help in such places is still less available, and therefore, the authorities have not been very strict. But now it is intended to put into each village inhabited by at least 200 families a midwife with full qualifications, unless there is a doctor in the place. The study of midwifery must be conducted in one of the special midwifery clinics (five proposed, of which three are already present). An examination must be passed, which will entitle the woman who has reached the required number of marks to a diploma in midwifery. Frequent surprise visits by the district officers of health are also planned, in order to see that all sanitary regulations are followed out by the midwives. Puerperal fever among the cases in the charge of one woman is to incapacitate her for a period of eight days after her last visit there, and special stress is laid on the necessity of the quarantine in the instruction given to them. Every year at least one "midwives'-day" or local congress will be held by the chief officer of health of the district, to inform them of any important facts dealing with midwifery. Meanwhile the necessity of instructing the present working midwives in modern asepsis and antisepsis, the nursing of infants, the value of breast-feeding, and the routine use of Credé's instillations of silver nitrate or another silver preparation into the eyes of the new-born is urgent, and instructors are few. The women without diplomas are, therefore, offered an opportunity to obtain at least the fundamental principles of this work through so-called *Wanderlehrer* (migrating teachers) sent out to the smaller places. After a certain time (two years are considered too short) only qualified matrons will be allowed to take up this kind of work. It is estimated that, while the costs of these reforms will not amount to more than $150,000 a year, the saving to the public will be more than treble this figure.

Pharmacology

Canadian Act Respecting Proprietary or Patent Medicines

The act passed by the Canadian government regulating the sale of proprietary or "patent medicines" requires that every manufacturer or importer of such medicines shall, before offering them for sale, procure from the Department of Inland Revenue a certificate of registration. The application for this certificate must be accompanied by a list of the medicines to be covered and also by the fee of one dollar. The following are important sections of the law:

"All proprietary or patent medicines shall be put up in packages or bottles, and every one of these, intended for sale or distribution in Canada, shall have placed on it, in conspicuous characters forming an inseparable part of the general label and wrapper, the name and number under which the medicine is registered, with the words, 'The Proprietary or Patent Medicine Act,' and also the manufacturer's name and address. . . .

"No proprietary or patent medicine shall be manufactured, imported, exposed, sold or offered for sale (a) If it contains cocain or any of its salts or preparations; (b) if it contains alcohol in excess of the amount required as a solvent or preservative, or does not contain sufficient medication to prevent its use as an alcoholic beverage; (c) if it contains any drug which is included in the schedule to this act but the name of which is not conspicuously printed on, and an inseparable part of, the label and wrapper of the bottle, box or other container: Provided that every manufacturer or importer of or agent for the sale of any medicine containing any of the drugs mentioned in the schedule may, when applying for a certificate of registration for any medicine, transmit to the minister an affidavit specifying such drug and the proportion of it contained in the mixture and dose, and the minister may thereupon grant a certificate of registration for such medicine without the printing of the name of the said drug on the label and wrapper if it appears to the minister that the proportion of the drug used is not dangerous to health.

"No person, firm or corporation shall distribute or cause or permit to be distributed from door to door, or on a public place or highway, or through the mail, any sample of a proprietary or patent medicine: Provided this section shall not prevent manufacturers or wholesale dealers distributing samples to the trade.

"No manufacturer, importer or vendor shall in any advertisement or in any other manner, assert or indicate that the certificate of registration issued by the minister passes on the merits of any proprietary or patent medicine, and no reference to such certificate, or to any other certificate or guarantee, other than by this act specially provided, shall be made in any advertisement, on any label on the package or bottle in which such medicine is contained, or in any other manner. No proprietary or patent medicine shall be imported, exposed, sold or offered for sale in Canada which bears any representations as respects certificates issued under any Canadian or foreign governments different from that allowed under this Act.

"The Governor in Council may . . . add to or remove from the schedule to this Act any poisons or potent drugs, as from time to time he deems expedient, and notice thereof shall be given in the *Canada Gazette*."

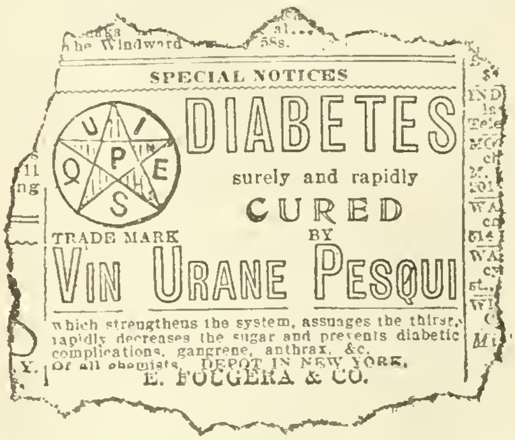
The schedule of drugs previously referred to includes the following remedies: Acetanilid and other coal-tar products; aconite and its preparations, arsenical preparations, atropin, belladonna and its preparations, cantharides, carbolic acid, chloral hydrate, chloroform, conium and compounds thereof, corrosive sublimate, cotton root, croton oil, digitalis and derivatives, ergot, essential oil of mustard, ether, hellebore, heroin, hyoscyamin and its preparations, Indian hemp, morphin and its preparations; nux vomica and derivatives; opium, its preparations and derivatives; pennyroyal, phenacetin, prussic acid, savin and preparation thereof, strychnin and its preparations, sulphonal, tansy, tartrate of antimony and veratrum. It is announced by the authorities that provision prohibiting sale of medicines containing cocain will be rigidly enforced.

A proprietary or "patent medicine" is defined in the act as follows: "'Proprietary or patent medicine' means every artificial remedy or prescription manufactured for the internal use of man, the name, composition or definition of which is not to be found in the British Pharmacopeia, the Codex Medicamentarius of France, the Pharmacopeia of the United States or any foreign pharmacopeia approved by the minister, or any formulary adopted by any properly constituted pharmaceutical association representing the Dominion of Canada, approved by the minister; or on which is not printed in a conspicuous manner, and forming an inseparable part of the label and wrapper, the true formula or list of medicinal ingredients, which must not contain cocain or any of its derivatives or preparations."

"Patent" versus "Ethical Proprietary" Medicines

To the Editor:—The enclosed clipping appears on page 11 of the *New York Herald* for Sept. 9, 1909. The ludicrousness of the paper appeals to my sense of humor. It assails so-called vivisection with a venom equaled only by its ignorance of the facts of animal experimentation, yet it submits its readers to such obviously dangerous and untrue statements as appear in the enclosed advertisement. Such inconsistency makes one distrust the self-vaunting publication in which it appears.

Harold S. Arnold, M.D., New Haven, Conn.



SPECIAL NOTICES

DIABETES

surely and rapidly

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BY

TRADE MARK

VIN URANE PESQUI

which strengthens the system, assuages the thirst, rapidly decreases the sugar and prevents diabetic complications, gangrene, anthrax, &c.

Of all chemists. DEPOT IN NEW YORK,

E. FOUGERA & CO.

Comment: The advertisement to which Dr. Arnold refers is here reproduced. It will be noticed that this particular nostrum is another of the "cures" handled by Messrs. E. Fougera & Co. Fougera & Co. was one of the firms that put themselves on record as being opposed to the work of the Council on Pharmacy and Chemistry when that body was first created. One of the preparations which this firm advertises to the public is "Santal Midy." "Cures in 48 hours," the advertisements used to read, but since The Journal called attention to the fact that promising to cure gonorrhea in two days was rather a large order, this has been modified—in American advertisements—to "relieved in 24 hours." We find in Australian newspapers, however, that "Santal Midy" still "cures in 48 hours."

Deterioration of Galenicals

Notwithstanding the general belief that drugs deteriorate readily it is true that the ordinary alcoholic preparations of alkaloid-containing drugs are fairly stable. Dr. A. R. L. Dohme (*American Druggist and Pharmaceutical Record*, July 26, 1909), has investigated the rate of deterioration for a number of galenical preparations by assays made at specified intervals. The stock was exposed to light and from it small amounts were repeatedly taken, so as to imitate the conditions prevailing in the ordinary retail drug store. Practically none of the products examined had deteriorated to any appreciable extent, while in such as had, the deterioration came well within the limit of experimental error. The exceptions to this are powdered extract of physostigma, fluidextract of coca, fluidextract of aconite root, and the tincture of aconite root, after a half-year's standing.

The deterioration in the case of tincture of aconite root was not great enough to affect its therapeutic value markedly. Strange to say tincture of coca was found not to deteriorate, in which respect it differed from the fluidextract. Contrary to general belief nitroglycerin tablets were found to be quite stable.

Correspondence

Purification of Water by Ozone

To the Editor:—An interesting editorial on the purification of water by ozone appears in The Journal, August 21. In the closing paragraph appears the following:

"To justify the introduction of any new system of water purification, even though it be one of recognized efficiency, the question of comparative cost should be presented in such a way as to convince reasonable inquirers. This has not yet been done with the ozonization process."

May I be permitted to draw your attention to the fact that in America data are available covering the comparative costs of ozonization and sand infiltration. The Murphy Cold Storage & Ice Company of Detroit have for over two years been sterilizing water by ozone, and they have found that it cost 4 cents for electric energy for 50 tons of water sterilized.

At Lindsay, Ontario, an ozone purification plant has been in operation since last October purifying the entire water supply of the town, amounting to about one million gallons a day. The entire cost of purification, including pre-filtration, is 44 cents a million gallons. The plant has proved so efficient that the town has decided to double its capacity in order that all the water entering the mains, even during the time of conflagration, may be ozonized. When this change is made the cost of operation will probably be under 44 cents a million gallons.

At Lindsay, Ontario, electricity is fairly cheap—$35 a horsepower year. Electricity, however, can be made in any part of the United States for 1 cent a K. W. hour. This includes interest charges and maintenance. The cost of ozonizing a million gallons of water, stated in electric units, is 100 K. W. hours per million gallons. These costs, which have been obtained in actual practice, are far below those of any European system of ozonization.

Concerning costs of installing a municipal water purification plant, these will naturally vary with local conditions, but, generally speaking, an ozonizing plant, including rough filters for straining out the suspended matter from the water prior to ozonization, will be about $15,000 per million gallons daily capacity.

The comparative cost, then, of ozonization and filtration may be roughly set forth as follows:

INSTALLATION COST

Slow sand filter plants, average for the United States, $30,000 per million gallons daily capacity.

Ozonization plants with pre-filters, $15,000 per million gallons daily capacity.

OPERATING COST

Average of slow sand filters in the United States, $5 per million gallons.

Average of ozonization at one cent per K. W. hour, including pre-filtration, $1.40.

In neither of these cases are interest and maintenance charged. The 40 cents added to the cost for ozonization is the cost of pre-filtration, and ordinarily this cost is less than 20 cents per million gallons.

It may interest you to know that ozonizing plants are now in process of construction at Baltimore, to have a capacity of ten million gallons a day, and at Ann Arbor, with a capacity of three million gallons a day. These plants will be in operation, the former during the present month, and the Ann Arbor plant in October. James Howard Bridge.

The Section on Pharmacology and Therapeutics

To the Editor:—We naturally expect the American Medical Association always to set the best example to the profession, and to uphold the modern and scientific conception of medicine. Yet it has now a Section bearing the antiquated, injurious and unscientific title of "Section on Pharmacology and Therapeutics." Why not drop "and Therapeutics" and term it "Section on Pharmacology" simply, as the Section on Surgery dropped "Anatomy"?

In the case of the Section on Pharmacology, there are stronger reasons for omitting "Therapeutics," as this is misleading and inaccurate.

1. Therapeutics, in medical parlance, implies something more than the administration of drugs. It includes all remedial measures used with patients—surgical, psychic and mechanical—as well as pharmacal. Yet the present title of the Section is so slip-shod and unscientific as to create the impression that there is no other therapy than pharmacotherapy.

2. The justification for all the new-fangled, non-professional systems of healing is found in this erroneous use of the term "therapeutics." All these healers want to escape the incidence of the medical registration laws by claiming that, as they do not use drugs, they do not require to be licensed to practise. And even some judges have been so ill-informed as to declare from the bench that the practise of medicine is the administration of drugs, or so-called medicine, and that those who use no drugs are not medical practitioners! Hence the correct definition of medical practise is obstructed by the perpetuation of the incorrect use of the term "therapeutics" by certain colleges and the public. This confusion of words and ideas is extremely detrimental to legitimate medical practitioners; and therefore it should not be endorsed, upheld and perpetuated by the American Medical Association.

3. There is no proper connection—and this is most important—between pharmacology and therapeutics in modern and scientific medical teaching. The logical relation of therapeutics is to internal medicine or to surgery, as the case may be, but not to materia medica. A scientific teacher holding the chair of pharmacology will not imitate the herbalists and dispensatories by telling his class that such a drug is good for this and that disease. He has nothing to do with diseases or pharmacotherapy. His business is to teach all about the drug in question and its physiologic action—its pharmacodynamics; and he should leave the student who is well informed in regard to the physiologic action of drugs to exercise his own reasoning powers in judging of the cases in which they should be selected for administration. This is the method of that most praiseworthy institution, the Council on Pharmacy and Chemistry. And, if pharmacology were taught thus, we should get rid of a whole host of useless and ineffective drugs, while the list stored in the new graduates' minds would be compact and valuable and the action of every article would be fully understood.

If the Section's name means "Section on Drug Therapeutics," it should say so. But the term "pharmacology" is description enough; for, in fact, the Section has no business to enter the field of therapy at all, if its true function be to discuss pharmacology in a scientific spirit.

W. P. Whery, M.D., Fort Wayne, Ind.

Binocular Spacial Pole

To the Editor:—I wish to announce that on September 4 I discovered the binocular spacial pole, a discovery of much importance in the study of binocular single vision and binocular rotations. In the near future I hope to report fully on the matter. G. C. Savage, Nashville, Tenn.

Use of Appendix to Splice the Ureter

To the Editor:—The article on splicing the ureter, by Dr. Harvey P. Jack in The Journal (Aug. 28, 1909, liii, 717) prompts me to report the results of some experiments of my own, carried on in the experimental laboratory of Tulane University during 1908.

In a series of experiments undertaken on dogs to find some satisfactory method to splice or graft a damaged or diseased ureter, the appendix was used in a limited number with the following results: While the transplantation and anastomosing could be easily done, infection of the kidney invariably followed in from one to three weeks and ultimately caused the loss of the animals. Various means were resorted to to clean the inside of the appendix; it was swung out of the cavity and copiously flushed, but, as was to be expected, cleansing by this method was impossible.

Some of the transplantations were done with the appendix attached to its mesentery, others with division. In these latter some of the appendices sloughed. In all cases in which leaking at points of suture did not occur or no sloughing occurred the appendix invariably became converted into a pus sac and infection of the kidney followed. Certain anatomic differences exist between the appendix of the dog and that of the human being; in the dog it is nearly the size of the small intestine. but that this would make any difference in causing the infection is doubtful. An organ more likely to succeed in being used to replace sections of the ureter is the Fallopian tube; this has been suggested by several workers in this line but as yet not demonstrated practically.

CARROLL W. ALLEN.
Clinical Instructor in Surgery, Tulane University, New Orleans.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

HYDROGEN PEROXID CONSIDERED AN ACID

To the Editor:—Under New and Nonofficial Remedies, in THE JOURNAL, Aug. 7, 1909, liii., 460, sodium peroxid is mentioned as "the sodium salt of hydrogen peroxid." From this it is evident that hydrogen peroxid is considered an acid. If so, for the sake of right and scientific nomenclature, H_2O_2 should be called "hydrogen acid" and Na_2O_2 "sodium hydrogenate" (?), but this is, of course, nonsense. Therefore it seems to me hardly possible to consider Na_2O_2 as a salt.

I must confess that I studied inorganic chemistry more than twenty years ago, but I have studied it under direction of the famous Professor Mendelejeff of St. Petersburg, who impressed on his students thorough understanding of the fundamental principles of chemistry and, as far as I can remember, he never mentioned even a possibility of such a compound as peroxid of sodium.

Therefore, I take the liberty of asking if Na_2O_2 is really a chemical compound and, if so, whether it is properly classified as a salt.

G. N. FINEGIN, M.D., Yonkers, N. Y.

ANSWER.—While hydrogen peroxid does not turn litmus paper blue, does not appear to neutralize aqueous solutions of alkaline hydroxids, nor does it liberate hydrogen when its aqueous solution is treated with zinc as will ordinary acids, it nevertheless does possess certain properties which characterize it as an acid and which justify the statement that sodium peroxid is the "salt" of hydrogen peroxid. Elaborate researches demonstrating the acidic nature of hydrogen peroxid have been made by Bredig (Ztschr. f. Elektrochem., vii, 622). Marcuse and Wolffenstein (Ber. d. deutsch. chem. Gesellsch, xxxiv, 2430) and others, have also studied the question. Alexander Smith, professor of chemistry at the University of Chicago, in his "General Chemistry for Colleges," says: "Hydrogen peroxid, in solution in water, is a feeble acid. As an acid it enters into double decomposition readily, and the peroxids are really salts in which the negative radicle is O_2''. Thus, when hydrogen peroxid is added to solutions of barium and strontium hydroxids, the hydrated peroxids appear as "crystalline precipitates." Modern chemistry prefers, instead of the terms nitric acid, sulphuric acid, hydrochloric acid and hydrosulphuric acid, the terms hydrogen nitrate, hydrogen sulphate, hydrogen chlorid and hydrogen sulphid; hence the term hydrogen peroxid is in accord with chemical nomenclature.

THE USE OF "OUGHT" AND "SHOULD"

To the Editor:—I much regret that, in my criticism (THE JOURNAL, Sept. 11, 1909, liii, 883) of the word "ought," as used by Dr. Keen, I appeared to you "somewhat hypercritical," for to be so was far from my intention.

I certainly agree with you that the derivation of a word should have some weight in determining its meaning; but, for modern literary purposes, there is no more reason why we should go back five centuries to Chaucer's time for our most approved diction than there is why we should draw on him for our spelling. In view of what you say of Dr. Harbin's criticism, I think you will agree with me that very few words exist that have exactly the same practical application; for it must be remembered that every word has a life-history, and that its meaning, in virtue of the law of utility and of definite expression, and not for the sake of convenience, as you seem to think, has been so modified in many instances, as by this time to bear little or no resemblance to what it originally was. If this were not so, we should actually be facing the uncomfortable dilemma, which you suggest, of having on our hands two such frequently used words as "should" and "ought" with the very same meaning.

It strikes me that if every public writer would strive to follow the plain advice which is said to have been given by the polished literary artist, Flaubert, to Maupassant, namely, that "whatever may be the thing one wishes to say, there is but one word for expressing it, only one verb to animate it, and only one adjective to qualify it," there would be less indiscriminate use of words like "ought" and "should," and fewer offenses against good style.

THOMAS J. MAYS, Philadelphia

The Public Service

Medical Department of the Army

Changes for the week ended Sept. 18, 1909:

Freeman, C. E., capt., ordered to accompany troops from San Francisco, to Fort Niagara, N. Y.

Hollester, R. H., cont. surgeon, ordered to Fort Omaha, Nebr., for duty.

Morse, A. W., major., now on leave of absence, ordered to accompany 29th Inf., from San Francisco, to Fort Jay, N. Y., on completion of this duty to resume leave status.

Ewing, C. B., Kendall, W. P., Banister, W. B., Bradley, A. E., Willcox, Chas., Frick, E. B., Keefer, F. R., and Raymond, T. U., majors, ordered to report on Oct. 11, 1909, to Lieut. Col. H. P. Birmingham, president examing board, Army Medical Museum Bldg., Washington, D. C., for examination to determine their fitness for promotion.

Jones, E. C., M. R. C., granted leave of absence for 10 days.

Cook, G. W., M. R. C., granted leave of absence for 10 days

Marvin, M. F., M. R. C., relieved from duty at Fort Mansfield, R. I., and ordered to proceed to his home and report to The Adjutant General of the Army for further orders.

Slater, E. F., M. R. C., relieved from duty at Fort Adams, R. I., and ordered to Fort Mansfield, R. I., for duty.

Shillock, Paul, major., having been found physically incapacitated for active duty, is relieved from duty at Fort Sheridan, Ill., and will proceed to his home to await retirement.

Wall, F. M., M. R. C., relieved from duty at Fort Oglethorpe, Ga., and ordered to Fort Michie, N. Y., for duty.

Brechemin, Louis, Jr., capt., granted leave of absence for 1 months, on arrival in the United States.

Stuckey, H. W., M. R. C., ordered to Fort Hamilton, N. Y., for duty; granted leave of absence for 2 months.

Purviance, W. E., major, Bosley, J. R., capt., and Waring, J. B. H., lieut., will proceed to San Francisco, in time to take the transport sailing for the Philippine Islands about Nov. 5, 1909.

LaGarde, L. A., lieut. col., detailed as member of examining board at the Army Medical Museum Building, Washington, D. C., vice Crosby, W. D., lieut. col., relieved from duty on this board.

Waring, J. B. H., lieut., will accompany troops en route from transport *Thomas*, to Fort Porter, N. Y., and return to his proper station; on completion of this duty granted leave of absence for 10 days.

Duncan, L. C., capt., granted leave of absence for 1 month.

Freeman, C. E., lieut., will accompany troops en route from the transport *Thomas*, to Fort Porter, N. Y., and return to his proper station; granted leave of absence for 20 days.

Bowman, M. D., M. R. C., will report to the C. O., Fort Miley, Cal., for temporary duty during absence of Lieut. Freeman.

Truby, A. E., major, will accompany insane patients from San Francisco, to Washington, D. C., and report to the Adjutant General for orders to return.

Suggs, Frank, M. R. C., ordered to Fort Hamilton, N. Y., for duty.

Freeman, Paul, capt., granted leave of absence for 4 months.

Jenkins, F. E., M. R. C., granted leave of absence for 3 months, with permission to go beyond the sea.

Gentry, E. R., Edwards, G. M., Heflebower, R. C., Welles, E. M., Jr., Thearle, W. H., McAfee, L. B., Michie, H. C., Jr., Holmberg, C. E., Schlanser, A. E., Beeuwkes, H., Carr, W. B., Aydelotte, J. T., Allen, W. H., Reynolds, Royal, Kremers, E. D., Weed, M. D., Darby, T. E., Ferenbaugh, T. L., Lamb, W. P., Davis, A. O., Klotz, S. P., Cooper, W. E., Davis, W. C., DeVoe, R. G., Woodson, T. D., Sheep, W. L., Gillespie, J. M., Beery, H. R., Cooper, A. T., Shugerman, H. P., Haverkampf, C. W., Kramer, Floyd, Hill, F. R., Casper, Joseph, M. R. C., ordered to report to Col. Valery Havard, president, Army Medical School, on Oct. 1, 1909, for a course of instruction at that school.

Geddings, E. F., major, granted leave of absence for 4 months, about Oct. 1, 1909.

Raymond, H. I., lieut. col., granted leave of absence for 1 month, about Sept. 16, 1909.

Laflamme, F. L. K., dental surgeon, will proceed to Fort Wayne, Mich., Fort Brady, Mich., and Fort Benjamin Harrison, Ind.

Medical Corps of the Navy

Changes for the week ended Sept. 18, 1909:

Robbins, I. W., acting asst.-surgeon, detached from the Naval Hospital, Mare Island, Cal., September 25, and ordered to instructions at the Naval Medical School, Washington, D. C.

Rose, M. E., asst.-surgeon, detached from the Naval Hospital, Norfolk, Va., and ordered to the *Celtic*.

Thompson, F. W., acting asst.-surgeon, detached from the *Celtic*, and ordered to instruction at the Naval Medical School, Washington, D. C.

Payne, J. H., P. A. surgeon, detached from the Naval Recruiting Station, Hartford, Conn., and ordered to the Naval Hospital, Navy Yard, New York.

Kuder, W. S., asst.-surgeon, unexpired portion of sick leave revoked, ordered to the Naval Recruiting Station, Hartford, Conn.

Stuart, M. A., asst.-surgeon, detached from duty with the Marine Detachment, Camp Elliott, Canal Zone, Panama, and ordered to duty at Ancon, Canal Zone.

Ziegler, J. G., asst.-surgeon, detached from duty at the Naval Hospital, Navy Yard, Pensacola, Fla., and ordered to duty with the Marine Detachment, Camp Elliott, Canal Zone, Panama.

Public Health and Marine-Hospital Service

List of changes for the seven days ended September 15, 1909

Glennan, A. H., asst. surgeon-general, detailed to represent the Service at the meeting of the Association of Military Surgeons, to be held in Washington, D. C., October 5-8, 1909

Kerr, J. W., asst. surgeon-general, directed to proceed to Chicago and Springfield, Ill., on special temporary duty.

Carter, H. R., surgeon, Bureau order of July 20, 1909, revoked Directed to proceed to Louisville, Ky., and assume command of the Service.

Banks, Charles E., surgeon, granted three days' leave of absence from September 14, 1909.

McIntosh, W. P., surgeon, leave of absence granted August 11, 1909, for 21 days from September 1, 1909, amended to read 10 days from September 1, 1909, and 11 days from September 27, 1909.

Wertenbaker, C. P., surgeon, detailed to represent the Service at the meeting of the Association of Military Surgeons, to be held in Washington, D. C., October 5-8, 1909.

Young, G. B., surgeon, detailed to represent the Service at the meeting of the Association of Military Surgeons, to be held in Washington, D. C., October 5-8, 1909.

Lumsden, L. L., P. A. surgeon, detailed to represent the Service at the annual meeting of the Medical Society of the State of Virginia, to be held in Roanoke, Va., October 5-8, 1909.

Fricks, L. D., P. A. surgeon, granted three months' leave of absence from September 24, 1909.

Creel, R. H., P. A. surgeon, on the arrival of Surgeon H. R. Carter, relieved from duty at Louisville, Ky., and directed to proceed to Philadelphia and assume temporary charge.

Robertson, H. McG., P. A. surgeon, granted two months' leave of absence from October 1, 1909.

Sweet, E. A., P. A. surgeon, granted 21 days' leave of absence from September 9, 1909.

Ridlon, Joseph R., P. A. surgeon, granted six days' leave of absence from September 11, 1909.

Elfers, J. C., acting asst.-surgeon, granted twenty days' leave of absence from September 11, 1909.

Hamilton, H. J., acting asst.-surgeon, granted three days' leave of absence from September 14, 1909.

Hough, J. S., acting asst.-surgeon, leave of absence, granted April 1, 1909, amended to read 3 months and 25 days from April 1, 1909.

Nute, A. J., acting asst.-surgeon, granted 25 days' leave of absence from September 10, 1909.

Tappan, J. W., acting asst.-surgeon, leave of absence for 30 days from August 2, 1909, amended to read 26 days from August 2, 1909.

Tarbell, B. C., acting asst.-surgeon, leave of absence granted July 9, 1909, amended to read 30 days from August 1, 1909, with pay, and 13 days from September 1, 1909, without pay.

Stevenson, J. W., acting asst.-surgeon, leave of absence for 30 days from August 29, 1909, without pay, revoked.

Villoldo, P., acting asst.-surgeon, granted 21 days' leave of absence from September 20, 1909.

Health Reports

The following have been reported to the Public Health and Marine-Hospital Service, during the week ended Sept. 17, 1909:

SMALLPOX—UNITED STATES

Indiana: Fort Wayne, Aug. 21-Sept. 4, 6 cases.
Kentucky: Lexington, Aug. 7-21, 2 cases.
Minnesota: Duluth, Aug. 20-27, 1 case.
Ohio: Dayton, Aug. 28-Sept. 4, 2 cases, 1 death.
Oregon: (8 counties), June 1-30, 27 cases.

SMALLPOX—FOREIGN

Arabia: Aden, Aug. 2-9, 1 death.
Brazil: Bahia, July 16-Aug. 6, 15 cases, 6 deaths; Rio de Janeiro, July 11-24, 9 cases, 7 deaths, July 31-Aug. 8, 8 cases, 1 death.
Chile: Valparaiso, Aug. 7-14, present.
Egypt: Cairo, July 15-22, 3 cases.
France, Paris, Aug. 3-9, 1 case.
Germany: Konigsburg District, Aug. 7-14, 3 cases.
India: Bombay, July 20-27, 5 deaths, Aug. 3-10, 4 deaths; Madras, July 17-23, 1 death, July 31-Aug. 6, 1 death; Rangoon, July 24-31, 1 death.
Italy: General, Aug. 8-19, 26 cases; Naples, Aug. 15-22, 5 cases, 2 deaths.
Mexico: Guadalajara, Aug. 12-19, 1 death; Mexico, July 10-17, 8 deaths.
Persia: Meshed-i-Ser, June 1-30, epidemic; Khorassan, epidemic; Kurdistan, epidemic.
Portugal: Lisbon, Aug. 7-14, 7 cases.
Russia: Moscow, July 24-Aug. 7, 32 cases, 18 deaths; Riga, July 24-31, 5 cases, Aug. 14-21, 1 case; St. Petersburg, July 24-31, 6 cases, 8 deaths.
Spain: Barcelona, Aug. 14-21, 6 deaths; Valencia, 12 cases.
Turkey: Smyrna, July 1-Aug. 6, 36 deaths.

YELLOW FEVER

Barbados: St. Joseph, Parish, Aug. 9-14, 1 case, 1 death.
Brazil: Bahia, July 23-Aug. 6, 3 cases, 2 deaths; Manaos, July 24-Aug. 7, 2 deaths; Para, July 31-Aug. 7, 2 cases, 2 deaths.
Ecuador: Guayaquil, July 23-Aug. 14, 8 deaths.
Mexico: Merida, Aug. 21-28, 4 cases, 2 deaths.

CHOLERA—INSULAR

Philippine Islands: Provinces, July 18-24, 295 cases, 192 deaths.

CHOLERA

China: Amoy, July 24-31, 20 deaths.
India: Bombay, July 20-27, 25 deaths, Aug. 3-10, 39 deaths; Calcutta, July 24-31, 28 deaths; Rangoon, 5 deaths.
Indo-China: Saigon, July 17-24, 3 cases, 3 deaths.
Japan: Kobe, Sept. 13, present in vicinity, July 31, 1 case.
Netherlands: Breda, Aug. 31, present; Dordrecht, present; Gorinchem, present; Rotterdam, Aug. 20-30, 21 cases, 8 deaths; Uithorn, Aug. 31, present.
Sumatra: Djambi, July 18-24, present.

PLAGUE

Chile: Iquique, Aug. 10, 6 cases, in lazaretto.
China: Amoy, July 24-31, 52 deaths.
Ecuador: Guayaquil, July 24-Aug. 14, 9 deaths.
Formosa: July 17-24, 3 deaths.
India: General, July 24-31, 926 cases, 709 deaths; Bombay, July 20-27, 15 deaths, Aug. 3-10, 27 deaths; Calcutta, July 24-31, 18 deaths.
Indo-China: Saigon, July 17-31, 37 cases, 37 deaths.
Peru: General, Aug. 14-21, 19 cases, 9 deaths.

Society Proceedings

COMING MEETINGS

Amer. Academy of Ophth. and Oto-Laryngology, New York, Oct. 4-6.
Amer. Association of Railway Surgeons, Chicago, October 20-22.
Assn. of Military Surgeons of U. S., Washington, D. C., October 5-8.
Delaware State Medical Association, Dover, October 8.
Indiana State Medical Association, Terre Haute, October 7-8.
Kentucky State Medical Association, Louisville, October 19-21.
Minnesota State Medical Association, Winona, October 13-14.
Mississippi Valley Medical Association, St. Louis, October 12-14.
Pennsylvania, Med. Soc. of State of, Philadelphia, Sept. 27-Oct. 1.
South Dakota State Medical Association, Aberdeen, October 6-8.
Vermont State Medical Assn., White River Junction, Oct. 14-15.
Virginia, Medical Society of, Roanoke, October 5-8.
West Virginia State Medical Association, Elkins, October 6-8.

SIXTEENTH INTERNATIONAL MEDICAL CONGRESS

Held at Budapest, Aug. 29-Sept. 4, 1909

(Continued from page 966)

The Treatment of Contracted Pelves

Dr. Veit, Halle, Saxony, urged that operative interference should only be undertaken when absolutely necessary, and that in all cases perforation of the living child must be avoided. In the highest grades of pelvic contraction Cesarean section should be performed. In pelves with a moderate degree of contraction, when danger existed to the life of the mother and the child was dead, perforation was the last thing to do. In similar cases with a living child forceps should be tried with care and only for a short time, and if they failed then Cesarean section should be resorted to. Hebosteotomy should only be done when fever and signs of septic infection were present. In cases in which the life of the child was threatened version should be attempted, and if this failed forceps should be applied and, as a last resort, Cesarean section. Whenever possible no operative interference at all should be carried out, but any one of these operations might be necessary in certain cases.

Myoma and Fertility

Dr. A. Martin, Berlin, said that as a result of the great number of observed cases of pregnancy in myomatous uteri it was no longer possible to maintain the old opinion that myomata prevented intrauterine development of the ovum. Modern views as to the causes of sterility were also incompatible with this doctrine. The abundant hyperplasia of the ovaries in myoma was probably responsible, in the first place, for the remarkable fact that elderly women suffering from myoma and marrying late in life soon became pregnant, and, in the second place, for the delay in the occurrence of the climacteric in myomatous subjects. The observed cases of married women who conceived after removal of myomata, although they had previously been barren, were not sufficiently numerous to decide the question; there were, moreover, many associated conditions which could not be definitely ascertained.

Rapid Dilatation of the Cervix

Dr. G. Winter, Königsberg, Prussia: The ideal method of dilating the cervix must be one which involves no danger of excessive bleeding, of unavoidable lacerations of the cervix, or of the risk of infection, which will permit of the passage of a full-term child and of complete restoration of the functions of the cervix. Two methods are available—stretching or cutting of the tissues. The former can be carried out manually by means of a hydrostatic dilator, by a dilator such as that of Bossi, or by the body of the child. Manual dilatation possesses the advantage of requiring no special apparatus, but there is danger of slight tears of the cervix and of septic infection. Dilatation with a hydrostatic dilator guarantees complete dilatation and can be carried out aseptically; it possesses the disadvantage, however, of the likelihood of reclosure of the canal from elastic recoil. Bossi's dilator is a certain method and without danger when the cervix is unfolded, and entails but slight danger of infection. The risk of bad tears is considerable, however, and interference with the third stage of labor is not rare. Dilatation by means of the child's body after version is a simple and certain method, but usually entails death of the child. Of the cutting operations, superficial incisions are of limited practicability. Vaginal Cesarean section is the easiest of all the methods of dilatation. Dührssen's method is best; with this procedure injuries of the neighboring structures are not infrequent and the maternal mortality is about 1 per cent. The child is usually delivered alive. Vaginal Cesarean section when practised early in eclampsia gives excellent results; in 20 cases the fits at once ceased after performance of the operation. In accidental hemorrhage, if immediate delivery is necessary, vaginal Cesarean section gives good results. In placenta prævia all methods of rapid dilatation are best avoided because of the risk of rupture of the cervix. In septic infection any method likely to produce tears of the cervix should not be practised. In cases in which death of the child is threatened only those operations should be performed which entail no risk to the life of the mother. Of general conditions, eclampsia, heart failure, impending suffocation from acute lung affections, and at times tumors of the genitalia, stenosis of the cervix, and impending death of the mother, are all indications for performance of vaginal Cesarean section, which is by far the best of the various methods available for rapid dilatation of the cervix, and for which eclampsia is the strongest and most important indication.

Recent Researches on the Hygienic Importance of Alcohol

Prof. T. Laitinen, Helsingfors, Finland, summarized his conclusions under the four following heads: 1. The importance of alcohol as an article of food is rendered very questionable by recent researches. 2. These researches prove that alcohol diminishes the natural power of the tissues to resist injury, promotes degeneration, and has a disastrous effect on future generations. 3. The questions of relation of alcoholic liquor to crime and of the manufacture and sale of such beverages deserve the serious consideration of the legislature. 4. It is the duty of medical men to direct more attention than formerly to the alcohol question, and by careful study to decide whether recent researches are justified or not in regarding alcohol and alcoholic beverages as a poison and one of the principal causes of degeneration in the human family; they ought also to consider whether it would not be advisable in medical practice, and especially in hospitals, either to banish it altogether or at least to prescribe it with the same care as other poisonous drugs. In this matter the attitude taken up by medical men as representatives of public hygiene was of quite exceptional importance, and afforded an illustration of the passage in Homer, quoted by Bornstein, to the effect that one medical man was of more consequence than a number of other men.

The Sanitary Uses of Ozone

Dr. Gilbert J. Fowler, Manchester, England, discussed the application of ozone to the purification of water and air in the light of the most recent developments. The purification of water he considered in reference to: organic matter in solution and suspension; color, smell, taste; organisms—e.g., algæ, infusoria, bacteria; metallic impurities. He concluded that ozone treatment of water was to be recommended (a) when adequate sand filters were costly to erect and difficult of supervision; (b) when the amount of organic matter in solution in the water was limited; (c) when the pollution was mainly bacterial and of an intermittent character; and (d) when electrical power could be cheaply obtained. It must be understood, however, that some preliminary treatment for the removal of suspended matter, whether consisting of ordinary mud or algæ and infusoria, should always be provided. He referred to successful experiments on the purification by ozone of air polluted by human respiration, and to various miscellaneous applications. Finally, he said, a stage had now been reached when the use of ozone for sanitary purposes deserved the careful attention of those engaged in public health problems.

The Chronic Form of Pancreatitis

Mr. Mayo Robson, London, England, directed attention to chronic pancreatitis as a clinical entity, apart from gallstone trouble, and he also described how frequently inflammatory enlargement of the pancreas accompanies cholelithiasis, especially if the concretions are in the common duct. He pointed out that chronic pancreatitis may persist long after the original cause has disappeared and may simulate cancer of the head of the pancreas, and so terminate fatally, the impression being that the condition is incurable, when as a matter of fact suitable surgical treatment is capable of curing it. His observations were based on a large series of cases in which he had operated, the first operation having been performed by him in June, 1890; this patient was in good health 14 years later, a second in 1891, and a third in 1892. In the latter case death occurred two days after operation and a microscopic examination of the pancreas showed the case to be one of interstitial pancreatitis. In 1895, he operated on two patients who were in good health several years later, and in 1896 on another who was well some time subsequently. In this year (1896), Riedel published a paper on inflammatory enlargement of the head of the pancreas in which he described two cases of pancreatitis (in the first of which operation was done in 1893) associated with malignant disease. Another paper appeared in the same year by the same author on cases caused by gall-stones. Mr. Mayo Robson described the symptoms, the pathologic condition, the causes and the treatment of chronic pancreatitis and showed that the anatomic variations in the relations of the common bile duct to the pancreas and in the termination of the ducts had an important bearing on the etiology of the condition. He urged the importance of preventive treatment such as the removal of gallstones before they had produced complications, and the treatment of duodenal ulceration by gastroenterostomy. If, after a fair trial of general treatment, not too long continued, the symptoms persisted, and the signs of failure in pancreatic digestion and metabolism were manifesting themselves, the question of surgical treatment, he said, ought to be seriously considered, especially when the disease was associated with jaundice. Rational treatment should aim at the cause, whether that was gall-stones, pancreatic calculi, duodenal catarrh, duodenal ulcer, alcoholism, or syphilis. Even in the absence of obvious removable causes he advocated efficient drainage of the infected bile and pancreatic ducts, either by cholecystotomy or cholecystenterostomy, preferably the latter. His experience had taught him that if the cause can be removed at an early stage an absolute cure is possible; and though complete restoration of the damaged gland in more advanced cases cannot always be promised, yet an arrest of the morbid process may be looked for, and the remaining portion of the pancreas will be able to carry on the metabolic, and, even if completely, the digestive functions of the gland.

Arthrodesis

Mr. R. Jones, Liverpool, England: The operation should never be performed on children under 8 years, not until all deformity has been corrected by wrench and tenotomy. It must not be performed if any hope exists of muscular recovery. It should be planned so as to avoid injury of the epiphysis and so that the bones lie in good apposition. Splints should be worn until consolidation is complete.

(To be continued)

INTERNATIONAL CONFERENCE ON LEPROSY

Held in Bergen, Norway, August 16-19, 1909

(From Our Special Correspondent)

The conference has been a great success, and it will be registered as one of the greatest efforts of medical science to stamp out a scourge which for centuries has afflicted humanity.

Description of Bergen

No better place for such an interesting meeting could have been selected than Bergen, a beautiful city, which is considered as a shining pearl which has risen from the sea. From all sides the city gazes out to sea from the mountain sides, from the headland and far in from the sheltered bays. Seven hills are in the background surrounding the city wall and covered with pines and mountain ash. Bergen is a city of a little over

80,000, and has enormous warehouses. Steamships leave every day in different directions carrying large quantities of merchandise, fish, hides, etc. The inhabitants are so exceedingly kind and courteous that every foreigner must admire their high degree of refinement.

Meeting Place

The congress met in the magnificent building, "*Den gode Hensigt*." Everything possible was done for the comfort of the members of the conference. The bureau of registration, post-office and information department were in one large room. The hall, a spacious and magnificent one, with a stage and pulpit for speakers, was magnificently decorated with palms and the flags of every nation represented to the conference. A gallery was reserved for ladies and guests where they could hear the reading of the papers and the discussion.

Reason for Selecting Bergen as Place of Meeting

Bergen was selected as the seat of the conference because the city has done much in the investigation of leprosy to deserve this distinction. In the thirteenth century in Europe were many hospitals for leprosy, which were supported by the churches and managed by charitable monks; such a hospital was known as the "House of Lazarus."

History of Leprosy in Norway

Leprosy was introduced in Norway, very likely, by the Vikings in their peregrinations, coming back from the coasts of Ireland, England, Iceland. At any rate, in the year 1000 leprosy is mentioned in the laws of Norway, which exempted leprous people from doing service in war. The first hospital for the disease in Norway was built in Bergen, in the thirteenth century. It was called the Hospital of St. Katherina; later it was changed to a general hospital. In 1410 was founded St. Jorgen's Hospital for Leprosy, which in 1702 burned down and in the same year was rebuilt as it is at the present time. Small hospitals for leprosy were established in the eastern parts of the country; the more important being those of Trondhjem, Bergen and Molde. The disease recently has decreased considerably in Norway and most of these hospitals have been discontinued or have been changed to general hospitals. Originally these hospitals were a matter of charity. There was no knowledge of the disease and no effort for a rational treatment. Scientific investigations began only in the nineteenth century. The first name to be mentioned is that of D. C. Danielsen and C. W. Boek, who in 1847, published a book on leprosy, which became of the greatest importance and opened a new era in the history of medicine. The theories advanced in this book have become the foundation of the treatment and of the prophylaxis of contagious diseases. Although the two-mentioned authors did not know the micro-organism, which is the cause of leprosy, yet they opened the way for the explanation of the essence of this disease. It was but natural that the scientific work was continued by another man from Bergen, G. Armauer Hansen, who in 1872 discovered the *Bacillus lepræ*, giving to the world the true cause and the treatment of the disease.

Opening of the Congress

Monday morning, August 16, the congress was formally opened by the King of Norway, who made a brief address in French.

President's Address

Dr. G. A. Hansen referred to the ravages of leprosy in the middle ages, and to the present condition as it is found to-day:

The first conference on leprosy was called in 1897 on account of the dreaded scourge making its way into Germany from Russia. From that time we have still to know how far the disease has extended and how dangerous is yet its spreading. Such an old and deep-rooted disease that develops in such an obscure manner cannot be stamped out in one day. The conference has before it a work, which extends over the history of humanity. Norway has invited scientists to attend this conference for several reasons. In the first place, Norway, together with some other countries, has the doubtful honor of still having leprosy in its hospitals, but this has been the cause of careful and scientific investigations of the disease by Danielsen and Boek, and on account of the studies of these two scientists, Norway has taken decided public measures against the disease. The entire study and development of these prophylactic measures have been continued until we have obtained most satisfactory results. We are glad for that which we have contributed for this international work of combating leprosy. In spite of all this diligent study, there are yet many unsolved problems opened for discussion. Many of these points of disagreement will be treated here, as, for instance, the mode of dissemination of the disease, hereditary transmission, etc. Many obscure points are connected with the symptomatology: For instance, we do not yet know the first symptoms of the disease; the relation of leprosy to syringomyelia, etc. The result of treatment is a matter of the greatest importance.

The Reports of Delegates

The delegates representing the various nations were represented by Professor Kirchner, delegate from Germany.

The following-named countries sent official delegates: Argentine Republic, Belgium, Bulgaria, China, Cuba, Denmark, Great Britain, France, Holland, Italy, Japan, Portugal, Russia, Spain, Sweden, Germany, Egypt, Austria-Hungary and the United States of America. Besides these, there were many representatives of institutions of learning and others who attended in a private capacity.

Following the opening of the conference, certain official delegates presented their reports on the status of leprosy and the measures adopted against it in the countries they represented. Such reports were made from the following countries: Germany, France, Russia, Austria-Hungary, Italy, Japan, Belgium, United States of America and Argentine Republic.

Dr. V. Petersen, St. Petersburg, spoke of the isolation leprosy colony established by the Russian government. Since the establishment of this colony, the cases of leprosy in Russia have somewhat diminished. Private establishments cannot fight this disease successfully and it is the duty of the government to stamp out this scourge. The leprosarium has to be a true colony where the lepers can find occupation and at the same time they must be treated. Special care has to be given to the children of lepers, who have to be taken in a special institution, separated from the colony.

Dr. Kobler, Sarayevo, Bosnia, spoke of the condition of the leper in Bosnia and Herzegovina; since 1897 the disease has constantly diminished, so much so, that now entire districts which used to be infected with lepers are entirely free. This he attributed to the enforced hygienical rules, to the increased instruction of these populations, to the bettered sanitary conditions and to the better class of physicians who are now practising in those regions.

Dr. Bordoni Uffreduzi of Italy spoke of the conditions of the leper in Italy; Professor Babes of Bucharest spoke of the actual condition of the leper in Roumania; Dohi of Tokyo gave a summary of conditions in Japan; Dubois-Havenith of Brussels told of leprosy in the Belgian Congo, and Sommer of Buenos Aires spoke for Argentina.

Dr. Brinckerhoff of U. S. Public Health and Marine-Hospital Service spoke of the status of leprosy in the United States and its dependencies and the measures now being taken by the government for the study and prevention of the disease.

Dr. Raynaud of Algeria referred to the conditions in Algeria, where there are now 109 cases of leprosy—39 natives and 70 Europeans, 62 being Spaniards from the provinces of Alicante and Valencia. He found leprosy very rare among the Arabs, but the greatest danger is from foreign importation. As a consequence, they have adopted the following rules: centralization of all information concerning lepers, sanitary surveillance of them and frequent disinfection. Lepers are not allowed to land in the country, and when discovered are sent back to the place from which they came. The lepers of the country have to be confined in hospitals at the expense of the state. Lepers who are apparently well are not allowed to be milkmen, bakers, grocers, etc.

(*To be continued*)

MICHIGAN STATE MEDICAL SOCIETY

Forty-Fourth Annual Meeting, held at Kalamazoo, Sept. 15-16, 1909

The President, Dr. A. I. Lawbaugh, Calumet, in the chair.

Addresses of Welcome

Mr. Fitzgerald welcomed the society on behalf of the city, and Dr. A. I. Noble, superintendent of the Michigan Asylum, spoke on behalf of the medical profession.

Resolutions of Confidence in Dr. Cook

Resolutions were adopted unanimously extending to Dr. Frederick A. Cook the heartiest congratulations of the society on his dignified bearing in a trying situation and expressing confidence that Dr. Cook had attained the much-coveted goal, and believing that additional luster and honor would come to him as the details of his tremendous achievement shall be better made known to the public.

Officers Elected

The following officers were elected for the ensuing year: President, Dr. J. H. Carstens, Detroit; first vice-president, Dr. V. Tupper, Bay City; second vice-president, Dr. E. H. Webster, Sault Ste. Marie; third vice-president, Dr. J. F. Breakey, Ann Arbor; fourth vice-president, Dr. E. M. Eccles, Blissfield; secretary, B. R. Schenck, Detroit (reelected); treasurer, Dr. W. S. Anderson, Detroit. Bay City was selected as the place for holding the next annual meeting.

President's Address: The Physician, His Duties and Relations to the Profession and the Public

Dr. A. I. Lawbaugh, Calumet, said in part:

With the passing of the ages there developed the physician, the man set apart for the healing and cure of the ills of the flesh, devoting his life to the battle against disease, either in the treatment of the sick individual or in the combating of epidemics. He goes further than this. He is not satisfied merely with fighting existent disease in the patient or in the community; he looks to the prevention of future ills by outlining broad plans for the conservation of human life and energy, by educating and inspiring the public to the enactment of pure food laws, the protection of water supplies, the extermination of parasites and disease-bearing insects, the conquest of the tropics, the regulation of child labor, the protection of sex relations, the fight against tuberculosis and the venereal diseases, and the enforcement of general hygienic measures.

The modern physician must know life in all its phases; he must have the knowledge of the main springs of human action. He cannot content himself with a knowledge of anatomy, a little pathology, more symptomatology and still more materia medica and surgery. To fulfill his function, to be of best use to the community, he must possess a knowledge of all things that may benefit the community, aside from the mere matter of treating sick individuals. He must lead men to right living, because it is the way to long life and health. He must have the knowledge of human nature as revealed in history and the world's great literature. He must know psychology, sociology and political economy and he must be a past-master in the province of hygiene and sanitation. He must be able to understand the spiritual requirements of his clients, and in this way to offset their inclination to turn to false gods, such as Christian science, the Emmanuel movement, and other forms of so-called mind cure.

For medical men to be of the greatest value, not only to the profession, but to the community at large, there must be organization and cooperation as manifested in organization cannot be too strongly emphasized. The first and chief essential in the organization of a medical society is the laying of the cornerstone of unity and friendship. In the great movements affecting the nation as a whole, the physicians may find a proper field of action. Already, through the united stand and efforts of the profession, as exemplified in the acts of the American Medical Association, much useful and judicious legislation has been put in force by both federal and state legislative bodies. The physician has come also to be a maker of laws. In all matters concerning the physical health of the nation, his expert knowledge and specialized training becomes necessary to the proper and intelligent framing of health laws and their enforcement. In municipal affairs, the physician must also take his part as a citizen on whom certain peculiar responsibility rests. The public must be taught the value of hospitals in the restriction of disease. The conquest of disease depends on the education of the public, and the most important question of the day is that concerning the best method of inculcating such education; aside from the instruction of children in the public schools, the press is beyond doubt an invaluable avenue of education through which the lay public may be reached.

Stomach Lavage

Dr. Charles D. Aaron, Detroit: Lavage of the stomach seems to be the best means for modifying and counteracting functional changes; but only when it is learned that the mechanical function plays the principal rôle in digestion, can the indications for irrigation be more precisely determined. Experience has taught the great usefulness of lavage in most cases of intoxication and autointoxication. It is of benefit in the vomiting of patients suffering from uremia and eclampsia and in urinary intoxications generally. I have used the stomach tube for diagnostic purposes in old people without feeling uneasy about the theoretical contraindication enumerated with much detail in the text-books; but in each case I have given due weight to the question of whether or not the procedure was one of absolute necessity. Autolavage is a form of stomach irrigation, which has been called physiologic, in order to distinguish it from the kind spoken of; for here the use of the stomach tube is not necessary. It is sufficient that the patient drink from four to eight ounces of the irrigation fluid and then lie down on his abdomen, supported on a somewhat hard resisting surface across the bed, or on the floor. In this position let him breathe as deeply as possible. From fifteen to twenty deep respirations are sufficient to drive the contents of the stomach through the pylorus. This procedure may be repeated as often as necessary. Autolavage may be applied two or three hours after a light breakfast, four or five hours after the midday meal or evening meal, and sometimes also in the morning before breakfast. In this way the stomach will be effectively cleansed after each period of digestive work.

DISCUSSION

Dr. E. L. Eggleston, Battle Creek: I think in the experience of all of us there is a time when it is easier to use a stomach tube than to study the case, make a proper diagnosis, and outline the proper system of therapeutics. A few years ago most of my patients with gastric disorders needed lavage frequently. To-day I seldom use it except to aid in making a diagnosis. There are a number of conditions in which it is of value, but its indiscriminate use is unfortunate. A certain number of patients will come to us in which there is a question as to whether the condition is surgical or not. I have seen a number of patients in whom there has been an ulcer at the pylorus which had healed, left a cicatrix which mechanically interfered with the emptying of the stomach, and those individuals have been carried along for months on lavage, gradually losing weight, being so reduced at the time of operation that it was impossible for them to recover after operation. This is unfortunate. There are a number of conditions in which there is an atonic condition of the stomach secondary to the general disorder, but in which gastric lavage, while it may not be curative in itself, is certainly a necessary proceeding. I have not been successful with autolavage, because in a certain number of neurotic individuals I have been afraid to institute it. I have found that a great many such patients have practised some sort of autolavage greatly to their detriment, as they had become so fearful of continued distress after each meal, that they would empty the stomach, in this way greatly interfering with nutrition. A patient with an atonic condition of the stomach, who is not able to eat more than two meals a day, at bedtime will have several ounces of undigested material in the stomach. Such a patient will have a restless night. During the night the changes which have taken place in the food have been such that a certain amount of poisoning results. The patient's rest has been greatly disturbed, and in the morning there is an unsatisfactory condition. In these cases I have always made it a rule to relieve the stomach of its contents previous to the patient retiring; this is more beneficial than to leave the material in the stomach until morning. Another point which has guided me somewhat in the use of lavage is nausea. This paper has strengthened my belief in the fact that the lavage tube has been used too frequently, and, aside from its use as a means of diagnosis, I believe it will be used less frequently in the future.

Dr. Frank Smithies, Ann Arbor: I cannot agree with Dr. Aaron as to the quantity of material used for the lavage. From a somewhat extensive experience in washing out stomachs, I have come to the conclusion that large quantities of water may be used, if such quantities of water are regulated at the time of entrance into the stomach. This is done by means of the common-glass irrigator, marked off in liters, half-liters or quarts, as the case may be. Large quantities are frequently necessary, provided they are removed, and the stomach is not tested to its limit. It has been a common experience of people who have washed their stomachs that small quantities of liquid introduced into the stomach frequently empty the stomach only partially, as in the case of hour-glass stomach. It is only at the end of lavage, and with large quantities of solution, that it is possible to wash out the material from the second chamber, as it were, and send the patient home with a comparatively clean stomach. Again, in cases of marked dilatation, with retention, whether the retention is due to a new growth or to a stricture of the pylorus, by the use of small quantities of lavage liquid one only washes the top off. The most important part of lavage is the end lavage, because frequently retained contents, such as mucus, are obtained, and frequently tissue bits and things which are important bacteriologically and otherwise. The whole question of gastric lavage as a therapeutic measure rests on diagnosis. I have not found autolavage successful.

Dr. B. A. Shepard, Plainwell: I want to emphasize the point brought out with regard to the use of the stomach pump in neurotic cases. It is sometimes amusing to see the mental effect of leaving a stomach pump in the room. I have known of several patients who had had excessive vomiting for several weeks having been cured simply by the physician exhibiting the stomach pump in the sick-room; or by washing out the stomach of neurotics when the stomach was involved. Autolavage is important. Its effects are the stimulation of the musculature of the stomach forcing the contents into the bowel.

Dr. Johann Flinterman, Detroit: Many cases of dilatation of the stomach after surgical operations can be relieved by lavage. I have applied it in cases of ileum, in which there was fecal vomiting, and in which after the application of the stomach tube relief was afforded. Again, the symptoms of strangulation in cases of hernia are sometimes relieved by lavage. It is a valuable remedy in actual dilatation of the stomach, as well as in cases of strangulated hernia or intestinal incarceration, or obstruction in which operation is sometimes refused.

Dr. Charles D. Aaron, Detroit: If a patient who has stenosis of the pylorus is not improving, but constantly losing weight, is not turned over to a surgeon for operation we are likely to lose him. I cannot agree with Dr. Smithies in the use of large quantities of water in cases of dilatation of the stomach; I do not think it necessary to use large quantities of water at any time. In a case of dilatation one will usually find a pint or more of fluid in the stomach to begin with, and it is necessary to remove the liquid contents from the stomach, and to use from 6 to 8 ounces of water at a time, which will be found sufficient. That obtains also in cases before operation. It is certainly harmful to put water into the stomach, overdistend the musculature and expect Nature to contract the muscle perfectly, or at the time one wishes to feed the patient again. Dr. Flinterman's remarks on acute dilatation are well taken. It is the only method we have of bringing about recovery in cases of acute dilatation of the stomach following operations, but even then there is a transudation of the liquid elements of the blood into the stomach, and it is necessary at first to remove the liquid in the stomach, and then add small quantities and wash it out.

(To be continued)

MEDICAL SOCIETY OF THE MISSOURI VALLEY

Twenty-second Annual Meeting, held at Council Bluffs, Iowa, Sept. 9-10, 1909

The president, Dr. C. B. Hardin, Kansas City, Mo. in the chair.

Officers Elected

The following officers were elected for the ensuing year: President, Dr. A. B. Somers, Omaha, Nebr.; first vice-president, Dr. C. R. Woodson, St. Joseph, Mo.; second vice-president, Dr. Flavel B. Tiffany, Kansas City, Mo.; secretary, Dr. Charles Wood Fassett, St. Joseph, Mo., re-elected; treasurer, Dr. T. B. Lacey, Council Bluffs, Iowa, re-elected.

Omaha, Nebr., was selected as the place for holding the semiannual meeting in March, 1910.

Dr. Hardin in his presidential address, offered suggestions with reference to the future conduct and improvement of the society.

Diagnosis and Treatment of Gastric Ulcer with Especial Reference to the Lenhartz Diet

Dr. Leroy Crummer, Omaha: We can claim the following advantages for the Lenhartz treatment: First, it is more comfortable for the patient. Second, there is less loss of weight and nutrition. Third, the period of return to normal diet is shorter. Fourth, the tendency to relapse is less. Till the last few years, the treatment has always been medical, but recently surgical treatment has slipped into the foreground to a great extent. The most conservative surgeons have generally advised operation only after medical means have failed, but that even these restrictions are not enough is now recognized. I have had the opportunity to carry out the Lenhartz treatment in eight cases of gastric ulcer, five of which were comparatively simple cases, and the treatment was successful without modifying any of the details. One patient went through the treatment with seeming complete success and left the hospital greatly improved in weight and strength, but died suddenly one month later with some acute abdominal trouble, probably perforative peritonitis. The other two patients, in addition to the clear ulcer condition, presented severe anemia and signs of pyloric obstruction. For the results of pyloric ulcer, surgical treatment is often demanded, and in general the opinion has been that operation is indicated in: First, chronic ulcer *per se;* second, acute hemorrhage; third, perforation; fourth, pyloric stenosis. The statement is often made that when medical treatment fails in chronic ulcer, a gastroenterostomy or other operation should be done. This indication, I think, should be revised and stated as follows: No operation should be done in chronic ulcer till the patient has had the benefit of a careful trial with the Lenhartz treatment.

DISCUSSION

Dr. John P. Lord, Omaha: I recall several cases of gastric ulcer in men who are now doing well without having undergone surgical intervention. I speak of this to emphasize the success which attends the expectant treatment of these cases. However, when an operation is indicated in gastric ulcer, it should be performed.

Dr. W B. Deffenbaugh, St. Joseph Mo.: In the medical treatment of gastric ulcer it is important to prescribe a diet which is free from irritating material. The average diet contains many things that are imperfectly masticated; they pass over the inflamed area, or through the pylorus, and keep up a mechanical disturbance.

Dr. R. C. Moore, Omaha: In my experience, comparatively few cases present the classical symptoms of gastric ulcer, but when we have one of these cases, diet is the main thing to consider. I do not resort to feeding by the rectum. I keep the patient as quiet as possible, maintain the action of the different secretory organs as best I can and place the patient on such food as can be digested. Milk should be the main article of diet. When the case takes on a surgical aspect, operation should be considered, and performed if necessary.

Dr. W. L. Ross, Omaha: Gastric troubles are functional and not organic, and we should not be in too great haste in saying that this or that patient has ulcer of the stomach, simply because he or she complains of pain. The whole symptomatology should be gone over in order to determine whether the cause is really located in the stomach or not.

Splenectomy

DR. W. B. DEFFENBAUGH, St. Joseph, reported a case of traumatic rupture of the spleen, in which he resorted to splenectomy, with a successful result.

DISCUSSION

DR. I. U. PARSONS, Malvern, Iowa: Several years ago a boy ten years old fell across a wash-tub, striking himself in the region of the spleen. Several physicians saw the child, but were unable to make a correct diagnosis. Two months after the injury a tumor developed in that region. The abdomen was opened, and a large cyst of the spleen was found and drained. The boy recovered.

DR. A. C. STOKES, Omaha: The spleen, according to German authority, has a physiologic function. It has to do with infections in the production of immunity, or the swallowing up of infections. This is illustrated by the fact that so many patients who have had infectious diseases have enlargement of the spleen. Embryologically, and from the standpoint of comparative anatomy, the spleen seems to be more of a remnant than anything else, for in animals it is much larger in comparison with the body-weight than it is in man. The blood supply seems to be about the same.

Cancer: A Constitutional Disease; Its Rational Treatment

DR. JOHN E. SUMMERS, Omaha, delivered the address on Surgery, selecting this subject. He referred to recent investigations concerning the medical and surgical treatment in cases of cancer of the genitalia, etc., and said:

Technic. First, curette thoroughly and dry carefully, then pour one-half ounce of acetone through a Ferguson speculum (with patient in the Trendelenburg position). Leave this in for fifteen or twenty minutes, then let the acetone run out and pack the cavity with gauze soaked in acetone. Wash the vulva and vagina; insert tampon. In rectal cancer, follow a like practice only first introduce tampon above growth before using acetone. Repeat the use of acetone two or three times a week in office practice. Protect the vulva with vaselin. By this treatment, the oozing is checked, and the wound surface is covered with a thin white film. The odor is remarkably reduced. The discharge is at first watery and then disappears. The wound shrinks and tends to heal. The health improves. The opsonic index is raised.

Acetone bisulphite is a white powder which, dissolving in the wound, gives off pure acetone, and may be used in place of acetone; its method of application is after the same fashion. Besides escharotics, the *x*-ray and radium, which, when the cancer or sarcoma can be reached tend to destroy or inhibit its growth, there are certain drugs of great value in the internal treatment of cancer. They are mostly of the alterative type, and usually are best given hypodermically. Certain preparations of arsenic, mercury and iron are to be commended. Iodin, I have not found so useful, but it has its friends. Having noted the fact that cancer never begins primarily in bone, that sarcomas in which the bone element predominates are least malignant, it occurred to me that if, in any way, I could increase or overload the blood with lime, it would be a rational therapeutic measure in the treatment of malignant disease as a postoperative measure of prophylaxis and as a remedial agent in conjunction with the hypodermic use of alteratives. So far, I have reason to believe there is value in the remedy—so much do I think so, that I hope my friends will try it. I use the lactate of calcium given, to begin with, in a hypodermoclysis, from 30 grains to 1 dram in a pint of warm sterile water; later I continue the drug in doses of from 10 to 30 grains given by the stomach in hot water, thrice daily; it may be continued indefinitely, but at the beginning is apt to cause nausea. Thirty grains of the lactate in a pint of warm water may be given directly into a vein. In a bad hopeless case of cancer of the throat I found that this drug materially lessened the pain.

(*To be continued*)

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

An Official Tri-State Journal

An experiment in medical society journal publication has been inaugurated by the state medical associations of Oregon, Washington and Idaho, a composite board representing the three associations having taken over the publication of *Northwest Medicine*. The first number issued by the new management has recently appeared. As this is the first journal to be published by a combination of state associations, its progress will be watched with interest. If the experiment is successful (and from the appearance of the first number there is no reason why it should not be) a solution will have been found of the problem of providing official medical journals, owned and published by physicians, for the smaller state associations which are not able on account of lack of numbers to publish separate journals of their own.

This number of *Northwest Medicine* is well prepared and printed and the size (12x8½) is commendable, the larger pages and wider columns being much more attractive both to the reader and the advertiser. The leading article on "The Relations of the Internal Secretions to Surgical Conditions," by Dr. Roswell Park of Buffalo, is the oration on surgery read before the joint meeting of the medical associations of the three states recently held at Seattle. Addresses by Dr. C. J. Fagan, president of the British Columbia Medical Association, Dr. J. L. Stewart, president of the Idaho State Medical Association, and Dr. Clarence A. Smith, president of the Washington State Medical Association, together with a well illustrated contribution on "The Complement Deviation Test in Syphilis," by Dr. Ralph C. Matson, of Portland, completes the original matter in the first issue. Half-tone portraits of the newly-elected presidents of the state associations, five pages of editorials, with the transactions of the house of delegates, news items and book reviews, complete the matter in the first number.

International Conference on Vital Statistics

The International Commission for the Revision of the Classification of Diseases and Causes of Death met at Paris, July 1 to 3. In order that the United States might be properly represented, a section was added to the act appropriating funds for the thirteenth U. S. census, authorizing the director of the census to appoint three commissioners with the standing of special agents of the government, one of whom was to be chosen from the United States Census Office, one from the medical profession, and one from the organized registration officials of the United States. Twenty-five hundred dollars was appropriated to defray their expenses. In accordance with this law, Hon. E. Dana Durand, Director of the Census, appointed Dr. Cressy L. Wilbur, chief statistician for vital statistics of the Census Bureau; Dr. Frank P. Foster, chairman of the Committee on Nomenclature and Classification of Diseases of the American Medical Association; and Dr. Wilmer R. Batt, of Pennsylvania, chairman of the Committee on Classification of Causes of Death of the Section on Vital Statistics of the American Public Health Association. Unfortunately, Dr. Foster, who was appointed to represent the medical profession, was unable to attend the conference. Drs. Wilbur and Batt were present, also Dr. Frank L. Pleadwell, U. S. N., Dr. H. D. Geddings, Asst. Surgeon-General U. S. P. H. and M.-H. S., Prof. Walter F. Willcox of Cornell University, and Dr. William H. Guilfoy, registrar of records of the City of New York.

The commission met July 1 to 3 in the Ministry of the Interior. Twenty-three countries were represented. The utmost harmony was manifested, the desire being to subordinate the individual views of the delegates to the general good. A number of recommendations presented by the American delegates were approved, especially one providing for a reclassification of deaths from violent causes.

The proceedings of the commission, as well as the revised nomenclature, is now being printed, it being anticipated that a revised version will be available for the use of officials in compiling the decennial Federal census for 1910. An official version is to be prepared in the language of each country represented, the English translation being in the hands of Dr. Wilbur and Dr. G. W. Knibbs, statistician for Australia. In recognition of the work of the American delegates, Dr. Wilbur was made vice-president of the international commission and presided over one of the sessions.

On July 4, the delegates were received by the President of France, the week following they also participated in the session of the International Statistical Institute. The next session of the commission will be held under the auspices of the French government unless, in view of the great progress of American vital statistics in the past decade and the important rôle played in revision by the American delegates, it is possible to arrange for the meeting of the third decennial conference at Washington.

In the absence of Dr. Frank P. Foster, the following resolutions were adopted by the American representatives:

> *Resolved*, That the official delegates of the United States to the Second Decennial Revision of the International Classification of Causes of Death desire to express their sincere regret that Dr. Frank P. Foster, chairman of the Committee on Nomenclature of the American Medical Association, was unable to be personally present during the session of the commission at Paris, July 1-3, 1909, and their high sense of appreciation of the services rendered by his and associated committees in the preliminary suggestions,[1] which have so greatly facilitated the work of the American delegates.
>
> F. L. Pleadwell.
> Wilmer R. Batt.
> H. D. Geddings.
> Wm. H. Guilfoy.
> Walter F. Willcox.
> Cressy L. Wilbur.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

First Month—Fourth Weekly Meeting

DISEASES OF CEREBRAL VEINS AND SINUSES

PRIMARY, MARANTIC, THROMBOSIS: Etiology.—Age, prolonged illness, cachexiæ. Symptoms.—Preceding disease, venous stasis, local edema, mental symptoms.

SECONDARY, INFECTIVE, THROMBOSIS: Etiology.—Middle-ear disease, fractures, infections in nose, mouth and pharynx, erysipelas, anthrax. Symptoms.—Preceding infection, local symptoms, brain symptoms, septicemia.

CEREBRAL PALSIES OF CHILDREN

ETIOLOGY: (a) Prenatal conditions, lack of development, prematurity, porencephalia; (b) accidents at birth, protracted labors, vertex and breech presentations, abuse of forceps; (c) postnatal causes, age, infectious diseases, injuries.

SYMPTOMS: Hemiplegic cases. Sudden onset, convulsions, loss of consciousness, development of hemiplegia, spasticity, exaggerated reflexes, contractures, attitude and gait. Atrophy of affected side. Athetosis. Tendency to epilepsy. Diplegic cases, may be paraplegic. Usually of prenatal or birth origin. Slow development of cranium, convulsive seizures, rigidity and contractions, upper and lower limbs involved. Lack of mental development, tendency to epilepsy and idiocy.

MONTHLY MEETING

Varieties of Aphasia and Significance of Each.

The Localization of the Lesion in Intracerebral Hemorrhage.

Early Diagnosis and Treatment of Cerebral Palsies of Children.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phœnix, October 4-5. Sec., Dr. Ancil Martin.
COLORADO: Capitol, Denver, October 5. Sec., Dr. S. D. VanMeter, 1723 Tremont St.
GEORGIA: Regular, Capitol Bldg., Atlanta, October 12. Sec., Dr. E. R. Anthony, Griffin. Homeopathic: Atlanta, October 4. Sec., Dr. R. E. Hinman, 153 Whitehall St.
IDAHO: Boise, October 5-6. Sec., Dr. W. F. Howard, Pocatello.
ILLINOIS: Coliseum Annex, Chicago, October 20-22. Sec., Dr. J. A. Egan, Springfield.
KANSAS: Topeka, October 12. Sec., Dr. F. P. Hatfield, Olathe.
LOUISIANA: New Orleans, October 1-2. Sec., Dr. Felix A. Larue, 211 Camp St.
MICHIGAN: Lansing, October 12-14. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.
MINNESOTA: State University, October 5. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.
MISSISSIPPI: Jackson, October 12. Sec., Dr. S. H. McLean.
MONTANA: Capitol, Helena, October 5. Sec., Dr. W. C. Riddell.
NEW JERSEY: State House, Trenton, October 19-20. Sec., Dr. E. L. B. Godfrey, Camden.
NEW MEXICO: Santa Fe, October 11-12. Sec., Dr. J. A. Massie.
NORTH DAKOTA: Grand Forks, Oct. 5-7. Sec., Dr. H. M. Wheeler.
OKLAHOMA: Ione Hotel, Guthrie, October 13. Sec., Dr. Frank P. Davis, Enid.
RHODE ISLAND: Room 313, State House, Providence, October 7-8. Sec., Dr. Gardner T. Swarts.
UTAH: Room 207, City and County Bldg., Salt Lake City, October 4-5. Sec., Dr. G. F. Harding, 310 Templeton Bldg.
WYOMING: Laramie, October 20-22. Sec., Dr. S. B. Miller.

Illinois April and May Reports

Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examinations held at Chicago, April 15-17, and at East St. Louis, May, 1909. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75.

At the examination held in April, the total number of candidates examined was 126, of whom 111 passed, 12 failed and 1 withdrew. Two candidates did not complete the examination. The following colleges were represented:

PASSED College.	Year Grad.	Total No. Exam'd.
George Washington University	(1908)	1
Bennett Medical College	(1909)	2
Chicago College of Medicine and Surgery	(1909)	33
Illinois Medical College	(1905) (1908) (2, 1909)	4
National Medical University, Chicago	(1906)	1
Northwestern Univ. Med. School	(1901) (1908) (10, 1909)	12
Coll. of Phys. and Surg., Chicago	(1905) (1908) (27, 1909)	29
Rush Medical College	(1909)	19
Jenner Medical College	(1909)	2
Medical College of Indiana	(1898)	1
Johns Hopkins University	(1906)	1
Tulane University of Louisiana	(1899)	1
St. Louis College of Physicians and Surgeons	(1908)	1
Jefferson Medical College	(1892) (1908)	2
University of Pennsylvania	(1908)	1
Trinity Medical College, Toronto, Canada	(1903)	1
FAILED		
Hahnemann Medical College and Hospital	(1884)	1
College of Med. and Surg., Physiomedical, Chicago	(1908)	1*
Illinois Medical College	(1908)* (1909)	2
National Medical University, Chicago	(1907)	1*
College of Physicians and Surgeons, Chicago	(1901)	1
Keokuk Med. College, Coll. of Phys. and Surg.	(1908)	1
Hospital College of Medicine, Louisville	(1904)	1†
Barnes Medical College	(1908)	1*
St. Louis College of Physicians and Surgeons	(1906)	1†
Meharry Medical College	(1907)	1*
Queen's University, Kingston, Ontario	(1886)	1

At the examination held in May, the total number of candidates examined was 133, of whom 115 passed and 18 failed. The following colleges were represented:

PASSED College.	Year Grad.	Total No. Exam'd.
Hahnemann Med. College and Hospital, Chicago	(1909)	1
College of Physicians and Surgeons, Chicago	(1909)	1
Northwestern University Medical School	(1909)	2
University of Louisville	(1909)	1
Barnes Medical College	(1909)	25
Homeopathic Medical College of Missouri	(1909)	1
St. Louis University	(1909)	28
St. Louis College of Physicians and Surgeons	(1909)	24
University of Missouri	(1909)	1
Washington University, St. Louis	(1909)	28
Eclectic Medical Institute, Cincinnati	(1900)	1
University of Nashville	(1909)	[illegible]
University of Toronto, Ontario	(1905)	1
FAILED		
Barnes Medical College	(1908)* (4, 1909)	5
St. Louis College of Physicians and Surgeons	(1906)† (1908)* (1908)† (9, 1909)	12
Washington University, St. Louis	(1909)	1

* Third examination.
† Second examination.

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[1] Those who desire to read the report presented to the American Medical Association by its Committee on Nomenclature and Classification of Diseases, of which Dr. Foster was chairman, will find it in THE JOURNAL, June 19, 1909, page 2058.

Rhode Island July Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, July 1-2, 1909. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 8, of whom 7 passed and 1 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
University of Maryland	(1909)	83.
Baltimore Medical College	(1908)	80, 80.3
College of Physicians and Surgeons Baltimore	(1908)	93.1
Boston University	(1909)	89.4
Cornell University Medical College	(1909)	90.1
Jefferson Medical College	(1909)	80.8
FAILED		
Baltimore Medical College	(1907)	74.7

Marriages

Ruth Vail, M.D., and Albert Taylor Snow, both of Chicago, September 7.

Herman J. Derger, M.D., to Miss Margaret Ziegler, at Baltimore, September 7.

Ralph Tousey, M.D., to Miss Clara S. Briner, both of New York City, September 7.

Henry C. Watt, M.D., to Miss Marjorie Palmer, both of Colorado Springs, September 14.

William Hope Smith, M.D., U. S. Army, to Miss Helen Davidson, at San Francisco, August 3.

Roswell C. Sartell, M.D., Eldred, Pa., to Miss Jeannette M. Lockard, of Philadelphia, April 21.

William Vincent Pascual, M.D., Brooklyn, to Miss Beatrice Roche, of Deal, N. J., September 10.

Charles Edward Conduff, M.D., to Miss Annie Childress, both of Riner, Va., at Bristol, Tenn., September 11.

Victor Mackay Daly, M.D., to Miss Violette Berry Helm, both of Pontiac, Ill., at St. Paul, Minn., September 8.

Byron G. R. Williams, M.D., Paris, Ill., to Miss Margaret Elizabeth Mahoney, of Lexington, Ky., September 8.

Francis Alphonso Mantz, M.D., Philadelphia, to Miss Martha Mabel Yule, of Owen Sound, Ont., September 9.

Paul S. Morrison, M.D., Rushville, Mo., to Miss Bertha Chapman, of St. Joseph, Mo., at Atchison, Kan., August 25.

Samuel Sayre Rodman, M.D., U. S. Navy, to Miss Marjorie Drayton Memminger, at Flat Rock, N. C., August 27.

William T. Owen, M.D., Clarksburg, W. Va., to Miss Nellie Virginia Martin, of Bridgeport, W. Va., at Parkersburg, W. Va., September 4.

Deaths

Bernard Douglas Eastman, M.D. College of Physicians and Surgeons, New York City, 1862; a member of the Kansas Medical Society and the American Medico-Psychological Association; founder of the New England Psychological Society; from 1862 to 1865 assistant at the New Hampshire Hospital for the Insane, Concord; from 1865 to 1872, assistant physician at the Government Hospital for the Insane, Washington, D. C.; from 1872 to 1879, superintendent of the Worcester (Mass.) Lunatic Hospital, Lake Quinsigamond; for seventeen years superintendent of the Topeka State Hospital; professor of materia medica and therapeutics, and psychiatry in Kansas Medical College; an authority on insanity and the building and management of hospitals for the insane; died at his home in Topeka, September 11, from heart disease, aged 73.

William Thayer Smith, M.D. Dartmouth Medical School, Hanover, N. H., 1878; New York University, New York City, 1879; LL.D. Dartmouth, 1897; a member of the American Medical Association, American Academy of Medicine and American Association for the Advancement of Science; dean, professor emeritus of physiology and professor of clinical surgery in Dartmouth Medical School; surgeon to the Mary Hitchcock Memorial Hospital, Hanover, and author of textbooks on physiology and hygiene; died at his home in Hanover, N. H., September 17, from cerebral hemorrhage, aged 70.

David Finney Stuart, M.D. Jefferson Medical College, Philadelphia, 1859; chief surgeon of the Houston and Texas Central and Houston East and West Texas railroads from 1878-1895; president of the Houston Infirmary Sanitarium; formerly president of the board of trustees of Texas Medical College; assistant surgeon of the Tenth Texas Infantry and senior surgeon of Granberry's Texas Brigade in the Civil War; in 1871 vice-president and two years later president of the State Medical Association of Texas; died at his home in Houston, September 8, aged 76.

William Francis Mitchell, M.D. University of Michigan, Ann Arbor, 1868; a member of the American Medical Association; formerly president of the Schuyler County (Mo.) Medical Society; a member of the American Public Health Association, American Association for the Advancement of Science, and Northeast Missouri Medical Association; local surgeon at Lancaster for the Burlington System, and a member of the local board of U. S. pension examining surgeons; died at his home September 11, aged 67.

Howell Emolyn Davies, M.D. Rush Medical College, Chicago, 1902; a member of the American Medical Association; fellow in bacteriology, University of Chicago, 1897-1900; and instructor in gynecology in his alma mater in 1902 and 1903; died at his home in Emporia, Kan., August 26, from typhoid fever, aged 38.

Walter B. Batcheller, M.D. Northwestern University Medical School, Chicago, 1900; a member of the State Medical Society of Wisconsin; for four years a medical missionary in Corea and China, and since his return a practitioner of Madison and Cable, Wis., died in the Madison General Hospital, September 10, aged 41.

William Thomas Gardner, M.D. Physio-Medical Institute, Cincinnati, 1871; for five years superintendent of the Oddfellows Orphans' Home, Checotah, Okla.; a member of the city council and afterward mayor of Ardmore, Okla.; died at his home in that city, September 4, from nephritis, aged 60.

John Holmes Hand, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1870; of Dias Creek, N. J.; while driving across the tracks of the West Jersey and Seashore Railroad at Cape May Court House, N. J., September 8, was struck by a train and instantly killed, aged 64.

Stephen Neal, M.D. Atlanta (Ga.) Medical College, 1886; of Cordele, Ga.; formerly of Talbotton, Ga.; who invented a new process of extracting turpentine which has said to have revolutionized that industry; died in the Cordele Sanitarium, September 10, after an operation for appendicitis, aged 48.

Gustave McFadden, M.D. Albany (N. Y.) Medical College, 1864; assistant city assessor of Chanute, Kan.; clerk of Neosho county from 1878 to 1880, and deputy register of deeds from 1882 to 1884; died suddenly in Manitou, Colo., August 19, from acute gastritis, aged 71.

Charles Timothy Newkirk, M.D. University of the Victoria College, Coburg, Ont., 1864; a member of the Michigan State Medical Society, and a surgeon of volunteers during the Spanish-American War, died at his home in Bay City, September 16, from heart disease, aged 68.

James Tampson Valliant, M.D. Texas Medical College, Galveston, 1874; of Killeen, Texas; a member of the State Medical Association of Texas; died at the home of his daughter in Santa Ana, Cal., July 17, from the effects of a carbuncle on the neck, aged 69.

Pierson C. Curtis, M.D. Albany (N. Y.) Medical College, 1884; a member of the American Medical Association; of Round Lake, N. Y.; was killed in a collision between his automobile and an electric car at Round Lake, September 6, aged 53.

Levin Clarke Royster, M.D. Louisville (Ky.) Medical College, 1884; a member of the American Medical Association; died at his home in Smith's Mills, Ky., August 14, from the effects of a fall from a hayloft, in which he fractured the cervical spine, aged 49.

William Henry Russell, M.D. College of Physicians and Surgeons, Boston, 1891; Tufts Medical School, Boston, 1895; a member of the Massachusetts Eclectic Medical Society; died at his home in Ipswich, Mass., June 6, from cerebral hemorrhage, aged 49.

James Brown Burnet, M.D. New York University, New York City, 1866; a member of the board of trustees of the New Jersey Historical Society and a medical cadet during the Civil War; died at his home in Newark, N. J., September 7, aged 66.

Henry Ziesing, M.D. University of Giessen, Germany, 1851; Illinois Army Board, 1865; a surgeon of volunteers during the Civil War; for many years a practitioner of Peru, Ill.; died at his home in that city, September 11, from paralysis, aged 80.

William A. Briant, M.D. Missouri Medical College, St. Louis, 1883; a member of the Arkansas Medical Society; for several terms a member of the Arkansas legislature; died at his home in Hope, September 4, from cancer of the kidney, aged 47.

Urban P. Stair, M.D. Northwestern University Medical School, Chicago, 1862; a member of the Wisconsin State Medical Society; surgeon of volunteers during the Civil War; died at his home in Fort Atkinson, Wis., September 6, aged 71.

Henry H. Cheatham, M.D. Barnes Medical College, St. Louis, 1895; formerly of Bainbridge, Ga.; for two years a practitioner of Havana, Fla.; while hunting near that place, August 26, was accidentally shot in the leg, and bled to death.

Oliver Dwight Paine, M.D. American College of Medicine in Pennsylvania and Eclectic Medical College of Philadelphia, 1860; a practitioner of Youngstown, Ohio since 1848; died at his home, September 1, from senile debility, aged 90.

John James Alexander Smith, M.D. Atlanta (Ga.) Medical College, 1858; a Confederate veteran, and at one time a member of the legislature from Greene county, Ala., died at his home in Union, September 9, aged 81.

William E. Haines, M.D. University of Pennsylvania, Philadelphia, 1868; a member of the American Medical Association, and a veteran of the Civil War, died at his home in Bushnell, Ill., September 12, aged 60.

Henry Taylor Barstow, M.D. Harvard Medical School, Boston, 1884; a member of the American Medical Association and the Harvard Medical Club; died at his home in Boston, recently, aged 50.

Mary Pradt-Harper, formerly a medical missionary among the Navajo Indians in Arizona, died in the State Hospital for the Insane, Mendota, Wis., Dec. 16, 1908, from cerebral hemorrhage, aged 56.

Erasmus S. Dodd, M.D. Eclectic Medical Institute, Cincinnati, 1849; for sixty-five years a practitioner of Michigan; died at his home in Buchanan, September 13, from senile debility, aged 90.

Joseph Fryer Bazill, M.D. University of Nashville, Tenn., 1894; Vanderbilt University, Nashville, 1894; of Crayon, Ohio; died in the State Hospital for the Insane, Columbus, September 1, aged 58.

Philip E. Hepler, M.D. University of the South, Sewanee, Tenn., 1895; of Bridgeport, Ohio, died at the home of his brother in Bethlehem, Pa., September 6, from tuberculosis, aged 37.

Edward P. Gould, M.D. Medical College of Ohio, Cincinnati, 1868; a member of the Ohio State Medical Association; died at his home in Sheridan, September 5, from nephritis, aged 65.

Joshua C. Boullee, M.D. Trinty Medical College, Toronto, 1875; of New York City; died in St. Vincent's Hospital, September 8, from the effects of a fall from his porch, aged 57.

William M. Barnes, M.D. Baltimore Medical College, 1882; a member of the Medical and Chirurgical Faculty of Maryland; died at his home in Baltimore, September 11, aged 85.

Amelia Wilkes Lines, M.D. Hygeio-Therapeutic College of New York, New York City, 1851; died at her home in Brooklyn, N. Y., September 11, from senile debility, aged 85.

Mary F. Stryker, M.D. Woman's Medical College of Georgia, Atlanta, 1890; died at her home in New York City, September 12, from cerebral hemorrhage, aged 40.

Hugh Thomas Adams, M.D. School of Physic, Trinity College, Dublin, Ireland, 1869; died at his home in Jersey City, September 8, aged 63.

Richard M. Johnson, M.D. University of Michigan, Ann Arbor, 1871; died at his home in Northville, Mich., September 9, from uremia, aged 66.

Roy Welch, M.D. St. Louis University, 1907; died at his home in Lincoln, Ill., from malignant endocarditis, September 7, aged 30.

Charles Edward Louth, M.D. American Eclectic College, Cincinnati, 1886; died at his home in Cleveland, Ohio, August 25, aged 66.

Charles M. Snyder (license, Mich.); died at his home in Lake Odessa, Mich., September 5, from pernicious anemia, aged 58.

Jesse Longfield, M.D. Bennett Medical College, Chicago, 1853; died at his home in Turney, Mo., September 2, aged 78.

Axel Otto Lindfors, M.D. professor of gynecology and obstetrics in the University of Upsala, Sweden; an able writer in his specialties; a man of letters and a lyric poet; died suddenly August 18, at Düren, Rhine Provinces, Germany, aged 57.

Book Notices

Epoch-Making Contributions to Medicine, Surgery and the Allied Sciences. Collected by C. N. B. Camac, A.B., M.D. Cloth. Pp. 435, with illustrations. Price, $4. Philadelphia: W. B. Saunders Co., 1909.

This work consists mainly of reprints of those articles which first brought to the notice of the scientific world the epoch-making observations of such men as Lister, Harvey, Auenbrugger, Laennec, Jenner, Morton and Holmes. There are also given brief biographic sketches of the observers themselves. The collector of these papers calls attention to the fact that the teachings of the original observers are by no means obsolete, a point that will forcibly impress itself on the reader. Such a resurrection of communications that have in many cases been buried in a mass of more or less indifferent literature is an achievement for which Dr. Camac deserves the thanks of the medical profession. The teachings of great authorities in other branches of science and art have long been accessible; that the same has not been true in medicine is of no great credit to the profession. The selection and arrangement of the material is all that could be wished. The physician who is interested in the "scientific side of the investigator's mind" will not be willing to be without the book.

General Surgery. By Ehrich Lexer, M.D., Professor of Surgery, University of Berlin. Translated from Second German Edition by Dean Lewis, M.D., Instructor in Surgery, Rush Medical College. Edited by Arthur Dean Bevan, M.D., Professor of Surgery, Rush Medical College. Cloth. Pp. 1041, with illustrations. Price, $6.00. New York: D. Appleton & Co., 1908.

This volume is an English translation from the German of that part of Lexer's work which treats of the general principles underlying the practice of surgery. The chief object in presenting this translation was to furnish the English-reading student with the most authoritative volume, containing latest additions to the very essential subjects usually grouped under the title of general surgery; and in the selection of Lexer's work the translators have made no mistake. Every practitioner must always remain a student and there are no subjects in medicine about which any one man's knowledge is so complete and so perfect that it is unnecessary to review constantly in order to keep well informed. Hence a work like this on so-called principles while primarily intended for students, is of just as much value to the practitioner. The work has been considerably improved by numerous additions made by the American editor, notable among which are the chapters on nitrous oxid gas anesthesia, on blood examinations, on blastomycosis, etc. The work is a creditable one and ought to be welcomed by the practitioner as well as the undergraduate.

Surgery, Its Principles and Practice. By various authors. Edited by William Williams Keen, M.D., LL.D., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia, and John Chalmers DaCosta, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Vol iv. Cloth. Pp. 1194, with illustrations. Price, $7.00. Philadelphia: W. B. Saunders Co., 1908.

In this volume of Keen's system are discussed the surgery of the intestines, including the rectum and anus and hernia; surgery of the genitourinary organs; surgery of the eye and of the ear; military, naval and tropical surgery and the influence of race, sex and age in surgical affections. The author selected to write on each particular subject in question is recognized as one eminently qualified for the task.

It is impossible to review each chapter *in extenso*, but attention is directed to a few special features. The absence of any mention of the injection treatment of hernia is to be regretted, not because of any merit which it may possess, but because its great popularity with a certain class makes it desirable that its demerits should be exposed.

The chapter on examination of the urine in relation to kidney disease will be a shock to many enthusiasts in that line, but it is a practical exposition of the subject by a thoroughly practical man. Under surgery of the genitourinary organs, the chapters on the bladder and the prostate deserve special mention, while under surgery of the intestines, of special interest are the remarks on inflammation of the various diverticula and the chapter on the appendix. As might be expected from the subjects, this volume is perhaps thus far the most interesting of this very excellent system.

Introduction a l'Etude Clinique et a la Pratique des Accouchements: Anatomie—Présentations et Positions—Mécanisme—Toucher—Manœuvres—Extraction du Siège—Version—Forceps. Par L. H. Farabeuf et Henri Varnier. Paper. Pp. 488, with illustrations. Price, $3.00. Paris: Georges Steinheil.

This book was out of print for some time, though a reprint was published in 1904. One of the authors, Varnier, has died, and this new edition has been prepared by Farabeuf. The defective illustrations have been redrawn, though Farabeuf states that there are still some with which he is dissatisfied. It is unfortunate that there is no English translation of this work, but in any case the book will probably be of more value to teachers of obstetrics than to general practitioners. Farabeuf says that the work is largely the result of experiments in the dissecting room on the bodies of women and infants preserved in gelatin to keep the tissues supple. Chapter 1 takes up the pelvo-genital canal, measurements of the fetal head and the various presentations. Chapter 2 discusses the mechanism of labor in vertex, breech and face presentations and positions. Chapters 3, 4 and 5 take up in turn vaginal measurements and various presentations, manual extraction and podalic version. A great deal of space, almost half the book, details the use of forceps.

Hints in Practical Urinalysis with Etiology and Symptoms of Some Important Genitourinary Diseases. Third Edition. By Charles C. Yarbrough, M.D., Therapist, Scientific Department, Frederick Stearns & Co. Paper. Pp. 77. Detroit, Mich.: Press of Frederick Stearns & Co.

Although this pamphlet is issued as an advertisement for the firm and is sent gratuitously to physicians who ask for it, the advertising of the firm is confined to a few pages in the back. The text is good and the pamphlet worth having. It summarizes well the principles and methods of urinalysis.

Miscellany

TUBERCULOSIS NOMENCLATURE AND CLASSIFICATION

A Committtee Report Approved by the American Sanatorium Association

By H. L. BARNES, Wallum Lake, R. I.; LAWRASON BROWN, Trudeau, N. Y.; H. S. GOODALL, Lake Kushaqua, N. Y.; ESTES NICHOLS, Hebron, Me.; and L. ROSENBERG, Bedford Station, N. Y.

The committee appointed to consider carefully the classification adopted by the National Association for the Study and Prevention of Tuberculosis, to define exactly the terms employed therein, to formulate rules to insure a uniform method of examination; in short, to add to or to subtract from this classification, as the committee thought best, and finally to report its conclusions at this meeting of the society, begs leave to submit the following report.

This report is divided into several separate parts which deal with the various subjects assigned to the committee. The first section deals with the definition of terms employed in the classification; the second with the methods of examination that the committee would advise; the third with statistical reports of the sanatorium, a subject which alone renders this report of interest; the fourth discusses several mooted points; and the fifth includes the classification that we feel should be adopted by the sanatorium workers of America.

Inasmuch as many may not clearly hold in mind the classification adopted by the National Association for the Study and Prevention of Tuberculosis, it was thought best to include it in this report. It is as follows:

Classification

Incipient.—Slight initial lesion in the form of infiltration limited to the apex of one or both lungs or a small part of one lobe.

No tuberculous complications. Slight or no constitutional symptoms (particularly including gastric or intestinal disturbance or rapid loss of weight).

Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest.

Expectoration usually small in amount or absent.

Tubercle bacilli may be present or absent.

Moderately Advanced.—No marked impairment of function, either local or constitutional. Localized consolidation moderate in extent with little or no evidence of destruction of tissue or disseminated fibroid deposits. No serious complications.

Far Advanced.—Marked impairment of function, local and constitutional. Localized consolidation intense, or disseminated areas of softening, or serious complications.

Acute Miliary Tuberculosis.—

Unimproved.—All essential symptoms and signs unabated or increased.

Improved.—Constitutional symptoms lessened or entirely absent; physical signs improved or unchanged; cough and expectoration usually present.

Arrested.—Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive; the foregoing conditions to have existed for at least two months.[1]

Apparently Cured.—All constitutional symptoms and expectoration with bacilli absent for a period of three months; the physical signs to be those of a healed lesion.

Cured.—All constitutional symptoms and expectoration with bacilli absent for a period of two years under ordinary conditions of life.

Definition of Terms

TERMS USED IN DEFINITION OF "INCIPIENT"

1. *Slight Constitutional Disturbance.*—Slight loss of appetite, of strength, of weight; lassitude; possibly slight acceleration of pulse or possibly slight elevation of temperature. The impairment of health may be so slight that the patient does not look or feel sick in the ordinary sense of the word.
2. *Slight Elevation of Temperature.*—Maximum temperature after rest for one hour, never over 99.5 to 100° F. by mouth (or 100.5 per rectum).
3. *Slight Acceleration of Pulse.*—Maximum pulse rate not over 90 after rest for one hour, sitting or lying, except when due to causes other than tuberculosis.
4. *Absence of Tubercle Bacilli.*—Each monthly examination (if the sputum be negative) to consist of a careful microscopic examination, with a mechanical stage, of two smears, devoting at least three minutes to each smear, made from selected particles (at least six from different parts) of the sputum on each of three successive days. The morning sputum should always be obtained, or, better, the minute bits that some arrested patients raise at very infrequent intervals. It is not yet deemed wise to insist on digestion and centrifugalization or on inoculation of guinea-pigs.
5. *Infiltration.*—Physical signs of, slight prominence of the clavicle, lessened movement of chest, narrowing of apical resonance with lessened movement of base of lung, slight or no change in resonance, distant or loud and harsh breathing, with or without some change in the rhythm (i. e., prolonged expiration), vocal resonance possibly slightly increased; or fine or moderately coarse râles present or absent. If sputum contain tubercle bacilli, any one of these.
6. *Apex.*—That portion of the lung situated above the clavicle and the third vertebral spine.
7. *A Small Part of One Lobe.*—An area of one or two intercostal spaces, or an area not exceeding 60 to 80 sq. cm. in extent, according to the size of the patient.

TERMS USED IN DEFINITION OF "MODERATELY ADVANCED"

8. *Marked Impairment of Function, Either Local or Constitutional.*—Local: Marked dyspnea on exertion, limiting seriously the patient's activity.

   Constitutional: Marked weakness, anorexia, tachycardia.
9. *Moderate Extent of Localized Consolidation.*—An area of one-half lobe or less, but may involve both apices; marked dulness, bronchial or decidedly broncho-vesicular

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[1] The length of time mentioned is, of course, somewhat arbitrary, but is intended to cover the cases which frequently occur, where the patients leave a sanatorium for various reasons, contrary to advise, after a stay of a few weeks, although all active symptoms may have ceased completely soon after entrance.

breathing; markedly increased vocal resonance; râles usually present. These signs are to be sharply limited as to area instead of gradually shading into normal physical signs.

10. *Evidence of Destruction of Tissue.*—Presence of tubercle bacilli or elastic fibers in the sputum or the presence of the physical signs of a cavity. There are no absolutely certain physical signs of cavity but a combination of any four of the following signs is to be taken as indicative of a cavity: (1) cracked-pot note; (2) amphoric breathing; (3) intense whispering pectoriloquy; (4) a veiled puff or post-tussive suction; (5) bubbling or resonant râles. "Physical signs of softening" do not admit of any definition apart from that of cavity formation, and the term should not be used.
11. *Disseminated Fibroid Deposits.*—More or less localized areas of fibrous tissue, producing on physical examination, some change or dulness in the percussion note, more or less increase of vocal resonance, harsh, suppressed or broncho-vesicular breathing, râles sibilant or sonorous usually, but at times fine and moderately coarse.
12. *Serious Complications.*—These should be limited to tuberculous complications, such as meningitis, pharyngitis, laryngitis (except slight thickening in the posterior interarytenoid space, and superficial ulceration of a vocal cord), enteritis, peritonitis, nephritis, cystitis, orchitis, adenitis (unless very slight), etc.

TERMS USED IN DEFINITION OF "FAR ADVANCED"

13. *Intense Localized Consolidation.*—This term should be replaced by "marked consolidation of an entire lobe." "Marked consolidation" indicates dulness merging into flatness, bronchial or tubular breathing and other signs of consolidation as defined in Paragraph 10.

TERMS USED IN DEFINITION OF "APPARENTLY CURED"

14. *Constitutional Symptoms.*—These include elevation of temperature, loss of weight, loss of strength, night sweats, chills, tachycardia, cyanosis, loss of appetite, amenorrhea, etc.
15. *Physical Signs of a Healed Lesion.*—These may embrace every physical sign of infiltration or consolidation (see paragraphs 6, 10), with the exception of râles, which must be permanently absent, except possibly a few fine râles at the base, probably atelectatic in origin, and at one apex or over a small part of one lobe. Râles in the latter two places are to be heard only during the cough, at the end of a prolonged expiration, or during the inspiration which follows the cough.

TERMS USED IN DEFINITION OF "IMPROVED"

16. *Constitutional Symptoms Lessened or Entirely Absent.*—By this is meant an improvement in the general condition as shown either by a gain in *both* weight and strength or by reduction of previous febrile temperature to normal without loss of strength.

TERMS USED IN DEFINITION OF "UNIMPROVED OR PROGRESSIVE"

17. *Essential Symptoms and Signs.*—These include, among others, weight, strength, appetite, night sweats, hemoptysis, pleurisy, dyspnea, temperature, pulse-rate, dulness, changes in vocal resonance and respiratory movement, râles.

TABLE 1.—MODIFIED TURBAN SCHEME

Number.		Condition.	Extent of Physical Signs (Turban).		Duration of Disease.	General Condition.	Digestion.	Range of Pulse, 7 Days on Admission, 2 Days on Discharge.	Av. Max. Temp., 7 Days on Admission, 2 Days on Discharge.	T. B.			Complications.	Tuberculin. Variety, No. of Days and Doses. Highest Dose in Grams.
			Both Lungs.	Each Lung.							Previous.	Residence.		
2437	On admission.	Incipient...	I	R	3 months..	Favorable.. ..	Impaired	80-102	98.9	O	....	O	....	....
	At discharge..	Ap. cured..	O	......	12 months..	Favorable....	Unimpaired..	78- 90	99.0	O	....	....	....	....
2439	On admission.	Mod. Adv...	I	R L	16 months..	Favorable....	Unimpaired..	80-100	99.6	+	....	+	....	....
	At discharge..	Arrested....	II	R	23 months..	Favorable. ..	Unimpaired .	80- 92	98.9	O	....	....	....	....
2440	On admission.	Mod. Adv ..	II	R^1 L^2	4 months..	Unfavorable.	Unimpaired .	88-108	99.1	O	O	+	....	....
	At discharge..	Unimprv'd.	II	R^1 L^2	11 months..	Unfavorable.	Unimpaired .	72-130	99.4	+	....	....	....	....
2442	On admission.	Mod. Adv...	II	R^1 L^2	9 months..	Favorable....	Unimpaired .	80-100	99.3	O	....	O	....	....
	At discharge..	Ap. cured..	I	R	20 months..	Favorable....	Unimpaired .	80- 88	98.8	O	....	....	....	....
2443	On admission.	Mod. Adv..	II	R^1 L^1	4 months..	Favorable....	Unimpaired .	80-100	99.4	O	O	+	....	....
	At discharge..	Failed.....	III	R^3 L^2	12 months..	Favorable....	Unimpaired .	78-102	99 0	O	....	....	....	....

TABLE 2.—SUMMARY

Class.	Extent of Physical Signs According to Turban.	T. B. Found at Any Time.	Hygienic-dietetic Treatment Without Tuberculin. Patients Who Stayed Over 90 days. Average Residence, 209 Days.											Class.	Extent of Physical Signs According to Turban.	T. B. Found at Any Time.	Hygienic-dietetic Treatment With Tuberculin. Patients Who Took Tuberculin More Than 90 Days. Average Residence 250 Days.										
			Cases.		Appar. Cured.		Arrested.		Improved.		Progressive.						Cases.		Appar. Cured.		Arrested.		Improved.		Progressive.		
			No.	%	No.	%	No.	%	No.	%	No.	%	Died.				No.	%	No.	%	No.	%	No.	%	No.	%	Died.
Incipient.........	I	O	15	20	10	67	4	27	1	7	....	....	..	Incipient.........	I	O	9	15	5	56	1	11	3	33	....	....	..
Incipient.........	I	+	16	21	3	19	12	75	1	6	...	....	..	Incipient.........	I	+	14	24	4	29	8	57	1	7	1	7	..
Mod. advanced..	I	O	4	5	1	25	2	50	....	....	1	25	..	Mod. advanced..	I	O	2	3	....	....	2	100	....	....	....	....	..
Mod. advanced..	I	+	7	9	....	....	7	100	....	....	....	....	..	Mod. advanced..	I	+	7	12	....	....	6	86	1	14	....	....	..
Mod. advanced..	II	O	5	7	2	40	2	10	1	20	....	....	..	Mod. advanced..	II	O	1	2	....	....	1	100	....	....	....	....	..
Mod. advanced..	II	+	22	29	....	....	13	59	5	23	4	18	..	Mod. advanced..	II	+	15	25	....	....	11	73	3	20	1	7	..
Mod. advanced..	III	O	2	2	....	....	2	100	....	....	....	....	..	Mod. advanced .	III	O	1	2	....	....	1	100	....	....	....	....	..
Mod. advanced..	III	+	5	7	...	....	5	100	....	....	....	....	..	Mod. advanced..	III	+	9	15	...	....	4	41	3	33	2	22	..
Far advanced.. .	III	+	...	....	....	....	....	....	....	....	....	....	..	Far advanced....	III	+	1	2	....	....	....	....	1	100	....	....	.

TERMS USED IN DEFINITION OF “CURED”

18. *Ordinary Condition of Life.*—This term as used implies that the patient is able to live in an environment where he is able to support himself without the assitance of others, or to live in his former surroundings and pursue his former occupation.

2. The Method of Physical Examination

Any classification must necessarily depend in part on physical signs, and, as long as different examiners follow different methods of examination the exent of the physical signs will vary and the usefulness of any classification, intended for comparison, will be greatly limited. To overcome this difficulty the committee suggests that the patient should be stripped to the waist and that râles should be said to be absent only when they are absent after the patient exhales, coughs at the end of exhalation and then takes a full, deep, fairly quick breath through his mouth. A stethoscope must be used for this examination.

3. Statistical Reports of Sanatoriums

The committee feels that much might be done to improve the statistical reports of American sanatoriums and would urge those institutions that have not done so to publish certain details about each patient on admission and on discharge. Turban of Davos has devised a scheme for this purpose which the committee has modified somewhat. Every sanatorium is urged to use this scheme for reporting its individual cases. The modified scheme is given in Table 1.

TABLE 3. —RESULTS OF SPUTUM EXAMINATIONS OF ABOVE PATIENTS.

Class.	Extent of Physical Signs According to Turban.	Treatment.	A R D + + +		A R D + + O		A R D + O O		A R D O + +		A R D O O +		A R D O + O		A R D O O O		P A R D + O O O	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Incipient..	I	Without Tu..	......	......	4	13	4	13	......	....	......	....	3	10	15	48	5	16
Incipient..	I	With Tu......	5	22	4	17	1	4	......	....	......	....	1	4	9	39	3	13
Moderately advanced.	I	Without Tu..	1	9	4	36	1	9	......	....	......	....	......	....	4	36	1	9
Moderately advanced.	I	With Tu......	4	44	3	33	......	......	......	....	......	....	......	....	2	22		
Moderately advanced.	II	Without Tu..	6	22	6	22	3	11	3	11	......	....	1	4	6	22	2	7
Moderately advanced.	II	With Tu.	6	37	4	25	3	19	......	....	1	6	1	6	1	6		
Moderately advanced.	III	Without Tu..	1	14	3	43	2	29	......	....	......	....	......	....	1	14		
Moderately advanced.	III	With Tu......	6	60	1	10	......	......	......	....	......	....	......	....	1	10	2	20
Far advanced.........	III	With Tu......	1	100	......	......	......	......										

Note.—O=Tubercle bacilli absent. + =Present. A=Admission. R= During residence. D=On discharge. P=Previous to admission.
When T. B. were present on admission, no note is made with regard to previous examinations.
When T. B. were present previous to admission and also at any time during residence, they are marked as present on admission.

The extent of the physical signs in each lung has been noted as well as the presence or absence of tubercle bacilli before admission and during residence. The committee believes that the presence or absence of signs of cavity formation should be noted in the scheme. This datum can easily be indicated by a small (lower case) c after the letter R or L in the second column under “Extent of Physical Signs,” e. g., “Rc.^{3}” This would not necessitate another column.

The summary of the results of this tabulation in the reports of many sanatoriums are far from satisfactory, and your committee would suggest that the form of summary given in Table 2 be adopted:

This summary divides all patients into the three classes advised by the National Association for the Study and Prevention of Tuberculosis, and, further, each of these is divided into the different classes according to the extent of phyical signs. Turban's classification has been used for this purpose, and attention is called to the fact that the three original classes, incipient, moderately advanced and far advanced, have nothing in common with Turban's classification which deals only with the extent of physical signs. Finally, each of these stages is divided into two classes, according to whether the lesion has ever been open (tubercle bacilli present at any time) or has always been closed.

This summary, it is believed, will remove several criticisms of the classification adopted by the National Association. Both “moderately advanced” and “far advanced” classes are too broad, it is urged, and rightly, and as much difference, if not more, exists within these groups than between them or between the “moderately advanced” and “incipient” classes. This summary divides the “moderately advanced” group into six divisions, all of which should be reported on separately. It also divides the “far advanced” group into two or more divisions.

The results of the sputum examinations recorded in most reports is also far from satisfactory and the scheme given in Table 3 is suggested. When tuberculin has not been used it is, of course, unnecessary to divide the cases into those who have and those who have not received tuberculin.

It has been suggested by the International Conference at Vienna that the Turban classification of the extent of physical signs should be so modified as to include in the third group all cases with physical signs greater in extent than one lobe. The objection to this classification, known as the Turban-Gerhardt, is the unevenness of the distribution, and, while it divides the first group, which really needs division, the adoption of the summary, discussed elsewhere in this report, divides that group in a very satisfactory manner and the enlargement of the third group makes the Turban-Gerhardt classification of less value.

Mooted Points

The “temperature” is still a vexed question and the committee all hold individual opinions which vary greatly. These recommendations do not meet the entire approval of any member. The temperature should be taken by mouth with a reliable thermometer. Thermometers bought in quantity from any firm should be guaranteed by the firm and a certain number tested by the Bureau of Estimates in Washington as a control.

The thermometer should be left in the mouth, which has been kept closed for at least five minutes, for five to ten minutes to detect the slighter rises of temperature. When the rectal temperature has been taken this fact should be noted.

Two members believe that the temperature should be taken immediately after meals, because, they assert, (1) a rise to 99 to 100 may occur only at this time, and (2) the mouth temperature rises for one hour when the patient comes indoors during cold weather. One insists on a two-hour record. Two members of the committee oppose this time and would suggest either before meals or on awaking, at 4 and 8 p. m., believing that the temperature of the mouth in normal individuals may be affected after eating (as that of the rectum after horseback riding, which has risen to 101 in a healthy person), and further, that heat or cold, which affect the temperature of the mouth through the cheeks, may also raise it much more readily when taken in the mouth in the form of hot drinks or cold or iced foods.

The “normal” temperature is still a mooted point, but far more is known in regard to the oral than in regard to the rectal temperature. The range for each patient varies somewhat, but it is unwise to consider any patient “arrested” or “apparently cured” when the temperature for three or more days averages over 99 F. Absorption from an old focus may cause rise of temperature when the disease is quiescent, but no one can separate such a condition from a slow advance of the disease, imperceptible by our present methods of examination. A rise for a single day to 99.5 F. or even higher when some definite factor (coryza, tonsillitis, etc.) is unquestionably the cause, should be disregarded in making up the average on discharge. It would undoubtedly be wise to insist on a two-hourly temperature record, were this possible, but in any case the temperature should be taken whenever possible after rest (that is, complete relaxation, mental and physical, in a sitting or reclining posture) for at least one hour. Quiet reading or conversation need not be forbidden some patients.

Classification

With these definitions and modifications the committee would suggest that the following classifications be used on admission, on discharge, and for ultimate records:

1. ON ADMISSION

These definitions indicate the furthest extent of disease and the greatest severity of symptoms that a patient can present and still belong to the stage defined. All patients beyond the incipient stage fall under the moderately advanced stage unless the physical signs and symptoms exceed those of the moderately advanced stage, when they should be classified as far advanced.

Incipient.—Slight or no constitutional symptoms (including particularly gastric or intestinal disturbance or rapid loss of weight). Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours.

Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent.

Slight infiltration limited to the apex of one or both lungs or a small part of one lobe.

No tuberculous complications.

Moderately Advanced.—No marked impairment of function, either local or constitutional.

Localized consolidation moderate in extent with little or no evidence of cavity formation; or infiltration more extensive than under incipient.

No serious complications.

Far Advanced.—Marked impairment of function, local and constitutional.

Marked consolidation of an entire lobe.

Or disseminated areas of beginning cavity formation.

Or serious complications.

Miliary Tuberculosis.

2. ON DISCHARGE

Apparently Cured.—All constitutional symptoms and expectoration with bacilli absent for a period of three months; the physical signs to be those of a healed lesion.

Arrested.—Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive; the foregoing conditions to have existed for at least two months.[2]

Improved.—Constitutional symptoms lessened or entirely absent; physical signs improved or unchanged; cough and expectoration with bacilli usually present.

Unimproved or Progressive.—All essential symptoms and signs unabated or increased.

Died.

3. ULTIMATE RESULTS

Cured.—All constitutional symptoms and expectoration with bacilli absent for a period of two years under ordinary conditions of life.

Well.—Patients who fulfil all the conditions required under "cured" but about whose sputum no definite information can be obtained.

Arrested.—See above.

Improved.—See above.

Progressive.—See above.

Dead.

Medicolegal

Newspaper Articles Concerning Professional Conduct of Physicians Not Privileged

The Supreme Court of South Dakota considers, in the libel case of Rood vs. Dutcher, the question of whether newspaper articles concerning the professional conduct of a practicing physician should be regarded as privileged communications merely because of the relation of the physician as such to the general public in the territory to which his practice extends.

So far as applicable to this question a privileged communication is defined by the civil code of South Dakota, the court says, to be one "made, without malice, to a person interested therein, by one who is also interested, or by one who stands in such relation to the person interested as to afford a reasonable ground for supposing the motive for the communication innocent." This court has held that this definition embraces newspaper articles relating to the official conduct of public officers and candidates for public office. Does it also embrace newspaper articles relating to the professional conduct of physicians? The court thinks not.

The relation of a public officer to the public is substantially different from that of the physician. All are or may be affected by the official conduct of the former, and therefore are interested in any communication in relation thereto, while only such persons as desire to employ the latter are interested in communications relating to his professional conduct. Hence neither the proprietor of a newspaper nor any other person owes any duty to give information concerning the same unless requested to do so by some one desiring to employ the physician. Indeed, no reason exists for extending the presumption of innocent motive to false statements regarding a physician which would not apply with equal force to a minister of the gospel, an attorney at law, a banker, merchant, or other person whose vocation involves voluntary transactions with people generally in the community in which such person resides.

Admissibility of Evidence as to Character of Prior Childbirths and Pains

The Supreme Court of Iowa says that in the personal injury case of Etzkorn vs. City of Oelwein the plaintiff claimed that while passing over a defective sidewalk she was tripped by the loose boards, thrown forward and down on the walk, displacing an unborn child which she was then carrying from its natural position, causing delayed, prolonged and more difficult labor and greatly injuring and impairing her health. It appeared that she had been delivered of four other children prior to the time the one in question was born. She was asked as to how these other children were born, whether in a normal or abnormal position; and as to whether or not she suffered any pains or inconvenience from the birth of her other children. To the first question she responded that they were born in a normal position, and to the second that she had not suffered pains. The court is constrained to hold that these questions were improper, and the answers decidedly prejudicial.

The court knows of no authority which holds that because a woman is delivered of one or more children in a normal position that others are likely to and will be born in the same position. It was shown in the record in this case, and it is well known, that unborn children assume various positions while in the mother's womb, changing their position from time to time, and that whenever there is no movement there is danger not only to the child but to the mother. The plaintiff claimed that by reason of her fall her unborn child was forced in a transverse and unnatural position, where it remained until birth, when it had to be changed by means of instruments and manipulations into a proper position for delivery. In order to demonstrate this, she was permitted to testify that her other children were born in a normal position. There was no logical connection between these facts.

Moreover, the plaintiff's testimony that she suffered no pain when her prior children were born might be true, although contrary to all human experience; but, even if true, it had no tendency to show that the pain she suffered from the delivery of her last child was due to the injury she received when she fell on the sidewalk.

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[2] The length of time mentioned is, of course, somewhat arbitrary, but is intended to cover the cases which frequently occur, where the patients leave a sanatorium for various reasons, contrary to advice, after a stay of a few weeks, although all active symptoms may have ceased completely soon after entrance

The only legitimate inference to be derived from the plaintiff's testimony as to prior childbirths was that these deliveries did not rupture any of her organs, and that she had not suffered any lesions which were found after the birth of her last child. Direct testimony was admissible on this point.

The effort undoubtedly was to have the jury believe that, as she had not previously suffered from childbirth. her suffering which she had described as accompanying the birth of her last child must have been due to the accident on the walk. For reasons already suggested, the court does not think this true, either as a logical or gynecologic proposition.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

September 11

1 Inflammation of the Knee-Joint. C. Ogilvy, New York.
2 *Laryngeal Tuberculosis. R. Levy, Denver.
3 Treatment of Pruritus Ani. W. M. Beach, Pittsburg, Pa.
4 Physiology and the Second Law of Thermodynamics. F. H. Garrison, Washington, D. C.
5 Blood Examination in the Presence of Gangrene. I. S. Wile, New York.
6 *Fracture of the Neck of the Femur in a Multipara. S. A. Savitz, Philadelphia.
7 *Do the Saprophytes Produce Toxins which have Elective Attraction for the Brain and Nerve Tissue and thus Cause the Idiopathic Diseases of These Structures? B. R. Le Roy, Athens, Ohio.
8 Is Tuberculosis Decreasing in Cities of Between 300,000 and 500,000 Inhabitants? L. Irwell, Buffalo.

2. **Laryngeal Tuberculosis.**—Levy summarizes his paper as follows:

1. Pathologic conditions of the laryngeal mucosa, especially chronic catarrhal laryngitis, are important factors in the etiology of tuberculosis of the larynx.
2. Pain is not always present in laryngeal tuberculosis. When present it is not always conclusive that the lesion is tuberculous. It may exist without ulceration.
3. The beneficial effect of mercurial treatment in laryngeal lesions of tuberculous patients should not be accepted as positive proof of the value of this treatment in tuberculosis. It must be recognized that the differential diagnosis between syphilis and tuberculosis of the larynx is at times extremely difficult especially when the former exists in tuberculous patients.
4. Bacteriologic confirmation of the diagnosis is often obtainable by examination of smears made directly from the laryngeal lesion.
5. It is necessary to again impress on the general profession the curability of laryngeal tuberculosis. It is especially important that the prognosis be determined by a careful study of the lesion in all its characteristics.
6. Local treatment to be effective must be well selected both as to time of applications and method of procedure.

6. **Fracture of Femur During Labor.**—The third day after delivery the patient experienced a transferred pain in the right hip joint radiating to the knee, which was very excruciating on the slightest disturbance of the limb, thus rendering change of posture impossible with the single exception of extension of the limb, which lessened the pain to a considerable extent. As a result of her suffering, the attending physician, together with others, treated her internally for some nervous affection, but her pain still persisted. About two months after delivery Savitz saw the patient and made a diagnosis of impacted fracture of the neck of the femur, which was confirmed by operation. Savitz emphasizes particularly that this fracture must have been caused at the time of delivery by the unforeseen negligence of the attending physician by causing a slight twist of the thigh, or endeavoring to manipulate the instruments, flexed the leg more than the normal capacity could endure, and, as a result, fracture of the neck of the femur followed. In addition thereto, it is plausible to believe that it may have been caused after delivery, but the patient positively states that she was not out of bed, but rather rested herself, and knowing there would be exaggerated pain on the slightest movement, it is fair to assume that she remained in bed, and, consequently, there was no disturbance to cause any such fracture. On the other hand, it would be ridiculous to conclude that the fractured neck of the femur was caused by a previous disease of the hip joint when the pain was experienced but two days after labor.

7. **Saprophytes and Nerve Tissue.**—Le Roy holds that to the absorbed toxins and endotoxins, generated by the so-called spore-bearing saprophytes of the human body are due the varying degrees of mental and nerve disorders, from simple absent-mindedness to asymbolia, from the simple nervousness to the most intractable disease of the brain or nerves, heredity, like traumatism, only playing the part of a weakening agent, at which time the toxins produced by the spore-bearing saprophytes get in their work. Le Roy claims to have positive knowledge that these saprophytes produce toxins and endotoxins, which, when injected into the living animal, produce varying degrees of paralysis; and, also that the action is slow and insidious under ordinary circumstances. There is one point on which he is most certain of his position; that is, that these toxins have a selective attraction for the brain and nerve tissue.

Boston Medical and Surgical Journal

September 9

9 *Simple Inspection of the Eyes as an Aid in General Diagnosis. H. B. Stevens, Boston.
10 Importance of Distinguishing Simple Round Ulcers of the Duodenum from Those Ulcers which Involve the Pylorus or are Above it. E. A. Codman, Boston.
11 Studies in Psychopathology (concluded). B. Sidis, Brookline, Mass.
12 Sudden Deaths in a Synopsis of Twenty Years' Medicolegal Work. F. H. Canedy, Shelburne Falls, Mass.
13 *The Queen's Closet Opened. G. W. Myers, Boston.
14 Gunshot Wound of the Head. C. W. Bartlett, Marshfield, Mass.

9. **Inspection of Eyes in General Diagnosis.**—Stevens points out that the eyes from the vantage ground of their wonderfully perfect anatomic and physiologic position are especially adapted to reflect many of the most important changes of the system, and a large majority of those signs may be revealed by simple inspection merely. Moreover, the eyes, more than other organs, are at all times most easily and conveniently inspected, and simple but intelligent inspection may give important information concerning various physical and functional body processes.

13. **The Queen's Closet Opened.**—Myers gives a brief review of this volume published in 1656, and containing formulas and recipes originally collected for Henrietta Marie, the wife of Charles I of England.

Medical Record, New York

September 11

15 Rôle of Visual Function in Animal and Human Evolution. G. M. Gould, Ithaca, N. Y.
16 Medical Management of Degenerate Children. R. H. Porter, Chicago.
17 *Surgical Treatment of Diarrhea. S. G. Gant, New York.
18 Village Treatment of Nervous Invalids. L. P. Clark, New York.
19 The Liquor Problem: Some Suggestions for its Solution. C. A. Rosenwasser, Newark, N. J.
20 Amount of Lung Involvement at the Onset of Pulmonary Tuberculosis. H. L. Barnes, Wallum Lake, R. I.

17. **Surgical Treatment of Diarrhea.**—Gant doubts if more than 10 per cent. of the persons suffering from chronic diarrhea are curable by means other than through bowel irrigation, as practised through the anus, or from above through the appendix or cecum. Of those who do not respond to direct treatment of the colon, the cause of the trouble in a number of cases is located in the small intestine, stomach, liver or pancreas. Gant says he has cured many persons suffering from chronic diarrhea without an operation, by the daily irrigation of the bowel with different solutions. The following procedures have been resorted to with more or less success in the treatment of simple and other ulcerative colitis inducing chronic diarrhea: (1) Resection; (2) intestinal exclusion; (3) colostomy; (4) appendicostomy, and (5) Gant's cecostomy with irrigation of the small intestine. The latter procedure is carried out as follows: Through a two-inch muscular incision made directly over the cecum, it and the lowermost part of the ileum are withdrawn and the edges of the wound covered with sterile gauze handkerchiefs. The cecum is scarified and clamped with rubber-covered forceps to prevent soiling of the wound when the bowel is opened. Four linen or silk seromuscular purse-string sutures are inserted in the anterior wall of the cecum at or outside the longitudinal band directly opposite the ileocecal valve, when the bowel is quickly opened inside the suture line by using the knife for the outer coats and the scissors for the mucosa. The bowel is grasped at the juncture of the large and small intestine and held in such a

way that the ileocecal valve rests between the thumb and the fingers of the left hand. A Gant catheter guide is then introduced through the incision and carried directly across the cecum, and then suddenly guided through the ileocecal valve into the small intestine by the aid of the thumb and fingers, placed there for this purpose. The guide is then held by an assistant while the obturator is removed and a catheter, No. 12, is introduced into the small bowel. The guide is then removed and the catheter is held by an assistant until it has been anchored to the cecum by a catgut silk suture to prevent its slipping out. A short piece of catheter three inches long is then introduced into the cecum, beside the one which enters the small bowel, for an inch or more, when both catheters are fastened together by a narrow band of adhesive plaster placed around them, on a level with the skin. The clamp is now removed from the cecum and the purse-string sutures are tied; this inverts the edges of the bowel about the tubes, each stitch in its turn causing a still further circular infolding of the bowel, all together forming a cone-shaped valvular projection all around the catheters which effectually prevents the escape of the feces. The cecum is scarified and anchored to the abdominal wall by through-and-through suspension suture or by chromicized catgut stitches which include the peritoneum and fascia. The wound in the abdomen is closed by the layer method, after which the catheters are stitched to the skin or preferably retained in place by a narrow strip of adhesive plaster between them and attached to the skin. Ordinary five-cent cravat clamps are snapped over the ends of the catheters to prevent leakage, after which the operation is completed, applying the ordinary dry dressings, which are held in place by adhesive strips.

Lancet-Clinic, Cincinnati

September 4

21 Ectopic Pregnancy. A. Haarlammert, Loveland, Ohio.
22 Certain Antagonism for Opium Narcosis. T. H. Williams, Germantown, Tenn.
23 Advancement of Paralyzed Muscle for Cosmetic Purpose. V. Ray, Cincinnati.

Virginia Medical Semi-Monthly, Richmond

August 27

24 Should Virginia Impose a License Tax on Physicians? G. A. Stover, South Boston.
25 *Treatment of Acute Diarrhea in Infancy. J. B. Nowlin, Richmond.
26 Uncinariasis. J. R. Perkins, Spencer.
27 Musings of a Medical Man. R. H. Garthwright, Vinton.
28 Relation of the Pharmacist to the Practise of Medicine. W. C. Marshall, Staunton.

25. **Acute Diarrhea in Infants.**—In cases of diarrhea due to fermentation, Nowlin uses mercury bichlorid in a solution of one grain to four ounces of water, giving ten to fifteen drops every four hours until the stools become yellow in color and remain so. This is usually the case in from twenty-four to forty-eight hours. Then the dose is decreased, the aim being to give just enough mercury to keep the stools in this state. Food is withheld for the first twenty-four hours, at the beginning of which the usual purge of castor oil is given. At the expiration of this time, the usual food is resumed, but the mercury is kept up for a week or more. Irrigation is done in some cases, but Nowlin thinks that in this form of diarrhea, irrigation is generally overdone.

Southern California Practitioner, Los Angeles

August

29 *Surgery in Infancy. S. Stillman, San Francisco.
30 Pelvic Infection Following Labor. F. M. Bruner, Santa Ana.
31 *Diet Regulation for Dyspeptics. W. P. Millspaugh, Los Angeles.
32 *The Physician's Duty to the Public. J. W. Foss, Phoenix, Ariz.
33 Medical Treatment of Disease of the Biliary Tract. E. W. Hanlon, Los Angeles.
34 *Straw Mattress Urticaria. J. Goldberger, U. S. P. H. and M.-H. Service, and J. F. Schamberg, Philadelphia.
35 Gastric and Duodenal Ulcer. E. J. Claypole, Pasadena.

29 and 32. Abstracted in The Journal, July 17, 1909, p. 228.

31. **Diet Regulation.**—Millspaugh makes a very good point by saying that the regulation of diet for dyspeptics is not a simple thing. It will not do to tear off a printed diet-list for "ulcer" or "gastritis," or "hyperchlorhydria," and hand it to the patient. We must feed the whole patient, not his stomach or his liver or his intestines alone. To do it intelligently we must know the patient from head to foot, inside and outside; and we must know what the different foods will do.

34. Abstracted in The Journal, Aug. 14, 1909, p. 573.

Annals of Otology, Rhinology and Laryngology, St. Louis

June

36 Treatment of Cancer of the Larynx. O. Chiari, Vienna.
37 Study of the Anatomic Relations of the Optic Nerve to the Accessory Cavities of the Nose. H. W. Loeb, St. Louis.
38 Diseases of the Eye and Orbit Secondary to Pathologic Changes in the Nose and Accessory Sinuses. C. R. Holmes, Cincinnati.
39 Orbital Complications of Disease of the Frontal Sinus. H. F. Hansell, Philadelphia.
40 Ocular Symptoms of Diseases of the Nasal Sinuses. W. C. Posey, Philadelphia.
41 Extralaryngeal Causes of Laryngeal Symptoms. F. Smithies, Ann Arbor.
42 Clinical and Microscopic Diagnosis of Tuberculosis of Tonsils. L. M. Hurd, and J. Wright, New York.
43 Diagnosis and Surgical Treatment of Abscess of the Temporosphenoidal Lobe. W. S. Bryant, New York.
44 Removal of Tonsil (complete) in its Capsule. F. C. Todd, Minneapolis.
45 Method of Precision for Inflating the Tube and Tympanum. T. Hubbard, Toledo, Ohio.
46 Methods of Opening the Maxillary Antrum, with Presentation of New Instrument. J. O. Roe, Rochester, Minn.
47 Probable Case of Sarcoma of the Sphenoid Sinus. D. Roy, Atlanta, Ga.

Old Dominion Journal of Medicine and Surgery, Richmond

August

48 The Dead Body. W. H. Taylor, Richmond.
49 Extraperitoneal Implantation of the Ureters into the Rectum in Exstrophy of the Bladder. S. McGuire, Richmond.
50 The Cardiovascular Changes in Lithemia. M. Call, Richmond.
51 *Localization of Foreign Bodies: An Unusual Case. D. D. Talley, Richmond.
52 *Tincture of White Soap. F. P. Dunnington, Charlottesville.

51. **Localization of Foreign Bodies.**—Talley reports a case of needle in the buttock in which previous attempts at extraction were unsuccessful. The needle was localized by the *x*-ray, and was found to be imbedded in the sciatic nerve. It was removed by operation.

52. **Tincture of White Soap.**—The formula proposed by Dunnington for this preparation is as follows:

R.	gm. or c.c. For 1 gallon.
White Castile soap (Conti's)	1.200
Ammonia stronger	100
Alcohol	1.400
Water, dist	1,300

The specific gravity of this mixture is 0.97, which is identical with that of tincture of green soap. To make one gallon: Mix the liquids for it in a one-gallon jar and then add the soap, previously cut into coarse shavings. Crowd all the soap into the jar and cover it with a glass plate. After 12 hours stir, and again stir after some hours. Allow to settle 12 hours and then filter, decant or syphon off the clear liquid into a can which may be kept closed. There will remain a few ounces retaining the impurities of the soap, which may be used for less particular washing. If this liquid is exposed to evaporation for a few hours, ammonia and alcohol escape, and a mass of the consistency of green soap will be obtained. While this preparation is said to be free from the objections to tincture of green soap, it presents the additional advantage of costing but $1.50 a gallon, and, if the alcohol is obtained tax free, the cost will be about 60 cents a gallon, while tincture of green soap will cost $1 or more.

Wisconsin Medical Journal, Milwaukee

August

53 *Operations on Handicapped Patients. G. W. Crile, Cleveland, Ohio.
54 The State University, the Medical Profession, and the Public. C. R. Bardeen, Madison.
55 Treatment of Tuberculosis in Those who have to Work Indoors. T. Willett, West Allis.
56 Relation of Ocular Defects to Diseases of the Nose and Accessory Sinuses. J. M. Cooke, Darlington.
57 Toxicity of Human Sweat. C. A. Baer, Milwaukee.

53. Abstracted in The Journal, Aug. 21, 1909, p. 647.

Chicago Medical Recorder

August

58 Contemporary Workmen's Compensation. W. H. Allport, Chicago.
59 *Dietary Control of Gastrointestinal Disorders. R. W. Webster, Chicago.
60 *Purpura Hemorrhagica. A Neurotoxic Form Due to a Syphilitic Nerve Involvement Plus a Toxic Action from Potassium Iodid. W. F. Bernart, Chicago.

59. **Gastrointestinal Disorders.**—Webster tries to show that the dietary treatment of gastrointestinal diseases must be based on a definite knowledge of the normal gastroenteric functions rather than on the many empiric regulations which have been laid down in times when our knowledge was not so exact regarding the influences of the various ferments on the different types of food or of the interrelations of the activities of the stomach and bowels. Observing the perversions of function, which may not always be outlined clearly, is the only certain method which can lead to a scientific dietary control. More careful study of the patient, instead of the too frequent reliance on empiricism, will reward the practitioner with the gratitude of his patient, and the patient will have a much higher opinion of the physician, as well as a more nearly normal gastrointestinal tract.

60. **Purpura Hemorrhagica.**—Bernart's case of purpura hemorrhagica was a neurotoxic form due to a syphilitic nerve involvement, plus a toxic action from potassium iodid. The hemorrhagic spots were only and entirely confined to a portion of the body affected by a syphilitic process within the spinal canal; the long axis of the oblong lesions all ran horizontally. An examination of the scrotum showed a hemorrhagic infiltration into the skin of the scrotum, both thighs and legs. The upward extension of the eruption was definitely limited to a surface line drawn from trochanter to trochanter; a few scattered lesions on the posterior and lateral aspects of the buttocks extended above the line. Below, the eruption was definitely marked as far as the lower edges of the calves of the legs; below this it became scattered and disappeared at the ankles. Most of the spots were oblong in shape, the largest being about 1¼ by ¾, and all assumed a horizontal position. None of the spots showed a deep ecchymosis, but were of a mottled appearance due to an imperfect infiltration into the skin.

There being but little doubt that the spots were due to one of the drugs given, it was decided to discontinue the iodid to ascertain which produced the lesions. After the lapse of a week the spots disappeared, a slight mottling of the surface alone being visible. Twelve days after the beginning of the treatment, the patient was again placed on the potassium iodid. During this second course he was given larger doses, 2 grams, three times daily. Four days after readministering the iodid the eruption again occurred and was confined to the same regions as before and the long axis of the spots also ran transversely.

A third course of the iodid was started on the twenty-first day; this was followed in a few days by a recurrence of the purpura showing the same characteristics as its predecessors, with the exception that the spots were not so numerous or so clearly defined. Before the inauguration of this third course the patient showed a decided improvement in his general condition. Thirty-one days after the beginning of the treatment the fourth course of the iodid was given; this was followed by a few ill-defined spots confined to the thighs and buttocks. A few weeks later a fifth course was tried, but it failed to produce any lesions. The real interest in this case is that the iodid alone did not produce the purpura, neither did the lesions within the spinal canal; the phenomena occurred through the combined action of the two, namely, through the toxic action of the iodid on an area influenced by some syphilitic nerve involvement which undoubtedly was situated in the spinal canal between the first and fourth lumbar vetebræ and involved in the ilioinguinal, genitocrural, external cutaneous, obturator and anterior crural nerves. The peculiar arrangement of the spots remains unaccounted for.

Alabama Medical Journal, Birmingham

August

61 Gastric and Duodenal Ulcer Treated Surgically. J. M. Mason, Birmingham.
62 Appendicitis, with Pus and Peritonitis. W. T. Berry, Birmingham.
63 Surgical Treatment of Prostatic Abscess and Hypertrophy. G. Torrance, Birmingham.
64 Early Recognition of Pneumonia and the Differentiation from Abdominal Conditions. T. C. Donald, Bessemer.
65 An Interesting Case. H. L. Appleton, Birmingham.
66 Pellagra—Honor to whom Honor is Due. C. M. Rudolph, Birmingham.

Albany Medical Annals

September

67 Hypodermatic Medication in Modern Therapy. S. L. Dawes, Albany, N. Y.
68 Acute Diffuse Suppurative Peritonitis. J. E. Sadlier, Poughkeepsie, N. Y.
69 Personal Experience with Gastroenterostomy. E. A. Vander Veer, Albany, N. Y.
70 Spinal Anesthesia. F. E. Lettice, Ossining, N. Y.
71 Tuberculosis of the Breast. F. J. Ressegnie, Saratoga Springs, N. Y.

Journal South Carolina Medical Association

August

72 *The Occidental-Oriental Health Problem. L. Cofer, U. S. P. H. and M.-H. Service.
73 Etiology, Prevention and Treatment of the More Common Tropical Diseases Encountered in the Canal Zone. J. A. Hayne, U. S. Army.
74 Local and Constitutional Treatment of Corneal Ulceration. C. W. Kollock, Charleston.
75 Preventable Blindness. E. F. Parker, Charleston.
76 Musca Domestica: The Common House Fly. F. A. Coward, Columbia.
77 *Prevalence of Pellagra in the United States. C. H. Lavinder, U. S. P. H. and M.-H. Service.
78 *Etiology of Pellagra. C. H. Lavinder, U. S. P. H. and M.-H. Service.

72. Abstracted in The Journal, June 5, 1909, pp. 1870, 1971.

77. **Pellagra in the United States.**—This is a statistical and geographic note, with an excellent American bibliography appended.

78. **Etiology of Pellagra.**—Lavinder holds that the cause of pellagra is essentially unknown; that the idea in one form or another, of an etiologic relation between pellagra and the use of maize as a food is held by the majority of students of the disease; that such an idea is almost as old as the history of the disease itself; that it rests to some extent on the observations and experimental work of many able men; and that it seems unwise to hold to such views so dogmatically as to exclude investigation along other suggestive lines.

Southern Medical Journal, Nashville

August

79 Laboratory Methods in Diagnosis of Typhoid. E. G. Wood, Nashville.
80 Bacteriology of Typhoid. W. Litterer, Nashville.
81 Diet and Prophylaxis in Typhoid. S. Harris, Mobile, Ala.
82 Treatment of Typhoid. J. G. Cecil, Louisville.
83 Surgical Complications of Typhoid. W. D. Haggard, Nashville.
84 *Metastases in Carcinoma of the Breast. C. A. Robertson, Nashville.
85 *Teaching of Pharmacology in the Smaller Medical School. W. deB. MacNider, Chapel Hill, N. C.
86 Differential Diagnosis and Treatment of Occupation and Other Parakinetisms of Organic and Psychic Origin. T. A. Williams, Washington, D. C.
87 Lung Puncture as a Therapeutic Measure. T. J. Coble, Shelbyville, Tenn.
88 *Treatment of Tetanus with Special Reference to the Use of Magnesium Sulphate. G. J. Winthrop, Mobile, Ala.

84. **Metastases in Carcinoma of the Breast.**—In June, 1908, Robertson amputated the right breast for adenosarcoma. Perfect coaptation of the wound was secured, and in ten days union was complete throughout. The patient made an uneventful recovery, but continued to suffer with difficult locomotion, muscular pains and soreness, which were supposed to be due to rheumatism. Nov. 26, 1908, while endeavoring to get out of bed, she sustained a fracture of the humerus at its middle, occasioned by the slightest muscular effort. Under appropriate treatment perfect union resulted. This patient came under observation again April 3, 1909, having been confined to her bed for about two months. She was now unable to move her body in any direction, there was marked kyphosis and evidence of mediastinal involvement. There was no paralysis of the lower extremities, nor interference with the bladder function. The patellar reflex was somewhat exaggerated. Fracture of the humerus occurred spontaneously, without traumatism.

85. **Teaching Pharmacology in Smaller Medical Schools.**—Macnider emphasizes that a laboratory course in pharmacology for 40 hours, which includes the use by the students of frogs, turtles and higher animals, can be given anywhere with an expenditure of not over $60 a year, provided the physiologic apparatus is used. The initial expenditure for other necessary apparatus and the construction of a simple dog house, need not be over $100. The value of such a laboratory course, simple as it is, is difficult to estimate. Short conferences with each group of men concerning experiments and results obtained gives the instructor a chance to study each individual

in the group and to aid in the development of the weaker members. The operative work gives the men an insight into operative technic. Lastly, it trains them to observe closely, to make accurate records, to seek for the reason, for results, and creates in them an enthusiasm for investigation and scientific medicine which must do much to direct them in their future work.

88. **Treatment of Tetanus.**—Winthrop reports a case of tetanus treated successfully by the injection of magnesium sulphate into the spinal canal.

Archives of Pediatrics, New York

August

89 *Urine in the Gastrointestinal Diseases of Infancy. J. L. Morse and B. Crothers, Boston.
90 The New-Born. H. E. Tuley, Louisville.
91 Treatment of Diphtheria, with Special Reference to the Prevention of Heart Failure. L. Porter, San Francisco.
92 Pathology of Thymic Hyperplasia and the Status Lymphaticus. A. S. Warthin, Ann Arbor, Mich.

89. **Urine in Gastrointestinal Diseases.**—The conclusions drawn by Morse and Crothers from a study of the urine in 300 cases are as follows: Albuminuria is found in from 8 to 10 per cent. of babies ill with various diseases of the gastroenteric tract. It is found somewhat more often in acute than in chronic diseases. Judging from the examination of the sediment, the pathologic condition in the kidneys almost never progresses beyond that of acute degenerative nephritis (often known as cloudy swelling or active hyperemia). Infection of the urinary tract, resulting in the symptom-complex commonly known as pyelitis or pyelonephritis, is far more common than acute parenchymatous or interstitial nephritis. In the chronic diseases there is no relation between the albuminuria and the mortality or symptomatology. The mortality is higher in the acute diseases when albuminuria is present than when it is not. The presence of albuminuria in an individual case does not, however, materially modify the prognosis in that case. Edema occurring in the course of diseases of the gastroenteric tract is not connected with the condition of the kidneys. There is nothing to suggest any causative relation between the affection of the kidneys and such symptoms as restlessness, convulsions and stupor. These are due to toxemia and not to uremia.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

August

93 Some Convenient Laboratory Apparatus. A. C. Crawford and H. V. Honn, Washington.
94 *Effects of Caffein and Sodium Bicarbonate on Toxicity of Acetanilid. W. Hale, U. S. P. H. and M.-H. Service.
95 Anesthesia by Intracerebral Injection of Magnesium Chlorid. V. E. Henderson, Toronto, Can.
96 *Ergot. W. H. Cronyn, and V. E. Henderson, Toronto, Can.
97 Pharmacologic Action of Some Phthaleins and their Derivatives, with Special Reference to their Behavior as Purgatives. J. J. Abel, and L. G. Rowntree, Baltimore.
98 Clavin, Vahlen's Active Constituent of Ergot. D. D. Vanslyke, New York.
99 Effect of Collodion on the Amanita Hemolysin. W. W. Ford, Baltimore.
100 Distribution of Poisons in the Amanitas. W. W. Ford, Baltimore.
101 Pharmacologic Action of Iodbenzoate, Iodosobenzoate and Oxyiodosobenzoic Acids. A. S. Loevenhart, and W. E. Grove, Madison, Wis.

94. **Toxicity of Acetanilid.**—Hale found by experimentation on the hearts of both warm and cold-blooded animals that caffein is of little or no benefit in acetanilid poisoning in so far as the energy is concerned, and in some cases apparently exerts a harmful effect. The same is also true in the case of blood-pressure. On the other hand, there appears, especially in the dog, to be a well-established antagonism on the heart rate. This antagonism, however, would probably be insufficient to be of any value in cases of poisoning in man. Feeding experiments demonstrated the absence of antagonism between acetanilid and caffein, in all cases the addition of the latter drug causing death more quickly or with a smaller dose. This, in connection with the imperfect antagonism to the heart action, makes the use of caffein in acetanilid mixtures especially questionable. Sodium bicarbonate, in contrast, lessens the toxicity of acetanilid, both in its action on the heart and on the intact animal, increasing the duration of life or making the use of a larger dose of acetanilid necessary to cause death.

96. **Ergot.**—The results obtained from experiments lead the authors to advise the use of ergot in certain emergencies, namely, in shock and postpartum hemorrhage. In both these cases Cronyn and Henderson would use the drug intravenously; but the effect should be watched carefully and care taken not to repeat the dose too frequently. They conclude also that: 1. Most galenical preparations of ergot contain a considerable amount of the active principles, but do not show any great or marked action when given by mouth. The usually recommended doses are much too small. 2. Ergotoxin is a highly active alkaloid and has the properties of ergot most desired in medicine. 3. Ergotoxin brings about a long-enduring contraction of the walls of arterioles, and increases the movements of the uterus. 4. This action is feeble when ergotoxin is given by mouth, but more marked in subcutaneous injections and much more marked when given intravenously. 5. In cases in which a rapid and certain action is wished, either in shock or in postpartum hemorrhage, they would recommend intravenous administration. They recommend, further, if the effect proved too evanescent to achieve the results desired, that suprarenal extract be administered subsequently in repeated small doses.

Woman's Medical Journal, Cincinnati

August

102 Progress of Hygiene. A. Eichelberger, Sioux City, Iowa.
103 Tuberculosis: Etiology and General Symptomatology. L. H. Branson, Iowa City.
104 Early Diagnosis of Tuberculosis. A. Safely, Cedar Rapids, Ia.
105 Tuberculin Test. M. K. Heard, Iowa City, Iowa.
106 Home Treatment of the Individual. C. Whitmore, Cedar Rapids, Iowa.
107 Sanatorium Treatment of Tuberculosis. J. B. Hudson, Iowa City, Iowa.
108 Treatment of Tuberculosis along the Line of Social Needs. S. H. Scott, Des Moines, Iowa.

Ophthalmic Record, Chicago

August

109 Case of Migraine Involving the Abducens Nerve. C. A. Veasey, Spokane, Wash.
110 *Should we Operate in High Degrees of Myopia? J. S. Wyler, Cincinnati.

110. **Operation in High-Grade Myopia.**—The following indications alone, according to Wyler, seem to warrant operation: (1) A myopia of at least 14 diopters; this is the minimum, for 18-20 D. give even better results; (2) the degeneration of the fundus must not be very far advanced or the vitreous greatly diseased, for under such circumstances good vision can hardly be expected; (3) if the patient can follow his daily occupation without discomfort, nothing should be done. It is in those cases in which the visual acuity is so diminished because of the decreasing size of the objects, that the interference is justified in order to allow the myope to continue at his trade; (4) patients over 40 years old should not be operated on, unless it is absolutely imperative, for after this age a needling and linear extraction will not meet the requirements, and a simple extraction in a high myope is not only exceedingly difficult, but hazardous. The extraction in capsule, after the method of Major Smith, is hardly applicable, because of the fluid vitreous present and its almost certain loss.

Laryngoscope, St. Louis

August

111 *An Abundant Meatal Flap for the Radical Operation. F. Whiting, New York.
112 The Heath Operation for Chronic Aural Suppuration. E. C. Ellet, Memphis.
113 Removal of a Bullet from the Inner Wall of the Middle Ear. T. V. Moore, Huntington, W. Va.
114 Importance of the Thorough Study of the Nasopharynx in the Treatment of Diseases of the Ear. F. R. Packard, Philadelphia.
115 Clinical Diagnosis and Operative Procedure In Intralaryngeal Carcinoma. C. Jackson, Pittsburg.
116 Microscopic Diagnosis of Intralaryngeal Growths from a Practical Standpoint. J. Wright, New York.
117 Orbital Route to the Accessory Sinuses. P. Fridenberg, New York.
118 Unusual Cases of Frontal Sinusitis. L. M. Hurd, New York.
119 Deep Cervical Abscess from Stricture of the Esophagus: Purpura Hemorrhagica, with Abscess of the Deep Cervical Lymphatics. J. J. Kyle, Indianapolis.

111. **Meatal Flap.**—For radical mastoid work the method of construction of the flap employed by Whiting is as follows: The helix of the auricle is firmly grasped between the thumb and finger and drawn upward, forward and somewhat away from the skull. A sharp-pointed narrow-bladed bistoury is then used

with which to transfix the auricle at the margin of the meatus in the ventricle meridian above, just where the meatus widens out into the concha. When the transfixion is completed, the knife, without being withdrawn from the wound, is made to follow the periphery of the margin of the meatus around its posterior half to the vertical meridian below, in the form of a semicircular or crescent-shaped incision. Caution should be observed when making this incision that the handle of the knife be held as close to the face of the patient as convenience of manipulation will permit, for the more nearly the handle of the knife is kept horizontal with the face, the more deeply will the blade traverse the tissue and the more abundant will be the resulting flap. The tragus should also be protected, lest if it be prominent—as it sometimes is—it may be wounded by the heel of the knife.

Having completed the incision around the posterior border of the meatus, the next step in the construction of the flap is to make a second incision at right angles to the first, extending the entire length of the fibrocartilaginous meatus along the floor. This incision is most easily and accurately completed by cutting from within the meatus outward. The blade of the knife is inserted into the meatus through the incision first made and at its lower angle; thence the cut extends directly downward, dividing the cartilaginous meatus throughout its entire length, and freeing the flap so that it may be drawn upward and backward into position for stitching. Before the flap is stitched in its permanent place, however, it should be divested of all unduly thick and redundant tissue, and of such fragments of cartilage as would in any wise interfere with its pliability and accurate adjustment. Having been thus prepared, the flap is drawn upward and backward, and applied in such a manner as to most advantageously cover the supero-posterior portion of the bone cavity, with the contour to which it naturally adapts itself. A single stitch of catgut carried through its upper margin and attached to the border of the temporal fascia just below the temporal ridge, serves as an efficient support to the flap, while the gauze packing with which the wound is dressed affords the necessary pressure to bring the adhering surface into firm contact with the bony wall which it is designed to cover.

Journal of Indiana State Medical Association, Fort Wayne

August

120 Early Diagnosis and Treatment of Superficial Malignant Growths. J. N. McCoy, Vincennes.
121 Use of the Giant Magnet in Removing Foreign Bodies from the Eye. C. W. Conger, Indianapolis.
122 Pathology of the Seminal Vesicles and Prostate with Suggestions of the Necessity for Surgical Treatment. C. E. Barnett, Fort Wayne.
123 Law and Medicine. C. A. de Bruler, Evansville.
124 Sketches of the Medical History of Indiana (continued). G. W. H. Kemper, Muncie.
125 Lymphatic Enlargement of the Neck. B. F. Kuhn, Elkhart.
126 Exophthalmic Goiter. F. O. Dorsey, Indianapolis.
127 Dermatitis Ditropenotus Aureoviridis. L. Y. Rawles, Huntertown.

American Medicine, New York

August

128 *Dangers of Tent Shelters for Consumptives in Summer. C. E. Woodruff, U. S. Army.
129 Timidity and Insanity (continued). M. K. Isham, Columbus, Ohio.
130 The Holmes Centenary. H. E. Lewis, New York.
131 *A New Kind of Gynecologic Massage and its Indications. R. Hogner, Boston.
132 Expert Chemistry in the Development of Life, and its Bearing on Medical Science. J. Clements, Wichita, Kansas.
133 Gun Deafness: A Danger. G. T. McMaster, New Haven, Conn.
134 The Spleen. E. H. Fiske, Brooklyn.
135 Deficient Excretion of Urinary Solids. W. F. Waugh, Chicago.
136 The Parisian Clinics. T. A. Williams, Washington, D. C.

128. **Tent Shelters for Consumptives.**—Woodruff warns against the use of tents in the hot light months. He says that there is no doubt that the tuberculosis mortality is unduly large, and that it is avoidable if we will only avoid tents and keep the patients cool and shaded.

131. **Gynecologic Massage.**—In the method employed by Hogner the patient is lying about eighteen inches above the floor, on a double incline plane, the head and chest comfortably elevated, the abdomen and the legs very much raised, thus getting the best relaxation of the abdomen and moving the intestines away from the massaging. The operator sits at the patient's left side, on the hard couch, his left hand and forearm in her median line, the elbow resting on the couch. He examines and gives the massage as does Thure Brandt, but uses mostly vibratory massage by means of a motor as introductory to the manual. The vibrations of the machine are transmitted through the abdominal wall and the massaged tissues to the fixating fingers, but pass only a little outside this area, as the vibratory massage is practically local. Hogner gives the massage centripetally, as Brandt did, but begins with the manual and finishes with the vibratory (instrumental). This "new kind of gynecologic massage" (the instrumental, vibratory one) has many times proved curative, he asserts, when other treatments, even surgical, have failed to get permanent, or, for the patient, satisfactory results.

Medical Herald, St. Joseph, Mo.

August

137 *Use of Carbon Dioxid Snow in Dermatology. R. L. Sutton, Kansas City, Mo.
138 Immunity: A Possible Means for its Better Comprehension. J. Block, Kansas City, Mo.
139 A Department of Health, and its Relative Effect on Life Expectancy. L. H. Montgomery, Chicago.
140 Ophthalmologic Experience. B. Pitts, St. Joseph.
141 Some Reasons why I Dispense. G. B. Dorrell, Republic, Mo.

137. Published in *Dublin Journal of the Medical Sciences*, July, 1909.

St. Louis Medical Review

August

142 *Experimental Arteriosclerosis. L. K. Baldauf, St. Louis.
143 The Present-Day Problem of Tuberculosis. O. H. Brown, Mt. Vernon, Mo.
144 Chronic Myocarditis. W. P. Elmer, St. Louis.
145 *Stuttering in School Children—Its Prevalence and Treatment. E. B. McCready, Pittsburg, Pa.

142. **Arteriosclerosis.**—Baldauf reviews the literature on this subject but offers nothing new. He has examined carefully the aortas of a number of large rabbits used at the laboratory of the St. Louis city bacteriologist in the Pasteur treatment for hydrophobia. In none did he find a lesion in the aorta.

145. **Stuttering.**—McCready endorses the so-called melody cure devised by Scripture.

Western Medical Review, Omaha

August

146 Will as a Therapeutic Agent. J. M. Aikin, Omaha.
147 Extra-Gastric Lesions Simulating Gastric Ulcer. A. F. Jonas, Omaha.
148 Acute Anterior Poliomyelitis. F. E. Coulter, Omaha.
149 Helpful Hints to the Busy Practitioner. F. A. Wells, Kenesaw, Neb.

Detroit Medical Journal

August

150 Therapeutic Application of Ovarian Extract. W. H. Morley, Detroit.
151 Value of Reflexes in Diagnosis. J. S Risien-Russell, London, Eng.
152 Fibroma of Anus and Rectum. S. Stevens, Battle Creek.
153 Extensive Lateral Sinus Thrombosis: Operation including Ligature of the Internal Jugular Vein: Recovery. E. Amberg, Detroit.

American Journal of Urology, New York

August

154 *New Aphrodisiacs. V. G. Vecki, San Francisco.
155 Hypertrophy of the Prostate and its Treatment. C. Ostermann, Braunschweig, Germany.
156 *Prostatic Calculi. J. L. Thomas, Cardiff, Wales.
157 Prostate Weighing Seventeen Ounces Removed by the Suprapubic Route. A. Fullerton, Belfast, Ireland.

154. **New Aphrodisiacs.**—Among the aphrodisiacs of old stands first, and most important, cantharides. No real physician would use these preparations, because, as Vecki points out, we know that if cantharides is an aphrodisiac, then acute gonorrhea with an inflammation, causing erections, is also one. Experience teaches that strychnin, phosphorus, quinin and iron have no special action on the sexual desire nor on the erective power, but may act indirectly. Cannabis indica, opium and other narcotics certainly are not aphrodisiacs in the sense of heightening sexual power, but may seem to do so by dulling the inhibitive centers which so often interfere untimely with the desired erections. We do not expect much of an action from damiana, musk or other spices, while alcohol and a rich, especially a prominently nitrogenous diet are like two-edged knives. They do only harm in all those high-livers who endeavor to stimulate the activity of their autointoxicated

organs by stuffing themselves with oysters, caviar, cheese, ale, porter, and many other exhilarating substances. While it is evident that there can be no such drug as an aphrodisiac, industrious fellows have tried to supply the ever-present demand. Innumerable preparations have been thrown on the market. Of some of them we are reminded at regular intervals by most alluring pamphlets and testimonials. One of the newer preparations for which powerful aphrodisiac properties are claimed is yohimbin. Vecki claims that yohimbin has no effect in healthy persons, and showed no effect with any of his impotent patients. In his opinion yohimbin has no value as an aphrodisiac. In fact, he warns against its use. Vecki has also used muiracithin in a number of cases. The patients were none the worse for using muiracithin, but none of them noticed the slightest effect on their sexual powers and feelings.

156. **Prostatic Calculi.**—Thomas reports three cases illustrating the advantages of his method for their successful removal by the combined suprapubic and perineal routes.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

August

158 Cholelithiasis: Gallstone Disease. J. C. Hemmeter, Baltimore.
159 The Therapeutics of Pain. L. F. Flick, Philadelphia.
160 *Present Knowledge of the Action of Cathartic Drugs. F. P. Underhill, New Haven, Conn.
161 *Diabetes Mellitus as an Infectious Disease. A. King, Portland, Maine.
162 *The Hypnoidal State in Psychotherapeutics. B. Sidis, Brookline, Mass.
163 Superficial Dermatitis of the External Auditory Canal. C. J. Blake, Boston.
164 Arthritic Muscular Atrophy. J. V. Shoemaker, Philadelphia.
165 Border of Success—Importance of Careful Attention to Details in Eye and Ear Work. L. H. Buxton, Oklahoma City, Okla.
166 Severe Type of Typhoid with Management and Treatment. B. L. Hale, Philadelphia.
167 Action of Glandular Extracts on the Pupil. I. Ott and J. C. Scott, Philadelphia.
168 Antidotal Effects of Alcohol on Phenol. H. J. Novak, Philadelphia.

160. Abstracted in The Journal, June 5, 1909, p. 1864.

161. Abstracted in The Journal, May 29, 1909, p. 1782.

162. Published in the *Journal of Abnormal Psychology*, June-July, 1909.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

August 28

1 Peripheral Circulation and its Treatment. Sir J. Barr.
2 The Crescendo Murmur of Mitral Stenosis. E. M. Brockbank.
3 *The Blood in Chorea and Rheumatism. C. J. Macalister.
4 *Enterospasm Simulating Acute Obstruction. F. E. Wynne, and F. P. Sturm.
5 Achondroplasia Occurring in a Chinaman. G. Moir.
6 *Dercum's Disease. G. McMullan.
7 Latent Infections by the Diphtheria Bacillus. P. W. Williams, R. M. Buchanan, D. Forbes, and R. V. Clark.
8 Endemicity of Influenza. A. W. Gilchrist.
9 Connection Between Cattle Fairs and Tuberculosis in Ireland J. D. Wynne.
10 Early Diagnosis of Tuberculosis. A. Calmette.
11 Influence of the Site of Inoculation. L. Noon.
12 *Inoculation Treatment of Tuberculosis. D. W. Carmalt-Jones.
13 *Bacteriology and Vaccine Treatment of Acne Vulgaris. A. Fleming.
14 Bacteriology of Common Colds. C. H. Benham.
15 Treatment of Edema. H. D. Rolleston.
16 Facts and Fancies in Pharmacology. W. E. Dixon.
17 Action of the Pressor Substances in Putrid Meat, Placenta, and Ergot on the Heart and Uterus. W. E. Dixon and H. H. Dale.
18 Effect on the Leucocyte Count Produced by Thiosinamin Injections. F. J. Charteris.
19 New Member of the Saponin-Digitalin Group of Glucosides. B. Moore, F. W. Baker-Young and S. C. M. Sowton.
20 Lesions of the Mucous Membranes in Cutaneous Disease. Sir M. Morris.
21 *Acanthosis Nigricans. R. B. Wild.
22 *Idem. G. St. George, and G. M. Melville.
23 Preventive Treatment of Puerperal Eclampsia. A. M. Bankier.
24 *Continuous Proctoclysis. H. J. Paterson.
25 Soamin (Sodium Para-Aminophenylarsonate) in Syphilis. A. Fraser.

3. **The Blood in Chorea and Rheumatism.**—Macalister is of the opinion that there is less real association between chorea and rheumatism than is generally thought to be the case, and that chorea may be due to an infective toxemia of distinctive character. The results of his experiments show (1) that there appears to be in the blood plasma of patients suffering from chorea a poison which is toxic to the leucocytes of healthy persons, and (2) that in rheumatism the plasma does not appear to be so uniformly toxic; in fact, it seemed to be hardly at all poisonous to healthy leucocytes. In the first two cases of chorea which were investigated there was a marked eosinophilia. The counts showed 20 per cent. of eosinophiles in one, and 16 per cent. in the other. Macalister thought this might possibly have been due to some unsuspected intestinal parasites, but examination of the stools for eggs, etc., gave absolutely negative results. Six or eight chorea bloods have been examined since then, and, with one exception, they have all presented this peculiarity. There has been no eosinophilia in any of the numerous cases of acute rheumatism examined.

4. **Enterospasm Simulating Acute Obstruction.**—The case reported by Wynne and Sturm was one of association of an old appendicular trouble with enterospasm, suggesting a reflex origin of this curious condition, and a possible explanation of certain cases of fecal vomiting as the peristaltic action was reversed. The patient gave a history of repeated attacks of biliary colic, which was curious, since only one gall-stone was found, and that in the appendix. Many other gall-stones must have succeeded in passing the trap. A similar, though much less severe, attack of three years previously had been relieved by a natural action of the bowels. The case was a perfect clinical picture of acute abdominal mischief, but without the abdominal rigidity usually associated with such conditions. The unexpected collapse and death of the patient suggested that even a moderate amount of abdominal manipulation in these spastic conditions of the bowel involves an inordinate degree of shock.

6. **Dercum's Disease.**—The case reported by McMullan presented almost all the characteristic symptoms of adiposis dolorosa—the history of numbness and pain, followed by diffuse symmetrical fatty deposits, the associated hemorrhages; the presence of hyperesthetic areas; and the general debility and harsh, dry skin. The patient, a woman, aged 61, was fairly bright and intelligent, but complained of some loss of memory. There was nothing about the case, however, to suggest myxedema. McMullan gave her thyroidin, grs. v, t. i. d., and after scarcely two weeks the pains had almost disappeared, the numbness and tingling had been very much alleviated, and there was a distinct reduction in size of the right arm, of almost ½ inch. The woman felt very much better, and could sleep and do a little work better than she could for several months previously.

12. **Inoculation Treatment of Tuberculosis.**—The total number of patients with tuberculous disease treated by Carmalt-Jones is 367. They all attended as out-patients, and though they included more well-to-do persons than usual in such practice, there was a large preponderance of the poor. The number of each kind of case treated are as follows: Lymphatic glands 155, joints 70, ulcer, sinus and abscess 50, genitourinary tract 34, lupus 23, lungs and pleura 10, bone 8, dactylitis 7, peritonitis 5, eye 3, and larynx 2. In 8 of the 87 cases of tuberculous lymphatic glands inoculation was employed as an adjunct to removal by operation, in every case with satisfactory results and with no recorded recurrence. In 79 patients in whom inoculation was the chief method of treatment, 37 were males and 42 females. In 10 the affected glands were either in the axilla arm or groin; in all the rest they were in the neck. The treatment of these patients has consisted in inoculating them, subcutaneously, with Koch's emulsion of tubercle bacilli, generally known as B. E. The doses are minimal at the outset, and repeated at intervals of ten days, a dose not being increased till it has ceased to have a therapeutic effect. The minimal dose is usually 1/15,000 or 1/20,000 mg., the smaller dose being always used for children. The maximal dose for children under 5 is 1/10,000, for older children and adults it rarely exceeds 1/4,000; in a few instances 1/3,000 has been used and 1/2,000 is recorded. Of these 79 patients, 27 are cured, 22 are much better, 18 are better, 8 are unchanged and 4 are worse. The patients in whom the glands were involved were, on the whole, decidedly bad cases. An indication of this is the fact that of the 79, 43, or more than half, had been operated on previously, and 21, or one-quarter,

had had more than one operation; 5 of them had had ten operations or more. Of the patients cured, 9 out of 27 had been operated on; of those much better, 14 out of 22; of those better, 11 out of 18; and 9 out of 12 of those unchanged or worse. The second variety of tuberculous infection studied was a group in which are included ulcer, sinus and abscess, 50 cases in all. The results show 10 cures, 20 patients much better, 9 better, 8 unchanged and the rest doubtful. The dose employed among patients cured has averaged 1/15,000 mg. minimum and 1/7,000 mg. maximum for children and 1/15,000 minimum and 1/5,000 maximum for adults. Thirty-four patients with tuberculosis of the genitourinary tract have been treated, in 9 cases the testes were involved, in 8 the kidney, and in 17 the bladder. Of the testis cases three patients are cured, 2 are much better, 3 better and 1 is dead. The death occurred after childbirth, and at the time when the renal symptoms were improving. Of the cystitis cases, 2 patients are cured, 4 much better, 8 better, 1 is no better, 1 worse, and in 1 the condition is unknown. Relapse has occurred in 5 cases. The dose should be a very small one at the outset; in 10 out of 15 of the successful cases the initial dose has been less than 7/15,000 mg., often 1/25,000; it may in time be brought as high as 1/4,000, but very bad results may follow excessive initial doses. Treatment in the successful cases has averaged one year and two months, though 5 patients have been treated for six months or less. Lupus has been treated in 23 cases. Three patients are cured—this is agreed. 8 are much better, 9 better, 1 unchanged and 2 unknown. The doses employed are large, of the successful cases only 3 began with 1/15,000 mg. or less, and the average minimum is 1/9,000. Maximal doses vary between 1/2,000 and 1/5,000. Of 10 patients with phthisis or pleurisy, 4 are reported cured or much better, 4 are unchanged. The dose is very small; 1/25,000 to 1/50,000 mg. is the initial dose.

Of 8 patients with bone disease, 2 are cured and 3 are much better; the dose is the same as in cases of adenitis. Of 7 patients with dactylitis, 2 are cured, 2 are better, and 1 unchanged. One patient with peritonitis is cured, 2 are better and 1 is unchanged. Three patients with ocular tuberculosis in the cornea, chorioid and retina, respectively, are all described as much better. Both patients with laryngitis are unchanged. Carmalt-Jones says that tuberculosis of lymphatic glands is the form most amenable to inoculation treatment, nearly 1 in 3 being cured, and (including cures) 5 in 8 much improved. Next comes ulcer, with 1 in 5 cured and 3 in 5 much improved. In the genitourinary tract 1 in 5 are cured, and 3 in 7 much improved, and in lupus 1 in 8 are cured, and 1 in 2 much improved.

13. **Acne Vulgaris.** Fleming has obtained better results in the treatment of acne vulgaris from the use of a combination of staphylococcus vaccine and acne bacillus vaccine than from either vaccine alone.

21. **Acanthosis Nigricans.**—There are several points of interest in Wild's case; one is the association of the skin changes with carcinoma of the left supraclavicular glands and the prior appearance of the latter. In the absence of any post mortem examination it is impossible to say what organ was involved in this case, as there were no symptoms of disease in any abdominal viscus, but the probabilities seem to be in favor of the cardiac end of the stomach, where carcinoma may exist for a considerable time without localizing symptoms. The pancreas, however, cannot be excluded, and suprarenal disease is possible, although the condition of the blood seemed to be against it. A second point of interest is the condition of the blood. At first sight any observer would have called the patient anemic, save for the redness of the lips and the mucous membranes. Closer examination of the skin showed this appearance of anemia to be due to the obscuration of the superficial blood-vessels by the opacity of the thickened skin. The blood-count showed only slight anemia, and beyond the deficiency of red corpuscles the blood was practically normal within a few weeks of death. There was no marked leucocytosis. Finally, should be pointed out the predominance of the lesions on the upper half of the body and hands and the freedom from any sign of disease on the feet and legs below the thighs

22. **Idem.**—The authors supply a detailed review of the literature of this disease, and report a case.

24. **Continuous Proctoclysis.**—The apparatus employed by Paterson consists of an electroplated douche-can, which holds about five pints. In the front of the can is a thermometer and a gauge glass, and the can is graduated in half-pints, so that the amount of saline solution entering the rectum can readily be estimated. The solution leaves the can through a delivery tube with a half-inch bore, to which is attached three feet of rubber tubing connected with a large rectal tube. Under the bottom of the can is an electric heater, which can be connected with any electric supply of suitable voltage by means of a flexible cord and wall plug. The can is suspended on an adjustable stand mounted on castors so that it can readily be wheeled up to the bedside.

Lancet, London

August 28

26 *Students' Number.

26. This issue is devoted entirely to the discussion of topics of interest to medical students.

Medical Press and Circular, London

August 18

27 Acute Leukemia. A. Hertz.
28 Regulation of Marriage by the State. S. A. Bontor.
29 Etiology, Diagnosis, and Prophylaxis of Typhoid Fever in India. D. Semple.
30 Origin of Infectious Diseases. A. S. Ashmead.
31 Alcohol and its Effects on the Child. I. Doczi.

August 25

32 Feeble-Minded Children. A. F. Tredgold.
33 Treatment of Severe Cases of Chronic Colitis. J. P. L. Mummery.
34 *New Procedure for the Treatment of Diseases of the Nose. E. Sprenger.
35 Sleeping Sickness: A Study of the Tsetse Fly. E. D. W. Greig.

34. **Treatment of Diseases of the Nose.**—If the nasal mucous membrane becomes chronically affected from any cause, the nose does not act as under normal conditions; it does not receive the physiologic stimulus necessary to health; it changes still more into a condition of disease, for that reason again it does less work, etc. Spengler terms this a "*circulus vitiosus.*" To bring about an improvement in the diseased part we must provide for longer pauses for rest, that is, we must bring about a temporary state of rest, and for this the mechanical, thermic and chemical stimuli must be kept back as much as possible. To accomplish this Spengler constructed small, clear yellow balls or pellets of porous India rubber, the so-called sponge-rubber. They are about 12 mm. in diameter, and are furnished with a stalk for the purposes of easy handling and cleanliness. These little balls are inserted into the lower part of the nostril and retained there for from half to three-quarters of an hour several times a day. First, a feeling of fulness is felt in the nostril, but also one of increased warmth. Very soon, however, a feeling of great relief comes on. The sensation of dryness that is often so troublesome disappears as the increased blood supply increases the secretory action of the glands. When the pellet is removed the nostril that has carried it is free, just as after an application of a weak solution of cocain, and agreeably moist. It can now be cleansed easily. This condition of relief often lasts from one to two hours, and when it passes off can easily be brought about again by the same means. Wearing the pellets regularly for several months is said to cause a marked improvement, or even complete recovery.

Clinical Journal, London

August 25

36 Obscure Fractures. E. M. Corner.
37 Antepartum Hemorrhage. H R. Andrews.

British Journal of Children's Diseases, London

July

38 Glioma of the Spinal Cord. G. Peacocke.
39 Fetal Rickets. J. R. Charles.
40 *Treatment of Cerebrospinal Meningitis in Children with Flexner and Joblin's Antiserum N. P. Marsh, and O. T Williams.
41 Irregular Uterine Hemorrhage in a Young Girl. G. Gibb.
42 *Intussusception. C. P. B. Clubbe.

40. **Treatment of Cerebrospinal Meningitis.**—As the result of clinical observations in 14 cases, Marsh and Williams believe that the use of Flexner's serum in cases of cerebrospinal meningitis which are diagnosed early promises extremely favorable results, and is worthy of the consideration of those who have to deal with this condition. Even in cases which are not diagnosed so early, the serum undoubtedly favors the prognosis, and it, or frequent lumbar puncture, or both combined, have a good deal to do with the prevention of the after-conditions.

42. **Intussusception.**—Clubbe has had under his care 173 cases of intussusception; in 157 laparotomy was done, and in 16 the intussusception was reduced by injection. Of the first 50 operated on, 25 died, a mortality of 50 per cent.; of the second 50, 12 died, a mortality of 25 per cent.; of the third 50, 4 died, a mortality of 8 per cent.; among the last 7 there were no deaths. In his opinion the correct and only treatment is laparotomy.

Obstétrique, Paris

July, II, N. S., No. 7, pp. 473-544

43 *Torsion of Uterine Fibromas in Pregnancy. G. Piquand and J. Lemeland.
44 *Suprasymphyseal Cervical Cesarean Section. F. Fraipont.

43. **Torsion of Uterine Fibroma During Pregnancy.**—Piquand and Lemeland review the history of this contingency and discuss the diagnosis which is always very difficult unless the presence of the fibroma is known beforehand. In one case on record, the disturbances were subacute and the tumor changed its consistency and grew hard as the uterus contracted under the exploring hand, permitting the exact diagnosis. It is necessary to exclude kidney colic, appendicitis and tubal rupture. An ovarian cyst is usually more elastic and more movable, and its displacement is not communicated to the uterus. The torsion of a uterine fibroma is one of the most serious complications of pregnancy. The irritation of the uterine muscle may entail expulsion of the ovum. The fibroma left to itself almost invariably becomes gangrenous. The details of 25 cases on record are tabulated, with 5 fatalities. In the 3 cases in which no operation was attempted, the patients all died, while only 2 died in the operative cases. In the 13 cases of torsion of the fibroma the pregnancy continued to term in 8 cases, while the children were still-born in the others, including 3 abortions. In the 12 cases in which the torsion involved the uterus, the pregnancy continued to term in only 3. In the other cases abortion occurred or the gravid uterus had to be removed. The vascularization of the gravid uterus renders hemostasis difficult, but it was accomplished in all the cases. To ward off abortion, the patient should be kept under the influence of opium before, during and several days after the operation. In Lepage's case, the pedunculated myoma was removed, after which the torsion of the uterus became spontaneously reduced and the pregnancy continued to term. The intervention should be as restricted as possible, safeguarding the mother while respecting the pregnancy, but not hesitating to remove the uterus and contents in case of necessity.

44. **Suprasymphyseal Cesarean Section.**—Fraipont reports eight cases in which he followed the Sellheim or modified Frank technic. There has been no tendency to retroversion in any of his cases; this has been suggested as a possible complication from fixation at the site of the wound in the front of the cervix. Recovery is more rapid than after pelvis-enlarging operations. He regards every woman as infected when labor has been under way for some time, the membranes prematurely ruptured, or the vagina examined several times. The microbes in these cases are as dangerous for the cellular tissue of the pelvis as for the peritoneum. If the child is living there is no other alternative in the infected cases than the Porro or the Sellheim operation.

Presse Médicale, Paris

August 14, XVII, No. 65, pp. 577-584

45 *Foreign Bodies in the Esophagus and Bronchi and False Foreign Bodies. (Corps étrangers et faux corps étrangers de l'oesophage et des bronches.) Guisez.
46 *The Effects of Lactic Bacilli on Intestinal Digestion (Les effets de la bactériothérapie lactique sur la digestion intestinale.) H. Labbé and G. Vitry.
47 *Hemoptysis Supplementary to the Menses. (L'hémoptysie essentielle supplementaire des règles existe-t-elle?) A. Martinet.

August 18, No. 66, pp. 585-592

48 Instrumental Dilatation of Cervix for Rapid Delivery. (De l'accouchement méthodiquement rapide par dilatation instrumentale du col utérin.) E. Bonnaire.
49 Liver Disturbances in Psychosis with Polyneuritis. (Des troubles hépatiques dans les psychopolynévrites.) Arsimoles and Halberstadt.

August 21, No. 67, pp. 593-600

50 *Manual Dilatation of Cervix for Rapid Delivery. (L'accouchement méthodiquement rapide par dilatation manuelle du col utérin.) E. Bonnaire.
51 Radium Therapy in Concrete Sebaceous Acne or Senile Keratoma. Barcat.
52 *Fluctuations in Composition of Urine in Health and Disease. (L'indosé urinaire.) H. Labbé and G. Vitry.

45. **Foreign Bodies in the Esophagus or Bronchi.**—Guisez has had 42 cases of this kind in the last five years and here gives illustrations of the instruments which he has found most useful. He comments on the remarkable tolerance of the esophagus for foreign bodies; in one case a 10 centime piece was removed that had been in the esophagus for four years without causing much disturbance. The foreign body may have passed on, but pain in swallowing may persist for some time afterward. In 19 cases of foreign body in the esophagus Roentgen-ray examination gave positive results in only 10 cases. In 3 cases the dyspnea, cough and attacks of suffocation seemed to indicate that the foreign body was in the air passages. Even radiography may prove deceptive as the foreign body is found later in the esophagus. In 2 cases Guisez was able to remove a scrap of bone which had caused symptoms diagnosed as due to pulmonary tuberculosis, but all subsiding after removal of the foreign body. There is only one way to be sure as to the presence and nature of the foreign body, and that is by direct visual inspection, bronchoesophagoscopy.

46. **The Effect of Lactic Bacilli on Intestinal Digestion.**—Labbé and Vitry report the findings in normal subjects taking lactic bacilli on a test diet for periods of from four to fifteen days. The proportion between the ethereal sulphates and the nitrogen in the urine remained constant, showing that this proportion has no connection with intestinal fermentation. The findings demonstrated that the absorption of nitrogen is much reduced under the influence of lactic ferments. They are contraindicated therefore when it is desired to give the patient a diet rich in nitrogen.

47. **Hemoptysis Supplementary to the Menses.**—Martinet warns that hemoptysis may occur in the absence of pulmonary trouble as a supplement to the menses. Ventura has published a case in which periodical hemoptysis occurred at times in place of the menses through three generations in some members of the family free from tuberculosis, syphilis, hemophilia or a heart defect. Martinet reports one out of several in his own experience. His patient was a healthy young woman nursing her second child. After two days of menstrual flow it ceased abruptly and a severe hemoptysis was observed. This occurred only once, and there have been no symptoms on the part of the lungs during the eight years since. In other cases epistaxis has supplemented or taken the place of normal menstruation.

50. **Manual Dilatation for Rapid Delivery.**—Confidence, patience and perseverance are necessary for successful dilatation of the cervix with the hand alone without injury of the parts. The muscular effort is no more than that required for instrumental dilatation, and twenty minutes are usually sufficient for the task, although over an hour may be required in exceptional cases. Its great disadvantage is that the muscles of the hand are fatigued just at the moment when they should be relied on to manage the second stage of labor. In Bonnaire's 171 cases the cervix was lacerated a little in 20: in 5 the tear extended into the segment of the cervix above, and in 2 into the vaginal wall. There were lacerations thus in 15.78 per cent.; and 26 per cent. of women with lacerations succumbed, although the injury cannot be incriminated for the fatality except in 4 per cent.—a mortality about the same as with Cesarean section. The total mortality in the 171 cases was 31, that is, 18 per cent., this method of manual dilatation being applied only in what might be called emergency cases, in which Cesarean section was the only other resource.

52. **Fluctuations in the Organic Content of the Urine.**—Labbé and Vitry refer particularly to the organic elements in the urine outside of urea, uric acid, xanthin, creatinin and ammonia, which form, for example, 28 out of the total 42 grams of organic constituents of the urine. This proportion of constituents forms on an average from one-fifth to one-half of the total organic contents. The authors have found that this proportion varies with the ingestion of carbohydrates and parallels the albumin ingested. The formula showing the proportion of nitrogen ingested and that eliminated in the urine and the total elimination of organic matters gives a basis for comparison of findings in health and disease which they have found useful for better understanding and treatment of diabetes and glycosuria in general.

Semaine Médicale, Paris

August 25, XXIX, No. 34, pp. 397-408

53 *Measures to Reduce Infant Mortality in France. (Etat actuel des diverse œuvres publiques et privées pour la lutte contre la mortalité infantile en France.)
54 The Phenomenon of Life. (Le phénomène vital d'apres les récentes données de la biologie et de la médecine.) S. Jankelevitch.

53. **The Campaign Against Infant Mortality in France.**—In this special article the public and private institutions and organizations for reducing infant mortality throughout France are reviewed in detail, and their results. In this first installment the protection of the child before its birth and of the mother during confinement are especially considered.

Beiträge zur klinischen Chirurgie, Tübingen

June, LXIII, No. 3, pp. 447-812

55 Operations in Posterior Cranial Fossa. (Operationen in der hinteren Schädelgrube.) H. Rubritius.
56 *Treatment of Actinomycosis at Wölfler's Clinic (Prague) and Ultimate Results. R. Maier.
57 *Ileocecal Tuberculosis. H. Els.
58 *Gall-Bladder and Liver Surgery. (Erfahrungen über Cholecystitis-Operationen und Leberchirurgie.) O. Haist.
59 Traumatic Enlargement of Tendons. (Traumatische Sehnenverdickung.) F. Palla.
60 Sensibility in Abdomen. (Zur Frage der Sensibilität der Bauchhöhle.) Propping.
61 *Movable Cecum. (Klinische und anatomische Fragestellungen über das Coecum mobile.) H. Klose.
62 Primary Inflammation of the Cecum. (Ueber primäre Typhlitis.) F. Cordes.
63 Weight-Bearing Conditions in the Bones of the Legs. (Die Belastungsverhältnisse am normalen und am pathologisch deformierten Skelett der unteren Extremität.) W. Hagen.
64 Two Cases of Contusion Rupture of Spleen. (Beitrag zu den subkutanen Milzrupturen.) A. Hoffmann.
65 Roentgen-Ray Examination for Splinters of Glass. (Der radiographische Nachweis von Glassplittern.) G. v. Saar.

56. **Treatment of Actinomycosis at Prague.**—Maier states that no cases of actinomycosis in the thorax were encountered, but he gives the particulars of 30 cases of such lesions in the head and neck, 7 in the abdomen and 2 cutaneous lesions of peculiar malignancy. Only prompt amputation of the arm with the primary lesion could have saved one of these last two patients from the acute fatal sepsis. In conclusion, he tabulates the total experience with 56 cases in which treatment was by iodid alone, with 34 cures; 94 with operation alone, with 75 cures; 109 with excision plus iodid, with 60 cures, and 30 in which treatment was by other measures, with 25 cures. All but 46 of the cured patients have been re-examined recently. He calls attention to the fact that the deaths during the years since were in many cases reported as having been due to tuberculosis, while there is a possibility that the supposed tuberculosis may have been merely a metastasis in the lung from the old actinomycotic infection in some of these cases. His conclusions from a review of nearly 300 cases are that actinomycosis when circumscribed should be resected like any other tumor. If this is not possible or if the affection is diffuse he advocates administration of potassium iodid internally with partial resection. His experience in one case encourages further trials of tuberculin in actinomycosis, as the cure in this case can be ascribed, he thinks, only to the course of tuberculin treatment. The iodid does not require such large dosage as some advocate; his preference is for 1 gm. the first day, 2 gm. the second, 3 gm. the third (from 15 to 45 grs.), repeating the same succession after suspension for three days. Sometimes he gave from 2 to 5 gm. a day in powders, supplemented by local applications of a 10 per cent. solution of potassium iodid. To avoid the possibly deleterious effect of potassium iodid on the heart, he gives sodium iodid in preference and has found it equally effectual. In case of diffuse lesions in the abdominal cavity, tuberculin treatment may effect a cure as in the case reported; the affection had lasted for two years and the patient received 68 injections of "old" tuberculin, the total amount being nearly 100 c.c. injected between May, 1904, and January, 1906. At first there was a lively local reaction to the smallest amount injected, with general febrile reaction, but the reaction grew less and less until there was none at all, even when 6 gm. was injected at a dose. The patient was re-examined nearly nine months after he had been discharged cured, and no traces of recurrence could be detected. The first fistula in this case developed four weeks after the first signs of the tumor in the region of the umbilicus.

57. **Ileocecal Tuberculosis.**—Els reports ten cases of a tuberculous process in the ileocecal region; all the patients recovered after resection, with a single exception, and eight are still in good health, the interval ranging from seven months to nearly seven years. The report issues from Garré's clinic at Bonn.

58. **Gall-Bladder and Liver Surgery.**—Haist analyzes 82 cases of gall-bladder and liver disease requiring operative treatment in Hofmeister's service at Stuttgart. In conclusion, he emphasizes the necessity for regarding every laparotomy as an exploratory operation; notwithstanding the immediate discovery of what seems ample cause for the symptoms, yet careful search should be made for unsuspected lesions, especially in gall-stone affections, as they are liable to induce numerous changes in the environment.

61. **Movable Cecum.**—It was formerly supposed that the study of the topography of the various loops of the intestines offered no practical results, but Klose and others are now calling attention to movability of the cecum as an index of defective development. It may cause no disturbances or may induce colics and inflammation, remedied by simple intraperitoneal cecopexy.

Berliner klinische Wochenschrift

August 23, XLVI, No. 34, pp. 1557-1596

66 Case of Traumatic Abdominal Hernia in Unusual Location. (Fall von traumatischer Bauchhernie.) H. Schmid.
67 *Monoplegic Syringomyelia. A. Wimmer.
68 *Throat Symptoms in Syringomyelia. (Rachen- und Kehlkopfsymptome bei der Syringomyelie.) E. Baumgarten.
69 Simulation and Exaggeration of Ear Affections in Social Medicine. (Vortäuschung und Uebertreibung von Ohrenleiden in der sozialen Medizin.) A. Peyser.
70 *Intravesical Dissolving of Fat-like Foreign Bodies. (Intravesikale Auflösung fettartiger Fremdkörper.) C. Posner.
71 "Antagonistic" Therapy of Tuberculosis and Reversible Phylogenesis. E. Klebs. Commenced in No. 33.
72 Vitalism and Teleology in the Natural Sciences. Thöle. Commenced in No. 33.
73 *Abdominal Manifestations with Commencing Pneumonia. (Appendicitis und Pneumonie.) Schönstadt.

67. **Monoplegic Syringomyelia.**—Wimmer reports three cases of this rare condition. In one case considerable improvement was obtained by Roentgen-ray treatment.

68. **Throat Symptoms of Syringomyelia.**—Baumgarten reports a case of paralysis in the throat and palate, with sensibility and reflexes normal, in which further investigation revealed syringomyelia. There had been no other noticeable disturbances beyond the change in the voice, but the paralysis of the palate and atrophy of the right side of the tongue confirmed the diagnosis of syringomyelia. He cites 26 similar cases from the literature and points out that the symptoms in the throat may be the first sign of the affection. In 9 of the 27 cases there was atrophy of the tongue, and there was paresis of the palate in 17. In 3 cases the hoarseness came on suddenly.

70. **Benzin to Dissolve Fat as Foreign Body in Bladder.**—Posner's patient was an elderly woman who had recurring inflammation in the urethra after removal of polyps four years before. Medicated bougies were ordered which she introduced in the urethra herself, but with exaggeration of the previous symptoms, the serious disturbances now simulating a calculus in the bladder. Fat globules were found floating on the urine and the cystoscope revealed small lumps of fat, which were traced to the cocoa butter vehicle of the medicated bougies.

After rinsing out the bladder with salt solution, Posner injected 15 c.c. of pure benzin, which was retained for fifteen minutes. All disturbances ceased at once, as the bladder was thus completely cleaned out, without by-effects of any kind. The bougies used had been unusually long, fully 11 cm. in length.

73. **Abdominal Phenomena with Incipient Pneumonia.**—Schönstadt protests against Glaserfeld's communication on the "abdominal phenomena with incipient pneumonia," mentioned in The Journal, September 11, page 901. He interprets the syndrome described as cases of appendicitis with involvement of the lungs, and is convinced that appendicectomy in time might have warded off the lung trouble.

Deutsche medizinische Wochenschrift, Berlin

August 19, XXXV, No. 33, pp. 1417-1464

74 Conception of Disease. (Ueber den Krankheitsbegriff und verwandte Begriffe.) L. Aschoff.
75 Organotherapy of Incipient Senile Cataract. (Zur spezifischen Therapie des beginnenden Altersstares.) P. Römer.
76 Trachoma Bodies in Section Specimens. (Darstellung der Trachomkörper im Schnittpräparat.) H. Herzog.
77 *Injurious Action of Sun-Baths. (Schädliche Wirkungen der Sonnenbäder.) E. Grawitz.
78 Technic for Detection of Tubercle Bacilli in Sputum. (Verwendung von Antiformin und Ligroin für den Nachweis der Tuberkelbazillen im Sputum.) G. Bernhardt.
79 *Typhoid Bacilli not Found in Gall-Bladder in Bacillus-Carrier. (Typhusbazillenträger und Cholezystektomie.) W. Loele.
80 *Surgical Treatment of Peritonitis. Dege.
81 *Origin of Ileus after Appendicitis. (Zur Entstehung des Ileus nach Blinddarmentzündung.) Id.
82 Technic for Prostatectomy. (In welcher Gewebsschicht findet bei der sogenannten Prostatectomie, insbes. der suprapubischen, die Exstirpation der hypertrophischen Teile statt?) A. Rothschild.
83 Insignificant Disinfecting Properties of Ordinary Mouth Washes. (Die desinfizierende Wirkung einiger gebräuchlicher Zahn- und Mundwässer auf pathogene Bakterien.) R. Bassenge.
84 Anatomic Conditions that Favor Local Anesthesia in the Jaws. (Anatomische Untersuchungen im Ober- und Unterkiefer zum Zwecke der Lokalanästhesie bei zahnärztlichen Operationen.) Bunte.
85 Misleading Names of Certain Pharmaceutical Preparations. (Unrichtige Bezeichnungen einiger pharmazeutischer Präparate.) R. Sodemann.

77. **Injurious Action of Sun-Baths.**—Grawitz announces that he has witnessed the development of nervous disturbances in a number of persons after prolonged exposure to the sunlight. Some of the patients had been taking sun-baths, an institution in the vicinity offering men an opportunity for bathing in the river and taking sun-baths, naked for hours at a time, day after day. Aside from the sunburn he found the heart action accelerated, with systolic murmurs at the various valves, the dulness increased toward the right, decreased toward the left, pulse with much tension, accentuated second sound and, in a few cases, collapse of the heart with threatening general symptoms. The temperature was increased in some of the patients, but he never encountered albuminuria. The headache and general depression sometimes persisted for days; in other cases the nervous system was much excited. The connection between these nervous symptoms and the sun-baths was evidenced by their development in previously healthy men and their subsidence as soon as the individuals refrained from this excessive exposure to the sun. In some instances the family was much alarmed at the severity of these nervous attacks. Grawitz does not ascribe the effect to the heat so much as to the action of the sun on the unprotected head. The exciting action of the sunlight is particularly evident in children allowed to play on the beach for hours at a time. These children return home brown and ruddy, but with unstable nervous system, so that the desired benefit from the stay in the country has not been attained. He insists that children should not be allowed to play in the sun between noon and 4 p. m., but should always be sent into the shade to play during the heat of the day. He ascribes much of the prevalent general nervousness and heart irregularities to excessive exposure to sunlight. In treatment, cool applications to the head and heart, cool drinks, and, in the severer cases, analeptics, are indicated, but prophylaxis is of the greater importance, and he advises warning the parents and friends of persons who risk their health by these excessive exposures of the danger they incur.

79. **Typhoid Bacilli-Carriers and Cholecystectomy.** Loele reports a case in which a patient with cholelithiasis required an operation three months after typhoid fever. Typhoid bacilli had been present in the stools constantly during the interval. The operation revealed that the typhoid bacilli had no foothold in the gall-bladder. No typhoid bacilli could be found in this organ or in the urine, blood, spleen and liver examined postmortem. The suggestion to remove the gall-bladder as the nidus of the typhoid bacilli in the chronic carriers would not have applied in this case.

80-81. **Treatment of Peritonitis.** Dege discusses the arguments for and against flushing the abdominal cavity in treatment of perforative peritonitis, and describes a case in which ileus followed later from a band-like adhesion which had evidently formed around the drain and tampon. He argues that the proper course is between the two extremes, restricting the amount of tamponing and never inserting a tampon between loops of intestines. In his experience, the Fowler position has always had a favorable influence on the course of peritonitis.

Medizinische Klinik, Berlin

August 8, V, No 32, pp. 1181-1218

86 *Erysipelas in the Aged. (Erysipel im Greisenalter.) H Schlesinger.
87 *Special Forms of Local Reaction in the Eye after Subcutaneous Injection of Tuberculin. J. Rupprecht.
88 *Polyneuritis and Korsakoff's Psychosis with Colon Bacillus Pyelitis in Pregnancy. M. Semon.
89 Electric Treatment of Bronchial Asthma. O. Gunzel.
90 Pulse Pressure in Arteriosclerosis. (Verhalten des Pulsdruckes bei Arteriosklerose.) F. Kisch, Jr.
91 Composition of Blood and Digestion. (Bestimmung der Blutbeschaffenheit in ihrem Bezug auf die Verdauung.) Marcus.
92 *Potato or Solanin Poisoning. (Die sogenannte Kartoffel- oder Solaninvergiftung.) v. Haselberg.

August 15, No. 33, pp. 1219-1254

93 *Heart Lesions in Infectious Diseases. (Herzaffektionen bei Infektionskrankheiten.) F. Meyer.
94 Normal Nutritional Condition of Adults. (Der "normale" Ernährungszustand des erwachsenen Menschen.) G. Oeder.
95 Objective Registration of Conditions in Circulation. (Ueber die Möglichkeit, die Druckkraft des Herzmuskels, die Grösse des Widerstandes im Gefässsystem und die Geschwindigkeit im menschlichen Kreislauf zu bestimmen—Amplitudenmessung und die Bestimmung des Schlagvolumens.) Gräpner.
96 *Constitutional Obesity. (Ueber konstitutionelle Fettsucht.) C. Pariser. Commenced in No. 32.
97 *The Wassermann Reaction. J. Bergmann.

86. **Erysipelas in the Elderly.**—Schlesinger states that 288 out of 2,664 cases of erysipelas in his service at Vienna were in persons over 60, that is, in 10.8 per cent. Only 91 of his elderly patients were men. He has been making a special study of the affection in the aged, and comments on the rarity of severe heart disturbances in the course of erysipelas; they are seldom observed from the direct action of the infection and its toxins, but after the subsidence of the disease the heart may be left extremely weak, so that the patient may be threatened by the consequences and complications of the erysipelas which he has apparently passed through without harm. Endocarditis is not frequent, but pericarditis and even the suppurative form may follow erysipelas in the elderly. He noticed in the majority of fifteen patients examined for the purpose that leucocytosis was high during the infection and rose still higher after its close. The blood formula was not much changed except for the total absence of eosinophiles. Complications on the part of the respiratory organs were no more common than after other infections, but kidney affections were repeatedly encountered with erysipelas in the elderly, especially an acute hemorrhagic process subsiding with the infection. Nervous symptoms were frequent, sometimes mental confusion or delirium, even with an afebrile course of the erysipelas, occasionally there were ideas of persecution, but meningitis was scarcely ever observed in the elderly. The erysipelas attacked the face almost invariably; none of his patients presented erysipelas of a mucous membrane, although he knows of one case on record in which the throat was primarily invaded. Unusually frequent were the complications or sequels in the form of suppurative processes in the subcutaneous cellular tissue, especially when the erysipelas was on the limbs. These lesions ranged from abscesses and phlegmons to suppurative venous thrombosis and gangrenous processes. Gangrene of the lids was observed in a few cases, but the eyeball did not suppurate in any instance, and he witnessed the healing in some cases of a deep, extensive gangrenous process, even in women over 80. In 25 per cent. of his 288 cases of erysipelas in the elderly, it terminated fatally, but only 2 succumbed of the

15 patients who were over 80. In treatment the flagging heart of the elderly must be borne in mind and digitalis given when there is suspicion of degeneration; caffein or sodium salicylate may be indicated when the blood pressure drops and the pulse grows slow or if arrhythmia is observed. Anointing the skin after subsidence of the erysipelas is useful in prophylaxis, and the patients should not be allowed to lie long on one spot. Local warmth relieves the disturbances, and even extensive infiltrations may retrogress under it. Compresses wet with Burrow's solution (5 parts alum and 25 parts lead acetate in 500 parts water) or 60 per cent. alcohol have given him better results than any other measures. In combating the frequent sleeplessness he warns against morphin, as weakened elderly patients sometimes cannot bear it. Notwithstanding an apparently desperate condition, the elderly patient with erysipelas may throw it off and recover.

87. **Local Reactions in the Eye After Tuberculin Subcutaneously.** Rupprecht reports two cases, in women of 18 and 28, in which chorioiditis or serous cyclitis flared up and became severe after a single subcutaneous injection of 10 and 5 mg. old tuberculin. There is a possibility of actual injury from the tuberculin, and the cases further emphasize the necessity, he says, of having expert ophthalmologic examination of the eyes when tuberculin is injected for differentiation of an eye affection; otherwise some minute reaction might be overlooked, and harm result from repetition of the dose. His cases confirm the importance of tuberculosis as a factor in inflammatory affections of the chorioid.

88. **Psychosis and Colon Bacillus Pyelitis in Pregnancy.** Semon reports the case of a woman of 27 who presented a typical Korsakoff psychosis with polyneuritis and hyperemesis early in her first pregnancy, with colon bacillus pyelitis. He regards the latter infection as probably responsible for the neuritis.

92. **Potato or Solanin Poisoning.**—Haselberg reviews forty-one cases of wholesale poisoning, involving 2,000 troops, and ascribed to solanin poisoning from potatoes, but which he shows were probably due to contamination of the potatoes after they had been cooked and were waiting to be warmed over or used in a salad, being kept in some warm place in the interim. He declares that potatoes never can be in themselves poisonous, and cites research with solanin to confirm the fact that solanin is not very toxic; its toxic dose has not yet been determined.

93. **Cardiac Disturbances with Infectious Diseases.**—Meyer discusses the literature, symptoms, etiology and treatment, remarking that the most promising measure to ward off heart trouble is by serotherapy. Personal research with diphtheria has demonstrated, he asserts, that a proper dosage of diphtheria antitoxin, given at the right time, will certainly ward off circulatory disturbances in animals. It protects against them, but cannot cure if they are already installed. He is convinced that his successful experimental prophylaxis in diphtheria opens bright prospects for serotherapy as a preventive of cardiac complications in other infections (streptococcus infections).

96. **Constitutional Obesity.** Pariser has been steadily acting on his belief that endogenous obesity is of thyroid origin, and has been administering thyroid extract during the last ten years during all the ups and downs of thyroid treatment. He is rejoicing now that von Noorden has at last conceded that clinical observation compels the assumption of a constitutional obesity, notwithstanding that the laboratory metabolic findings are unable to explain it to date. Pariser describes the first case that opened his eyes to the participation of the thyroid: a woman of 25 with extreme obesity developing soon after panhysterectomy, had taken ovarian tablets perseveringly, but without the slightest effect, but a turn for the better was apparent at once when thyroid treatment was instituted. This and other experiences have convinced him that the thyroid is a secondary sexual organ, like the mammary gland, and that constitutional, endogenous obesity may result from thyroid incompetency. The lack of success from dietetic measures and palpation of the gland may suggest the presence of this form of obesity and this assumption is confirmed by the efficacy of extremely mild thyroid treatment, increasing from 0.1 to 0.3 gm. of gland substance (in tablet form) in the course of three weeks and then reducing again, with a free interval of a week at the end of the month. His maximal dose is thus less than one-third of the average dosage of the last few years. With this technic he never has any by-effects; if polyuria should develop he would regard it as a sign that the individual dose was too high or the intervals too short. The most reliable index of cumulative action is the pulse. If the pulse runs up to 100 or 110 the thyroid extract should be suspended and rest imposed, not necessarily in bed. The pulse rate was increased in this way in 8 or 10 of his cases, but less frequently since he has perfected his technic. After two or three of these monthly thyroid courses he suspends the treatment for six or eight weeks, but as the aim is to supply a physiologic deficiency, the thyroid extract has to be constantly supplied anew as the deficiency makes itself felt. He insists that constitutional obesity is more than a mere accumulation of fat; it has many points in common with myxedema, even to the temperament and character. Myxedema may be regarded as the last offshoot, run wild, of constitutional obesity. He generally combines dietetic measures with the thyroid treatment, as the endogenous is frequently mixed more or less with the exogenous form. In the pure endogenous variety, however, the thyroid treatment alone will prove effectual.

97. **Seroreaction in Syphilis.**—Bergmann relates the results of application of the Wassermann test in 19 infants and their mothers, the findings sustaining the assumption that the mother of a new-born syphilitic child requires specific treatment even although she may be apparently free from signs of syphilis. The test applied to 75 wet-nurses gave positive findings in 7 and in 5 of this group nothing otherwise suggesting syphilis could be discovered. Signs of syphilis were found, however, in 4 of the women's infants. This proportion of one syphilitic in every 10 or 11 wet-nurses imposes the necessity for applying the test in selecting a wet-nurse. It even suggests the necessity for making the test compulsory before the laity can engage a wet-nurse. The question whether all syphilitic new-born infants give a positive response was answered in the affirmative by his experience with 19 infants with manifestations of syphilis, while it proved particularly valuable in excluding syphilis in some other dubious cases of eczema, eye affections, etc. Occasionally the reaction occurs when nothing to suggest syphilis can be detected. In other cases the reaction, negative at first, becomes positive later, suggesting the possibility of infection from the mother during delivery. In 2 cases a syphilitic mother gave birth to a child apparently free from the taint during the six months the child was under observation. But even when the test is negative he warns against giving the infant of a syphilitic woman to a healthy woman to nurse, but the mother can be allowed to nurse her own child. Close contact between them is unavoidable any way, sooner or later. It has long been the rule in his service that no child less than eight weeks old is given to another woman to nurse; the breast milk is drawn and fed to it.

Wiener klinische Wochenschrift, Vienna

August 19, XXII, No. 33, pp. 1145-1170

98 *Action of Digestive Ferments on Tuberculin. (Einwirkung von Verdauungsfermenten auf Tuberkulin.) T. Pfeiffer and R. Persch.
99 Nature of Antitrypsin in the Serum and Mechanism of its Action. O. Schwarz.
100 Multiple Neurofibromata. Three Cases. (Zur Kenntnis des Morbus Recklinghausen.) A. Hintz.

98. **Action of Digestive Ferments on Tuberculin.** This article describes experiments with tuberculin mixed with the various digestive ferments and then applied to the skin for the v. Pirquet test and also in subcutaneous injection. The results testify to the destructive influence of the digestive ferments on the tuberculin. The specific action of tuberculin on the skin was almost completely abolished by mixture with pepsin, trypsin and erepsin.

Zentralblatt für Chirurgie, Leipsic

August 21, XXXVI, No. 34, pp. 1161-1192

101 Changes in the Viscosity of Blood after Operations. (Aenderungen in der Blutviskosität infolge von chirurgischen Operationen.) G. Bolognesi.

Zentralblatt für Gynäkologie, Leipsic

August 21, XXXIII, No. 34, pp. 1177-1216

102 *The Inflatable Bag in Placenta Prævia. (Metreuryse bei Placenta praevia.) B. Krönig.
103 *Vaginal Operative Treatment of Rupture of Uterus without Hysterectomy. (Operative Heilung der Uterusruptur auf vaginalem Wege unter Erhaltung der Gebärmutter.) E. Solms.
104 Measurement of Diagonal Conjugate. (Messung der Conjugata diagonalis in der praktischen Geburtshilfe.) S. Rehaudi.
105 Index Measure for Distance between Tuberosities of the Ischium. (Beckenmesser für die Abstände im Beckenausgang.) E. Hauch.
106 Radial Paralysis after Fracture of Arm during Delivery. Operative Isolation of Nerve. Recovery. (Radialislähmung nach Oberarmbruch bei der Armlösung.) R. Füth.

102. **The Inflatable Bag with Placenta Prævia.**—Krönig asserts that the metreurynter may reduce the mortality of the children a little, but it has not reduced that of the mothers. In his experience 19 women out of 28 with placenta prævia were treated with the inflatable bag and 4 died, while severe hemorrhage occurred in 6 with the expulsion of the bag, and in 8 there was severe hemorrhage after the birth. He has been compiling statistics of different methods of treatment for placenta prævia, the average being in 6,569 cases a maternal mortality of from 5 to 7 per cent. and of the children of from 50 to 70 per cent. He refers in conclusion to a recent discussion in America of the advantages of Cesarean section in placenta prævia, remarking that the results communicated there do not apply to his method of procedure. When Cesarean section is not done until the end of the period of dilatation, there is no security against fatal after-hemorrhage, for by that time the insertion of the placenta in the isthmus has already been stretched—which is what he expressly tries to avoid—and, with the defective contraction of this segment of the uterus, hemorrhage is likely to follow.

103. **Suture of Ruptured Uterus by Way of the Vagina.**—Solms refers only to the ruptures in the lower segment of the uterus, and reports three cases in which he applied this technic. A horseshoe incision is made around the vaginal portion of the uterus, thus permitting the drawing out of the cervix after the bladder has been separated from it. Dührssen has applied a similar technic, and Solms expatiates on the lessened shock and lessened danger of sepsis, peritonitis and hemorrhage.

Gazzetta degli Ospedali e delle Cliniche, Milan

August 15, XXX, No. 97, pp. 1017-1032

107 The Blood Picture in Cancer. (Formola ematica nel cancro in generale, con speciale riguardo ai leucociti.) A. Poggiolini.

August 19, No. 99, pp. 1041-1048

108 Difference between the Temperature in the Two Axillæ in Tuberculosis. (Differenze fra le due temperature ascellari nei tubercolosi.) L. Casali.

August 22, No. 100, pp. 1049-1064

109 The Ocular Tuberculin Reaction. (Sul comportamento clinico della reazione congiuntivale di Calmette.) F. Nassetti.
110 Differentiation of Malta Fever. P. Bueri.

Riforma Medica, Naples

August 16, XXV, No. 33, pp. 897-924

111 Pathologic Anatomy of Central Nervous System in Chorea. (Sistema nervoso centrale nel considetto stato coreico.) R. Ciauri.
112 Experimental Research on Anastomosis of Stumps of Severed Vas Deferens. (Sopra alcuni particolari reperti ottenuti nell' anastomosi dei monconi del condotto deferente reciso.) A. Marassini.

August 23, No. 34, pp. 925-946

113 *Suprarenal Theory of Osteomalacia. Unilateral Capsulectomy and Pregnancy. (Teoria surrenale dell'osteomalacia; capsulectomia unilaterale, e gravidanza.) T. Silvestri and C. Tosatti.
114 *Advantages of Treating Hydatid Cyst by Injection of Silver Fluorid. (Cisti da echinococco dello spazio del Retzius guarita col metodo Biondi.) A. Gasbarrini.

113. **Suprarenal Theory of Osteomalacia.**—Silvestri has been repeating Bossi's experiments with removal of the suprarenal capsules in gravid animals to determine whether any tendency to osteomalacia could be detected afterward. He experimented on rabbits and guinea-pigs and was unable to discover evidences suggesting any such influence on the skeleton from unilateral capsulectomy. The animals all aborted, however, in from nine to thirty days; in 2 the abortion was internal, and the embryos were absorbed. This could not have been the result of the operative trauma, as the animals had all recovered completely from this before the abortion occurred. No appreciable morbid changes were found in the ovaries of the animals. It seems probable, he thinks, that osteomalacia is the result of hyperfunctioning of the ovaries which may be accompanied later by perverted functioning. Suprarenal treatment seems to have a rational basis, as the suprarenals possibly have an antagonistic action to that of the ovaries. This theory is confirmed by recent research, which has shown that while thyroidectomy prevents the development of adrenalin atheroma, castration, on the other hand, brings it on more rapidly and more severely. The abortion in the animals is probably the result of the insufficiency of the chromaffine tissue, similar to the constant abortion of gravid rabbits after thyroidectomy. In conclusion, he gives five arguments against the assumption of the infectious nature of osteomalacia: The fact that in 96 per cent. of the cases the patients are women and in more than 80 per cent. women who have borne children; the negative histopathologic and bacteriologic findings, and the fact that while the osteomalacic bones continue to soften in the cultures of the diplococcus incriminated by Arcangeli, normal bones are not affected in the slightest.

114. **Silver Fluorid Injection in Treatment of Hydatid Cyst.**—In the case described, excellent results were obtained by exposing the non-adherent cyst with a laparotomy and evacuating it by means of a cannula and then injecting about 20 c.c. of a 1 to 1,000 solution of silver fluorid.

Hygiea, Stockholm

July, LXXI, No. 7, pp. 641-767

115 First Medical Degrees Granted in Sweden. (De första doktorspromotionerna vid de svenska högskolorna.) C. Sundberg.
116 Treatment of Syphilis. (Till frågan om behandlingen af den syfilitiska sjukdomen.) E. Welander.
117 Seven Cases of Exophthalmic Goiter in the Insane. (Morbus Basedowi hos sinnessjuka.) V. Wiegert.

Ugeskrift for Læger, Copenhagen

August 5, LXXI, No. 31, pp. 881-910

118 Spring Brace for Deformity of the Spine. (Anvendelsen af et nyt Princip ved Behandlingen af Columnas Deformiteter.) E. Nyrop.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Transactions of the Mississippi State Medical Association. Forty-second Annual Session. 1909. Cloth. Pp., 368.

Proceedings of the Thirty-ninth Annual Meeting of the New Jersey Pharmaceutical Association. 1909. Cloth. Pp., 251.

Minor and Operative Surgery Including Bandaging. By Henry R. Wharton, M.D., Surgeon to the Presbyterian Hospital. Seventh Edition. Cloth. Pp. 657, with 555 illustrations. Price, $3. New York and Philadelphia: Lea & Febiger, 1909.

The Higher Fungi of the Chicago Region. Part 1.—The Hymenomycetes. By Dr. Will Sayer Moffatt. Bulletin No. VII, Part 1, Natural History Survey. Paper. Pp., 156, with illustrations. Chicago: Published by the Academy, June, 1909.

A Manual of Laboratory Methods. By E. M. Perdue, A.M., M.D., Professor of Histology, Bacteriology and Clinical Diagnosis in Hahnemann Medical College, Kansas City, Mo. Cloth. Pp. 188, with illustrations. Price, $1.50. Kansas City: Burton Pub. Co., 1909.

The Secret of Sex. The Discovery of a New Law of Nature: How Sex is Caused. By E. Rumley Dawson, L.R.C.P., London; M.R.S.C., England, Fellow of the Royal Society of Medicine. Paper. Pp. 64. Price, 50 cts. New York: Cochrane Pub. Co., Tribune Building.

Care of Mother and Child. By Clarence M. Cheadle, M.D., Member American Medical Association. With an Introduction by Charles Edwin Ruth, M.D., formerly Professor of Surgery and Anatomy, Keokuk Medical College, now of Ponce, Porto Rico. Cloth. Pp., 354. Price, $2. Published by the Author, Ashton, Ill., 1909.

A Treatise on the Principles and Practice of Medicine. By Arthur R. Edwards, A.M., M.D., Professor of the Principles and Practice of Medicine and of Clinical Medicine and Dean of the Faculty in the Northwestern University Medical School, Chicago. Second Edition. Cloth. Pp. 1212, with 100 engravings and 21 plates. Price, $5.50. New York and Philadelphia: Lea & Febiger, 1909.

The Practical Medicine Series. Under the General Editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School. Vol. VI., General Medicine. Edited by F. Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, M.D., Professor of Medicine, Illinois Postgraduate Medical School. Cloth. Pp. 345, with illustrations. Price, $1.50; or $10 the series of 10 volumes. Chicago: The Year-Book Publishers, 1909.

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Address

MENTAL ALIENATION IN WOMEN AND ABDOMINO-PELVIC DISEASE

CHAIRMAN'S ADDRESS IN SECTION ON OBSTETRICS AND DISEASES OF WOMEN AT THE SIXTIETH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, 1909

W. P. MANTON, M.D.
DETROIT

At the opening of this Section for 1909 I desire to express to you my sincere appreciation of the honor which you have done me in continued confidence during the past years. It comes to few men to have served continuously a section in every capacity within that Section's gift, and now in relinquishing active office after so long a period, I feel that my being here is due rather to your kindly tolerance than to anything that I may have done to merit it.

This Section, from the small and inconspicuous gathering which annually took place before the reorganization of the Association, has now become a factor in the world's work, and its transactions present a volume on special subjects in scientific value second to none. The papers and discussions emanating from this Section have greatly enriched the literature of gynecology and obstetrics, and it only remains for us to maintain the high standard which has been reached in our deliberations.

At the turn in the lane we sometimes pause to look back along the way that we have come, observe the windings of the path, the roughness of the ground and the hard places that have been crossed, and, perhaps, with Stevenson, we "draw back and shade our eyes before the picture dawns on us in full breadth and outline."

After more than a quarter century of active interest in the nervous and mental disorders of women associated with pelvic disease, I may, perhaps, be permitted at this time again to refer briefly to a subject regarding which I have spoken much, and review some of the things historical and some which have passed under observation during the period mentioned, and for which I may claim, at least in some degree, responsibility.

In his book on "Mind and Body" Alexander Bain states that "the entire bodily system, though in varying degree, is in intimate alliance with mental function. To confine our study to the nervous substance would be to misrepresent the connection, and the knowledge of that substance, however complete, would not suffice for the solution of the problem." But this idea was almost as old as the hills when Bain wrote the words quoted, and was familiar centuries before the Christian era, for Hippocrates and his followers understood the so-called "sympathetic insanities," while at a nearer time the man out of the tombs exemplified, if he did not put into words, a fact now familiar to all, the relation of somatic conditions to the delusion of the insane.

Acting on the material facts which medicine had separated from the dim uncertainties of philosophy and metaphysics, the ancients appear to have cared for and respected their mentally deranged with a greater solicitude and consideration than was accorded the insane by subsequent generations, for during the Middle Ages, dark ages indeed for the unfortunates who bore the blotted brain, the subject of mental disorder was looked on as a sore on the fair face of humanity and a shame and disgrace to both family and state. Cruelty and brutality obtained to extreme degree, and the mentally sick, like Shimshon of old, was often the butt of the jester and forced to make sport for his hardened keepers and a degraded populace.

Such was the status of the insane up to the latter part of the eighteenth century, when Pinel, most courageous and enlightened of his time, struck off the fetters from the inmates of Bicêtre (1792) and inaugurated a new era in the treatment of mental disorders. From this time on, increasing interest in the welfare of the insane developed, the study of psychiatry received an impetus and a knowledge of forms and the classification of mental diseases became more exact and thorough.

From the present-time point of view, it seems strange that, with all the philanthropic efforts directed toward the insane and the renewed interest created in the study of the morphology of mental diseases, the influence of somatic conditions should have been so almost completely ignored. The psychiatrist of that day seemed to have forgotten that, as Cowles remarks, "In the study of mental diseases it is important to find their true place in relation to other pathologic conditions," and that "as a physician he must treat the whole body," for "psychiatry belongs to general medicine, and mental disease, like bodily disease, is not an entity nor an agency, but the result of normal function acting under abnormal conditions," etc.

It was not, however, until the diseases of women had been separated from medicine as a specialty that interest in their possible relationship to insanity began to be manifested. And it must here be remarked that the inception of this interest did not arise with the alienist who, busied with his large material, was seeking for the cause and origin of mental disorder, but with the gynecologist who noted the effect on the nervous system and mind of puberty, the menopause, and childbirth in certain individuals and observed the mental breakdowns resulting from ill-conducted lives, to which was added the continued irritation of abdomino-pelvic disease. He it was who drew attention to the possibilities of cause and effect in this class of cases.

In 1854, fired by an enthusiasm begot of experience with pelvic disease in the sane, Dr. Horatio B. Storer sought to carry his investigations forward in instances of unbalanced mind, and in a resolution offered before the American Medical Association, effected the appointment of a special committee to look into the relationship between insanity anu the disorders peculiar to women. Unfortunately for all concerned, this proposal met with cold reception from those whom it would be supposed would be mostly directly interested: asylum superintendents became at once jealous of their so-called rights and the invasion of the gynecologist into the realm of psychiatry and refused to cooperate, so that, after an existence of several years, the committee was finally discharged, having accomplished nothing. A number of years then elapsed before a second attempt was made to study this important subject.

Somewhere about 1878, at the request of the superintendent, Dr. A. J. C. Skene undertook some gynecologic work in the Kings County Asylum at Flatbush, N. Y. The work accomplished was of the highest order, and it is to be regretted that it could not have been longer continued until more definite results had accrued from the observations made and our knowledge along this line thus augmented.

More than twenty years ago, when I began my work at the Eastern Michigan Asylum, no systematic efforts were being made to ameliorate the condition of female patients in our institutions for the insane suffering from abdomino-pelvic disease, or to place on a sound basis the knowledge of the influence which such disorders might exert on the causation and progress of mental troubles. Advancement in general medicine had by this time paved the way to a more enlightened order of things so that, although there was still opposition and criticism, the path was made easier and the way was more direct.

To-day, as the result of these tentative beginnings, there is hardly an asylum of size in this country where either a consulting gynecologist or a member of the staff, set apart for this duty, may not be found.

And there is one particular reason for this, a reason which I have persistently urged, and to which both laity and the profession have now become alive. If the state obligates itself to the care of the insane in the way of feeding, clothing, protecting and housing, it can not do these things and refuse its unfortunate charges relief from physical suffering; it is morally bound to care for bodily ailments while seeking the alleviation of mental distress.

But the question may be asked: If amelioration of bodily suffering has become a part of the asylum's function, what has been achieved thereby as regards the mental condition of the patient, and what are the end-results in the matter of mental cure? The answer may be found in the reports of asylums where this work is most actively carried on, and in the literature of insanity relating to this subject.

Summarized, we may recount a few of the conspicuous results that have obtained during the past two decades. We have added to our knowledge regarding the relationship existing between mind and body: we know more at present than was formerly known, that, while mind may exert a remarkable influence over the functions of the various internal organs, the converse is also true, morbid state of any viscus often aggravating the existing mental malady, or even lead to the ultimate downfall of the greatest intellect. Head, in his Goulstonian Lectures for 1901, has shown that physical pain from visceral disease is productive of decided psychic manifestations, and I and others have demonstrated that relief from suffering brings about a mental palliation often otherwise unattainable.

The frequency with which abdomino-pelvic disorders exist in insane women has been determined and has led to a more careful and systematic examination of the female patients in our institutions for those conditions which the mental malady may overshadow in its manifestations. My own investigations have shown that about 81 per cent. of insane women suffer from some form of pelvic or abdominal disorder, and these statistics do not differ materially from those of most other observers, Hobbs and Isabella Davenport alone reporting so large a percentage as 93.

The frequency with which postoperative insanity of a more or less permanent form is likely to occur following surgical intervention in, particularly, diseased abdominal and pelvic viscera, and the relationship and frequency of abnormal mentation to pregnancy, eclampsia and the puerperium has been shown. Postoperative insanity is of rare occurrence and satisfactory statistics can be obtained only from asylum records. From a careful investigation Dewey concludes that the ratio of cases of mental alienation from this cause going to public institutions is less than 1 per 1,000, and my own observations quite accord with this. Such statistics, however, are misleading and do not represent the actual number of cases of insanity resulting from surgical operations, since many instances are undoubtedly of an ephemeral nature, lasting but a few days or weeks, and, being cared for at home or in a general hospital, are not made public. Bearing on this point, the investigations of Sears published some years ago are of interest. The preponderance of mental disorders following operations appears to lie with women, since mental breakdown is more likely to result from operations on the pelvic organs than on other parts of the body, the eye alone excepted. Excluding the surgery of the sexual organs, women do not appear to be more liable to insanity than do men. Dewey and others direct attention to the fact that the mental condition of the patient prior to operation is not sufficiently taken into consideration, and that in many instances insanity is either actually present or the patient it at the border line before the surgical procedure is undertaken. As regards insanity following eclampsia, my investigations published in 1895 indicate that, for this country at least, it is probably such an infrequent sequel that eclampsia hardly deserves consideration as an etiologic factor. Of 1,271 insane patients, the puerperal condition, aside from eclampsia, was ascribed as the existing cause of the mental disorder in 108 instances. According to Kraepelin, childbed is responsible for the insanity of 6.8 per cent. of all women admitted to our institutions, while Peterson says that in about 10 per cent. of insane women the mental disturbance has its origin at the epoch of reproduction. In this connection Hobbs has pointed out that in the majority of these mental states septic infection, immediate or remote, is the responsible agent.

It has been more clearly shown that the hallucinations and delusions of the insane are not always the figment of a disordered brain but are frequently dependent on intra-abdominal or pelvic lesions. In 1896 I pointed out, in a series of illustrative cases, that these mental phenomena are often the expression of somatic peripheral irritation. Hallucinations from such causes may even develop in the sane, as witness a case reported by White, in which the removal of two apparently healthy tonsils relieved the patient of a fancied foul breath. This was undetectable by others, but, in spite of absolutely healthy organs and a normal mentality, was the cause of much mental distress to the patient. Head found that hallucinations of vision, hearing and smell may appear in phthisis, heart disease and aortic aneurism. My observations go to show that delusions may develop from external or visible bodily conditions, from easily detected visceral disorders, and from obscure abdominal and pelvic states. The delusions of micromania may often have foundation in some such perversion of abdominal sensory impression, the erroneous judgment excited by visceral adhesion, a tumor or ovarian irritation, and may give rise to the impression that the intestines have been removed or are absolutely closed up, as in a case cited by Frederick Peterson. "It is further demonstrated," says Stoddart, "that all these mental symptoms arise in association with severe prolonged pain resulting from disease of the viscera referred to the body wall," and again, "they do not occur in the absence of pain." Further investigation may show that still more of these manifestations are really based on physical causes.

Finally, as to the end-results and the curability of insanity through operative measures: It has always been a popular notion, fostered no doubt by indiscreet and thoughtless observations on the part of the profession, that insanity in women is most frequently the direct result of a diseased condition or perverted function of the organs of generation, and hence, it has been believed, that the restoration of these parts to a normal state, either by repair of defects or the removal of pathologic structures, would lead to renewed mental health. To those who have had the largest opportunity to study these questions, however, experience has shown that this is not altogether true. While, as has been pointed out, abdominal and pelvic disease is found to be present in a large percentage of insane women, it is possible that the proportion is no larger than obtains among the sane. The latter, however, may be for years the subjects of great suffering, discomfort or distress without the local disorder producing the slightest effect on the action of the mental machinery. It is too generally forgotten by those who make extraordinary claims as to the curability of insanity through the removal of the particular local flaw, that in the insane the mental malady has, in the majority of instances, an unstable nervous organization as its substructure. It has been put down that the proportion is about 1 to 300, this varying with races and countries (Peterson). In the mentally diseased the frequency rôle of heredity, including "hereditary equivalents," is variously estimated at from 30 to 90 per cent., and even in the functional psychoses it may amount to as high as 70 per cent. (Krauss).

If we also take cognizance of the disastrous effects of alcoholism, syphilis, tuberculosis and the strenuosities of modern life, we have an alarming array of etiologic influences constantly threatening mental integrity. In the unstable individual slight causes may, perhaps, be quite sufficient to overcome the mental equilibrium, but in those with a clean record something more than the abdominal or pelvic disease must account for the psychic overthrow. After persistent and patient investigation of cases in private, hospital and asylum practice, and the study of the reports of others, I am still unconvinced that local disorders, exclusive of septic or toxic conditions, ever result *per se* in mental dethronement. Given an ordinarily strong and healthy woman and subject her to unusual and prolonged mental strain, anxiety and loss of sleep, together with bodily over-fatigue and stress, or to excesses which undermine the general health and constitution, and a dormant defect, which previously produced no symptoms, may make itself manifest and mental breakdown result from the combination of processes. Hence the uterine, ovarian or other disease, through its newly acquired power of pain and its influence on the nutrition and functions of the body, becomes an important factor in producing mental depression, which, in turn, may ultimately lead to insanity. Of itself the pelvic or other morbidity is but a phase and would have no effect had not the preceding physical and psychic conditions rendered the patient incapable of resisting its action. Such cases are particularly amenable to relief and cure through proper moral and physical treatment, supplemented by the surgical removal or correction of the local lesion. This also applies to many instances of puerperal insanity the result of infection, inflammation or physical prostration from undue demands made upon the organism unequal to the strain.

Again: "It is not unusual to find," says Mabon, "that insane patients, while convalescing from surgical operations, at times give evidence of mental improvement, going on, in some instances, to complete recovery, and this in instances in which the latter could hardly be expected. Sometimes this outcome may be due to the shock of the operation; in other cases the mental effect which the operation itself produces in the subject is to be credited with the mental improvement—the explanation being that we substitute a healthy for an unhealthy mental introspection; while in still others the increased personal attention received after the operation, together with the changed environment, forms the medium through which mental improvement results."

But though we are sure of a small percentage of mental cures following surgical operations on the insane, I still continue to maintain that we have no right, either as surgeons or humanitarians, to place the positive relief from physical suffering alongside the uncertain relief of the mental malady, but that whatever may be the outcome as regards the psychic disorder, relief and cure of somatic suffering is imperative, and this should be our constant thought and purpose.

But whether a cure of the insanity is effected or not, it is certain that improvement in the metal condition is likely to supervene from the removal of the focus of irritation; the subject is rendered more comfortable and therefore becomes more tractable, and through this is often changed from an untidy, refractory patient to a clean, industrious and orderly individual.

In the foregoing remarks I have attempted to touch on some of the conspicuous results that have followed from the investigation of insanity in its relation to the abdomino-pelvic disorders in women during the past twenty years. In the discussion I have credited the alienist's present point of view rather than that of the gynecologist, lest I be accused of bias; and whatever has been quoted has been set down largely in the psychiatrist's own words. If the gynecologist was once thought to be unwisely urgent and filled with over-zeal, the results of his good and persistent endeavors have won their reward and are today reflected in the changed attitude of students of mental disease. And surely such a showing can not be disregarded or attributed to over-enthusiasm on the part of those engaged in the work, for it can hardly be asserted that the alienist and the surgeon, together striving toward one end in harmonious effort, can both be deceived in so carefully wrought out and important a matter.

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Original Articles

THE CHOICE OF OPERATIONS FOR RETRODISPLACEMENTS OF THE UTERUS *

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MINNEAPOLIS

In presenting this subject for consideration, I am not unmindful of the fact that much has been written and said on it, and that many of the members of this Section have worked out operations of their own to correct a retrodisplacement of the uterus. Where there is such a diversity of opinion, one must conclude that no one operation gives universal satisfaction and that the factors entering into the cause of retrodisplacements are not generally understood.

It is with the hope of bringing out a thorough discussion of this subject that I present this paper. This question will be settled aright in time as other surgical questions have been in the past, and the proper operations selected.

In the first place we must acknowledge—although many physicians of Europe and America dispute these points—that a woman who has a simple retrodisplacement of the uterus may suffer because of the displacement, and that a retrodisplacement predisposes the patient to disease of the uterus or adnexa. When a displacement is associated with disease of the tubes or ovaries nearly all agree that something should be done to rectify the trouble.

POSITION OF THE UTERUS

The uterus is partly suspended and partly held in position by ligaments. Why its normal position is maintained is not universally understood.

The uterus that causes no discomfort to the patient is usually anteverted, slightly flexed, and placed at right angles to the vagina. The fundus is supported by a soft cushion, the bladder, and held forward by the restraining round ligaments and their peritoneal coverings, also by the uterosacral ligaments, which prevent prolapse. The broad ligaments prevent permanent lateral displacements. The intra-abdominal pressure and intestines assist in holding the fundus forward and the counter-pressure of the perineal body makes the normal position possible.

The position varies with the condition of the bladder and rectum. The organ is freely movable and its position can be temporarily changed by manipulation. It moves with each respiratory act. With the broad ligaments it divides the pelvis into two unequal portions, viz., a shallow anterior part containing the bladder and a deep posterior portion containing coils of intestines.

CAUSES OF RETRODISPLACEMENTS

In the normal state all the supports of the uterus act in harmony during local or general muscular exercise. In diseases this synchronous action is disturbed. In many individuals a retrodisplacement is coincident with a general disturbance of the equilibrium of the abdominal and pelvic organs, and under such circumstances it increases the possibility of a visceroptosis. A general visceroptosis, on the other hand, aggravates the displacement.

The factors which disturb the harmonious action and arrangement of the uterine supports may be enumerated as follows:

1. A laceration of the cervix or disease resulting therefrom.
2. An endometritis or metritis.
3. Increased weight of the uterus.
4. Cervical constriction, resulting in congestion.
5. Tumors of the uterus.
6. Senile or small uterus.
7. Diseased tubes.
8. Diseased ovaries.
9. Congenital weakness of supports.
10. Lacerated perineum.
11. Inflammatory diseases of the pelvic organs or peritoneum.
12. Increased intra-abdominal tension.
13. Relaxed abdominal muscles.
14. Prolapsed intestines or other viscera.
15. Constriction at the waist-line.
16. Constipation and straining.
17. Jars or traumatism, weakening the supports or disturbing the equilibrium.
18. Temporary and habitual partial displacements from bladder, overdistention, etc.
19. Overdistention of rectum and pressure upon the temporarily displaced fundus.
20. Adhesions pulling the uterus out of place.
21. Improper exercise, poor food and lack of hygienic surroundings.

When a uterus becomes temporarily retrodisplaced—and this condition occurs at short intervals—the supports weaken. The forces which in the normal state help to hold the uterus forward, viz., the intra-abdominal tension and pressure of the intestines, now are factors in perpetuating the displacement. The ligaments stretch more and the fundus is pushed into the deep posterior pit and a pronounced retroversion and flexion often occurs.

Could we but recognize the incipient stages of this progressing condition and know every factor entering into the trouble, much could be done to avoid a permanent displacement.

SYMPTOMS

Occasionally unmarried women especially do not know to what their symptoms are due until a physician makes a diagnosis of a retrodisplacement.

It is frequently the case that the displacement alone is not the cause of the trouble, but the associated disease of the tubes or ovaries. Many young women have retrodisplacements and develop disease of the tubes or ovaries later because of this displacement.

The symptoms are dependent on the degree of retrodisplacement, the character of the infection, if any, and the associated conditions, also the age and social status of the patient.

That simple retrodisplacements do cause trouble I am quite certain, or at least I will state that in many instances in which the retrodisplacement alone has been corrected the symptoms have disappeared. Symptoms are modified by any condition which may disturb the harmonious relationship of the organs or assist in producing the retrodisplacement, as enumerated above.

In a retrodisplacement some of the special complaints which women make are:

1. Backache.
2. Bearing-down pains.
3. Tenderness of uterus
4. Constipation.
5. Dysuria.
6. Dysmenorrhea.
7. Menorrhagia.
8. Metrorrhagia.
9. Neurasthenia.
10. Sterility.
11. Leucorrhea.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

If cases of anteflexion do cause trouble at times, why should not a retrodisplacement in which there is the possibility of the uterus falling so much lower in comparison? The uterus being below the normal circulatory level, the venous return flow is impeded. Congestion, endometritis and metritis follow as natural consequences.

In any disease of the ovaries, tubes, or in appendicitis with peritonitis a retrodisplaced uterus greatly augments the suffering. The fundus and adnexa become congested and are crowded as a mass into the bottom or apex of the pit, pressing on and adhering to one another. A loop of the intestines is often intimately associated with this mass. The destruction of tissue is then greater and functions of the organs are much interfered with.

Many an old woman will give a history of displacement of the uterus from which she had suffered from girlhood. It had troubled her at menstruation, at defecation and at micturition, the peace of mind and body being so disturbed as to make life unbearable, and the condition ended in greater disturbances of bladder and bowel, with complete uterine prolapse. It had been the bane of the woman's life and did not even disappear at the "change of life," as often predicted, but followed her during her declining years. Countless office treatments have been given and numerous instruments of torture have been employed to overcome troublesome retrodisplacements, with little benefit, and often much harm, so there is a crying need for a sure and certain cure by a safe and sane method.

OPERATIVE TREATMENT OF RETRODISPLACEMENTS

In considering the surgical treatment for retrodisplacements it is necessary to understand all the factors entering into the maintenance of the normal position, and also to recognize what one or more conditions present may have a causative relation to the misplaced organ.

The success of an operation for the replacement of the uterus will depend largely on the interpretation of these factors and the attention given them by the individual operator. No operation will prove its real worth or give the desired relief should a general relaxed condition of the abdominal muscles with visceroptosis or a lacerated perineum go unheeded, or if any other pelvic or abdominal lesion exerting any influence on the position of the uterus remain untreated.

All sorts of operations have been performed in the past for the cure of retrodisplacements, many without regard for the future comforts of the patient or for the proper functions of the pelvic organs. The greater proportion of them looked all right at the time of the operation, but statistics and facts have shown that many have been failures. A few have stood the test of time, but only when properly selected and employed, with due reference to all other associated conditions.

The operation of ventrofixation and suspension, as introduced in the United States by Howard Kelly, was once quite popular and is to-day performed by a number of operators. It is true of this operation, as well as of any other, that when performed improperly and by incompetent men bad results are often to be expected. This operation has given a great many women comfort and ease. On the other hand, it has resulted in much harm and unnecessary suffering for others.

When properly performed on women past the menopause in whom there is a call for a rapid operation and for the suspension of the organ for retrodisplacement and prolapse, the results will be quite satisfactory. Also, in women who have the tubes or ovaries removed, and if a septic condition exists, at the time, there is less danger of complications in simply stitching the uterus to the peritoneum. Other excuses for its employment might exist in small, round ligaments, or in cases in which the uterus is to be held forward temporarily after an operation for appendicitis, fibroid, salpingectomy, or cysts of ovaries.

I myself have seldom selected this operation, because of the fact that there are more desirable methods of holding the uterus up. By this procedure the uterus is held in a fixed unnatural position and by an unnatural ligament. It seems like a makeshift operation. It is at variance with the principles governing the normal position of the uterus. It causes disturbances during pregnancy and makes labor difficult at times. It favors adhesions of the bowels and invites obstruction by the central ligamentous band.

Alexander's operation is not a very popular one today because of the fact that failures have been numerous and the operation has been improperly applied or performed. The round ligaments, especially the proximal half, are sufficiently strong to act as good supports when there is not a constant strain placed on them.

Any operation which manufactures or secures good supports for the uterus will not be ultimately successful if there is a constant strain on these supports. Failure will result as the tissues will stretch; therefore it is necessary to bring about the normal relationship of the uterus and surrounding parts, utilizing all the normal supports for the purpose and distributing the intra-abdominal pressure in a way to favor the maintenance of that normal position, at the same time correcting any associated disease acting as a causative factor. At one time this operation promised to be the panacea for women with retrodisplacements. There is no question as regards its efficacy in certain cases and it is a scientific and logical operation to perform in cases in which no disease exists within the abdomen or pelvis that requires a laparotomy.

In the past the enthusiastic advocates of this operation employed it in all cases, even going so far as to open up back of the uterus to separate adhesions due to diseased tubes and ovaries, packing the space and shortening the round ligaments extraperitoneally. The absolute failure to relieve the symptoms in all such cases and in many others caused the operation to fall into disuse. I have in a number of instances enlarged the opening to remove a diseased appendix or to resect a tube or ovary where no adhesions existed with good results. I believe it is best to draw the peritoneum up through the opening and close off the sac from the peritoneal cavity, as it makes a better support to include the peritoneum, especially the anterior fold.

The Webster operation finds a great many advocates. I have employed it in selected cases. It has the same objections as any other operation which does not permit the use of the strongest portion of the ligamentous tissue. It also produces a considerable constriction of the body of the uterus by the back-folding, clamping method of the ligaments. I am not sure but that much interference with pregnancy will be found to follow this operation in the future. It also introduces an extra suture line for possible complications. It is of advantage where a sustaining force is required for the ovaries and tubes, and, especially in cases where a raw surface posterior to the uterus exists, it protects this surface from possible adhesions.

Dr Coffey[1] of Portland, Ore., in a well illustrated article published October, 1908, describes an operation of his own for retrodisplacements. It consists in folding the round ligaments downward in front of and lateral to the fundus and refolding them up to the horn of the uterus, making a tuck in the broad ligament over these folds. He claims perfect results. It is a rational operation in certain cases.

The additional time consumed in the operation and the fact that the weakest portion of the round ligaments remain as the supports, the largest and strongest portions being used up, the additional amount of traumatism and suture line left within the tissues and abdomen, would naturally favor adhesions between these areas and the bowel. In septic cases there may be an additional risk of infection and general adhesions. Theoretically it would interfere with the natural enlargement of the uterus during pregnancy also, as there remain two folds of the ligament and one of the peritoneum to prevent the natural enlargement; pain or miscarriages might possibly result.

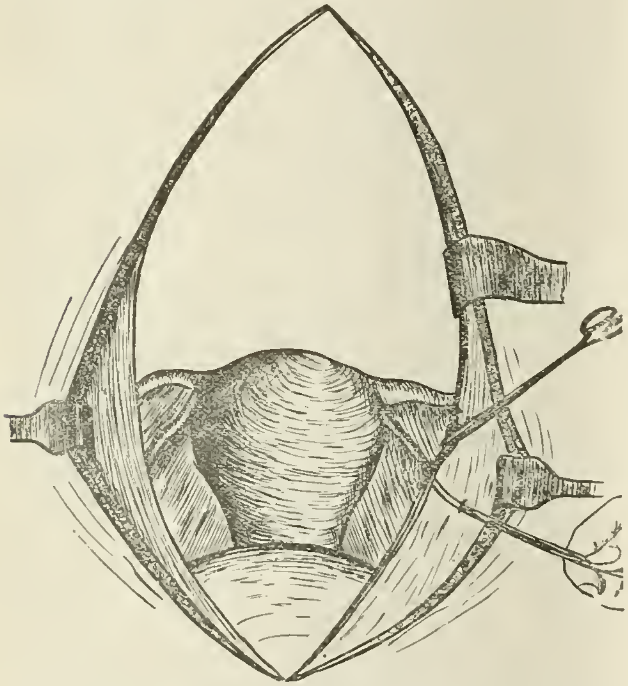

Fig. 1.—First step of modified Gilliam operation; forceps dragging round ligament through fascia opposite internal abdominal ring.

There are certain well-defined cases of lengthening of the uterosacral ligaments, as when there is some prolapse of the uterus, in which a shortening of these structures favors a more speedy return to health and lessens the possibility of prolapse.

The ligaments can be shortened from above or below; I believe best from above, as we can explore the abdomen and pelvic contents at the same time.

These ligaments should be shortened in certain cases where any other operation is performed for a retrodisplacement to insure good results if they are weak.

Any operation which folds the round ligaments on themselves within the pelvis, as in the Mann operation, does not offer the same support for the uterus, as it may be very heavy and partly deformed, flexed or bent on itself. Relapses may be frequent; the weak end of the ligaments are not strengthened; in fact, the additional constant restrain put on them by shortening may weaken the external thin ends.

I would offer the additional criticism on the Mann operation that there is, as in similar operations, the exposure of a suture line within the abdomen which may provoke adhesions. The same objections could be offered to the Goffe operation.

The operation of fixing the round ligaments and covering to the parietal peritoneum near the internal abdominal ring is a much more successful operation than many, as it allows a broad approximation and, if the loose distal portion of the ligament is tacked up to the abdominal wall there is an elevation of the pelvic peritoneum as well. It is not employed as often as it should be. I have been pleased with it in special cases. I believe it is far superior to the operations which leave the weak external end for support or in which an extra and unnatural ligament is created. The operation can be done through the median incision and quickly, but furnishes a chance for adhesions along the suture line. The operation of vaginal fixation as employed by Müller has not appealed to me, as it makes too radical a change in the position of the uterus and in young individuals would certainly not be indicated.

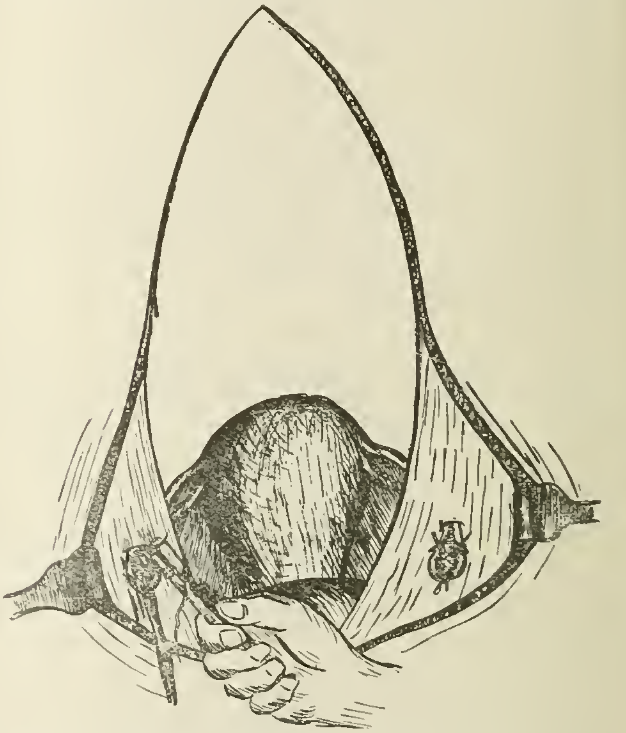

Fig. 2.—Second step of modified Gilliam operation; sutures being placed and ligaments fastened fan-shaped on opposite sides to fascia of external oblique.

Ferguson was one of the first operators (1899) to recognize the importance of correcting the disease of the adnexa and explore the abdomen for other lesions before correcting the retrodisplacement of the uterus. His operation was a step in the right direction, but has been replaced by the Gilliam operation or its modifications to-day. The typical Gilliam operation as first planned by its originator made too direct a pull on the uterus and left an unguarded depression between the normal and artificial exit of the ligaments inviting intestinal obstruction.

The modification which I have at last worked out consists in a dissection of the skin back to a point opposite the internal abdominal ring, passing a curved forceps through the fascia at this point between the folds of the broad ligament to within an inch and a half of the horn of the uterus, catching the ligament, which, together with the peritoneal covering, is brought out on the abdominal wall (Fig. 1), spread on the fascia in fan shape and anchored by three or four interrupted chromic catgut sutures (Fig. 2).

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[1] Coffey, R. C.: Principles on Which the Success of Surgical Treatment of Retrodisplacements of the Uterus Depends, Surg. Gynec. and Obst., October, 1908.

The anterior fold of the peritoneum can be pulled out to any extent, making any tension desired. In young women I am in the habit of making a transverse curved skin incision at the border of the pubic hair line and a longitudinal incision through the underlying tissue.

I am always careful to observe the condition of all the organs within the abdomen and pelvis and to correct any abnormal condition possible at the time. A lacerated cervix, or perineum or cystocele must necessarily be overcome if present, usually after the abdominal work.

The after-care of these cases is important. The general visceroptosis may be corrected by a proper long straight-front corset; the intra-abdominal tension by correcting the diet and regulating the bowels, treating a menorrhagia or metrorrhagia by rest and medication; and the inflamed or congested cervix by hot and astringent douches.

When all the associated or interdependent diseases and symptoms are thus carefully managed the results are all that could be desired.

CONCLUSIONS

1. Retrodisplacements of the uterus often cause much discomfort.

2. The anatomic arrangement of the pelvic tissue invites a retrodisplacement which causes more discomfort than other forms of displacement.

3. The round ligaments and their coverings act as restraining bands, lessening the possibility of permanent retrodisplacement.

4. The harmonious action of all the supports is essential to the uterus for its normal position.

5. When the round ligaments become elongated by frequent repeated retrodisplacements the intra-abdominal force is misapplied and the displacement becomes permanent.

6. The operation which interferes with the laws governing the normally placed uterus is not to be advocated.

7. The operation which produces unnecessary intra-abdominal traumatism should not be chosen in the ordinary case.

8. Operations which could possibly interfere with the enlargement of the uterus during labor should be used in selected cases only.

9. Operations which leave an additional suture line within the abdomen may cause subsequent trouble.

10. Operations which do not give as strong a support as possible consistent with the normal functions of the uterus may result in failure in some cases.

11. The operation which utilizes the normal ligaments with little or no traumatism is less troublesome and more scientific.

The advantages of the modified Gilliam operation as I perform it are the following:

1. It employs only normal tissue for support.

2. The direction of the pull for that support is in a natural line.

3. It eliminates the weak portion of the ligaments in Nature's plan for the normal position.

4. It does not interfere with normal pregnancy or the uterine functions.

5. No additional suture line is present within the abdomen.

6. No traumatism to the pelvic tissue is produced and consequently adhesions do not follow.

7. It puts the uterus at right angles to the vagina and it elevates and tightens the broad ligaments and lifts up the ovaries.

8. It does not interfere with bowel or bladder functions.

9. It takes the strain off the uterosacral ligaments and favors their return to normal tone.

10. The ligaments are tightened sufficiently to prevent the temporary retrodisplacement; consequently the intra-abdominal pressure is properly distributed.

11. It allows the operator to investigate thoroughly the pelvic and abdominal organs.

12. When the harmonious action of all the uterine supports is restored this operation gives positive and permanent results.

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ABSTRACT OF DISCUSSION

Dr. C. W. Barrett, Chicago: The question of treatment of retrouterine displacement resolves itself, not so much into the treatment of retrodisplacement as into the treatment of retrodisplacement of the uterus and its complications. In 1881, Dr. Alexander gave us the operation of shortening the round ligament, laying great stress on the external shortening of the ligament. A few years later, Olshausen, Kelly and others gave us the abdominal operation, dealing with the pathology and doing ventrosuspension. Ever since that time we have been trying to devise an operation that would give the advantages of the one without the disadvantages of the other, and it is only within the last few years that we have had an operation that practically covers that question. In any operation for retrodisplacement there are certain definite points of advantage which the operation should give us, and it is better to deal with principles when we may rather than with technic. The advantages which any operation must have at the present are: First, safety. We are dealing with a condition that does not cause death, and the operation must be safe. Second, simplicity. The operation must be simple because we must combine it with much other operating. Third, it must allow inspection of conditions within the abdomen. Alexander laid great stress on the fact that his operation was an external one; but for an operation to stand the test of time there must be an opportunity for the most careful inspection and correction of conditions in the abdomen, and the best part of the normal ligaments must be employed to hold the uterus forward. We must also deal with the ligament in a way that will leave it correctly placed, not running transperitoneally, but leaving the abdomen at the proper place, the internal ring, if that is possible. All these operations which have these advantages will stand what Goldspohn calls the double test of pregnancy; that is, they will allow pregnancy to progress to delivery without interfering with the success of the operation.

Those operations dealing with the best part of round ligaments may be divided into two classes: Those which get the ligament within the abdomen where it is easy to find, where it does not take up time, and those which find the ligament outside the abdomen. The latter necessitate a tedious dissection, and it is always doubtful about finding the ligament. After six years' experience with what I call the intramural transplantation of the round ligaments—that is, getting the ligament within the abdomen, taking it out through the internal ring—I have found that it stands the double test of pregnancy, that it does not interfere in any way with the pregnancy and that the pregnancy does not interfere with the holding of the uterus. It has been performed in women who were pregnant, and in whom it was necessary to open the abdomen for an incarceration of the pregnant uterus. Such an operation carries the ligaments out of the abdomen at the right place, the internal ring, and uses the strongest part of the ligament for holding the uterus and makes an anatomically and physiologically perfect operation for holding the uterus forward and allows the surgeon to do anything else necessary within the abdomen at the same time.

Dr. J. Wesley Bovée, Washington: Dr. Barrett has given us the proper principles to be followed in the treatment of these displacements, but he has given one operation for all. I hold, and I am not alone in this contention, that there is no one operation that is applicable in all cases. The principles of the proper supports of the uterus have not been satisfactorily worked out to many of us, and certainly the operations for the relief of deformities or defects in these supports have not been satisfactory. Whatever is needed to be done will depend on the condition that is present. I think shortening the round ligament in many instances will be sufficient. But there are so many other conditions that have to be considered; for instance, the defective attachment of the ligaments to the lower pole of the uterus which hold the cervix near to the outlet of the vagina, accompanied with abnormally long uterosacral ligaments. When uterosacral ligaments are attached so high to the cervix that they do not have sufficient leverage to hold it in the hollow of the sacrum no operation on the round ligaments will be of any lasting benefit. In one case I did ventrofixation of the uterus. Eight months later this patient entered Dr. Fry's service in another hospital and Edebohls operated by raising the uterus, appendages and vagina by sutures. The uterus was still firmly attached to the abdominal wall and the cervix eight inches away from that was protruding through the vulva, showing that the fundus might be fastened to the abdominal wall and yet procidentia be present. We see so many cases of procidentia of the uterus in which none of these ligament operations will suffice. Then, again, attention is attracted to the necessity of support from below and looking out for defects in the anterior vaginal wall; so that this field, when details are considered, is an exceedingly large one. I do not think that in any paper or in any number of days of discussion we are very much closer to an absolute determination of what ought to be done, except to find out that no one thing does, and no two things will answer, and that any gynecologic surgeon who depends on one, two or three operations for the correction of retrodisplacement of the uterus will find out sooner or later that he will have to enlarge his list of procedures.

Dr. H. J. Boldt, New York City: I feel that Dr. Bovée has struck the keynote when he said that no one operation is a panacea for retrodisplacements. It must be remembered that the Alexander operation was devised for patients who had a retrodisplacement with the uterus freely movable and with no disease of the adnexa. It is not proposed to cure a patient with procidentia by shortening the ligaments, as devised by Alexander. When the uterus is freely movable and there is no adnexal disease, if the operation is properly done, invariably good results follow. But we must remember that, in that class of cases, the greater number of patients will get along without any operation, a mechanical support alone being sufficient. In that other and larger class of patients with complications, such as diseased adnexa or adhesions of the uterus to the pelvic floor, the method of procedure will differ with the individual experience of the operator. I believe that in women well past the childbearing period no operation will equal ventrofixation of the uterus. But it should never be done on any woman unless she is past the childbearing period. The Gilliam operation or the one suggested by Dr. Benjamin I believe will answer in women likely to bear children.

Dr. R. B. Hall, Cincinnati: I agree that there is no one operation that should be used exclusively for retrodisplacement of the uterus. I believe that many conditions exist in which the operation should be varied. It is exceedingly rare, even after the childbearing period, that ventrofixation of the uterus should be done at all. My objection to the operation is the great danger of intestinal incarceration and intestinal obstruction. If we could gather all the cases of intestinal obstruction that have occurred after ventrofixation there would be a large number on record. I appreciate how one dislikes to report cases of intestinal obstruction coming on six months or a year or two years or longer after fixation of the uterus. I contend that with the many operations from which we may select, we owe it to our patients and to ourselves to choose a method which will not carry with it the possibility of intestinal obstruction.

Dr. H. O. Marcy, Boston: In my studies of inguinal hernia I find deformity in the construction of the inguinal canal in almost all the instances in which there is weakening of the lateral ligaments. As a consequence, it has been said as a basic principle that we should restore, so far as possible, everything to its normal pattern. The whole secret of cure of inguinal hernia is the normal reconstruction of the parts. Many factors must come into the problem, and it would be easy to write a small volume on this interesting subject. In restoring the weaker portion of the ligaments as referred to and fixing it beneath the peritoneum, we are at the same time reconstructing the weakened inguinal canal. In my later experience I open the abdomen and have everything under inspection. I followed Alexander's operation for a considerable period and was suprised to find failures where I looked for success. I was with Dr. Alexander and saw him operate and had him operate in my hospital. Then I did the other operation of intrafolding or fixing the round ligament to the abdominal wall. When the uterus is freely movable, other things being normal, reconstructing the inguinal canal and replacing properly within it the round ligaments solves in a very large measure this most serious problem.

Dr. Reuben Peterson, Ann Arbor: No one expects to convince anybody by this discussion. Every operating surgeon has his own way of dealing with retrodisplacement of the uterus and, no matter how much time we may devote to this subject here, every man will go home and to-morrow perform the operation he thinks best. We have heard a good deal about the Alexander operation, and of how it is not an operation for the retrodisplacement when the uterus is adherent. It seems to me, however, that Dr. Marcy has hit the nail on the head when he says that we should reconstruct the inguinal canal. The only way in which we can do that is to perform the Alexander operation as modified by Edebohls—opening the inguinal canal and shortening the ligament within the canal. Then, if we find a hernia, as we often do, it can be cured and the ligament shortened at the same time.

I have tried the various operations suggested for retrodisplacement of the uterus. My experience with ventrosuspension has been very bad. I have had to perform Cesarean section twice for dystocia developing after this operation, hence I never perform the operation in the childbearing woman. I have tried the Webster-Baldy operation. I found that while it is good for a certain purpose—elevation of the ovary—there are so many relapses that I have discarded it. Some years ago I adapted the Alexander method in all cases of retrodisplacement with or without adhesions when the uterus needed to be brought forward and held there. I do it through one incision, a transverse or median incision, taking care of all the pelvic pathology and then opening up the inguinal canal, shortening the ligaments, attaching them to the fascia with chromicized catgut sutures, and finally repairing the hernia if that be necessary. I have found two or three hundred cases of this kind in which the operation has given satisfactory results. Now, there will always be relapses from every kind of an operation for retrodisplacement. As pointed out by Dr. Bovée, we find that if we stitch up the uterus to the abdominal wall in a certain class of cases the uterus itself will stretch out and the cervix will appear at the vulva. We will find that after certain other operations the fundus will fall backward, but these are the exceptional cases. There will be fewer relapses after shortening the round ligaments within the canals than after any other operation for displacement.

Dr. I. S. Stone, Washington, D. C.: It seems a little remarkable that cases like these should be mentioned here and no explanation be given as to why certain displacements of the uterus are not curable. Now, take Dr. Bovée's case by way of illustration. Given a uterus whose fundus is fixed to the abdominal wall and, of course, there must be associated trouble with it, if the cervix of that uterus appears at the vulva. It would have been just as well for Dr. Bovée to state, what he knows so well, that the complications around and preceding that condition which have existed for years are the real trouble back of the displacement of the uterus. The cervix appears at the vulva in these cases, not because of its own weight, for the fundus may be attached to the abdominal wall as Dr. Bovée has stated, yet the relaxed ligaments, including fascia and connective tissue, yield before the intra-abdominal pressure from above. As has been said in other years, the reason we do not cure these patients is because we do not understand the pathology, and in the second place, we do not know how to overcome it. I feel sure that in nearly all the cases, whether in a virgin, a married woman or a multipara, the condition is preceded by a descent of the abdominal viscera. If such is the case, why should shortening of the round ligament overcome the trouble? It ought not to do it. The descent has begun in the viscera, the elongation of the so-called sacro-uterine ligaments, and the posterior pelvic peritoneum with the connective tissue has preceded the descent of the uterus. The uterus can not come down until the peritoneum and the posterior supports give way. We ought to recognize that. A great many of us have been trying for years to overcome the second condition first, and we have been getting the cart before the horse. How to correct the descent ought to be the object of every gynecologist instead of inventing some new method by which we can push the uterus back or hold it up. Let us have some papers on how to support the viscera, how to train the young woman so that there will not be the serious consequences to childbirth which are shown very frequently in the form of displacements which we are discussing to-day.

I would like to show why some of the ligament operations are failures. One of the reasons, which ought to be widely mentioned, is paralysis of the nerves in the ligaments which we are trying to shorten. The Alexander operation has failed because the ligaments are seriously injured by the compressing sutures. Webster and Baldy use the best part of the ligament and crush its nerve and blood supply, and when the abdomen is opened for correction of later mischief, a slender string of connective tissue is found with no muscular tissue in sight. Obviously, the ligaments should be secured without strangulation, for injuries to muscular tissue never permit a perfect restoration of function.

Dr. Henry D. Fry, Washington, D. C.: There are many different ways of treating retrodisplacement of the uterus surgically. Many men are perfectly satisfied with the suspension operation; I have had no trouble with it. Pregnancies have progressed normally and there has been no trouble at labor. But sometimes there will be fixation in these cases even when done properly, as Dr. Stone on one occasion did in the gynecologic department of the Columbia Hospital, and I had to deliver the woman afterward by Cesarean section. About fifteen years ago I was trying to find the best method of treating these cases surgically, and my thoughts ran in the direction of the Alexander operation, and I then saw Dr. Boldt operate, but the trouble he encountered led me to discard the thought of that operation. After a long search on one side for the delicate ligament and failing to find it, he went to the other side, caught the opposite ligament, returned to the opposite side and then caught it. Another objection is that the Alexander operation does not cure the complications which accompany retrodisplacement and which are the principal causes of the suffering. One of the most frequent is the prolapse of the ovary. The ovaries are down, and if the uterus is raised, leaving the ovaries down, the patient is going to continue to suffer. I have given up suspension, not from any personal dislike or from any bad experience, but simply because the profession seemed to want to get away from it and I felt that there must be good reasons. I have seen a few cases reported of intestinal obstruction, but have never had this complication.

In looking around for another operation, I then tried the Gilliam method. The trouble with that is the suffering afterward. I find that the Pfannestiel incision—the transverse incision—is advisable in cases in which there is no pus. This incision allows the surgeon to get at the parts much more readily and the operation is much simplified.

I want to say something now in favor of the operation which is here condemned—the Webster-Baldy method. I think that it is *par excellence* the best operation for retrodisplacement; the great advantage being in the lifting up of the prolapsed ovary. The surgeon goes through the broad ligament under the utero-ovarian ligament, catches the round ligament and brings it back in a way that not only holds the uterus forward, but lifts the ovary up. Strangulation of the round ligament has been spoken of as an objection, but I think that is because the operation has been improperly done. If the whole thickness of the round ligament is fastened down it will be strangulated, and it will be a little cord in a few years, but if only half of the ligament is sewed down and the two ligaments used, there will not be atrophy, but a perfect result. In a case reported by Dr. Baldy in which he had done the operation some time before and later took out the uterus, he found that the ligaments had grown into the uterine tissue and could scarcely be seen, but a good firm ligament held the uterus in place.

Dr. Marion Craig Potter, Rochester, N. Y.: I think that as gynecologists we are not more successful in curing these displacements by treatments, because we do not get the cases early enough. Advice has always been against the examination of unmarried women, and as physicians we should re-educate the public in this matter. In young women who have severe dysmenorrhea, especially if it has existed since the first menstrual period, some obstruction exists. School physicians when reporting to parents adenoids, eyestrain and defective teeth, should also call attention to menstrual derangements. Dr. Howard Kelly advises the examination of young girls under an anesthetic, and, if indicated, operative procedures.

At this age response to remedial measures for straightening the flexed canal is much more satisfactory, whether by dilatation, Alexander operation or routine office treatment, and such measures not only cure the discomfort, but, by establishing proper drainage throughout the generative system, they prevent the establishment of a "vicious circle," which is sure to follow interference with proper drainage of the pelvic organs, viz., endocervicitis, cervitis, endometritis, metritis, bacteriologic infection from retained alkaline secretion and possibly diseases of the tubes and ovaries. As a result of this symptom-complex, we often have the most unfortunate condition that can befall a woman—sterility. From the standpoint of preventive treatment of sterility, if from no other, we should create a sentiment for early examination of girls suffering from dysmenorrhea.

Dr. George Erety Shoemaker, Philadelphia: I want to speak in favor of the study of the patient, with a reservation in mind that retroversion in itself is not necessarily a condition which requires anything so important as either an Alexander operation or an abdominal section. I think operating on young women who have nothing except a retrodisplaced uterus usually is a mistake. I have always wondered how the large number of Alexander operations could be collected, and in studying my patients I could find few who required simply the reposition of a uterus. If they needed operation at all they had in addition a salpingitis, a diseased ovary, a prolapsed uterus, or some complication which called for more than the Alexander operation. The effort to determine which is the best operation, it seems to me, should resolve itself into the question: What is the best way to keep the uterus forward while the parts are returning to their normal after correcting other pathology in the pelvis? That is often a complicated problem, requiring all the knowledge of mechanics a man can summon to his aid. There is a very limited field for the fixation which has been so much condemned, and only when childbearing is impossible. It is an operation which helps bear up the badly prolapsed uterus after the other things necessary have been done, and usually a good many other things are necessary. There is a field for all the intra-abdominal shortening principles. If operating in the presence of pus and it is necessary to remove extensive adhesions which by contraction pull the uterus over backward, the surgeon cannot tear up the anterior peritoneum and inguinal canal intra-abdominally without some danger of spreading infection. In the presence of such conditions one of the other methods must be used. Light suspension in front of the line joining the cornua, I have done for several years with no unfavorable result. The round ligaments may be attached to the uterus behind, or some modification of the Gilliam operation may be used. I want to emphasize the necessity of the study mechanically of each combination of conditions and to state that we should very rarely operate simply for retroversion.

Dr. A. E. Benjamin, Minneapolis: It was the purpose of my paper to bring out a discussion, because I think this subject should be settled. Gynecologists should be agreed concerning the best operation to be performed. If these patients could be seen early, as Dr. Porter stated, before there were many complications, much could be accomplished. We should know whether there was visceroptosis or a greatly dilated stomach pushing down all the abdominal and pelvic organs and necessarily causing retrodisplacement of the uterus. If we could teach young girls how to overcome this condition there would be little necessity for an operation, except for complications, as some disease of the tubes and ovaries. Many patients will develop prolapse of the ovaries because of this continuous crowding of the organs down in the pelvis. I agree with most of the speakers regarding the principles underlying this subject. I cannot agree with men who believe that ventrosuspension should be done, although I have done it myself; I no longer do it because of the possibility of obstruction of the bowel from the false ligament.

I do not agree with those who believe the Webster operation, or those operations which shorten the round ligament within the abdomen, are ideal. As has been said, they use up the best part of the ligament. There is constriction of the uterus and interference with the blood supply. The idea of my operation is to utilize the same principle involved in the Alexander operation. The skin is dissected back from the fascia and a forceps run down through the tissue in the region of the internal abdominal ring; the round ligament is caught, pulled out, spread out and fastened to the abdominal fascia. The uterus is firmly supported and there is no pain or other trouble following the operation. I find that in this operation I can do a transverse incision nicely, especially in young women, by making a cut at the upper border of the pubic hair line. I carefully examine every patient to see that there are no other conditions to consider than the retrodisplacement.

If the abdominal muscles are relaxed with prolapse of the abdominal organs, I have these patients take exercise, put them in the knee-chest position, put on a long straight front corset, and then I find that gradually the organs assume the normal position.

Forestry and Health in France.—According to *Science*, France derives from her state forests an annual income of approximately five million dollars, or $1.75 per acre. Eighteen per cent. of the entire area of the country, or 23,500,000 acres is forest land. Approximately six million acres are managed by the state, the annual cost of management being ninety-five cents an acre. The great achievement of France in forestry has been the establishment of protective forests where much destruction has been caused by floods. Toward the close of the eighteenth century about 2,500,000 acres comprised in the Department of the Landes were little more than shifting sand dunes and disease-breeding marshes. This section is now one of the richest, most productive and healthful in France. The change has been brought about by the intelligent cultivation of pine forests. Immense forests now cover the country, the sand dunes and marshes have long since disappeared, and the wood, charcoal, turpentine, resin and kindred industries have brought prosperity to the department, which was formerly the most barren and miasmatic in France. The climate is now mild and balmy, the great change being wrought by the forests. The thin layer of clay beneath the sandy surface, formerly impervious to water, has been so pierced by the roots of the pine that there is now thorough drainage to the spongy earth below. The manufacture of resin, tar, turpentine, pitch, pyroligneous acid and wood vinegar is conducted in about the same way as in Georgia and the Carolinas.

THE PRESENT STATUS OF IRRIGATION AND DRAINAGE IN OBSTETRIC AND GYNECOLOGIC OPERATIONS *

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Though there may never be complete unanimity of judgment and opinion regarding the details of the requirements for irrigation and drainage in gynecologic and obstetric operations, there is a growing disposition among us to simplify our practice in these particulars. This has come about through the gradual elimination of the sloppy flushing practice of a few years ago and the abandonment of things like huge glass drains and suction syringes.

A process of evolution by exclusion has simplified the approved practice of today, and in both obstetric and gynecologic operations better results have been obtained with the simpler methods.

The use of solutions of antiseptic drugs, particularly those of the poisonous varieties, is steadily losing favor. The practical antiseptic efficiency of such solutions for irrigation is questionable and the dangers incident to their use are known and recognized. Not only have serious poisonings occurred but deaths from poison have resulted from this practice, and the diffusion and distribution of a previously localized infection has not infrequently occurred. An example of these dangers is afforded by cases in which uterine perforations have accidentally been made during a curettement following abortion, and a solution of bichlorid of mercury has been thrown into the peritoneal cavity through the uterine rent. In this event chemical poisoning and the distribution of the infection both take place. I have knowledge of one such instance; many may be found in medical literature, but for obvious reasons most of such unfortunate occurrences have not been reported.

Irrigation is doubtless best employed for its mechanical effect in washing out of the body such loose debris as the cavity being treated may contain. To this end the force employed should be at the minimum for efficiency and the solution used the least irritating possible.

The elementary principles governing the best modern obstetric and gynecologic practice would seem to be about as follows: Never irrigate if it be possible to avoid it through gentle wiping or sponging. Avoid poisonous and irritating solutions, as they are both dangerous and disappointing. In the main, use irrigation for its mechanical effect in flushing out debris, and always at low pressure.

Summarizing the prevalent opinions of today as to drainage in obstetrics and gynecology one finds it contrasting strongly with opinions and practice of but a few years ago, and happily, also, in the direction of simplification. One now finds himself disposed to avoid the use of drainage wherever possible and believes it possible to do without it many times where it was formerly deemed an absolute necessity. So, too, our ideas of drainage methods have undergone a change for the better. Glass drains are now rarely used even in the abdomen, and by only a very few operators. Gauze, always an indifferent drain, is more often employed for packing and walling off infected areas, arresting oozing of blood which may otherwise be difficult to control and for guarding against fecal and urinary infiltration into the tissues. and leaks into the cavities of the body when the hollow viscera have been injured or sutured.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session,

The majority of the best surgeons of today limit the use of intra-abdominal irrigation and drainage to few and to certain specific indications, chief of which are rupture or leakage from some hollow viscus or localized abscess which has poured into the abdominal cavity food, urine, pus or blood in considerable quantities.

In certain cases of ruptured ectopic pregnancy irrigation serves the double purpose of flushing out the clots and debris and supplying the body with much needed fluid for the heart and blood vessels to act on. Also, in certain cases of shock, a normal salt solution instilled into the peritoneal cavity may act well: but that is not the particular phase of the subject this paper is intended to consider.

It is now generally appreciated that some localized accumulations of pus, particularly those of long standing and of tubal origin, may be safely broken down and turned out through an abdominal incision without irrigation or drainage even though the adjacent surfaces be extensively soiled. Indeed the plan of coffer damming and wiping out with dry gauze is believed to give much better results in such cases than did the older practice of irrigation and intra-abdominal drainage. So, too, certain localized peritoneal infections originating in the appendix are better treated without irrigation and intra-abdominal drainage even though the appendix may have ruptured and the adjacent loops of intestine be injected and mottled with many patches of lymph. Often in such cases the peritoneum will take care of its end of the infection without a protest. though the wound in the abdominal wall may suffer a serious infection which, if unprovided for by a superficial drain down to the peritoneum, may cause great anxiety. The interesting pathologic problems of established immunity on one hand and attenuated virility on the other are important factors under such circumstances, but these also lead us far afield and into a consideration of deeper mysteries than we are prepared to undertake to explain.

Whenever intraperitoneal drainage is really necessary in gynecologic surgery it is certainly better to make it from the bottom of the wound and "down hill" if possible; that is, through the vaginal vault. This plan has so many evident advantages other than the predisposition to hernia which a deep drain through the abdominal wall favors that they need not be enumerated.

Intrauterine irrigations in gynecologic and obstetric surgery have been illogically practiced for more than a generation, and even now poisonous solutions are constantly employed by many physicians who are doing curettements after abortions or after delivery at term, notwithstanding the fact that most of the recent authorities have shown them to be ineffective for good and capable of doing great harm.

The routine employment of such intrauterine douches after uncomplicated normal labors is also advocated and practiced, though the weight of evidence is overwhelmingly against it. In Williams' "Obstetrics"[1] may be found this statement:

> It has been shown experimentally by Bumm that mercuric chlorid injections penetrate the tissues only to a very slight extent. He took the liver of an animal dead of anthrax, and after soaking it for thirty minutes in a 1 to 1,000 mercuric chlorid solution, placed it on a freezing microtome, and cut thick sections from it. After cutting off about 1 mm. he inoculated the next section into another animal which succumbed to anthrax, thus showing that the germicidal action of mercuric chlorid had been exerted only on the surface. If this be the case in the laboratory after the tissue has been immersed in the antiseptic solution, what effect can be expected on organisms embedded in the muscular wall of the uterus, from a transitory application to the surface of a few liters of a weak mercuric chlorid solution? Bumm likewise showed that the streptococci made their way through the uterus with great rapidity, traveling 2 cm. or more in the space of six hours. What has been said concerning mercuric chlorid applies equally well to the other disinfectants.

Notwithstanding the frequent reiteration of statements like that just quoted in almost all the recent standard text-books on obstetric and gynecologic subjects, many general practitioners and not a few gynecologic and obstetric surgeons persist in the use, or rather the abuse, of the poisonous intrauterine douche. Proof positive has been offered time after time of the fallacies and dangers of the poisonous antiseptic intrauterine douche and there is practical unanimity of opinion among teachers and writers that its effects can be nothing but bad, and yet it is employed constantly by many who should know how dangerous it is.

What is there about the practice of the obstetric art that makes the average man so impervious to incontrovertible proof? Our reluctance to accept the truth in regard to the contagiousness of puerperal fever for almost a half century after it had been logically proved is an indictment under the shadow of which we should long stand in deep humility and in atonement for which all our efforts should be exercised in a determination henceforth to keep our minds open to conviction.

Intrauterine drainage is, under some circumstances, a most important surgical detail, but, so far as I have been able to observe, it is rarely employed logically or with a proper regard for the mechanical principles involved in the attainment of the ends sought.

From a mechanical standpoint, a tampon is little more of a drain than a dam is an aqueduct in hydraulics. If the conditions inside the uterus are such as to demand drainage in the true sense in which the word should be used, a gauze tampon, or even a gauze wick, if that term be preferred, does not meet the indications. The capillary action of gauze is incapable of carrying off under any circumstances more than the thinnest fluids, and even those only for a short time, as the meshes of the gauze soon become filled and its capillarity is destroyed. The principles of true drainage require that the drain shall be open and free; that it shall be capable of conveying thick fluids, such as pus, blood, mucus or necrotic debris, and that it be capable also of being flushed and freed while *in situ*.

Such a drain is often invaluable in the uterine cavity, as it may be in many other situations; but, with the known tendency of the internal os to contract and so retain within the uterus putrescible or infected material, a free drain adapted to flushing and capable of conveying thick fluids is a necessity. Such a drain I devised some years ago and my experience with it has been such that I venture to speak of it here, notwithstanding previous mention of it elsewhere. It is made of rubber tubing of a size adapted to the requirements of the case in hand and of thick or thin walled tubing, depending on the pressure it must withstand from without. It may be adapted to bladder irrigation and drainage, as it makes an admirable and easily constructed retention catheter out of material always at hand and one that can be readily introduced and removed. It works equally well after operations for perineal or suprapubic prostatectomy and for draining the pleural cavity it is admirable, but as an intrauterine drain in infection, sapremia, etc., it has been found most useful. The accompanying drawing and legend will best describe its construction.

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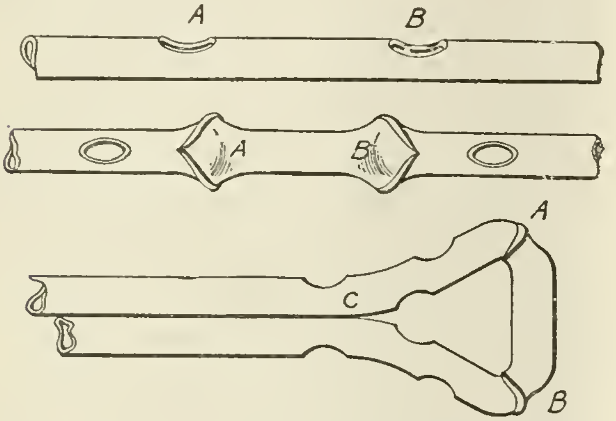
[1] Obstetrics, 1908, pages 885-886.

One of the most dangerous features of the ordinary intrauterine douche as it is commonly employed is the necessity for frequent and repeated introductions of the irrigator through the infected vagina and cervix with all the risks of a retrograde infection that necessarily attend such a proceeding. When practiced by the physician or nurse several times a day, as is sometimes done, it is inconceivable that the vaginal, cervical, or vulval bacteria are not conveyed into new fields during the operation and the patient may be congratulated if she does not also receive some new infection from the hands or instruments of the operator

Such retrograde infections of the bladder are of common occurrence as a result of the repeated use of the catheter, even though the opportunities for cleansing the field are good.



1. Cut two holes in a long piece of drainage tubing as indicated at A and B. 2. Draw one end of the tube through A and out at B, thus inverting that portion of the tube between the holes as seen in 2. 3. Bend the legs of the tube down so that the holes A and B will be left open for drainage. If bent in one direction they are open, if in the other closed. Tack with a blind stitch at C.

The advantages of an irrigating and draining device which may be placed once, and once only, with due precautions against infection and through which the drainage and the flushing fluid may always flow from within outward must be apparent, whether the cavity to be flushed and drained be that of the bladder, the uterus or the pleura. This flow from within outward is accomplished in a most satisfactory way by the tube shown. When used with diluted alcohol, according to the suggestion of Carosso,[2] or with sterile water, salt solution, a solution of potassium permanganate or a dilute iodin solution, it may be a means to a most desirable end.

Through these tubes an intermittent flushing of an infected uterine cavity may be made by a nurse at frequent intervals without changing the position of the patient in her bed, or, indeed, it may be done without waking her if she should be asleep, as one of the legs of the tube can be permanently connected with the reservoir containing the flushing fluid and the other with the receptacle beneath the bed, so that the fluid can be carried into and out of the uterine cavity by continuous flow, if that should become necessary, and be stopped or started at will with a simple pinch cock.

Dilute alcohol solutions (33 per cent.) so used have given astonishing results in the after-treatment of sapremia and uterine and vaginal infections.

With this simple device for drainage and a continuous flow of boric acid solution at low pressure success has also attended efforts to close large vesicovaginal fistulas in badly infected bladders, one person having been previously unsuccessfully operated on eleven times during twelve years. Success in this instance was made possible by the perfect draining of the bladder and the prevention or solution of the ammoniacal urinary concretions and incrustations which had been deposited on the catheter and bladder walls in her previous operations.

Drainage, real drainage, of the uterus and bladder under certain conditions may be indispensable.

When irrigation of these cavities is necessary it should be made with non-poisonous solutions, and in the main with a view to their mechanical effect in flushing the cavity as in contradistinction to their chemical and antiseptic effect.

Low hydrostatic pressure should be employed and ample provision must be made for the return flow of the flushing fluid.

ABSTRACT OF DISCUSSION

Dr. I. W. Potter, Buffalo: While douching following normal labor has its disadvantages and is said to be dangerous under certain circumstances, I think it also has its advantages, and with me it is a routine practice. I do it myself, but never dot it more than once in each patient.

Dr. W. W. Golden, Elkins, W. Va.: I wish to add my testimony from a somewhat extensive experience to the utility of the use of douches of solutions of iodin. This solution serves a useful purpose, especially under certain conditions in which the general practitioner often has to work, when it is not convenient or possible to exercise and practice proper aseptic precautions in intrauterine manipulations. The use of iodin solutions a little stronger than usually recommended has proved satisfactory in my hands and in the hands of a number of physicians who have followed my suggestions.

Dr. Edward J. Ill, Newark, N. J.: In considering the question of drainage of the uterus we must remember that the uterine cavity is not a hollow space, that the walls come together. No irrigation tube will separate these two surfaces sufficiently to keep the cavity perfectly clean. To do it well, the much-maligned gauze should fill the uterus. If the physician will separate those two uterine walls by gauze and through the center of it put a rubber tube up to the fundus with an opening at the end and pour a 25 per cent. solution of alcohol through it once in three hours, he can thoroughly cleanse the uterine cavity without in the slightest disturbing the patient. These septic surfaces are constantly bathed with a 25 per cent. solution of alcohol. Ahfeld describes scientifically the importance of disinfection with dilute alcohol. I have used this method for fifteen years and whenever I get hold of a patient within two or three days of the infection she recovers. If I get the case later than that, the infection has entered the lymphatics or the veins and the results are not so certain, though in many cases they are satisfactory. At the end of five or six days the gauze and tube are removed and the gauze is found to be just as clean as when it was put in. This gauze is not foul and ill-smelling and filled with all sorts of discharges from the uterine cavity.

Dr. Henry D. Fry, Washington, D. C.: I protest against what has been said about the use of intrauterine douches after normal labor. I am sorry that the doctor who said there were certain advantages to be derived from it did not state what they were, and I can not see what the benefits are. If the labor is normal and the uterine cavity is not infected there is danger of carrying infection into the uterus by douching it. This method has been tried and we know that the morbidity and mortality have both been increased by the use of the intrauterine douche when there is not distinct indication for its employment. I agree with the essayist that it seems to be very difficult to stop this practice among obstetricians; men who are supposed to be conversant with the best methods of treatment and that they will continue to use the curette also, which I think is dangerous, unless clearly indicated. I think there are distinct indications for it in some cases—infection, especially of the saprophytic kind, also septic endometritis, and when débris, foreign matter and clots have been retained. I think the effect is just as good from the use of normal salt or sterile water as from an antiseptic solution. It is the mechanical effect of the water that does good. If there is colon infection the douches are good. In streptococcus infection there is no advantage in the use of the douche. If streptococci are found, let the uterus alone after a preliminary cleansing.

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[2] Wetherill: Am. Jour. Obst., 1903, xlvii, 5; Am. Med., Jan. 30, 1904, p. 189.

One point not mentioned and which has given me much trouble is in connection with the vaginal operation for ectopic gestation with extraperitoneal hematocele; in which one opens through the vault of the vagina and through the sac, to get out broken-down tissues and clotted blood. I clean out and put in a double drainage tube, but I have not been able in a single case to prevent fever. I should like to hear the experience of some of the gentlemen in these cases. Notwithstanding my greatest care in washing out the sac and inserting a double drainage tube, I have had septic fever. All my patients have recovered, but I look for fever in such cases for about a week or ten days, and if anyone knows how to drain these cases and not have fever, I should like them to tell me.

Dr. H. P. Jack, Canisteo, N. Y.: I do not believe the members of this Section, at least those with whom I have talked, know of the benefits to be derived by following Dr. Wetherill's technic. For the past five years in an extensive consultation practice I have seen many patients with septic infection of the uterus, some of the cases being of longer standing than mentioned by Dr. Ill, some of the patients almost moribund, and yet I have seen them recover under the persistent use of this technic. I commend the method; it should not be withheld in streptococcic infection. The alcohol is absorbed as well as the streptococci and how much good is done we cannot say. I have seen patients in whom the chills persisted, and multiple abscesses had formed at the points of pressure, recover under this treatment carried out for three or four weeks. I have never been able to obtain any such results with anything but alcohol, and I hope we shall have a more general use of a measure which is of such value.

Dr. H. G. Wetherill, Denver: Many of us feel that there is a very limited field for vaginal operation for ectopic pregnancy. While that field is limited, it has special indications which must be met, and one of them is "drainage," so-called, but in my judgment that is one of the forms of "drainage" to which gauze is better adapted than a tube. It approaches more nearly a need for a tampon than for a drain. My own practice, when vaginal operation is done for ectopic pregnancy, is to evacuate and pick out the clots as well as possible and to tampon with a wad of gauze. If in my opinion this will not meet the indications, abdominal section is done. The opinion of Dr. Ill I should have a great deal of respect for, because he has doubtless had a large experience with the intrauterine douche with alcohol solutions in sepsis and I have no doubt he obtains good results by his method, but in my judgment he is entirely in error in saying that there is no cavity inside the pregnant uterus. In the ordinary case in which pregnancy has advanced beyond six or eight weeks, the uterus is flabby and soft and its walls do not fall together as in the unimpregnated uterus, but whether there is a cavity or not is unimportant. Packing gauze into the uterus and leaving the gauze as a dam and not as a drain, interferes very much with the return flow from the uterus and it makes necessary—what is not necessary with the tube alone—the removal and changing of the gauze at short intervals. This is a menace to the patient because of the risk of retrograde infection.

A STUDY OF THE TRAUMATIC INSANITIES *

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The study of the question of the relationship of trauma to insanity clearly reveals the fact that medical opinions on this subject are not as yet well settled or defined.

Many writers, especially the older ones, hold that injuries to the head and cerebral concussion, by causing inflammation of the meninges which spread to the brain, disorder its circulation and nutrition and thus produce psychic disease, at once or after a long interval. This theory has not been sustained by the facts found in many cases, for the reason that the surgeon and pathologist have failed to show such a state of facts. If such lesions did exist they would have given recognizable symptoms (which actually have been entirely absent) during the interval. Most of the more recent writers have modified this view and hold that, with or without material injury, the shock produced by the accident may cause molecular changes in the brain, thereby producing psychic disturbances or a predisposition, especially in neurotic individuals; that such insanity may not occur until after a long interval, during which no special symptoms occur, and that the immediate cause of the condition is some later intervening factor.

This view is also open to objections. It must be admitted that, in those cases in which an interval of time occurs, these later etiologic factors are of themselves competent effective causes in persons who have received no such injury; that there is no proof of any such molecular changes if they produced no recognizable conditions, and that every human being has at various times in his life received injuries to the head of varying severity. Thus a history of head injury is of no more importance in an insane person than in other individuals. One of these authors is conflicting in his statements when he adds that the trauma must be of some consequence and produce cerebral concussion.

The solution of this question appears to be that both organic changes occurring after severe head injuries, and severe fright occurring with trivial injuries, may immediately or after a period be followed by psychic disturbances, and that in the latent cases the two must be connected by recognizable conditions.

One writer contents himself by stating that "all degrees of injury to the skull or brain may be followed sooner or later by progressive dementia." Such assertions as this are objectionable, as they form the basis for the assumption that any dementia occurring at any time after an injury may be due to it. The importance of this question from its medicolegal standpoint is very great, and the conflict of opinion has done much to discredit our profession as a scientific body.

Excluding hysteria, three psychoses seem to be well recognized as being the direct result of psychic or physical trauma, psychic trauma causing traumatic hypochondria, and physical trauma, acute primary traumatic insanity, organic dementia, or idiocy and imbecility.

Much of the confusion which surrounds even these psychoses is due to the fact that authors often attempt to describe them together as the result of head injury and thus fail to define the conditions clearly.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

TRAUMATIC HYPOCHONDRIA

The peculiar mental picture presented by many of the traumatic neurasthenias and hysterias caused them in the past to be described under the name of the traumatic neuroses and more recently under that of the traumatic psychoses.

The weight of medical opinion as to the nature of the condition in question, as shown in the more recent medical writings, is shown by the facts that Kraepelin, Oppenheim, Strümpell, Mendel and Bruns hold that it is a pure fright neurosis and differs from hysteria in origin, clinical expression and course; that Diefendorf states that the French writers, Schultz, Hoffman and Mendel, hold that it is either hysteria or neurasthenia; that Charcot held it to be purely a hypnotic condition; that Oppenheim states that the autopsy findings are usually negative, that a few cases have shown arteriosclerosis; that Friedman, Kronthal and Koppen consider it to be due to vasomotor disturbances; that Schmaus, Bickles, Vibert and Koppen believe that minute material alterations are concerned in the condition, and that it is in reality a combination of neurasthenia and hysteria with a peculiar mental state, and that Strümpell states that there is no material injury but purely a psychic change.

It appears from this statement that the hypotheses of some of the older writers of minute material alterations, a term which is exceedingly indefinite, has not been substantiated either by the course of the psychosis or the pathologic findings; that the presence of arteriosclerosis can not be regarded as of more than an accidental occurrence, for it has been found in only a few cases and is a common condition in mankind; that the fact that vasomotor disturbances should have been found in some cases is not of any importance, as these regularly occur in hysteria and hysteria regularly complicates this psychosis, and that the condition is a pure psychosis.

The condition may be defined as a fixed delusion on the part of the patient that he has sustained some severe and permanent injury as the result of some accident, and is often complicated by hysteria or neurasthenia or a combination of both. This delusion in no way differs from similar hypochondriac delusions due to other causes.

The producing causes for this symptom-complex are stated by Kraepelin and Diefendorf to be general but not severe injuries with but little shock, but accompanied by fainting and excitement; Kraepelin, Oppenheim, Diefendorf and Strümpell say that it is due to a tormenting anxiety and a morbid state of the mind and that it may occur without injury; Diefendorf says that it is a question if the emotional disturbances which occur at the time of the injury should be regarded as the cause, since frequently weeks or months elapse between the injury and the first symptom; Diefendorf and Strümpell state that an important factor is a claim for damages or a membership in an insurance society, and Oppenheim says that it may develop without a claim for damages. It appears, then, from this statement, that this condition may arise either from the happening of some accident or from the occurrence of other factors which may arise weeks or months after its happening.

A study of my cases reveals the fact that this delusion may arise from an exaggeration of the consequences of the injury, especially when founded on symptoms of a hysterical nature; from an error in diagnosis and prognosis on the part of the patient's regular medical attendant, as we not infrequently find hysteria diagnosed as multiple sclerosis, myelitis, cerebral or spinal hemorrhage, neuritis, concussion of the brain or cord, and epilepsy, from the fact that when legal proceedings have been begun the patient is apt to fall into the hands of a physician retained by his attorney, whose sole function appears to be to make the case appear as grave as possible; from the fact that the examination of the patient often discloses the existence of some previously existing condition of which the patient had little knowledge, which the patient attributes to his injury and becomes the foundation for his delusion, and from a claim of damages or membership in an accident insurance, which, although it may not be the direct originating cause, has an undoubted tendency to make the condition more marked. Usually we find more than one of these factors acting in the same case.

Of 31 cases, reports of which I have been able to collect and in which the condition is known after periods varying from seven to twelve years, 13 occurred in females and 18 in males. The ages varied from 21 to 58. Nine occurred in the third decade, 16 in the fourth, and 3 each in the fifth and sixth. It is then a psychosis of middle life—a period when the struggle for existence is most intense. This fact is emphasized by the social condition of my patients, as 29 of them belonged to the humbler ranks of life; their incomes were barely sufficient to meet their necessities, and anxiety about the nature and consequences of their injuries would be naturally most marked in such persons.

The character of the accidents were falls from the steps of cars in 8, falls from wagons in 4, blows on the head in 5, falls on the buttocks in 2, general commotion from collisions in 12—and 5 of the latter sustained no objective signs of injury. The physical results of these accidents were contusions on the head and body in 22, a Colles' fracture, a broken nose, a sprained back and a crushed hand in 1 each. These cases, then, support the contention that the physical injury is usually slight and that it is the fright and anxiety due to the accident which is the real producing cause. This fact is also shown by the immediate symptoms occurring in these cases, which were fainting in 6, daze in 7, shock in 3, and hysterical and real coma in 1 each. In the other cases there were no immediate symptoms. In all these cases a more or less marked condition of hysteroneurasthenia developed.

The psychosis itself developed immediately after the accident in 16 cases, while of the remaining cases a period of one week elapsed in 5, two weeks in 4, two months in 4, and seven months in 2. The influence of the character of the diagnosis and prognosis in developing the psychosis is very evident in my cases. In 7 of the immediate cases the condition was diagnosed as a serious and permanent injury, in 4 the character of the condition was recognized but permanency was claimed in 2, and in the remaining 7, in which a good prognosis was given, all made a quick recovery. In 4 cases the discovery of a floating kidney, a uterine displacement and an irregularity of the skull and ribs, which were claimed as fractures, was the foundation for the psychosis. The effect of the opinion of the physician who examined them on the part of their attorney is also evident, for in 9 a marked increase occurred in the symptoms after the examination, while in one personal case in which the patient was assured that his physician was mistaken in his having a spinal-cord hemorrhage, rapid improvement occurred. In 9 of the cases in which a period of time elapsed between the accident and the psychosis, the latter did not develop until litigation had been commenced and such examination made. In 2 of these an error in diagnosis on the part of the medical attendant had also been made.

As a result of such causes the patient's mind becomes dominated by a fixed delusion that he is suffering from a serious and permanent organic injury which has ruined his life. This delusion differs from the fear of evil consequences of the neurasthenic from the fact that the latter has some doubt of the reality of his fear, that he does not lose the hope of recovery, that his fears are not clearly systematized as in this condition, and that he never commits suicide. Loss of memory is often claimed, but is never real; the apparent loss, mental slowness and confusion, being due to the fixation of the mind on one train of the concepts. The patient becomes emotional, irritable, depressed, apathetic, avoids society, and is constantly talking about his miserable condition and his ruined life. In some cases there may be violent outbreaks, hallucinations, and suicidal attempts. With this condition we have as a rule hystero-neurasthenic symptoms.

The prognosis of this condition is of great medicolegal importance. Diefendorf holds that in light cases, even after a long duration, it is good, and that it is worse in cases with marked local symptoms; Kraepelin that many cases are obstinate in their course and that the condition often disappears after damages are paid, and Oppenheim believes that the prognosis is bad in cases with advanced arteriosclerosis, that marked cardiac or vascular symptoms make recovery rare, and that litigation and early return to work are unfavorable. In my cases 26 patients show, after a period of from five to ten years, a condition of complete recovery. Of the 5 patients who have not recovered, 3 are over fifty and show well-marked arterial degeneration and the other 2 have hysterical contractures. The effect on the prognosis of an early and correct diagnosis is well marked in my cases. Of the 26 cases in which recovery ensued, 14 were diagnosed as permanent organic conditions and 1 as a permanent form of hysteria; and in these cases recovery occurred in from one to five years; and in the remaining 11 cases in which a correct diagnosis and prognosis was made, recovery occurred in from two months to two years.

The effect of litigation in prolonging the psychosis is also clearly shown. In 21 claims for damages existed and in all but one no recovery occurred until such claims were disposed of. Ten of these cases came to trial. Six of the plaintiffs were given favorable verdicts and then recovered after periods varying from six weeks to four years. Of the 4 patients who were unsuccessful in their suits 2 recovered after periods of one year and 2 have not improved. In 10 of these cases settlement was made out of court, and 8 of the patients recovered after periods of from two to eight months.

ACUTE PRIMARY TRAUMATIC INSANITY

This form of insanity seems to be one for which an injury is the only recognized cause. It is also undisputed that trauma, to be the producing agent, must cause an injury to the brain, and that the symptoms of the insanity must be continuous with the symptoms of the injury or be connected with them by a definite train of cerebral symptoms.

That insanity is not a common result of head injury is shown by the facts collected by Meyer, who shows that in the Franco-German war only 13 cases occurred in 8,985 head injuries; that Stapler found 12 cases in 931, Meyer 1 per cent. in 3,000, Frost 1.87 per cent., Kiernan 2 per cent., Edel 2.5 per cent.; and I have found 1.8 per cent. in 1,668. The contention of Kraepelin, Peterson, Meyer, and Kellogg that the producing cause must be a severe head injury is supported by the histories of my cases, for they all show well-marked effects of cerebral contusion, as profound coma, and were complicated by fracture of the skull and meningeal hemorrhage in 6 each.

The assertion of Meyer that insanity occurring as the result of such injury is most often found in persons of a neuropathic heredity, or suffering from alcohol or syphilis, is supported by the facts found in my cases: an insane family history existed in 5, previous insanity in 4, alcoholism in 6, and syphilis in 8.

This form of insanity is one in which a definite lesion has been shown, both by the surgeon and pathologist; and that is the lesion of cerebral contusion. Fractures of the skull are not of themselves of any etiologic importance except as they show the severity of the producing cause or cause a compression or penetration of the brain. Such contusions are most common about the fourth ventricle or at the tips of the frontal or temporal lobes (Meyer). Microscopically they consist of minute lacerations, minute hemorrhages and thrombi, capillary stasis with cellular infiltration of the vascular walls and lymph spaces, and a localized or general edema. Meningeal hemorrhages of varying size are also common. It is well established that all these lesions except the large hemorrhages may entirely disappear; but in some cases the condition may be followed by permanent changes in the cerebral circulation and nutrition.

The clinical picture and course of a case of this form of insanity is held by Kraepelin and Meyer to be diagnostic of a severe cerebral contusion; and my cases fully sustain this contention, for in all the injury was followed by coma lasting from one to thirty-six hours, muscular relaxation, dilated unequal sluggish pupils, rapid feeble pulse, and followed by headache, vertigo, delirium and a rise in temperature. In the majority of the cases the insanity immediately follows the symptoms of the cerebral contusion, but in other cases a period of time intervened which was usually short, but, as shown by one of Meyer's cases, may be as long as twenty-three months. In my own cases the insanity immediately followed in 19, and in 9 a period of from six days to one year intervened. During this period these patients suffered from headache, vertigo, insomnia, irritability and change in disposition.

The invasion of the psychoses is rapid. The patients become excited and sleepless or somnolent, or the two conditions alternate. The mood varies from depression to elation, with no idea of illness. The patient at times is agitated and violent. Mental confusion is marked, as is loss of memory, especially for facts just before and following the injury. There is marked loss of knowledge of time, situation and identity of persons. The answers to questions are rapid, rambling, and the facts asserted are fictitious. Hallucinations and delusions, brief in duration and changing in character, are common. Objectively there is a general tremor increased by movement, indistinct speech, a spastic paralytic condition of the muscles with twitching, and occasionally convulsive attacks of the petit or grand mal type. The deep reflexes are increased and Romberg's sign with ataxia of the limbs is common. The pupils vary at different times and may be dilated, contracted, unequal or irresponsive, causing the case to resemble general paresis. After several weeks or months, improvement gradually occurs and the case may go on to complete recovery, or this may be incomplete, or pass into some other form of mental derangement.

The duration of the psychosis in 11 cases reported by Meyer in which recovery took place was from two months to two years; and in 18 similar cases of mine, from six weeks to two years. Death occurred in 4 of Meyer's cases, after the development of the psychosis, after two days to one month and in 4 of my own after a period of from seven days to four weeks. In the remaining cases reported by Meyer 3 patients recovered but relapsed, 2 made partial recoveries, 1 developed epilepsy, and 4 developed some other form of insanity. In the 10 similar cases of mine 2 patients became epileptics, 2 partially recovered, 1 developed manic-depressive insanity, and 5 passed into dementia.

Kraepelin and Meyer assert that, when dementia follows this psychosis, it is always the result of epilepsy, arteriosclerosis, or alcoholism; and this statement is sustained by the facts found in my cases. Death, when it occurs, is due to exhaustion from continuous muscular movement and persistent insomnia.

ORGANIC DEMENTIA

As has been said, this psychosis may follow acute primary traumatic insanity, or may be the result of traumatic epilepsy, or of cerebral hemorrhage, thrombi, meningitis and abscess due to the same cause. Such a dementia is, of course, permanent in character, and more likely to occur in persons suffering from arteriosclerosis, alcoholism, syphilis or a neuropathic taint. To establish a dementia, then, as of traumatic origin it must appear that it was preceded by one of the conditions mentioned.

IDIOCY AND IMBECILITY

These may in the same way follow any injury which destroys the brain tissue before development, as hemorrhage, thrombus, laceration or abscess; but it is to be noted that the reparative powers at this early age are so great as to make this result very uncommon.

DEMENTIA PRÆCOX, MANIC-DEPRESSIVE INSANITY, MELANCHOLIA, ACUTE DEMENTIA, AND PARANOIA

These have been described as occurring from the shock due to some injury. From the small number of cases said to be due to this cause it would appear that the accident either only called attention to an already existing condition or hastened the development of the psychosis.

GENERAL PARESIS

The relation of this condition to injury to the head is yet a much disputed question. Some writers maintain that it may be directly due to the injury; others that the injury only aggravates the course of an already existing condition (for, as is well known, paresis may develop rapidly after a long latent period), and others believe that the so-called traumatic cases are really ones of acute primary traumatic insanity passing into dementia. The superficial resemblance of this condition to true paresis has already been referred to. In my opinion the two latter views are the most probable. It is easy to understand how such a complex lesion as that of paresis might be aggravated by a cerebral contusion though not caused by it, and how the traumatic cases closely simulate paresis. I myself have never seen a case of true paresis which I was satisfied was of traumatic origin.

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ABSTRACT OF DISCUSSION

Dr. M. Allen Starr, New York: Three cases of traumatic insanity have come under my observation in which successful operations have been performed for the relief of the insanity. None of these cases corresponded to any of the ordinary types of mental disease as described. In the first case a young man of 21 was subject to sudden attacks of violent headache which culminated in an attack of acute mania, with destructive impulses. These attacks would last from three to five days, then subside, and he would be entirely free from the condition. He had a perfectly good memory which indicated that there was no epileptic psychosis. Dr. McCosh opened the skull over a point of tenderness on percussion, just posterior to the ascending parietal convolution in the superior parietal lobule about its junction with the interior lobule. This patient had a history of having had a fall as a boy at the age of 12, although the symptoms did not come on until he was 14, and he was operated at 21, after this long period of invalidism, and we found a very beautiful angioma that it was perfectly possible to tie off and take out, with complete recovery.

In another case which came under my observation not long ago, a man had been hit a severe blow in the head. He had been perfectly healthy before that time. He was coming up out of a boat and did not notice the projection of the gangway as he came up, and hit his head very suddenly. He was dazed for a moment, and next day he was found to have a slight paralysis of the opposite side of the arm and face that lasted for several weeks and gradually passed off. Then he became subject to sudden attacks of wild maniacal excitement in which he had been homicidal on several occasions. These attacks would come on very suddenly, without warning, and they had occurred from time to time when I saw him for four or five years. The hemiplegia in the meantime had entirely passed away, nor was there any physical evidence of any defect excepting the occurrence of these attacks.

Under the circumstances, every other resource having failed, I suggested that the surgeon cut down on the motor area, or somewhat anterior to the motor area of the brain, and at the level of the middle third, on the possibility of there having been some injury of the frontal region that had encroached on the arm center at the time, and then had healed. We cut down and found a cyst about the size of a pigeon's egg lying right on the posterior part of the second frontal convolution, forward of the motor zone. There had been no epileptic manifestations, by the way, whatever, and it was purely a lucky find. The walls of the cyst were carefully removed, and evidently the man had had a slow hemorrhage occurring from a vein of the pia mater at the time of his injury, and that hemorrhage had organized and gone on to the formation of the cyst. The cyst had lain there and apparently had given rise to occasional symptoms of pressure, probably owing to some variation in the circulation and some occasional condition in the cyst that gave rise to these attacks of mania from which he is now perfectly well.

I will not describe the third case, but I will say that not only in my experience in these three cases, but also in a number of other cases of traumatic insanity, I have seen symptoms of insanity irregular in type, which do not correspond to classical types of insanity as shown in the text-books at all.

Dr. A. C. Brush, Brooklyn: These cases do not correspond to the classical description in the text-books. To a man dealing as I do with corporations it is embarrassing to have certain text-books put before one which purport to cover the whole ground and yet do not state the truth. This field of litigation is very important, and it is doing more to discredit us than anything in the world, with the general public and the courts, and it is time that our ideas were clearly defined on the subject.

Literature of Obstetrics in Mexico.—N. Leon has been compiling the bibliography on obstetrics in Mexican literature. His compilation has been published serially, running through several numbers of the *Cronica Medica Mexicana*, listing a total of 696 articles or books. The title of each is given in full, with source, the whole arranged alphabetically by authors and concluded in the issue for September 1, 1909.

PELLAGRA IN VIRGINIA

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In a recent article, Wood[1] makes the statement that no cases of pellagra have been reported from Virginia or Ohio, although these states furnish a large portion of the corn consumed in a section of the country from which he has been able to report a number of cases. That genuine pellagra may occur in Virginia, however, I believe the following case will bear witness:

Patient.—H. A. S., London Bridge, Va., aged 56, white, widower, occupation milling and farming, was born in Charlotte county, Virginia, reared in Pittsylvania county, and remained there the greater part of the time till February, 1909, when he moved to Princess Anne County, Virginia. He had spent a year each in Roanoke and Lynchburg, Va., where financial reverses made him poor. He had also spent three years in Nebraska and then returned to Virginia.

Family History.—The patient's father was killed in an accident at the age of 48; his mother died of old age at 84. Two brothers are living and well. Two brothers are dead; one of "Bright's disease," the other of "brain fever." Five sisters are living and well. One died when 3 years old of whooping cough. There is no history of cancer, tuberculosis, rheumatism, or insanity in any member of the family. The patient's father and two of his brothers always suffered from diarrhea whenever they ate bread made from corn-meal.

Personal History.—During childhood the patient had diphtheria, measles, mumps, and whooping cough. He had typhoid at 18, malaria and gonorrhea at 26, grip at 35. Since 35 he has always been well till the present illness. He has noticed that bread made from corn-meal always disagreed with him, even in childhood, producing diarrhea and intense intestinal pain. His father and two of his brothers, as above stated, were also similarly affected by corn-meal bread, but he has no knowledge that any of them ever suffered with roughness and desquamating of the skin at any time. His average weight is 145 pounds. He uses tobacco and alcohol moderately. He is the father of seven children, all of whom are dead. The second child died at the age of 13. His wife died sixteen years ago. They lived together eighteen years. He denies lues.

Present Illness.—The patient is now a very poor man and for the last three years has been living in cheap boarding-houses or keeping bachelor's quarters in which he did his own cooking. During the latter part of last fall, owing to the scarcity of work and the high price of flour, he was compelled to eat more and more corn-meal. About the middle of last December his present diarrhea began, very mild at first, but slowly and steadily increasing in intensity till about six weeks ago, when he had from ten to twelve movements per day, with agonizing tenesmus and distressful abdominal pain and nausea. For the last month he has ceased to use corn-meal in any form and the diarrhea has considerably abated. Since December he has lost about thirty-five pounds in weight and has been reduced from a robust, virile, workingman to a puny, weak, sickly individual, to whom life itself is almost a burden. About ten weeks ago, while picking strawberries, the back of his neck became red and burned, as if sun-burnt. At the same time he suffered with intense headache which was confined to the region "behind his ears and extended across from ear to ear." This continued for about ten days. During this period the skin on the back of his neck began to peel off. About the same time the skin over the bridge of his nose and the side of his face, after having been red and painful, likewise began to desquamate in small and large dry scales and bran-like particles. About six weeks ago the skin on the back of his hands began to look as if they were blistered, being swollen, red and painful, and scattered vesicles filled with serous exudate were formed. The surface then became quite dry and hardened, cracking at all the joints and in between the fingers. Both hands were similarly affected and about the same extent of surface on each involved. In about a week the skin on the back of the hands, fingers and lower one-third of his forearms began to desquamate in the same manner as that on his neck and nose. About the same time all of the toes of both feet became swollen and red. They burned slightly and itched in a most intense manner. This, however, disappeared within a week and there was never any induration of desquamation of any portion of the skin. About five weeks ago the gums of his upper jaw became swollen and red. There was slight salivation for a few days but this soon disappeared and has not since recurred. Since December he has vomited only once, that he remembers, but has repeated attacks of nausea every day. During the last ten weeks he has had repeated attacks of vertigo; often becomes dizzy on rising from a sitting to a standing position, or on rising from a recumbent position, and everything becomes black before his eyes.

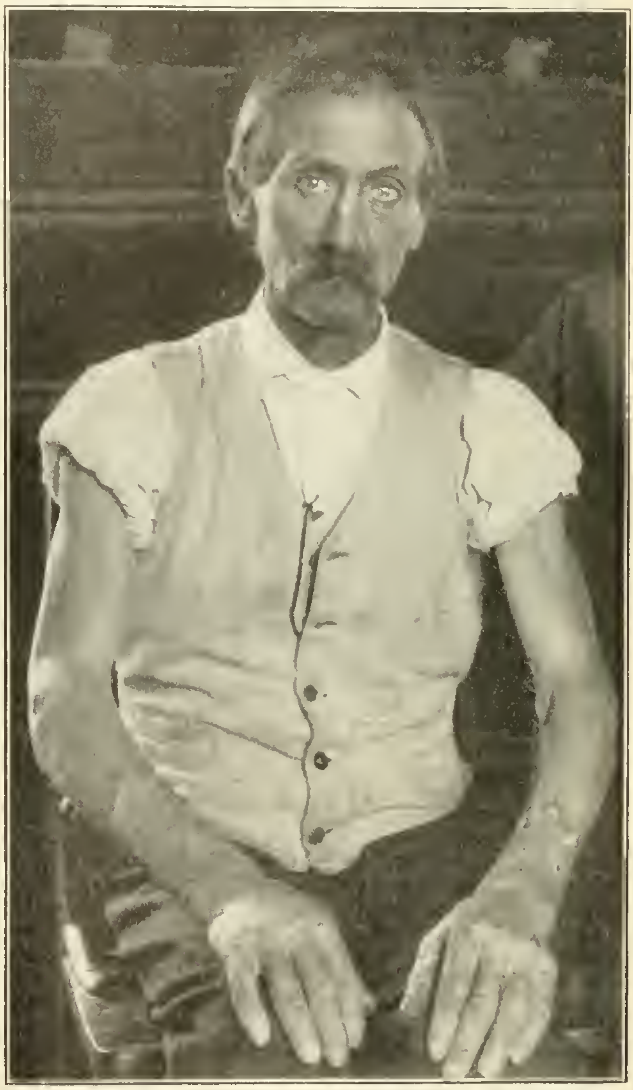

Fig. 1.—Patient with pellagra, showing the apathetic, smile-forgotten expression of the face and the extent of the lesion on the hands.

Examination.—General: The patient is a moderately emaciated white man, well advanced in years, with a very apathetic, listless appearance. He answers questions in a slow, whining monotone. He is sitting up and is able to walk around to a limited extent; however, his gait is slow and he is evidently very weak. He gives a slight groan with each expiration and appears to be in great distress. His hair is lusterless, dry and straight. The eyes react sluggishly to light and accommodation. All of the upper teeth have been removed. The lower teeth all show more or less marked decay. Pyorrhea alveolaris is quite extensive. Respiration is slightly labored. The skin everywhere has a muddy pallor. The heart, lungs and thorax show nothing abnormal. The abdomen is scaphoid in shape. The liver, spleen and kidneys are not palpable. The deep reflexes of the upper and lower extremities are incrased. Plantar stimulation gives a slight dorsal flexion of the great toe. No patellar nor ankle clonus can be obtained. There is no Romberg's sign, but slight tremor on protruding the tongue. The patient gives no history of urinary trouble at any period of his life, though for the past four months he has had to get up once or twice every night to micturate, otherwise, negative. Freshly voided urine shows a specific gravity of 1032; deep amber color; sugar and albumin, negative.

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[1] Wood, E. J.: Pellagra in the United States, The Journal A. M. A., July 24, 1909, liii, 274.

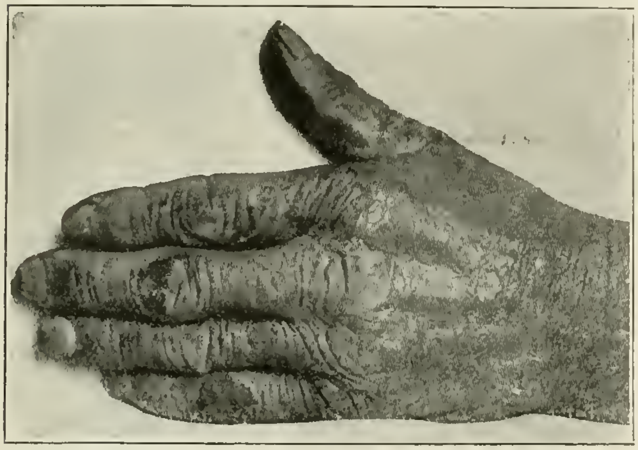

Fig. 2.—Hand of patient, showing the rough, cracked surface and the desquamation of the epidermis.

Skin: Over the back of the neck, extending upward to the hair line and downward to the level of the upper border of the soft shirt collar, the skin is of a dirty rose-pink color and everywhere covered with small and medium-sized patches of dry exfoliating epidermis. This superficial epidermis may be easily removed and no bleeding points remain. The same appearance and condition may be noted on each side of the neck, extending as far forward as the anterior border of the sternocleidomastoid muscle. Similar areas over the cheeks, sides and bridge of the nose, and the lateral aspect of the forehead, fuse and become continuous with these areas on the neck. The symmetrical situation of these lesions on each side of the head is marked. Over each side of nose, especially marked in the region of the alæ nasi, there appears a hypersecretion of the sebaceous glands. The orifice of each gland, filled with grayish-white sebaceous material, gives the skin a white stippled appearance. The surface of the skin over these areas is quite dry and rough to the touch. In certain places there is a small amount of sebaceous exudate attached to the plaques of dead epidermis, giving them the character of thin crusts. Along the lower of the areas on the neck and the upper margin of the areas on the forehead there is a line of intensified brownish pigmentation. The margins of these roughened areas is everywhere sharp and well defined. Symmetrically situated on each side of the neck, just below the lower margin of the roughened area, is a lenticular-shaped area of deeply reddened skin over which the superficial skin appears shriveled. These areas, the patient tells me, have appeared in the last few days and have the same appearance as the large areas when they were first noticed. The mucous membranes of the lips and conjunctivæ are pale but moist. The skin over the chin and the anterior portion of the neck appears pale and slightly tanned, but otherwise normal. Over the sternum, on the right side, there is a lozenge-shaped area, measuring about 5 by 2 cm.; beginning above at the sternoclavicular articulation and extending downward and inward to a level of the upper border of the third rib, there is a brownish pigmented area of desquamating epidermis. On the left there is a similar area but smaller. Symmetrically situated on each shoulder, over the acromial process, the spine of the scapula, and the infraspinous fossa, the skin is roughened, harsh, scaly, and covered with numerous patches of brownish, desquamating epidermis. The skin underlying all of

There are also similar areas symmetrically situated over each deltoid and each triceps muscle. The skin over each olecranón process shows the same appearance as that noted above, i. e., a dry, harsh, desquamating superficial skin and a dry, pale, slightly thinned underlying skin; but after exposure to the sun for a few minutes, as was done when I attempted to photograph the patient's hands, the underlying skin assumed a rose-pink color, similar to that to be described over the hands and arms. The whole surface of both hands, especially the backs of the fingers and hands, and the lower one-third of both arms are everywhere quite rough and scaly. The skin of the dorsum of the hands, wrists and lower portion of the forearms is of a diffuse erythematous rose-pink color. Scattered over these areas are innumerable small and large patches and plaques of dried and desquamating epidermis. Along all the natural furrows of the hands and wrists, at the interphalangeal joints, and in between the fingers there are deep cracks. These cracks, the patient tells me, were much deeper a few weeks ago. They were also at that time more painful and tender and would often bleed after slight injury. Only a few of them now extend through the true skin and they are all healing rapidly. The skin over the sides of the fingers and the backs of several of the interphalangeal joints is markedly thickened and has the appearance of the surface of a saw file. The skin on the palms of the hands is pale but the superficial layer is dry and harsh to the touch. In places it may be peeled off in large thick plaques, leaving a comparatively normal subjacent skin. The line of separation between the affected and the non-affected skin is sharp and well defined.

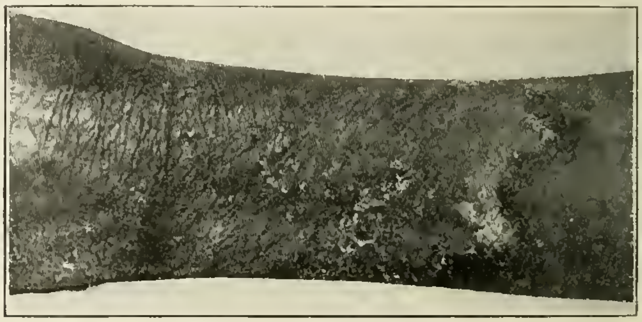

Fig. 3.—Wrist of patient, showing the pigmented border and the sharp line of demarcation between the normal and the unhealthy skin.

Mentality: The lady of the house tells me that the patient often has fits of extreme irritability when nothing can be done to please him and he is extremely fault-finding and quarrelsome. He shows complete orientation and can remember dates and events accurately but has to think over many of them for a considerable time. He can perform simple problems in arithmetic but with none of the accuracy or rapidity that might be expected of one who had once controlled a business house with a capital stock of $5,000, as he once did, according to his story. He complains of difficulty in buttoning his shirt and coat, but this is most probably due to the anesthesia produced by the drying and desquamation of the superficial skin over the tips of his fingers.

Diagnosis.—So far as I can interpret the cases and photographs of this affection that have been presented in the recent literature the group of symptoms and signs in this case point most strongly to its being pellagra. The signs and symptoms, reviewed briefly, are these: (1) A persistent diarrhea, presumably originating from the eating of corn-meal; (2) a subsequent erythema of certain symmetrically situated and well-defined areas of the skin, followed by slight pigmentation, desiccation and exfoliation, accompanied by severe occipital pain, vertigo, and dizziness; (3) a weak mentality and central nervous system. The fact that the patient is now recovering rapidly would place the case in the class called by Thayer[2] "a milder chronic and commonly recurrent malady."

Pellagra has been recently reported[2] from Maryland, and a number of cases have for some time been under observation in North Carolina;[1] accordingly, from a geographic or climatologic standpoint, there is no reason why a certain number of cases should not also exist in this state.

The part played by corn-meal in the etiology of this malady is, of course, still a matter of conjecture. But it does seem to me a point worth consideration that this patient had noticed that the eating of corn-bread always disagreed with him, so much so that he avoided eating it as much as possible and, furthermore, attributed his present condition to this article of food. Moreover, his father and two of his brothers were similarly affected by a corn-meal diet and, likewise, always avoided it. None of them, however, so far as the patient has any knowledge, were ever affected with any cutaneous disturbances similar to his. It would manifestly be very interesting to know if any of the other cases that have been reported can furnish anything to corroborate or disprove the conclusions this case might tend to establish. I am aware, however, of the fact that a case has been reported in which the patient denied ever having eaten corn-bread, corn-flakes, or hominy.

If corn-meal and its consumption has any etiologic relation to pellagra and if wheat retains its present high price, we may certainly expect an increasing number of these cases to appear, particularly, in certain regions of our country where the people are exceedingly poor and where wheat is not a staple product.

PELLAGRA

ITS OCCURRENCE IN THE COOK COUNTY INSTITUTIONS

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In the following paper I wish to report the occurrence of pellagra in fourteen patients of the Cook County Institutions, Dunning, Ill. Eleven were inmates of the Hospital for the Insane, one of the Hospital for Consumptives and two of the Infirmary.

The first case was observed in August, 1908, when the diagnosis of pellagra was as yet not made. With the subsequent occurrence of three other cases presenting the same symptomatology, course and fatal outcome, not being familiar with the occurrence of pellagra in the United States, we came to the conclusion that we were dealing with a clearly defined disease. A clue to the nature of these cases was offered in the description of pellagrous insanity in Bianchi's "Psychiatry." From the onset, the next case was thought to follow closely the description of Italian pellagra, but it was not until the inquiry of the South Carolina State Board of Health was addressed to us that the diagnosis of pellagra was definitely made.

In view of the prevalence of pellagra in the Southern states of North Carolina, South Carolina, Georgia, Alabama, Tennessee, etc., and in view of the fact that this disease existed in those states for twenty or thirty years before being properly diagnosed, the importance of its recognition in other parts of the United States is self-evident.

The reports of its occurrence in the Northern states, as accurately as can be determined from the literature and from replies to letters of inquiry concerning its prevalence addressed by C. F. Williams, Secretary, South Carolina State Board of Health, to the superintendents of the state hospitals in the United States, have been limited to the following:

Two cases reported by Gray of Utica, N. Y., and Tyler of Somerville, Mass., in 1864.

Two cases reported by Thayer of Baltimore, Md., in 1909.

One case in Pennsylvania.

Few cases in New York.

One or two cases in Maryland.

This relative infrequency of pellagra in the Northern states gives special importance to its occurrence in Illinois.

Following the numerous recent reports on this condition, the description of the disease and the report of the Cook County cases will be made as concise as possible.

Pellagra was probably first recognized in Spain in 1735, when it was described by G. Casal, who termed the condition mal de rosa. It appeared in Italy in 1750. In 1771 Frappoli called attention to this condition in Lombardy, where the peasants called it pell' agra. About 1810 Marzari called attention to the relation between maize and pellagra, and in 1844 Balardini first suggested that the disease might be due to the ingestion of diseased corn, which view has been confirmed and upheld by Lombroso.

The disease is prevalent in Roumania and Italy; in the latter there are about 100,000 patients, of which, according to Tuczek, 10 per cent. are mentally affected. In Roumania there are about 30,000 cases. The disease is also found in Spain and Upper Egypt, and cases are reported in Austria, Servia, Bulgaria, Africa, Mexico, South America, and lately in the United States.

The first to report pellagra in the United States were Gray of Utica, N. Y., and Tyler of Somerville, Mass., in 1864. Since that time there have been but few reports on this condition until recently. Since the report of Searcy of Alabama in 1907, there have been numerous contributions to the literature. Dr. C. H. Lavinder[1] has reported to the Surgeon-General a conservative estimate of 1,500 cases in the South since 1906.

Aside from the predisposing cause of alcoholism, previous illness, poor hygienic surroundings, poverty, venereal excess, etc., it is the accepted opinion of most Italian students that pellagra is a disease caused by the eating of spoiled maize, constituting an intoxication from the toxin produced by the growth of fungi in corn. There has lately been dissenting theories introduced, among the strongest of which is Sambon's, who presents numerous points against the maize theory. Suffice it to say that the etiology and the pathogenesis of pellagra is as yet an open question, but that corn may bear the same relation to pellagra as swamps do to malaria and yellow fever.

The pathology is not characteristic and may shortly be said to consist of changes of cachexia, such as wasting of the adipose and muscular tissue, fragilitas ossium, atrophy, fatty degeneration of the heart, liver, kidney and spleen, abnormal pigmentary deposits in the ganglionic cells, muscles of the heart, spleen and liver. Changes in the intestines consisting of atrophy of the muscular coat, hyperemia and ulceration.

The nervous system shows at times hyperemia, at other times anemia and edema, inflammatory changes in the coverings, degeneration in the lateral columns in the dorsal region and of the posterior columns in the cervical region. Lombroso says that the spinal cord changes remind one of incipient tabes.

The skin lesion shows (1) congestion, (2) thickening pigmentation, (3) atrophic thinning.

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[1] Lavinder, C. H.: Public Health Reports, June, 1909, xxiv, No. 25.

Of the symptoms, those belonging to the alimentary tract, skin and nervous system are the most prominent, but will here be but briefly considered. The disease usually begins with gastrointestinal disturbances, followed by erythema of the skin, and later by nervous manifestations. The gastrointestinal disturbance manifests itself by nausea, sometimes vomiting, ptyalism, loss of appetite and, most important, by diarrhea. Stomatitis is one of the most marked and constant symptoms. The mucous membrane is red, apthous ulcers develop and patches of macerated epithelium exfoliate, leaving a raw surface beneath.

The cutaneous symptoms are characteristic; the lesion consists essentially of an erythema appearing symmetrically and usually on the exposed parts of the body, especially the extensor surfaces, backs of the hands, forearms, neck, etc. It begins with redness and some puffiness. The redness becomes more cyanotic and is sharply demarcated. The surface of the skin becomes dry, harsh and scaly, exfoliating in flakes or scales. In some cases bullæ occur and with severe desquamation leave large denuded surfaces. The skin afterward assumes a dark color, from plum to brownish black; cracks and fissures form. After desquamation the skin appears thin and atrophied, with superficial wrinkles, at times having an appearance of striæ. The lesion is always sharply demarcated and on the hand usually leaves the distal phalanges uninvolved, ending at about the middle third of the forearm, seldom extending to the flexor surface.

Among the mental and nervous symptoms may be mentioned vertigo, neuralgia, partial paralysis, tetany-like conditions, tremors with variability of deep reflexes from increased to diminished and lost. Psychical manifestations usually take the form of melancholia, but maniacal attacks may occur.

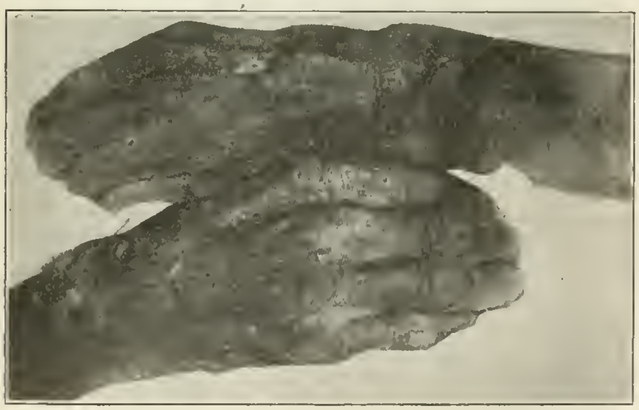

Fig. 1.—Hands of patient 13.

The disease is essentially of chronic nature, in some cases lasting for twenty years, interspersed with spring exacerbations; it is met with in acute and chronic conditions. The acute, which is most commonly observed in the United States, is often fatal, running its course in a few weeks, but probably should not be called "acute pellagra" inasmuch as it is possible that it is but an acute exacerbation of a chronic process.

In the diagnosis of this condition there may be considered the various grain and food poisonings, lichen and similar skin lesions, scurvy, leprosy and beriberi, etc.

The prognosis is usually serious and the mortality in the United States unusually high.

The treatment up to date has been of little avail. Removal of corn from the diet and substitution of a nutritious diet of medicinal remedies—all have been of small benefit. Arsenic, quinin, strychnin and iron have been used; of late atoxyl has been vaunted as a cure, but the probability is that it, too, is of little avail.

From the cases arising in this institution the following interesting facts may be determined:

The entire number was fourteen:
  Females, 10; all insane.
  Males, 4; 1 insane; 2 in the poorhouse, 1 in the hospital for tuberculosis.
The duration of the fatal cases averaged 37 days.
The duration in the remaining cases averaged 34 days.
The nativity was as follows:

United States	5
England	1
Ireland	3
Bulgaria	1
Germany	2
Denmark	1
Unknown	1

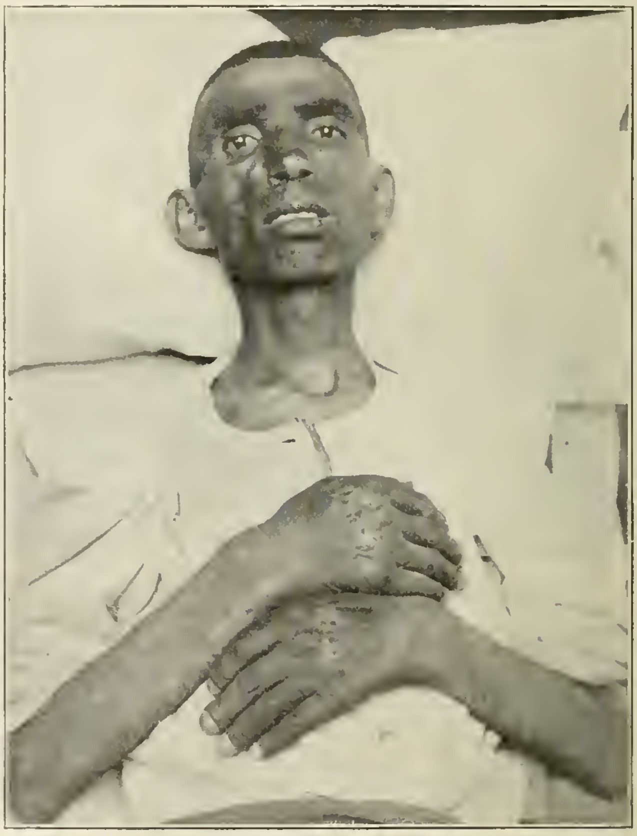

Fig. 2.—Patient 14.

Of those foreign, the Bulgarian was in this country six months. The others ranged from eight to thirty years. They had been confined in the institution from one to twelve years.

Their psychoses at time of admission were as follows:

Dementia paralytica	3
Alcoholic	1
Dementia præcox	2
Paranoia	3
Acute confusional	1
Melancholia	1

The symptomatology has been fairly uniform, all presenting the syndrome of stomatitis, dermatitis, and diarrhea. The cases had an onset with some malaise, indifference, and loss of appetite; they exhibited during the course some ptyalism, progressive weakness, choreiform movements, mental symptoms of depression to stupidity, and increasing dementia, refusal to eat, and in some cases dysarthria and dysphagia. Of the patients who died, one died of apoplectiform convulsions of dementia paralytica, one in a low muttering delirum, associated with stupor and choreiform movements, one of respiratory failure, one probably of pneumonic tuberculosis, and one of inanition of carcinoma of the stomach; the others of exhaustion.

The treatment in the first six fatal cases did not include arsenic. In the later cases arsenic was given hypodermically in the shape of Fowlers solution, omitting the compound tincture of lavender. The course in these later cases has not been so severe and the results are slightly promising.

The pathology of those cases in which we were able to obtain postmortem examinations will be described for the most part in gross as we have as yet not examined sufficiently fully the microscopic findings to report in this article.

Case 1.—L. F., female, admitted May 29, 1907, aged 38, born in the United States. Physical condition on admittance good. Psychosis, paranoia. Previous history negative. Mental status previous to onset of pellagra that of systematized delusions of persecution by spirits and hallucinations of hearing.

May 6, 1908: Patient developed a dermatitis of hands, face and neck. With the onset of the skin condition the patient became irritable and suspicious and failed physically rapidly.

Aug. 15, 1908: Skin had become brawny and thickened, covered with whitish scales. Patient had become untidy.

Aug. 24, 1908: Patient developed a slight endocarditis. Breath was fetid; mouth and teeth well covered with scaly layer of putrid material. Patient had a slight evening fever; died of acute endocarditis.

Case 2.—A. C., female, admitted 1903, aged 34, born in the United States. Former admission in 1902. Physical condition on admission good. Psychosis paranoia. Mental state that of systematized delusions and poor emotional control; vicious and revengeful. Until 1908 condition remained unchanged.

Oct. 23, 1908: Patient had been failing lately and had developed frequent attacks of diarrhea. A scaly condition of the hands had appeared. Patient was losing weight; had become untidy and greatly demented.

Oct. 29, 1908: Dermatitis was now well marked, symmetrical, hard, reddened and scaly, having sharply defined borders, appearing on the backs of the hands and neck. Patient refused food and had a severe stomatitis.

After presenting a progressive course of increasing weakness, diarrhea, stomatitis, with increasing dementia and untidiness, patient died on Nov. 19, 1908, of exhaustion.

Case 3.—M. R., female, admitted May 24, 1906, aged 32, born in Ireland; physically, suffering with chorea; otherwise in good condition. Psychosis acute confusional insanity. Mental condition that of restless confusion.

Sept. 28, 1908: Patient had been failing in flesh lately; had become very destructive and much demented. Skin showed a dermatitis of hands and face which was symmetrical in distribution. After running a course of increasing weakness with diarrhea and dermatitis, patient died on Oct. 10, 1908, of exhaustion.

Case 4.—M. A., female, admitted April 9, 1908, aged 45, born in the United States. Physical condition that of paresis. Psychosis dementia paralytica.

May 26, 1908: Patient failing mentally and physically; was generally weak, dull and apathetic.

Oct. 27, 1908: Patient had many stuporous attacks lately; had become very untidy. A symmetrical dermatitis developed on dorsal surfaces of the hands, which were hardened, pigmented and fissured. The face showed a marked seborrheic condition; a vaginitis was likewise present.

Nov. 11, 1908: Patient had developed a severe diarrhea and stomatitis; had irregularly occurring attacks of vomiting and was gradually failing.

Nov. 29, 1908: Patient had an apoplectiform convulsion of the right side; developed edema of the lungs and died.

Case 5.—M. F., female, admitted March 1, 1897, born in Ireland. Physical condition on admission, good. Psychosis melancholia. History negative except for the patient having used a great amount of alcohol.

December, 1905: Physical condition good. Patient had numerous delusions of persecution.

Feb. 27, 1909: Patient had been failing in health lately and had become rather unsteady in her gait.

March 20, 1909: Patient had developed a dermatitis of both hands, the dorsal surfaces of which were symmetrically hardened and fissured. Patient was becoming more demented.

March 27, 1909: Patient was in a semistuporous condition; had marked dysarthria and dysphagia, marked stomatitis, teeth covered with sordes. Ptyalism was marked. Patient exhibited incoordinate movements of upper extremities and an inability to stand. There were no paralyses; knee-jerks were absent; plantar reflexes normal, abdominal reflexes absent. Pupils were equal; reacted to light and accommodation. Electrical reactions were unchanged.

March 31, 1909: Patient had been having a slight evening fever with rapid pulse which was compressible and irregular.

April 14, 1909: Patient developed a diarrhea. Dermatitis was more marked; the skin was fissured, desquamation taking place, exposing raw red surfaces.

April 19, 1909: Patient, after having failed rapidly and exhibiting marked incoordinate movements of arms and legs, died.

Case 6.—L. C., female, born in United States, aged 40, admitted May, 1904. Psychosis dementia præcox. Previous history negative. Physical condition on entrance negative. Psychically a low grade idiot.

January, 1908: Patient in fair physical condition.

June 7, 1909: For the past two weeks patient had developed a dermatitis of both hands, face and neck, which began as an erythema, becoming hardened, scaling, leaving the exposed surface moist. The lesion was symmetrical, involving the dorsal surfaces of the hands and wrists and a butterfly-like involvement of the face spreading from the nose and one patch over each sternocleidomastoid. The patient was in poor general condition; had a general adenopathy. Heart and lungs negative. Nystagmus on lateral movements of the eyes. A double Oppenheim and Gordon but no Babinski. Knee-jerks were increased; a double ankle-clonus and knee-clonus were present. Active movements of both upper and lower extremities were negative. Passive movements were negative except for a double Kernig's sign.

June 9, 1908: Patient, after lying in a semicomatose condition for the past two days, died of respiratory failure, after having once been resuscitated by artificial respiration.

Case 7.—E. S., female, born in Germany, admitted October, 1908, aged 28. Physical condition on admission good. Psychosis dementia præcox. General mental status previous to onset of pellagra that of depression, refusal to eat, and fear.

June, 1909: Patient had become more demented and was fed with great difficulty. Physical condition about the same.

July 5, 1909: Patient had developed a symmetrical dermatitis of the dorsums of both hands and wrists. The lesion over the hands consisted of a sharply demarcated thickening and redness and scaling, leaving a glazed surface exposed. There was a similar lesion over the back of the neck. A moderate stomatitis was present, consisting of excoriations with the presence of several small whitish ulcerations. The epithelium was piled up and desquamating. The tongue was red and glazed, the papillæ were prominent. Heart and lungs were negative. Patient had slight diarrhea and was very weak. Mentally, she was much depressed and cried a great deal.

July 12, 1909: Patient had during the past week been failing rapidly. The stomatitis was worse, the dermatitis stationary. Ptyalism was marked and dysphagia and dysarthria were present. Patient complained of burning pain extending from her throat to her stomach; had a slight evening fever.

Aug. 1, 1908: Patient was beginning to improve; stomatitis was less severe. The slight diarrhea that was present had disappeared and the skin lesion was fading away.

August, 1909: Patient continued to improve; diarrhea had disappeared, stomatitis subsided and patient was much more cheerful, taking nourishment willingly.

Case 8.—F. S., female, born in the United States, admitted June, 1908; aged 30; married. Physical condition on admission good. Psychosis dementia paralytica.

June, 1909: Patient complained of pain in the stomach and loss of appetite; had a slight redness of the skin of the hands.

July, 1909: Patient had a symmetrical dermatitis of both hands, one patch on each side of the neck, moderate stomatitis and a slight diarrhea. After running a slight course of diarrhea, with progressing weakness, she began to improve, the depression being replaced by exaltation, the skin lesion disappearing and the stomatitis subsiding.

Case 9.—M. O'D., female, admitted April, 1909, aged 32, born in England. Physical condition on admission poor; marked anemia. Psychical diagnosis, dementia paralytica. General mental condition before onset of pellagra, marked depression, confusion and emotional instability.

July 1, 1909: Patient had become very resistive; refused food, had failed physically.

July 5, 1909: Patient had developed a symmetrical dermatitis of both hands and wrists; a similar condition was present on the sides of the neck. There was a marked stomatitis; slight diarrhea was present. Knee-jerks were exaggerated. Patient refused food and had to be tube-fed. Lungs showed slight dulness in both apices with roughened breath sounds but no râles.

July 18, 1909: Patient was rapidly failing. Stomatitis was very severe. The skin lesion was, however, becoming less marked. All the glands were enlarged. The diarrhea had subsided. Patient remained resistive and refused food.

July 29, 1909: After having progressively failed, despite the improvement in the condition of the skin and mouth, patient had developed signs of a pneumonic infiltration of the right lung with high temperature, rapid respiration and rapid weak pulse, and died on Aug. 1, 1909.

Postmortem Examination.—An extremely emaciated woman. Inguinal glands enlarged; abdominal cavity free from fluid; adhesions surrounding gall-bladder extending to the pylorus, duodenum and transverse colon; adhesions between spleen and parietal peritoneum and between uterus and rectum. Left pleural cavity free from adhesions; right pleura firmly adherent to lung; pericardial cavity contained 15 c.c. of clear fluid; left heart contained a goose-fat clot. Heart practically negative. Lungs: Right upper lobe showed solidification, with old cavity formation. The wall of this was in some places gangrenous and in others cheesy; and the remainder of the lobe contained a large amount of fibrous tissue. The middle lobe and lower lobe showed marked consolidation. The left lung was emphysematous and contained patches of fibrosis. Liver showed some fatty changes. An accessory spleen was present; spleen showed scattered hemorrhage spots. Pancreas was negative. Kidneys were very pale, 260 gm.; glomeruli white and glistening. Stellate veins showed prominently; pyramids pale with considerable fibrous tissue. Aorta showed several ulcerated plaques in descending portion of the arch. Small intestines showed Peyer's patches to be rather plain. In the large intestine the mucosa was injected, otherwise negative. The mesenteric glands were enlarged. Left ovary cystic. Dura mater negative. Small amount of cerebrospinal fluid; no granulations in the fourth ventricle; very little edema of the pia mater. Along the posterior border of the dura from the third dorsal to the mid-lumbar was collection of half-organized material, yellowish in color, with several small hemorrhage spots.

Case 10.—M. W., female, admitted March 8, 1908, aged 46, married, born in Germany. Physical condition on admission fair. Psychosis paranoia. History negative.

Dec. 9, 1908: Patient showed on examination a partial heart-block and an infiltration of both apices. The sputum, however, did not show the presence of tubercle bacilli.

Aug. 6, 1909: Patient developed a symmetrical dermatitis of both hands, with the onset of malaise, loss of appetite and stomatitis. Patient also had a slight diarrhea.

Aug. 13, 1909: The patient was greatly improved. The skin lesion was clearing up and the stomatitis had disappeared.

Case 11.—J. McC., male, admitted June 1, 1905, aged 40, born in Ireland; lived in the United States for twenty-two years. Physical condition on admission good. Psychosis alcoholic insanity. History negative, except for being an excessive alcohol user and having had caisson disease several times. Patient after admittance had an annual attack of diarrhea, not of great severity and lasting but a short time.

July 29, 1909: Following a slight attack of diarrhea, patient developed a slight redness and scaling over the knuckles of both hands. This lesion extended over the dorsal surfaces of both hands and, although not involving a great area, the distribution and its typical appearance left no doubt as to the diagnosis of pellagra.

Aug. 15, 1909: Patient was much better, the skin lesion was disappearing and the diarrhea had subsided.

Case 12.—W. G., male, patient of the poorhouse, admitted 1902, aged 60, born in Denmark. Previous history negative.

May, 1909: Patient developed diarrhea which lasted off and on until July 15 when he noticed a scaling of the backs of both hands. For the following three weeks the diarrhea was of very severe nature; the dermatitis increased in severity and stomatitis developed.

Aug. 8, 1909: The dermatitis was symmetrical, involving the dorsal surfaces of both hands and wrists; there was scaling and thickening. The diarrhea was not so severe and patient was comfortable.

Aug. 21, 1909: Patient was up out of bed; the dermatitis had disappeared, leaving a slightly pigmented, scaly skin; diarrhea was absent.

Case 13.—F. B., male, poorhouse patient, admitted Aug. 11, 1909, in a semicomatose condition, suffering with pellagra; aged 65; painter by occupation. Nativity unknown.

When admitted patient had a symmetrical involvement of both hands and arms by a dermatitis characterized by a brawny induration and redness with some scaling. The patient stated that previous to his admission he suffered with loss of appetite and abdominal pains. Since that time he had had loose but infrequent bowel movements, is failing rapidly and is in a very clouded state of mind. Besides the lesion on his hands there is a slight abrasion of skin over both ankles. He has marked rigidity in both upper extremities and his movements are decidely incoordinate. Knee-jerks are exaggerated, elbow-jerks and wrist-jerks are exaggerated.

Case 14.—S. J., male, patient in the Hospital for Consumptives; Bulgarian; in the United States seven months; admitted to the institution June 18, 1909; aged 38. About three weeks after admission to the hospital it was noticed that the patient had a symmetrical dermatitis of the dorsal surfaces of both hands and wrists which were red, rough and swollen. There was also present a well-marked stomatitis and salivation. The tongue was red and the papillæ were prominent. The patient was suffering from carcinoma of the stomach and showed an abdominal scar from an operation. He could not retain his food and was rapidly failing.

He died Aug. 3, 1909, of inanition from carcinoma of the stomach.

Postmortem Examination.—This showed cyanotic induration of both lungs with areas of bronchopneumonia. The stomach, large and small intestines and the spleen and liver were matted together in a mass by old and very firm adhesions. When these were cut through, there was found a large medullary carcinoma of the stomach involving the larger part of the anterior and posterior surfaces and the curvatures of the stomach, and surrounding and almost occluding the pylorus. The liver, kidneys and intestines, heart and spleen were negative. The cerebrospinal system was likewise negative to the naked eye.

In conclusion, it may be proper to mention a few of the differences pointed out by Babcock[2] between the pellagra of the United States and the Italian pellagra; in the United States the notable points are:

1. Overwhelming number of women attacked.
2. Great mortality of the disease.
3. Invasion of unexposed portions of the body by the dermatitis.

Recognizing the futility of treatment and the prevalence and apparent progression of pellagra in the United States and realizing the enormous food value of corn, it can readily be seen that the subject is one of greatest importance and deserves the deepest study and research. I am indebted to much of the recent literature on this subject for material for this report. A complete bibliography of the literature in the United States may be found in the Public Health Report of June 18, 1909.

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[2] Babcock, J. W.: Jour. South Carolina Med. Assn., February, 1908, Vol. iv.

I am indebted to Dr. Hamill and Dr. Moore for their kindness in permitting me to use their cases.

LAKE MICHIGAN WATER FOR DRINKING PURPOSES*

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Lake Michigan occupies a hole scooped out by glacial ice. It is not a natural valley, and in consequence the rivers which drain into it are short and discharge very little water. This is true of the south end and the west shore. On the east shore the St. Joseph, Grand, Muskegon and Manistee are fairly long and carry a fair volume of water. The first two of these drain rather populous areas and their waters reach the lake quite polluted. The banks are seldom sloping and the drainage of storm water does not run directly into the lake except for the distance of a few feet back from the water-line. These factors protect the lake against pollution and therefore argue for the use of its waters for drinking. It is a soft, fresh water and cold.

The other side is this: Counting Chicago, 2,000,000 people either live on the shores or so near thereto that their sewage reaches the lake after a short flow. Just now this population is increasing at the rate of 100,000 a year. In no single instance is any of this sewage properly treated before being discharged and in but few instances is it treated at all.

The tonnage of Lake Michigan shipping is very heavy. The ships carry both freight and passengers. The excursion business between Chicago, Milwaukee, St. Joseph, Benton Harbor and Michigan City is very heavy. A single ship will carry from a few hundred to a few thousand passengers, and the water intakes are usually steering points. Near the water intakes are the points of maximum discharge of feces and urine, as none of these ships have holding devices, or rules as to the closing of closets, and the zones around the intakes are not restricted navigation zones. These waters are more dangerous than salt waters, in that the same water is used for sewage, navigation and drinking purposes. They are less dangerous than ocean waters in that we do not have the shore and wharf pollution action of the tides. The soft waters differ from the salt waters in their action on sewage and different trade wastes. Our fresh water *per se* has no restraining action on the growth of bacteria nor does it modify the chemistry of materials deposited therein.

The Chicago sewage from the south line of Evanston to Eighty-fifth Street on the south now flows into the drainage canal and thence ultimately into the Gulf of Mexico. South of Eighty-fifth Street we now have about 150,000 people whose sewage flows into the Calumet River and then after a short flow into the lake. This sewage is not purified before it is discharged into the river. The same stream also discharges the sewage of Hammond, Ind. (20,000); Whiting, Ind. (10,000); East Chicago and Indiana Harbor (20,000); Gary, Ind. (10,000). On account of the rapid growth of these just-over-the-line sources of contamination, it is safe to say that within five years the polluting popoulation will be 200,000. If we add to that the Calumet Valley population in Illinois, in five years we have 400,000 people. For all of these reasons raw sewage must be kept out of Lake Michigan.

The normal water of Lake Michigan twenty miles from shore contains eight bacteria per c.c. and no colon bacilli. There are no uniform currents in the south end of Lake Michigan. The surface current always flows with the wind. A flow of five to seven miles is not enough to purify a large volume of sewage. The time required for a flow of this distance is not enough for purification. The oxygen content of the water is not high enough to purify in this length of time. The saprophytic bacteria are less and less active as the medium is diluted with fresh water. Though a sewage stream holds together quite definitely for three to five miles, wave action limits the efficacy of sedimentation. There is not much fauna and still less flora in these waters.

Generally speaking, these soils of the communities just mentioned are underlaid by a deep stratum of strong sulphosaline water unfit for general drinking purposes. The shallower soil strata do not yield water enough to sustain large populations. The streams to the west and south are altogether insufficient for water purposes. The streams on the east shore are highly polluted. There are no mountains or other high places even fairly satisfactory for water reserve purposes. The waters of Lake Michigan must furnish the drinking-water for these large and growing cities. Therefore the waters must be kept pure.

Chicago has had a typhoid death rate of over 175 per 100,000. Last year it fell to 15.5. That was the lowest in the history of the city. The first five months of this year are lower than the corresponding portion of last year or any other year. The typhoid death rate of the other Lake Michigan cities is high—higher than the American average. The Milwaukee average for five years (1904-1908) was 21.9 per 100,000; Michigan City goes to 40; Hammond, Whiting, East Chicago and Gary range around 70, and some years 90 to 140. These are illustrations of averages around the lake. Escanaba, Grand Rapids, in Michigan, and Sheboygan in Wisconsin average quite high. Waukegan and Racine are far above the average. Therefore the condition is not remote and to be dreamed about. It is immediate and to be acted on.

Lake Michigan is the common charge of the national government, the state governments of Wisconsin, Illinois, Indiana, Michigan, and also of the large centers of population located on the shores.

Acting on a conception of these responsibilities in May of 1908 the Mayor of Chicago asked for the appointment of members of the Lake Michigan Water Commission on the following basis:

	Representatives.
The Public Health and Marine-Hospital Service	1
The Engineering Corps of the War Department	1
The State of Wisconsin	1
Milwaukee	2
Illinois	1
Chicago	3
Indiana	1
Indiana cities, located on Lake Michigan	1
Michigan	1
Grand Rapids, Mich.	1

The commission is now composed of Major Judson, Mr. Hill and Professor Sackett, engineers; Professors

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Bartow and Barnard, state chemists working especially on water surveys; Dr. Gehrmann, bacteriologist; Dr. Young, Dr. Bading, Dr. Sutherland, Dr. Shumway, Dr. Evans, national, state and municipal health officers; and Mr. Becker, ex-mayor of Milwaukee. Lack of appropriations in Michigan have made it necessary for Dr. Shumway to withdraw.

Right speedily the importance of this matter impressed itself on the Chicago Association of Commerce. They called a meeting of representatives of the city governments and business bodies of the various towns located on or near the lake. Fifty-six cities responded. An organization was perfected. The object of this organization is to secure popular and governmental support for the policies advocated by the commission. The first body is for research; the last is to make effective the work of the first. This last organization is the Lake Michigan Sanitary Association. Out of these two organizations have grown two other loose organizations. The towns of northern Indiana have had joint meetings of their city governments and business bodies, first, to advance the study of their sewage disposals and water supplies, and, later to find remedies or a remedy, for up to now, at least, all of the towns are joining in a single movement. The towns north of Chicago, to wit, Evanston, Wilmette, Kenilworth, Winnetka, Glencoe, Highland Park, Lake Forest, Lake Bluff, North Chicago and Waukegan have united to study their situation.

The method of the Lake Michigan Water Commission is to hold about four meetings a year to which reports will be made. Up to now the meetings have been devoted largely to the study of existing conditions. We are just beginning to discuss remedies. The investigations are done by the state and municipal boards of health. Four meetings have been held. The following are the subjects treated in the first volume of reports:[1]

Call for the Commission.
  Letter of Dr. Evans to Mayor Busse.
  Letter of Mayor Busse to the Chicago City Council.
  Action of the Chicago City Council.
  Letter of Mayor Busse to Administrative Officers.
Minutes of the meeting of April 18, 1908, at Chicago, Ill.
Articles of organization.
Minutes of the meeting of May 27, 1908, at Grand Rapids, Mich.
Minutes of the meeting of Sept. 10, 1908, at Milwaukee.
Minutes of the meeting of Jan. 23, 1909, at Indiana Harbor, Ind.
Report on Water Conditions in Michigan, by Dr. Frank W. Shumway.
Report on Water Conditions in Indiana, by Dr. W. A. Evans.
Report on Water Conditions in Wisconsin, by Dr. Q. O. Sutherland.
Report on Water Conditions in Illinois, by Dr. Edward Bartow.
"Currents in Lake Michigan," by Major W. V. Judson.
Extracts from paper by J. A. Amyot.
"Sewage Disposal Problems," by Lederer and Hill.
"Investigation of a Typhoid-Fever Epidemic at Sheboygan, Wis.," by J. T. B. Bowlles.
"Methods of Analysis," edited by Edward Bartow.
Report of Conditions of the Chicago City Water-Supply, by Dr. J. F. Biehn.
Report of Milwaukee City Water-Supply, by W. V. Judson.
"Control of Shipping," by Dr. G. B. Young.
"The Character of the Water-Supply of Michigan City," by H. E. Barnard and J. H. Brewster.
"The Sanitary Condition of the Southern End of Lake Michigan Border—Lake County," by H. E. Barnard and J. H. Brewster.
Report on State Control of Waterways, by Dr. Frank W. Shumway.
Report on a Filtration Plant at the Union Stock Yards, Chicago, by Dr. Adolph Gehrmann.

The investigations of existing conditions relates to:

1. The typhoid death rate (mortality and morbidity).
2. The diarrheal rate in adults other than tuberculous diarrheas (mortality, but principally morbidity).
3. The degree of organic pollution of the waters.
   (a) In the taps.
   (b) At the intakes.
   (c) At various points in the lake.
4. The degree of bacterial pollution at
   (a) General; (b) colon.
      (a) The taps.
      (b) The intakes.
      (c) Various points in the lake.
5. The location of the intakes.
6. The location of the sewer outfalls, especially in relation to the water intakes.
7. The direction of Lake Michigan currents.
8. The purifying power of Lake Michigan water *in situ* and in the mains.

The commission is just beginning to study methods of sewage purification and the problems of the cities.

As usual Indiana leads. The report from Indiana is the most comprehensive and convincing of which I have any knowledge. The reports from Chicago are complete, but the report from the rest of the state is fragmentary. The Wisconsin reports are next in completeness. Michigan data are least complete. Few Michigan towns get their water out of the lake; many put their sewage in and several take their water from bodies of water that are practically portions of the lake.

Studies made by these cooperating bodies have demonstrated several things. Other things seem probable though not proved. As a result of study of the conditions largely gained from the work of this commission, I hold the following opinions:

1. Lake Michigan water twenty miles away from large sewer outfalls is good, safe drinking-water and excellent in quality.

2. On account of the large volume of water, its low chemical content, and its temperature, it will take care of shore population much in excess of that now existing.

3. The present conditions of the shore waters near all sewered towns are such as to render their use for drinking purposes dangerous.

4. South of an east-and-west line passing through Seventy-fifth Street in Chicago to a similar point in Indiana (an area of nearly 100 square miles) the water is either all so polluted or so frequently and so easily made so that no city should take its water-supply from it and no boat should be allowed to fill its drinking-water tanks from it.

5. There are no constant currents in Lake Michigan.

6. The currents in Lake Michigan are due to the direction of the wind. There is always a surface current with the wind and usually a deep current opposite to the direction of the wind.

7. Irregularities in shore contour, for example, bays or promontories, at times will operate to protect an intake; at other times will have no influence on the water at the intake; at times will operate to foul such water, according to the direction of the wind. For example, a bay protected by a natural or artificial promontory on the north, with the wind in one direction, will have bad water pushed out and good water pushed in; when the wind is in another direction the bad water would eddy around the intake.

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[1] Now ready for distribution.

8. In the Lake Michigan area there are no prevailing winds.

9. In Lake Michigan there are no prevailing currents.

10. As storms habitually stir Lake Michigan to a depth of 20 feet, frequently stir it to a depth of 40 feet and occasionally stir it to 60 feet, purification by sedimentation is not effective in water less than 50 feet deep in Lake Michigan.

11. As the highly effective saprophytes are not abundant in Lake Michigan, purification is by oxidation, dilution and sedimentation.

12. Therefore the rapidity of purification is not as great as it is in fouler waters with a high saprophytic bacterial count.

13. A flow of seven miles in Lake Michigan is not sufficient for the purification of a massive amount of sewage.

14. With a fairly high and steady wind sewage streams retain quite definite boundaries for several miles.

15. A flow of one mile in the lake is of greater purifying power than a like flow in a stream because of (a) the time required; (b) dilution. It is of lesser power because of (a) the less saprophytic bacterial count; (b) less oxygen absorption. Weighing both equations, one mile is more efficient in the lake, but a forty-mile requirement of river flow is not equaled by a one-mile lake flow.

16. Massive amounts of sewage containing much floating material will sometimes hold together in a definite lake stream for twenty miles.

17. No town should place its water intakes within 1 mile of the sewer outfall of a town of 2,000 inhabitants. This distance should increase *pari passu* with the number of inhabitants using the discharging sewers, other things being equal.

18. Dumping should not be allowed in water less than sixty feet deep in Lake Michigan.

19. Government navigation regulations should keep ships a certain distance from water intakes at all times. They should specify holding provisions, with dumping control on all streams. They should specify zones from which ship drinking-water should not be taken in all bodies of fresh water.

20. Properly controlled. Lake Michigan water will always be safe for drinking purposes.

21. Under present conditions no town is justified in using Lake Michigan water from a point nearer shore than one mile.

22. Large cities emptying their raw sewage into the lake should not take their water nearer any sewer outfall than ten miles.

23. What these states and cities bordering on Lake Michigan are trying to do should be done by the national government for the chain of lakes.

Growth of the Child.—Suitable conditions are absolutely essential to healthy growth, and are more important during infancy and childhood than even at any later period. We must allow time for growth, and not crowd back into childhood exercises suited only to more mature bodies and organs. The mental exercise which is play for the boy may be labor for the young child, and child-labor should be prohibited in our schools. Finally, organs grow and develop successively; first the visceral. vital organs; then the muscles; last of all the higher centers of thought and feeling in the brain. Our systems of education must conform to this order. That system is best and wisest which furnishes the conditions and stimuli needed at each stage to promote the growth or development of the organs most rapidly advancing during that epoch.—J. M. Tyler, in *Hygiene and Physical Education.*

THE ECONOMIC VALUE OF PROTECTING THE WATER-SUPPLIES *

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To conserve watercourses means to retain these resources in their natural condition, or in that condition which gives the greatest safety and utility to man. The pollution of a water-suppply is as unnecessary as the wanton butchering of wild animals or the reckless destruction of a forest; in either case the resource is partially or wholly obliterated. and the waste tends to destroy the available livelihood and comforts of the people. A polluted watercourse is not a natural stream.

Municipalities are not the only factors which are accountable for the pollution of public water-supplies. The influence of small villages, individual homes and factories on stream contamination needs more attention. The cities with more people and factories to a given area produce more pollution than the towns with their more numerous cesspools. yet the bacterial contamination is apt to be relatively less with a city, owing to the bactericidal activity of many factory wastes. The presence of disinfectant chemicals in sewage or in drinking-water is strictly objectionable if the sewage or water is to be subjected to filtration. Although in rural districts the more numerous privies cause relatively a less amount of direct stream contamination, the danger of pollution from individual houses can not be overlooked. That there is a great danger from rural communities is attested by the large epidemics which have been traced to individual cases of pollution. In the typhoid epidemics at Butler, Plymouth, New Haven, Nanticoke and Reading there were collectively 3,929 cases, with 361 deaths, resulting from the careless treatment of the discharges of but five individual patients.

The story of damage from epidemics resulting from polluted water is too well known to require repetition, save perhaps for an enumeration of the ways in which the pollution may occur. that the individual contaminating points may be sought and the danger averted. Epidemics from water-supplies result from contamination by various factors: the use of a raw water into which is continually discharged the sewage of other towns, as occurred at Pittsburg, Lawrence and Philadelphia; a city drinking the water of a lake which has become its own cesspool, as did Chicago. Cleveland and Burlington; pollution of the water by the wastes of individual houses, institutions or factories, as at Plymouth, and pollution from privies situated directly over the streams or on the banks, as at Ithaca, or indirect pollution of the stream after the offending matter has been deposited on the surface of the ground or in wells, later gaining access to the watercourse by the washing of rain or seepage through ground seams. In some instances epidemics originate through criminal thoughtlessness when a town has been already supplied with pure or purified water. A water-pipe laid through a polluted pond may become sufficiently disjointed to permit admission by the infected water, as occurred at Baraboo, Wis., and Palmerton, Pa. The admission of polluted water to a pure city supply at any time is inexcusable. Epidemics have originated at times of fire (Lawrence), through failure of valves to operate (Wilkinsburg, Pa.), when the ordinary supply was judged to be insufficient and no public warning was given of the substitution (Newburyport), or when polluted water was furnished temporarily while the filter-plant was undergoing repair (Lowell, Mass., 1902, Brewer, Poughkeepsie, N. Y., and Millinocket, Me.). Various public wells becoming infected through ground seams have caused epidemics of typhoid fever, as at Trenton, Newport and Mount Savage, Md.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

THE VALUE OF HUMAN LIFE

Various attempts have been made to determine the exact financial loss occasioned by the invasion of an epidemic or a polluted water-supply. It is possible to estimate the approximate saving of life through safeguarding the public interests; the approximate number of lives saved by the installation of a water filtration system may be easy. But to put on the credit column of the ledger page for comparison with the debit of the filtration plant the actual value of the lives saved, with the dollars saved in wages of the deceased people, is an utter impossibility. All attempts to place an exact cash loss caused by any fatal calamity have and must result in failure. In estimating the loss from a fire the cost of rebuilding and probable loss from earning capacity during the period of construction can be roughly figured, but the other factors, inconvenience, effect on prestige, result of public attention, loss of unforeseen opportunities, etc., can not be surmised. Equivalent conditions affect the estimation of the value of human life and the cost of sickness. In estimating the financial loss during the illness of an individual or number of individuals the cash loss to that individual may be computed, but not the loss to his employer. Much less can there be calculated the wage loss occurring through death. It is obviously impossible to estimate how long a man's income will continue, to what extent it will fluctuate, of what value that income will be to himself and his dependents, and how much of that income will be inherited by others. Rochard says that the economic value of an individual "is what he has cost his family, the community or the state for his living, development and education." To accept such a standard would be to declare that Abraham Lincoln was worthless.

A man's value is not to be estimated by his income or bank account alone, but by his real influence, morally, mentally and physically on his family and the people at large. The man who spends much of his spare time at home and gives much comfort to his family is obviously of more value than he who does little for his wife and children except to pay the rent and grocery bills; he who influences his own or other peoples' children to improve in morality, industry and citizenship is greater than he who has little regard for such activity; the man who actually earns his money is of more value than he who inherits his sustenance, yet their wills may dispose of similar estates. These conditions are but a few of the many which must be considered when estimating the true value of a human life, and plainly show the absurdity of attempting to put on paper the loss caused by death. The human life is valued at $25 by Galton, $219 by Rochard, $776 (159 pounds) by Farr, $976 (200 pounds) by Chadwick, $2,000 by E. F. Smith and $5,000 by some others. French soldiers are rated at $1,200. The average price of slaves sold in America was about $1,000. Such estimates are obviously too low for any practical purpose. The legal value of life is almost entirely dependent on the force of the plea of the counsel.

Another error in estimating the human value is in the choice of incidental expenses. For instance, Wing, in attempting a concrete study of the cost of typhoid fever to Pittsburg, added into the expense account the extra cost of milk and ice used for the patients, neglecting to subtract the money saved by restricting the diet. Funeral expenses, $3,186 for 26 deaths, were included—an obvious mistake, because they are necessary expenses which must come at some time. Should it become necessary, as it unfortunately frequently is, to use concrete figures to convince lawmakers and the public of the benefit to be derived by protecting the public health, recourse must be had to the financial loss through the prevalence of sickness, including a list of the number of deaths, with a brief on the general loss to the public and private citizens occasioned by the mortality.

In reaching the estimate of the financial loss occasioned by sickness the sum total of the individual cases must be considered. In this there should be included only the value of the medical attendance, cost of nursing, extra servants, hospital expenses, medicines, special apparatus or appliances bought, extra ice and difference in cost of food supply, to which is added the loss of wages calculated up to the time when the patient attains his original vigor and wage-earning capacity. To this money loss, credited to those that recover, is appended the simple statement of the number of deaths, without attempting to express their loss in dollars. For a very rough working hypothesis of the financial loss, if this be required, the loss may be estimated as double the wages lost through illness and convalescence, with a minimum average of $3 a day, added to a bald statement of the number of lives sacrificed. Those who control means for the safeguarding of human life should use, if need be, for the value of life the personal standard placed on their own families. It is, therefore, very misleading to attempt to employ any set figure as the value of human life.

POLLUTION BY FACTORY WASTES

Manufacturing plants are not a danger from their sewage alone, but their liquid wastes when discharged into watercourses are undoubtedly a damage which needs correcting. Factory wastes are not only a menace to the individuals consuming the water, but are a detriment to other mills and are destructive to fish. By discharging offensive wastes into streams, ponds or lakes the manufacturer disobeys the clearly enunciated, universal law of water rights which commands that factories must allow the water leaving their mills to be as pure as when they receive it; the riparian manufacturing proprietor may use the water in any manner as long as he does not interfere with the purity of the stream or with the rights of others below him. Because of this factory pollution there has resulted much litigation; old established mills have been badly affected by the new factories up-stream; paper mills have been ruined and others forced to seek new quarters. In Rhode Island a bleachery obtained an injunction against a wool-washing concern, with the result that now the discharged water is subjected to settling basins, treated with sulphuric acid, the extracted grease collected in bags, pressed hot and made into dégras for finishing leather. The effluent is subsequently run through a sand filter. Woolen-mills and print-works have obtained similar injunctions against other wool-washing works up-stream, and many paper-mills have been rightfully sued.

Chlorinated lime from paper or cotton bleacheries when discharged into a stream grossly polluted by sewage will act as a partial purifier through its disinfectant effect, but the quantities added are in such excess of what is needed that a poisoning of the water results. The indications are that chlorinated lime can not serve as a coagulant in the manner of slacked lime, and will, therefore, not settle to the bottom of a river. Leighton asserts that acid coal mine wastes are, bacteriologically, a benefit in the Susquehanna River.

POLLUTION DESTROYS FISH

The scarcity of food fish is largely due to the pollution of the streams. Some coarse fish apparently thrive near a sewer's mouth, but may be rapidly killed by a discharge of sulphuric acid or other waste. The destruction of fish by sewage-laden water is due to bacterial contamination, to various salts or to gases of decomposition, ammonia and sulphuretted hydrogen. Marsh is of the opinion that the exhaustion of the dissolved oxygen causes the fish mortality. The Passaic shad industry was utterly destroyed by pollution in the river. In many cases fish are destroyed by factory wastes. Dead fish were found in countless numbers after arsenated water was discharged once from a dye works. Sulphuretted hydrogen from starch works, lime from bleacheries, gluten from glucose works, coal-mine and culm bank washeries and decomposing animal matter are all causing enormous destruction of fish. Sawdust and wood pulp destroy trout and bass. The wastes from woodpulp mills, oil wells and gas factories make fish life impossible (Leighton, Marsh, Sweeney). The stocking of streams by the planting of young fry is frequently a failure because of water pollution. The fresh content of a stream may usually be regarded as a relative indication of objectional pollution, as the salt content is considered as a relative indicator of sewage.

The sewage and factory pollution of the streams, with the noxious odors and surface impurities, and with the resulting absence of the smaller fish, is an important factor in the scarcity of game and other birds on the shores. The same causes make it impossible for people to live near some streams or to water live stock therefrom. Realty values decrease markedly along streams which become polluted. Land along the Passaic River that commanded values of $500 to $800 an acre for farming a few years ago possessed no value at all in 1902.

Since factory pollution is frequent and easily visible, its presence may best be detected by those who are accustomed to visit the manufacturing plants. Factory inspection is a necessary requirement in every state and city, but it seems advisable to place it under the guidance and control of a state department of health; at least, the inspectors should be required to submit sanitary reports to the health bureaus. It is most philanthropic for the factory inspectors to determine the presence of any employés under the legal working age, but more benefit would be derived if more attention were given to the sanitary and health conditions affecting the individuals. It should not only be determined that proper toilet facilities were provided for the employés, but that these toilets are properly located and maintained, and are not a menace. Too many factory toilets are built directly over streams and conducted in such a way that flies may readily carry germs to food-supplies. To determine the age of a child in a factory may save a single life, but to determine where that child has been forced to deposit his discharges may save a hundred. It is the saving of the masses that must be perfected.

No untreated offensive factory waste should be permitted to be discharged into watercourses. Such wastes, as dyes, chemicals, acids and bleaching powders, should be subjected to appropriate chemical precipitants or to coagulants that will render the effluent from settling-basins clear, colorless and free from contamination. For many wastes, aluminum sulphate is the safest and most effective coagulant, but for others ferrous sulphate or slaked lime is preferable. Coke filters possess an absorptive power for many coloring matters (Dunbar). In some cases, as with brewery wastes, it may be more satisfactory to include the factory wastes with municipal sewage rather than to attempt to treat them separately. If possible the wastes should be converted into industrial profit, as is being attempted with sulphite pulp waste.

EFFICACY OF FILTRATION

The influence exerted by the establishment of sewerage and of water filtration is clearly shown by the following table of the typhoid mortality:

Rate per 100,000 Population.	Before Sewerage.	After Sewerage.	After Filtration.
Boston	174	60	20
Lawrence	96	18	2.1
London	90	50	14
Berlin	92	50	5
Breslau	92	40	9
Munich	254	27	9
13 Mass. Cities, average.....	79.4	38.3	

In other words, water filtration caused a reduction in the typhoid mortality rate of 98 per cent. at Lawrence, 90 per cent. at Ashland, Wis., 80 per cent. at Binghamton, N. Y., 76 per cent. at Philadelphia, 75 per cent. at Watertown, 66 per cent. at Boston and 60 per cent. at Albany.

The bacterial efficiency of sand filters shows that practical application does not fall much below experimental results. In the experimental sand filters at Lawrence 99.48 per cent. of the bacteria were removed, and at the Pittsburg experimental plant 99 per cent. In practice the efficiency of the Providence filters is 99.68 per cent.; Philadelphia, 99.59 per cent.; Rensselaer, N. Y., 99.48 per cent.; York, Pa., 99.57 per cent.; Lawrence, 99 per cent.; Loraine, Ohio, 98 per cent.; Elmira, 98.43 per cent., and Norfolk, 95.99 per cent.

Turbidity is another objectionable condition removed by water purification. It is not only an esthetic objection, but in various industrial establishments an actual menace, and frequently necessitates the installation of private filters. These filters are not sufficient to remove all turbidity and coloration. The removal of fine mineral turbidity, such as comes from clay and culm, can not be accomplished by slow sand filtration, but requires a coagulant.

The turbidity from culm comes principally from the washing of the culm banks in the recovery of buckwheat and rice coal.

Rural contamination of streams should receive more consideration than has been accorded to it; and means must be adopted to check the damage resulting from privies which are placed over streams or on the river banks, and from remote factories discharging into the watercourses. Camps, be they for military, for pleasure, for workman or gypsies, should be so located that the privies are situated far from all streams and far from the camps themselves. It is preferable for the toilet to be erected on the summit of a hill, provided there be no pump or well immediately below. Since it is possible for the direction of flow of ground water to be in the opposite direction to that of surface water, as toward a hill summit, in locating wells and cesspools the position of the near-by large watercourses must be considered. Ground water tends to flow toward the larger streams or rivers, without being necessarily influenced by intervening hills. The epidemic at Ithaca probably resulted from a gang of Italian railroad workmen establishing their camp along the water supply. These camps should have definite latrines erected, the location of which should be occasionally changed.

Some writers persist in saying that there is no objection to a farmer emptying sewage into a stream, and Lake adds the provision, "if the stream is not used for domestic supply." A stream not used for a domestic supply is a rarity; except in few unsettled districts, all streams had better be regarded as domestic supplies. To empty sewage into a watercourse is probably more dangerous than the use of the old-fashioned privy, except where the privy is in immediate proximity to a well.

Stream pollution is far more dangerous than the use of a properly situated, properly constructed and protected privy. Sanitary engineers accept the theorem that it is the time consumed and not the dilution or rapidity and turbulence of a river that is most responsible for the bacterial purification of streams. If typhoid germs are discharged into a stream which flows at a rate of five miles an hour, which is a comparatively quiet stream, accepting Russell's results that the germs will die in five days, those germs could be carried 600 miles, surely far enough to reach some domestic supply. Hence it may be concluded that any pollution, however remote, is apt to affect some consumer, unless it occurs near the sea.

To assist in the purification of watercourses, physicians should be required to disinfect all discharges from typhoid and tuberculous patients. Physicians should be more prompt in reporting infectious cases, being required by law and encouraged by printed postals. They should report cases of insanitation coming under their notice. Local health officers and factory inspectors should inspect temporary camps of workmen and pleasure seekers, and should inspect and report to a central authority all examples of stream pollution from towns, houses and factories which occur within their precincts, as well as any gross polluted appearance of the watercourses. The finding of dead fish in a stream, being indicative of some kind of pollution, should lead to an inspection, and the saving of fish should be an object. Before establishing a filtration system cities should determine the feasibility of obtaining water from an unpolluted locality which can be kept under control. Watersheds should be patroled. A good man on the alert can patrol a large district, getting his information through various ways and personally inspecting all suspicious localities frequently.

By securing legal enactment and arousing public sympathy through the use of statistical and experimental evidence, with the use of uniform standards to represent financial results, the work of the sanitary corps is strengthened. Their work becomes more efficient by obtaining notices of legal or hygienic encroachments through such channels as information can come, and eternal vigilance on the part of the few brings success and life to the many.

5038 Pine Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. EVANS AND WOOD

Dr. W. K. Jacques, Chicago: I drink Lake Michigan water, and I think that every one who is thus afflicted ought to be thankful to Dr. Evans for this paper and also for the water commission which was started under his influence and instigation. If it keeps on as it has begun, the data which will soon be collected will be of the greatest value to those who are obliged to depend for their drinking water and domestic water supply on Lake Michigan and the tributary lakes. It is strange that the very people most interested are the people who do not care to take part in this sort of thing. As an illustration, I have a summer home across the lake in a small city, and when I first went there the people of that town were depending on the disposal of excreta in privies, as in ordinary country places. Within five years a sewer has been opened and extended down into a little river which passes through the center of the city. The water supply is taken in along this river from Lake Michigan. Since the sewer has been emptied into the river typhoid has been a veritable scourge in that town. Last winter it was decided that something must be wrong with the intake; a diver investigated and found twenty-three places where the intake was defective and the river water was going in through the intake. That is, he reported twenty-three places: and that is all they had money enough to repair.

Now, the City of Chicago sends to this city over a hundred thousand people every summer, a large proportion of whom are young and especially susceptible to typhoid infection. It would pay Chicago to extend that water intake; but we, of course, are unable to do it; and this state has withdrawn from this commission; so that the very state that needs it most will get the least benefit from the commission. The proper disposal of this sewage before it is even emptied into the river and the extension of that intake a mile out into the lake are what should be required.

Dr. L. H. Montgomery, Chicago: I was pleased to hear Dr. Evans in his paper state that, in his opinion, the federal government should have control or supervision over the chain of our northern lakes, having reference, of course, to the pollution of the water. I do not know whether he intended to intimate that the general government should have control of the rivers discharging their waters into those lakes. I would favor federal control of streams and rivers as well, as many, if indeed not all of these larger rivers serve as open sewers throughout the United States. We seldom hear of any one being prosecuted for pollution of rivers; factories are located on rivers and lakes; discharges are emptied there by the employees; and while many of the commonwealths have laws prohibiting pollution of springs, lakes, rivers and other sources of fresh water for domiciliary purposes, yet the legislatures do not make the financial appropriations for the observance of such laws and the punishment of violators thereof. This pollution goes on year after year, then somebody awakens, and, as Dr. Jacques says, money is appropriated which goes so far and no farther, partly removing the trouble while the menace to health still goes on in a degree. There is negligence, and it is often, I believe, from lack of appropriations that state authorities do not go ahead and carry out the law. I believe that the national government should have control over all these matters connected with our great rivers and lakes throughout the country.

Dr. W. Forrest Dutton, Walker's Mills, Pa.: I believe that the members of this Section who were in Chicago last year remember the courtesy shown us by the City of Chicago when, through the hospitality of Dr. Evans, we were shown the wonderful mechanism of Chicago's water supply. To my mind, it is one of the most wonderful pieces of sanitary work that I have ever seen; and I believe that the municipality of Chicago does not really appreciate the hard work that Dr. Evans has put into its department of health. I believe that if Dr. Evans is maintained at the head of the department of health in the City of Chicago, in a very few years he will make it one of the cleanest cities in the world; whereas, some few years ago, it was referred to as one of the dirtiest. Coming a little closer home, to the City of Pittsburg, since the installation of its filtration plant, the rate of typhoid mortality has been reduced from 200 per 100,000 to about 15 per 100,000. It is impossible to filter the steel mill chemicals from the river water. These so irritate the intestinal tract that it readily becomes a point of attack for the typhoid bacillus. If the large municipalities throughout the United States had such officials as Dr. Evans of Chicago, Dr. Hurty of Indianapolis, Dr. Bracken of St. Paul, and the eminent sanitarian, Dr. Egbert of Philadelphia, we should have a much better record to show to our brethren abroad.

Dr. Seneca Egbert, Philadelphia, Pa.: I would like to take issue with Dr. Montgomery as to the government taking charge of all rivers and streams. I believe that the government should take charge of the great chain of lakes, but we are demonstrating in Pennsylvania that we do not need the United States government's help. With a fair appropriation from the state legislature, and men who have nerve enough to do the work, it can be done by the states. I am enough of a states' rights' man to believe in that sort of thing. It was said not long ago that the Pennsylvania State Commissioner of Health had cleaned up over 4,000 sources of pollution along the Schuylkill that supplies most of Philadelphia with water. Those of us who live in Pennsylvania all know that a tremendous amount of work toward the protection of the streams can be done—and has been done—by a man who has the power of the state back of him, a good, thorough appropriation, and then enough nerve to do the work. More than that, I think Philadelphians as well as Pittsburgers have appreciated the benefits of the improvement of the water supply. In my own ward, one of my near neighbors, a practising colleague, a few years ago had 30 cases of typhoid fever in a year; he now has 3. We are practically eliminating typhoid from Philadelphia, which used to be notable for its excess of this disease.

There is another phase of the question: Since we have learned so much in the last two or three years about typhoid bacilli-carriers, it seems to me that the importance of this question of the non-pollution of streams is greater than it ever was before. We know now that people traveling from place to place can still carry the infection of a typhoid attack of months or years before to those places; and if the drainage from any privy or cesspool can get into the water supply, they may become sources of typhoid infection to large numbers of people. Many and many a small town, and almost all the smaller hamlets, have no common water-supply or any sewer system, and the people rely on the old-fashioned well and the old-fashioned privy vaults. In such places the danger of infection must be occasionally present and we cannot give too much attention to this problem.

Dr. Marshall Langton Price, Baltimore: There is a single point in Dr. Wood's paper that I want to touch on; that is the estimate of the economic loss caused by the death of a human being. It is admitted, of course, that any computation is unsatisfactory, and often inaccurate; but whether we have an accurate or inaccurate standard, we ought to agree on some standard of computation. I recently recommended for that purpose what I call the life-capital method. That is, computing an individual's earnings up to the time he becomes economically disqualified, or up to the time of his death, we can calculate the loss in life capital by using any of the standard life-tables. From these we can calculate the average expectancy of life at the time the individual dies of any disease such as typhoid. If a man earns $2 a day from his eighteenth to his thirtieth year, he will accumulate $10,000 life-capital; that is, he has lived a $10,000 life. Of course, if those earnings are interrupted by death or disease, he has evidently lost part of his life-capital—that which under the life-capital method he would have earned if he had remained alive to his thirtieth year. You have to give definite limits to the working period; but it strikes me that it is about the best standard which we can devise at the present time as a unit, and one least liable to misconstruction. In regard to typhoid being a rural disease, that fact was first pointed out by a civilian, Colonel Waring. The subject was later exhaustively described by Dr. Fulton in a careful comparison of rural and urban typhoid fever; and he found, in his studies, that the rural mortality was very considerably higher, I think almost 50 per cent.

Dr. John S. Fulton, Baltimore, Md.: I classified more than 300 cities according to their populations, and found that the five largest cities in the United States had the lowest typhoid mortality, averaging about 25 per 100,000. The average for these five cities, at this time, would be found lower. From this minimum of 25 per 100,000 the mortality was found to increase as the scale of population diminished, until the heaviest typhoid mortality was reached under truly rural conditions, i. e., where only about 10 per cent. of the people live in towns. Rural populations suffered a typhoid mortality of about 65 per 100,000. Pittsburg caused an irregularity in this descending scale of mortality, the monstrous mortality of this city raising the average for all the cities of that class to about 45 per 100,000. While the article to which Dr. Price refers may have been the first in which convincing figures were shown, it was not far ahead of Dr. Egbert's article in which the same conclusion was reached. Long before either of us looked into the statistics, Colonel Waring said, in the introduction to his work on "Sewerage," that typhoid fever is a rural disease, and its progress is in general from the country to the city, rather than from the city to the country. It was a layman, therefore, and not a physician, who first called attention to the error, so prevalent among medical writers, of discussing typhoid fever as one of the chief scourges of cities.

Dr. F. W. Sell, Rahway, N. J.: I want to speak a word for New Jersey, and to say that we have now, I think, taken an advanced position, alongside of Pennsylvania, Massachusetts, and New York, in the way that our state board of health is supervising the disposal of the sewage of towns on our watersheds. I think that there are no less than 53 disposal plants now under the supervision of our state board either on the shore or on inland watersheds. Individual cities have tried to oppose the putting in of these plants because of lack of education. They do not seem to realize the necessity of it; but the time will come, I feel sure, when they will all fall in line; and one very great sign of the times, I consider, is shown in the cooperation of the states of New York, Pennsylvania and New Jersey along the Delaware, in a similar manner to that of the cities and states which Dr. Evans has described.

Dr. J. H. White, New Orleans: I do not believe that national control should be extended any further than that point at which the people with practical unanimity shall propose the surrender of their authority to the nation and admit that the job is too big for them. The point where national control should come in (and this is what Dr. Evans claims) is on waters that are interstate, on waters which involve, especially, as the lakes do, not only interstate, but international issues, and in similar cases. I am a representative of the national health service, and I want to make it plain that we are not trying to gobble what does not belong to us.

Dr. W. A. Evans, Chicago: The situation in Chicago is this: Twenty-four miles north is Waukegan, a city of 30,000. The intervening distance is solidly filled in with smaller towns. The sewage of these, nearly always raw, is poured into the lake. The drinking-water is taken from the lake at points always less than one mile from shore. No intake is more than two miles from the nearest sewer outfall and some are much nearer. The water is not filtered. Then comes Chicago's twenty-five miles of lake front. In this sweep no sewage enters the lake except through the Calumet River, located two miles from the Indiana line. In it there are six water intakes; one, about two miles from Chicago's north line, is located close in shore, but is supplied with a filter; the others are from two to four miles out; they do not have filters. Joining us on the south are Hammond, East Chicago, Indiana Harbor, Whiting and Gary, having a combined population of about 100,000. These towns put one-half their sewage into the Calumet River and the other half directly into the lake. The Calumet River receives the sewage of about 200,000 people; 50,000 in Indiana and 150,000 in Chicago and Cook county outside of Chicago. None of this sewage flows over ten miles in the river and the bulk of it flows less than three miles in the river. About half the Calumet River is in Indiana and half in Illinois. Its mouth is in Illinois two miles from Indiana. The Indiana towns, except Gary, have water intakes within a few hundred feet of shore and a few hundred feet of sewer outfalls and are without filters. The sewage is raw. From the Calumet River to the nearest Chicago intake is about four miles. From the Calumet River to the farthest Indiana intake, except Gary, is about five miles.

There are no constant water or wind currents in Lake Michigan. The current is with the wind. A lake flow of five miles is not sufficient to purify a large volume of sewage. When a strong north wind blows every town is polluted by the town north of it. And the Calumet River, carrying Chicago sewage, pollutes the Indiana towns. When the wind is from the southeast the Indiana sewage pollutes the Chicago water and every town up to Waukegan is polluted by the towns south of it.

Whose problem is the Calumet—half in Indiana, half in Illinois—discharging in Illinois two miles from the line, and with a lake flow into Indiana waters whenever the wind is from the west or north? Can any government handle a problem like this except the national government? Are not lines of demarkation between states theories, while a stream of sewage pollution from the Hammond sewer to the Chicago intake is an actual condition? If the national government has not now a way, is it not up to them to find a way?

Then there is the matter of dumping dredgings into Lake Michigan near water intakes. Much of this dumping is done under contract with the War Department. In Chicago waters most of this is clay and it is dumped in water sixteen feet deep. Storms stir Lake Michigan to a depth of fifty feet at times. Consequently our drinking-water is often muddy after a storm. We are insisting that this dumping be done behind breakwaters or else in water over fifty feet deep. The position taken by the chief of engineers is that the government has exclusive control of dumping, the city has no authority, but that the government has no right to be swayed by any consideration of health. To this I would say that if the government officials finally conclude they have now no way, it is up to them speedily to find a way.

I wish to mention another point before concluding. I know of a town near Chicago which has located its intakes with relation to its sewer outfalls on the basis of a continuous lake flow in one direction, and not far away is another town which has its water intakes located on the basis of a flow in the opposite direction. Each is wrong.

Dr. Harold B. Wood, Philadelphia: To her honor, include New Jersey with New Hampshire. These are the two states having the lowest typhoid mortality rate. In Pennsylvania, Dr. Dixon, that he may best overcome the rural typhoid mortality, is having sanitary surveys made of all streams. The work at present is being done in the western part of the state, having accomplished a sanitary survey of every tributary of probably three-fourths of the Allegheny river. In regard to the utilization of privies: Sanitarians have been working for some time to abolish privies, warning the people, but advising them of no methods for a proper sewage disposal in the country places or for factories situated along streams. One town in the South, of probably five or six hundred inhabitants, uses, I am told, about forty privies situated along a river bank overhanging the stream. The lack of danger from some privies (that is, excluding the danger from fly contamination) where they cannot pollute water supplies, can be well illustrated by the case of Media, Pa. Recently I talked with a physician who said that in the last ten years there had been not five cases of typhoid fever in Media, a city of about 4,000 inhabitants. Dug privy wells is the only sewage disposal. The water is entirely pumped from a nearby stream, an excellent water, practically under control. One of the contentions to be met in Philadelphia is the impatience of the people. Recently there has been a small typhoid outbreak there in the northern part of the city, that part which has just been supplied with filtered water. Immediately the newspapers and the general public concluded that there was an inefficiency in the slow-sand filters. There is no doubt that the infection came almost entirely through food-supplies, flies and importation. In this outbreak the milk supply could be excluded

Some of the people in Philadelphia doubt the utility of the filters on account of their not excluding all turbidity, never having been instructed by the newspapers, or in any other way, that the finest turbidity cannot be removed by slow-sand filtration. Of course, it must be admitted that it is extremely difficult to detect the typhoid bacillus in water. While most experimenters adopt the Drigalshi-Conradi method, Dr. Bergey employs a test founded on the fermentative ability of the bacteria; and Dr. Rives, Pennsylvania's state bacteriologist, depends on his colorimetric test. A sanitary inspection is of as much value and dependence as a laboratory analysis of a water. In view of doubts expressed, the evidence is conclusive that water is contaminated and often transmits disease.

Clinical Notes

SYMPTOMS FOLLOWING THE CUTANEOUS TUBERCULIN TEST, SUGGESTIVE OF A SPECIFIC GENERAL REACTION

F. BUCKMASTER, M. D.
EFFINGHAM, ILL.

A few months ago when Dr. C. von Pirquet made known to the medical world his tuberculin skin test much was hoped from it in a diagnostic way, and, indeed, much was promised. Simplicity of detail, practical reliability, and freedom from specific general and focal symptoms were claimed for it. There can be no argument as to the first claim made for this test, but much has been said against its reliability as a diagnostic means in tuberculosis. Regardless of what we had expected of it, or of what had been claimed for it in a diagnostic way by Dr. von Pirquet, it has never been determined definitely as yet just what its true diagnostic reliability is, or will prove to be, in the various forms of tuberculosis.

However, opinions on its diagnostic value may have been at variance, it seems to have been generally conceded by those who have used it that it was free from specific general and focal reactions in the presence of tuberculous disease. Regarding these reactions Dr. C. von Pirquet[1] himself has the following to say:

> My cutaneous method has the advantage over the injection of tuberculin, that it does not produce any general symptoms. . . . . It is, however, not as sensitive as the *Stichreaction*, and does not produce inflammatory phenomena of the tuberculous foci, which after Koch's injection can be utilized diagnostically."

These views as expressed by von Pirquet seem to have been looked on by all as being true. I wish at this time, however, to report a case exhibiting symptoms, unmistakably those of a specific general reaction, following this skin test. The history follows:

History.—Miss G. B., aged 27, was seen June 23, 1909. Father died at age of 50, from hepatic abscess, complicated by some form of chronic pleural and pulmonary diseases, likely tuberculosis. Mother died at 61 from heart disease. Two brothers alive; one is said to have Bright's disease. One brother died at 21 from tuberculosis, following an attack of influenza. Four sisters alive and well; three dead, one at 16 from heart disease; one at 17 and one at 19 from tuberculosis. Patient does light housework at home when able. Was well as a child, except for pneumonia at 5, of moderate severity, from which she made a good recovery. At 7 she was in bed six or seven weeks with an attack of typhoid, making a good recovery after about three or four months. Had febrile attacks at 14, and at 24, which was diagnosed as typhoid, but she was never totally confined to bed during their course, but in each instance was "up and down" for two or three weeks. Permanent recoveries seemed to her to be good. Had an acute bronchitis during the past spring, having some fever and cough for a week or two, both finally leaving her, but she says she has not been so well since that sickness, and that she has had soreness, and at times a weak feeling in the chest. Has much pain and soreness in the right upper abdomen, at times, and says stomach feels better. after eating; says she has a hungry feeling or pain, which causes her to eat often between meals, and occasionally during the night. No vomiting, except a few years ago when she had severe acute attacks of pain. Menstruation has always been regular, beginning at 12, quite free, of four or five days' duration; has pain and cramps, and is usually in bed a day or more. The last period appeared the middle of June. Has had some leucorrhea this spring.

Present Illness.—Began six years ago with a right abdominal pain, cramp-like, and intermittent, which kept her in bed for about a week. Says the right side of the abdomen was very sore at the time. Says she gradually recovered, but has had light attacks of pain and soreness in the same region every few days, which she thinks would have amounted to one week in each month, but says the trouble was not connected with the regular times for the periods. Four years ago she was in bed for two weeks with another severe acute attack, apparently of the same trouble. She vomited during this and the first acute attack. Recovery from this attack was very imperfect, and she has almost never been free from her abdominal pain and soreness since, but never in bed with it again, though she has worked some at times. Her trouble has gradually grown worse for the past four years, until about three weeks ago, when she says she felt something give way in her, as it were, and this was followed in about two hours by the discharge of about a pint of pus by the rectum. She continued to pass more pus by the rectum at intervals, for the next five days, when it totally ceased. While passing this pus she had freedeom from pain, but when the discharge ceased the pain and soreness again became prominent. No cough and no night sweat. Patient has been "up and down," and has been without fever during the two weeks that Dr. Broadway has treated her.

Examination.—The patient looks weak and tired; weighs 97 pounds; skin is dark, pupillary reaction is slow, tongue is coated, has no goiter. Patient has a well-formed and a well-filled-out chest, and expansion is good. Lungs negative, except perhaps for the slightest harshness in the breath sounds in the outer half of the upper third of the anterior surface of the right lung. Heart negative and pulse 74. Abdomen, to inspection and percussion, appears normal. Liver slightly enlarged. Spleen normal in size and position. The right upper quadrant is very rigid and very tender, with the tenderness seeming to center over the gall-bladder and the duodenum, diffusing out over the pylorus, and downward toward the appendix, though in the immediate appendiceal region there is no rigidity, but there is much tenderness deep in at McBurney's point, showing the unmistakable appendiceal lesion, indicated by her history.

The left side in total, and the right lower quadrant except the appendix shows no tenderness, and no rigidity, except for a left rectus rigidity for about two or three inches, opposite the umbilicus. No tenderness here though. No masses can be made out. No renal tenderness, or displacement, nor can other visceral displacement be made out. Bimanual by rectum shows nothing, but apparently normal conditions. Temperature and pulse during the afternoon remained normal. Bowels have been moving two to three times a day, without diarrheal tendency. The von Pirquet test was made about 1 p. m., the upper and lower points on her arm being inoculated. Patient was left in bed on a very light diet, and with ice-bag on abdomen.

The next morning the patient complained that she was really sick, felt flushed and full headed, nauseated, with scant vomiting, and had an increase in her abdominal soreness and much more pain, and at 9 her temperature was 101.6 and pulse 100. During the day her temperature reached 102, and the pulse a little above 100, and she was "sick," as she expressed it, all day, could eat nothing, and had some headache, though this has been a very infrequent symptom with her. By 8 in the evening her temperature had dropped to 100 and the pulse to 86, and she felt much better in every way, the nausea and the oppressive feeling in her chest clearing up. During this day and the next, considerable harshness in breathing and a little dullness on percussion existed in the part of the right lung where I had the day before heard a little harsh breathing, but no râles were heard.

On the next morning her temperature and pulse were normal, and have remained so for the past three days, and her soreness and pain have entirely cleared up from the rest and ice-bag, and she has had no nausea nor other of the disagreeable symptoms so prominent the next day after the skin test was made. The local reaction on the arm, beginning to show on the same day the fever and other symptoms showed themselves, became very bright.

The total sample of urine for twenty-four hours was 52 ounces, with a specific gravity of 1.008, but was negative to all further tests. No tubercle bacilli in the little bit of sputum once collected, and an analysis of the stomach contents made on two successive mornings showed each time four ounces withdrawn, of a smooth even consistence, showing that it was being well digested; no free hydrochloric acid and no organic acids. One examination showed the combined acids at 65 points Toepfer, while the next showed 60.

Operation (June 29, 1909).—Chronic adhesive appendicitis was found, the appendix reaching up practically to the right kidney. The adhesions were attached high up to the mesentery of the ascending colon and were drawn very tight, evidently causing the pain. Stomach, duodenum, bile system and pancreas were negative. Pain left the patient and all soreness cleared up shortly after operation and she went home the eighteenth day. There were no appearances of tuberculosis in the abdomen. Since the patient went home she has taken fats freely and sleeps out in a tent and is doing well.

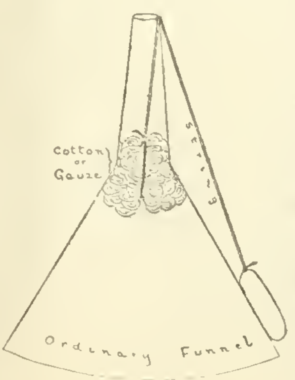
I noticed in The Journal[1] a report by Dr. Rayevsky of two similar results. One of his specific general reactions was much more marked than occurred in my one case. Otherwise the time of appearance of the symptoms and their nature tallied very closely in all three cases. No hoarseness developed in my case, as the throat and larynx were free from involvement.

As yet symptoms of tuberculous involvement, which already has a little start in the right lung, are lacking. There can be no doubt that this patient showed a specific general and focal reaction, and I am inclined to think that with closer records kept on patients on whom this test is made, from the large dose of the tuberculin made use of in this way, we shall find that a specific general and focal reaction will be found not to be the rare thing it has been supposed to be in the past.

AN IMPROVISED ANESTHESIA CONE

L. T. A. HOTTENDORF, M.D.
RANDOLPH, UTAH

This simple device will appeal to many a country practitioner, especially for obstetric work. A small wad of cotton or gauze is tied up with a piece of string (like a tampon) and the end of the string is passed through the neck of a common funnel and tied in place outside.



The anesthetic is dropped on the cotton as required. The amount of cotton or gauze should vary, depending on whether it is desired to use the anesthetic by the drop method or to saturate the pad. The patient can hold the cone herself, and, therefore, there is no possibility of giving too much anesthetic. I have found this simple arrangement very satisfactory in a great number of cases.

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[1] June 26, 1909, lii, 2102.

ABNORMALLY LONG VERMIFORM APPENDIX*

H. P. COLE, M.D., and GILMAN J. WINTHROP, M.D.
MOBILE, ALA.

The average length of the appendix, as stated by different authors, is from 8 to 11.5 cm (3 to 4½ in.), with a mean of 9.2 cm. (Kelly, Ribbert and Berry place it at about 8.3 cm., 3¼ in.), or between 3 and 3½ inches. Abnormally long appendices have been noted by J. D. Blake (24 cm.—9⅓ in.), Lafforge (24 cm.—9⅓ in.), Luschka (23 cm.—9 in.) and Lenzmann (22 cm.—8⅔ in.). Below we report a case in which we removed an appendix 20.9 cm. (8¼ in.) in length, about two and one-half times the normal length.

History.—The patient was a mulatto woman, aged 31 years, having what we diagnosed clinically as a myoma of the uterus and an ovarian cyst (left).

Operation.—On Dec. 3, 1908, under ether anesthesia, a pedunculated myoma 13.5 by 13 by 13 cm. (5 1/5 by 5 by 5 in.) was removed by tying and cutting the pedicle. A large ovarian cyst, together with the Fallopian tube, was removed from the left broad ligament. A small cyst was removed from the right ovary. On looking for the appendix almost complete absence of the mesoappendix was noted. The appendix lay in the second most frequent position ascending vertically behind the cecum and first portion of the colon, and partially attached to the dorsal wall of the large intestine. The tip extended to the level of the upper pole of the kidney. Considerable difficulty being experienced in freeing the appendix, its peritoneal coat was incised at the cecal junction and the appendix then stripped and dissected free from this covering. The stump was ligated and inverted into the cecum by the usual purse-string method. The uterus was then suspended and the abdomen closed without drainage. The patient made an uneventful recovery and left the hospital twelve days after the operation.

This appendix had apparently given no symptoms. It was probably drawn into the ascending position by the formation of early adhesions between the appendix and the other organs lying posterior to the cecum at the time of its descent, as suggested by Kelly. Removal was undertaken because of the more frequent occurrence of inflammation in appendices lying in this position.

204 Conti Street.

TECHNIC IN TRANSFUSION

HERMANN B. GESSNER, M.D.
Professor in the Miles Laboratory of Operative Surgery, Tulane University of Louisiana
NEW ORLEANS

In experimental work in the laboratory, in which I have had the assistance of Dr. W. Lassiter, we have found the use of the fine tenacula of the Elsberg outfit advantageous in doing transfusion experiments on the lower animals with the Crile tube. The tenaculum is thrust through the Crile tube, hooks the artery by the circumference, and draws it through more quickly and with less traumatism than when sutures are used for the purpose or the artery is pushed through. The artery once drawn through, a second tenaculum suffices to cuff the extremity over the Crile tube. Here the cuff may be secured with a ligature over one of the grooves or, if desired, it can be held in place with the two tenacula while with two more the recipient vessel is drawn over the cuffed donor vessel and a single ligature used to hold both over the tube.

The advantages are ease of performance, a minimum of traumatism, and economy of time.

506 Morris Building.

ACUTE MILIARY TUBERCULOSIS FOLLOWING RENAL TUBERCULOSIS, SECONDARY TO OLD HEALED BILATERAL APICAL TUBERCULOSIS

PAUL H. RINGER, A.B., M.D.
ASHEVILLE, N. C.

The following case may be of interest to many as being to a great degree illustrative of the relations of cause and effect in the mobilization of tubercle bacilli after an apparent cure has been effected. In the case reported here no knowledge of the primary disease was obtained until the autopsy, the patient having died from general dissemination. A point of special interest is the intermediate route chosen by the tubercle bacilli, and their temporary halting place in the right kidney before spreading to the body at large.

Patient.—I was called on July 19, 1909, to see Mr. J. C., aged 28, a farmer from Kentucky, who had been in Asheville three weeks. Data were obtained from his wife.

History.—Mother and several brothers died of pulmonary tuberculosis. Patient well as a child; no past illnesses; was an athlete at college. About a year before this illness he had had "attacks" consisting of severe pain in the region of the bladder. These attacks came on after he had worked very hard building a house. The pain caused vomiting. These attacks recurred several times, and finally stopped. About six months before the present illness he had "stomach trouble" (nature very obscure), and his home physician said he had too much acid in the gastric juice; this was counteracted by an alkali. Three months before the present illness the patient began to run an irregular temperature and to lose weight and strength. For the past two months the temperature had been constant, ranging from 99 to 102. At no time had there been actual cough; there had been transient expectoration ascribed to "catarrh." The patient was examined in April, 1909, and was told that his lungs were weak but that the physician did not think it was tuberculosis. It was understood from what could be elicited from his wife that a Moro cutaneous tuberculin test was given—result not positive. The patient had been kept in bed for a month at home and then sent to Asheville. While here he was constantly in bed, growing steadily worse. His bowels were somewhat loose; he was said to be voiding a normal amount of urine.

Examination (July 19).—Patient poorly nourished, sallow and pale; dorsal decubitus; expression anxious. Evidently much loss of weight. Pupils equal, reacting both to light and to accommodation, though somewhat sluggishly. Tongue heavily coated. Throat apparently normal.

Chest: Note over all normal save for possible hyperresonance over the upper lobes. Breath-sounds normal over all. A few subcrepitant râles heard on deep breathing and on coughing in first right and left intercostal spaces. Also a few râles on left side in anterior and mid-axillary lines down to about the eighth rib. No adventitious sounds behind.

Abdomen: Tender over all. Liver, spleen and gall bladder not palpable. Some tympanites; no rose-spots. In hypogastric region there was a large tumor half the size of an adult head, sharply defined, smooth, tense, flat on percussion. It was in the region of the bladder and very tender to pressure. Patient voided about 12 ounces of urine on request. This was examined and found to be acid, sp. gr. 1,016, trace of albumin, moderate amount of pus, no other abnormality. Patient semidelirious for past three days—cerebration slow. Tried to get out of bed.

Course of Disease.—Owing to the inaccessibility of the patient's house and to lack of proper facilities for caring for him, he was brought to the Asheville Mission Hospital on the morning of July 20. During the night of the 19th he was given morphin gr. ⅛, which kept him fairly quiet. The next morning, July 20, he drove three miles and was admitted to the hospital at 11:45 a. m. suffering from a hard chill. At 1 p. m., the abdominal tumor persisting, and having seemingly increased in size, he was catheterized and 53 ounces of urine

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[*] Read before the Medical Society of Mobile County, Ala., Jan. 29, 1909.

withdrawn, the tumor promptly disappearing. He was catheterized again at 9:30 p. m. the same evening and the large amount of urine withdrawn (84 ounces). The patient was given sulphonethylmethanum (trional) gr. 10 and passed a restless night semidelirious, trying to get out of bed and fancying that he saw many people around him. He was again catheterized at 2:30 p. m. on July 21 and 70 ounces withdrawn. I then called Dr. Charles L. Minor of Asheville in consultation. The patient was semi-delirious, quite dyspneic, not cyanotic, abdomen slightly distended, signs in chest as stated above. Dr. Minor and myself made a tentative diagnosis of acute general miliary tuberculosis, based on the following points: Probability of tuberculosis from the history; continued temperature for two months; marked cerebral involvement; abdominal symptoms; decided dyspnea with but insignificant chest findings; rapidity of pulse (120). An Arneth blood picture was made, giving the following result:

I.	II.	III.	IV.	V.	Index.	
29.	42.	24.	3.	2.	83.	(High.)

Leucocyte count, 16,000.

Dr. W. L. Dunn of Asheville also saw the patient, agreed with our diagnosis and did a Widal reaction which was wholly negative in a dilution 1:30.

Patient was again catheterized at midnight on July 21 and 38 ounces withdrawn. Bowels being constipated, 2 drams of a saturated solution of magnesium sulphate were ordered every hour until bowels moved. Other treatment was simply supportive, strychnin and digitalis being given. At night the patient was given morphin, gr. ⅛, which kept him fairly quiet. July 22 patient catheterized three times—total of 64 ounces withdrawn. July 23 the patient had ten involuntary bowel and bladder evacuations; the pulse grew weaker, respirations shallower, the abdomen became more and more distended, and the patient died at 9:45 on the night of July 25. At no time was he rational, and during the last three or four days but rarely recognized those round about him. During his stay at the hospital his temperature ranged from 100.2 to 102.4, with the exception of a drop to 98.3 on the morning of July 21. His pulse ranged between 108 and 140.

The apparently great polyuria was difficult to explain. The following theory has suggested itself to me: For three weeks the patient had been very sick with no skilled attendant about. His wife, though willing, was not qualified to observe keenly. As he passed urine, she believed that all was well, and paid no heed to the quantity. Owing to his sluggish mental condition, he passed but a small portion of the urine that was in the bladder. As a result, the bladder gradually lost its tone and became greatly dilated. Shortly after systematic catheterization was begun, the bladder regained its tone, and far less urine was obtained than at first. I am therefore led to believe that the polyuria was far more apparent than real. Clinical diagnosis: Acute general miliary tuberculosis; dilatation of bladder.

Autopsy (July 25, 1909, 11 p. m., one and one-half hours after death).—Body that of a large emaciated man. Panniculus adiposus very slight. On opening the abdomen (which was done first in this case), the intestines were found to be enormously distended. Save for some congestion in the ileum, they were normal throughout their whole extent. Peritoneum normal. One enlarged mesenteric gland. Pancreas normal.

Left Kidney: Scattered through the cortex and medulla were several (15 to 20) gray masses, slightly elevated above the surface of the kidney substance and of denser consistency. These areas were about three times the size of a pinhead and resembled gray tubercles. In some the center appeared to be undergoing caseous degeneration.

Right Kidney: Half the normal size. Color normal in central portion, yellowish-gray at each end. Capsule stripped off easily, showing at both poles a collection of waxy yellow matter raised above the surface of the kidney. The surrounding kidney tissue was pale. Section of the kidney along its convex border opened into two cavities, one at each end lined with caseous matter one-third of an inch in thickness and containing some detritus. These cavities opened into the pelvis of the kidney. The cavities were irregular in outline. The central portion of the kidney was nearly normal save for a few scattered tuberculous areas. The pelvis was not affected.

Spleen: A few areas, suggestive of miliary tubercles.

Liver: Normal.

Heart: Small, considerable fatty deposit. Heart muscle and valves normal. Pericardium normal.

Lungs: Unduly pale (countryman?), and both showing strong adhesions of moderate extent at the apices, but none elsewhere. Both apices showed somewhat pigmented depressed scars, 2 inches each, surrounded by emphysematous areas. On section apices showed old healed tuberculous scars with considerable fibrous tissue formation. Beginning outside these areas the whole of both lungs from apex to base was studded with millions of gray miliary tubercles. At the left base a few were going on to caseation. The lungs as a whole felt as though full of shot.

Brain: Not examined.

Anatomic Diagnosis: Old healed bilateral apical pulmonary tuberculosis; bipolar caseous tuberculosis of right kidney; beginning tuberculosis of left kidney; possible tuberculosis of spleen.

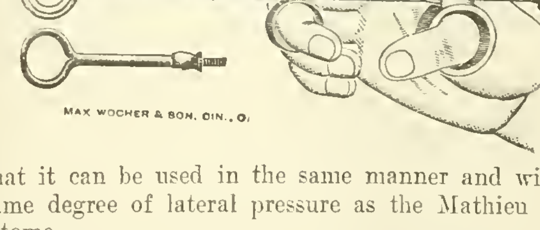
The chronologic order of events seems to have been as follows: An old healed apical tuberculosis; mobilization of the bacilli very probably because of violent physical effort when house-building; lodgment of bacilli in right kidney with establishment of renal tuberculosis and appearance of bladder symptoms referred to in history of case; spread of infection to left kidney; breaking down of areas in right kidney and discharge into a vein giving rise to general dissemination throughout the lungs and without doubt throughout the central nervous system as well.

33 Haywood street.

A NEW TONSIL-SNARE *

H. H. MARTIN, M.D.
SAVANNAH, GA.

I have been using with much satisfaction for the past two years the tonsil-snare shown in the accompanying illustration. I claim nothing original for this instrument, as it is simply a modification of the Krausmueller-Peters snare with the Vedder tip, but the modification is such and the instrument is so solidly constructed that it can be used in the same manner and with the same degree of lateral pressure as the Mathieu tonsillotome.



The thumb-ring is very broad to prevent injury to the thumb; there is also an extra thumb-hold in case both hands should be required for the écrasement. The instrument is used in exactly the same manner as the Mathieu tonsillotome, except that the tonsil, after being thoroughly freed from all adhesions, must first be seized with a long tenaculum hook which is entrusted to the assistant who makes gentle traction while the operator handles the snare and the tongue-depressor; in case both hands are required in the écrasement the tongue-depressor can be laid aside as soon as the base of the tonsil is well engaged by the wire loop.

The construction of this instrument is so simple that it can be easily taken apart for cleaning.

247 Bull Street.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

DETAILS IN TWO COMMONLY USED URINARY TESTS

F. H. CHURCH, A.M., M.D.

UTICA, N. Y.

Those using the Jaffé test for the identification of indican or the indoxyl sulphates in the urine frequently meet an equivocal result. Instead of the expected indigo-blue-colored chloroform solution, the solvent takes on a reddish or reddish-violet tint. This may be due either to indigo-red or, more commonly, to the presence of iodids in the urine. In the latter case, if the iodid is present in large amounts, it may be identified by adding starch water and acidifying directly. If the iodid is present only in small amounts, the chloroform should be removed with the pipette and placed in another test-tube. A little starch water is added and the material made alkaline by the addition of a little sodium or potassium hydroxid. The iodid of the alkali is formed and goes into solution in the starch water. Now on the addition of a little acid the iodin is set free with the characteristic starch-iodin reaction.

According to the customary directions in the text-books for the performance of the Gerhardt test for aceto-acetic acid, on the addition of the ferric chlorid solution to the urine a marked and obscuring precipitate of phosphates is usually obtained. This may be avoided and much time and temper saved by the chemist's simple expedient of adding the urine drop by drop to 10 or 15 c.c. of the ferric chlorid solution. In this way it is also possible to get a rough idea of the amount of the aceto-acetic acid present. If this is present in quantities it will give a strong Bordeaux red coloration with the addition of a very few drops of the urine; otherwise this coloration will not be present until 1 or 2 c.c. of the urine have been added.

Furthermore, it is possible to vary the strength of the reaction by varying the acidity of the ferric chlorid. After the reaction is performed and in the presence of a weak or indeterminate result, the addition of a very little dilute acid or alkali will have a tendency to accentuate the color. The material may then be halved and one tube boiled. The diacetic acid is, of course, broken up and the red reaction clears up just as it would on standing for twenty-four or forty-eight hours. These facts hold for the behavior of the diacetate of ethyl in aqueous solution as well as the acid or more probably its esters in the urine.

43 Gardner Building.

Professional Secrecy and Accident Insurance.—An article in the *Presse Médicale*, April 17, by a professor in the law department of the university at Montpellier and a member of the medical faculty, discusses this subject and suggests that in making out a certificate in regard to an accident, it should be handed when completed to the patient himself or his representatives. By not giving the certificate to any one but the victim of the accident, the physician is relieved from the risk of breach of the professional obligation to secrecy. The certificate should be read to the victim or his representatives and the technical terms explained to them so that they can not plead ignorance of their meaning later. Unless objective signs of a pathologic taint, not affecting the trauma, are discovered, it is unnecessary to certify to it, and the patient's statements in regard to a pathologic past for which no objective findings can be detected should be regarded as confidential. The discussion was suggested by a recent case in which a workman sued the physician for $400 damages because in his certificate he mentioned the presence of gonococcal urethritis. The case was non-suited finally.

TORSION OF PEDICLE OF AN OVARIAN CYSTOMA IN A YOUNG GIRL

M. BORNSTEIN, M.D.

MILWAUKEE, WIS.

A number of cases of ovarian cysts with twisted pedicles in girls below the age of fourteen are to be found in medical literature. Nevertheless, there is a common liability of overlooking this condition and in differentiating it from the more common inflammatory conditions in the lower abdomen. The following case should be of interest:

History.—B. S., female, aged 13; had never menstruated, but for three months past had complained of periodic attacks of pain, usually at the end of each month, starting in the right knee, appearing in the thigh and groin of the same side. Right hip-joint was normal. A physician diagnosed the first attack one of appendicitis but operation was refused. On the evening of March 31 she had a similar attack with a sharp pain in the right iliac region; developed fever and vomited. She was examined next morning, but her physician could find no local tenderness on palpation. The abdomen was distended and vomiting continued; the pulse became rapid and feeble.

Operation.—She was admitted to Mount Sinai Hospital on the evening of March 31 and operated on in the clinic of Dr. H. Greenberg. Abdomen was opened over the right iliac fossa. A local peritonitis was present. The appendix appeared normal but contained several dried-up concretions. Palpation disclosed a large cystic mass springing from the right side of the pelvis. It was found to be a large ovarian cyst, about the size of a man's head, with its pedicle completely twisted. The cyst was emptied and removed. Its contents were fluid and straw colored; the wall bluish and contained several yellowish, thickened masses. The appendix was removed and the abdomen closed.

During the same month Dr. Greenberg operated on a young woman (24 years old) for the same trouble. She was brought in with a diagnosis of acute appendicitis. Incision disclosed a blackened ovarian cyst with a completely twisted pedicle. Both patients have been discharged, cured.

733 Central Avenue.

Therapeutics

THE PREVENTION OF CONTAGION

Perhaps the most valuable service a physician renders is the prevention of the spread of contagious disease in the family of his patient, and the prevention of the spread of disease in the community. While Boards of Health assume the responsibility of preventing the spread of the contagion, it is only in exceptional instances that they can assume the whole responsibility, and if the physician who has charge of the patient is not efficient in his sanitary measures, the advice, orders and restrictions of the Board of Health become almost valueless. Therefore, it is not only the highest aim, but it is the duty of the attending physician to isolate the patient and to prevent the spread of the contagium that others shall not acquire the disease.

To prevent contagion properly, the most important prerequisite is that the physician shall understand the means by which the contagium of each particular disease is spread. Dr. A. H. Doty, Health Officer of the Port of New York, in the *American Journal of the Medical Sciences*, July, 1909, discusses this subject, and his long years of experience plus his efficiency as health officer makes his advice and his scientific conclusions most valuable.

Yellow fever is transmitted by the mosquito only, and clothing, bedding, and even the excretions of the patient do not carry the infection. Doty believes that the mosquito is the necessary medium for malarial infection, and does not believe that the emanations from swamps and stagnant water can produce it. Consequently these two diseases, and the former especially, may be prevented by any means that prevents mosquito bites, and an infected patient may be prevented from infecting mosquitoes by surrounding him with mosquito netting, or by keeping him in rooms which are mosquito proof, and such management will prevent the infection of others.

It has been proved that plague is not transmitted by fomites, but by the rat through the intermediary carrier of fleas.

Doty believes that there is no proof that clothing, rags, etc., constitute an active agency in the transmission of smallpox, typhus, measles and scarlet fever, and believes that in instances of the outbreak of these diseases that seem to show such means of the transmission of the contagium may always be, by careful investigation, traced to positive active sources of contagium. The clothing transmission theory of children's diseases especially is gradually being disproved by school inspection by medical men. This school inspection has shown that children who are apparently well are really carriers of the various children's diseases. This is especially true of diphtheria, and even of scarlet fever and measles. Children are often ill several days before they show sufficient symptoms to be either sent home from school or to be retained at home by their parents, and during this period of the early stage of the disease they are direct transmitters of the infection. It is also now a well-known fact that patients who have recovered from diphtheria may carry germs in their throats for weeks and even months, and are direct distributors of infection. Typhoid carriers are now known to exist perhaps in every community, and the contamination by their excretions of water and milk supplies has been proved beyond question.

Doty says that, however dirty, soiled or nasty rags, that come from all parts of the world, may be, he has yet to find conclusive or satisfactory evidence that either domestic or foreign rags act as a medium of infection.

He does not believe that paper money or coins, however filthy and old, are transmitters of infection. Otherwise bank clerks and treasury department clerks would be constantly subject to infection. As a matter of fact, they are subject no more to contagious diseases than are men and women in other employments. Careful investigations by W. W. Hilditch, of the Sheffield Laboratory of Bacteriology and Hygiene at Yale University, has caused him to come to the conclusion "that money constitutes an unimportant factor in the transmission of disease."

A senior student in the Yale Medical School two or three years ago also investigated bacteriologically a series of soiled public library books, and his investigations showed that the transmission of disease by this means must also be very rare.

Contagium must then emanate ordinarily from the patient himself and from his various secretions or excretions. Which one of these carries the greatest amount of the particular contagium depends on the particular disease. Certain it is that not sufficient hygienic or sanitary care is taken by the physician, nurse and family of the patient's secretions and excretions. Ordinary disinfection of stools and sputum with chlorid of lime, carbolic acid, corrosive sublimate and even formalin solutions have been proved not to kill specific bacteria in the central parts of the excreted masses. In other words, allowing sputum and feces to stand, even for several hours, in even strong antiseptic solutions, is an ineffectual method of killing the germs of infectious or transmissible diseases. To be effectual, discharges of all kinds must be thoroughly broken up into minute particles before antiseptic solutions can be guaranteed to kill all germs. The disinfection of privy vaults by the usual methods is simply futile, and deep privy vaults in villages and country towns where there are no sewerage facilities are dangerous to the community in proportion to the depth of the vault. The nearer to the surface of the ground and the more the air and sunlight reaches the deposits, the less the likelihood of drinking water contamination and of persistence of life in pathogenic germs.

All discharges from the mouth, throat and lungs should be received into paper sputum cups. Once or twice a day, oftener if necessary, the cup and the contents should be burned, the container washed in an antiseptic solution, and a new cup given the patient. Discharges from the nostrils should be into gauze napkins, and these should be placed in a paper bag at the head of the bed, and the bag and contents burned. Cleansing pieces of cloth or gauze for the mouth and nose should receive the same treatment, viz., be placed in paper bags and burned.

The urine should be passed into vessels that contain 1 to 500 bichlorid solution, or other strong antiseptic. The urine should then stand in this vessel, which should be covered, for an hour. It is then absolutely disinfected, and may be poured into the closet.

The bowel discharges should be into vessels that contain strong bichlorid of mercury solutions, or chlorid of lime solutions. The fecal clumps should then be thoroughly broken up with a stick, and boiling water, in large amount, poured into the mixture of feces and antiseptic. Enough of the boiling water should be used to raise the mixture almost to the boiling point. After an hour the contents of the receptacle may be considered aseptic and may be poured into the closet. This treatment of the feces should be followed out in typhoid fever, bowel infection, acute diarrhea, cholera, dysentery, acute tuberculosis, intestinal tuberculosis, and in intestinal cancer.

All cloths used in cleansing the body of the patient should be put into paper bags and burned. The clothing of the patient, the bed clothing and the clothing of the nurse should be boiled, if clothing is washable, and what is not washable should be baked.

The nurse should cleanse her hands with weak corrosive sublimate solutions every time that she has in any way come in contact with possible sources of contagion from the patient.

Ideally a sick-room should be flyless; in other words, a fly is an abomination, and the sick-room should be so screened that it will be impossible for flies to penetrate it, whatever the disease from which the patient is suffering. If a patient is out of doors for pneumonia, tuberculosis, or other fresh air treatment, the sputum receptacles should be so arranged or covered that it is impossible for flies to come into contact with the sputum.

The methods here advised being carefully carried out, there will be little necessity for the fumigation of rooms and houses with either sulphur or formaldehyd, which fumigations really carry with them a false sense of security and predispose to carelessness by the nurse and family in the cleanliness and hygiene of the patient and his surroundings.

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[*For other information see second page following reading matter*]

SATURDAY, OCTOBER 2, 1909

FREQUENCY OF HEALED TUBERCULOSIS OF THE MESENTERIC GLANDS

Warthin[1] has carefully examined a large number of lymph nodes, primarily in order to determine the anatomic type of the given gland, and one noteworthy demonstration is the constant occurrence in the mesenteric and retroperitoneal lymph nodes of adults of small hyalin masses. These hyalin masses stain red with acid dyes (eosin and fuchsin) and occur in any part of the node, more frequently, however, in the cortex; they are usually round with sharp borders, varying in size from minute microscopic points to small masses visible to the naked eye. In the larger masses a few nuclei are present; the smaller may be wholly devoid of nuclei, suggesting their being older, while the larger show various stages of a hyalin change in the connective tissue replacing some lesion. These hyalin masses are hyalin scars. In the center of larger masses small deposits of lime salts often occur and reactions for iron may also be obtained. The hyalin masses are easily distinguished from the diffuse hyalin change of the stroma of atrophic nodes and also from hyalin blood vessels.

The interpretation of these masses is an interesting question. Warthin believes that they can not be explained as the result of retrogressive changes associated with senile atrophy and fatty infiltration, because they occur at all periods of life, even in the young, and unassociated with other retrograde changes. Indeed, nodes with hyalin masses may be markedly hyperplastic. Warthin's interpretation is that the hyalin masses in the majority, if not in all of the cases, are tuberculous in nature. He bases this conclusion in part on the fact that in advanced pulmonary tuberculosis the abdominal lymph nodes constantly show nodules in all steps of transformation from the young and miliary epithelioid tubercles to small deeply staining hyalin masses, showing conclusively, it would seem, that hyalin transformations like those described can result from the healing of small tubercles. In other cases of small masses in the mesenteric nodes undergoing hyalin change, a minute caseous center or a single giant cell would serve to indicate the tuberculous nature of the process, even though the hyalin transformation was far advanced. In two cases active miliary tubercles associated with miliary hyalin masses in various stages of formation from tubercles were found, while tuberculosis was not discovered in any other part of the body, indicating that primary mesenteric tubercles may heal with formation of hyalin masses. In most of the cases in which hyalin masses were found, no active tubercles were discovered in the body. But even here the form and character of the hyalin mass indicated healed tubercle. According to Warthin, these hyalin masses are most common in the mesenteric, cervical and bronchial nodes, but are rare in the axillary nodes except in cases of tuberculosis of the breast. This distribution is also suggestive of their tuberculous nature. They are rare in the tonsils.

Assuming that the hyalin masses represent healed tubercles, and in view of the fact that they occur so constantly in the abdominal nodes, the conclusion seems forced on us that the tubercle bacilli enter the body through the intestine much more commonly than has been assumed. In cases of pulmonary tuberculosis the bacilli may gain entrance to the mesenteric nodes from the swallowed sputum carried down into the intestine, but in the absence of pulmonary or other foci of tuberculosis the bacilli must have been introduced either in dust swallowed with saliva or in food.

If the hyalin masses actually represent healed tuberculous lesions, at least in the majority of cases, then, it would seem certain that all adults receive tubercle bacilli through the intestine; and, if this be accepted, then it would be reasonable to attribute pulmonary tuberculosis, at least in many cases, to enterogenous origin, because if bacilli so commonly enter the mesenteric and retroperitoneal lymph nodes they may readily pass on through the thoracic duct to the lungs and bronchial nodes.

TRANSMISSION OF SLEEPING-SICKNESS

Probably the two most important problems now confronting those who are investigating sleeping-sickness are: (1) the method by which tsetse flies transmit sleeping sickness and other trypanosomatic infections; (2) does the trypanosome undergo a complicated (probably sexual) development in the fly?

For some time the belief has been prevalent that transmission is of the simple mechanical type, i. e., that the fly draws infected blood into its proboscis and stomach and later, when feeding on a second animal, injects some of the contaminated blood, thus transferring the disease. This conclusion has been based chiefly on the fact that the flies seemed to lose the power of transmission soon after feeding on an infected animal.

A number of experiments, however, seemed to cast doubt on the mechanical method as being the sole process, and the question has arisen as to whether there may be two methods—the first the mechanical, operating soon after the feed on an infected animal, and the second a "biologic" method, coming into action later and depending possibly on a sexual evolution of the parasite in the fly, as happens in relation to the mosquito and malaria. Trypanosomes disappear from the alimentary tract of the fly so soon after its feed on infected blood that Bruce considered it virtually impossible that mechanical transmission alone could explain the situation.

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[1] Sixth International Congress of Tuberculosis.

Recent experiments of Kleine, which have been confirmed by Bruce, contradict some of the previous results.[1] In Kleine's experiments, the flies, *Glossina palpales*, were caught fresh from Nature, fed once on monkeys *(Cercopithecus rufoviridis)* which were infected with sleeping sickness (*Trypanosoma gambiense*) and then tested on fresh monkeys every second day. Large numbers of flies were used; thus 336 fed on the first monkey and 225 on the last. All the monkeys became infected, the last one twenty-two days after the beginning of the experiment. In another experiment by Taute, which is reported by Kleine, infection was produced on each of the first three days after feeding. From the fourth to the tenth day no infection resulted. The flies then became infective again, and produced disease from the eleventh to the forty-fourth day.

From these experiments it is concluded that transmission is not purely mechanical, but that flies are true hosts for the trypanosomes. From other experiments with flies, hatched in the laboratory, Kleine concludes that the period of development, or incubation period, in the fly is about twenty days, or a little less. These are important experiments and seem destined to be of great significance for the campaign against sleeping sickness.

Much of the experimental work with tsetse flies and trypanosomes has suffered from lack of sufficient control. Too often in dealing with flies caught from Nature, the possibility of some of them being naturally infected (an event known to occur) has been neglected. Also, as Novy has emphasized, and as Minchin has virtually proved, tsetse flies may harbor, naturally, nonpathogenic as well as pathogenic trypanosomes, a fact which impairs the value of a great deal of the microscopic work which has been done. As a means of avoiding the accident of dealing with naturally infected flies, the custom of using flies which have been bred and raised in the laboratory is being resorted to. Here, again, the possibility of the hereditary transmission of trypanosomes may be a confusing one, and one which is so fundamental that it demands early determination. This is appreciated by many workers in the field.

For unimpeachable work along these lines it would seem to be an unqualified necessity to deal with pure cultures of the parasites, as Novy has suggested, with flies which are known to be absolutely free from trypanosomes, and with experiment animals which have never been exposed to trypanosomatic infection. The pertinence of these points is doubtless realized by those who are engaged in the practical study of the problems. The difficulties are great, but, in spite of this, the progress which has been made is of no small magnitude.

A STANDARD CURRICULUM FOR MEDICAL COLLEGES

It is extremely doubtful whether the medical profession as a body really appreciates the far-reaching influence of the splendid work that is being done by the Council on Medical Education of the American Medical Association. The collection of data regarding medical colleges, students and graduates, begun by THE JOURNAL nine years ago, and of data giving the results of state licensing boards' examinations, begun by THE JOURNAL six years ago, revealed the great need of such a permanent committee as the Council on Medical Education and, in fact, furnished a foundation for the council's work. By the actual inspection of medical colleges, by annual conferences with members of state licensing boards and in other ways, the council has extensively developed these statistics, obtained an enormous amount of other valuable educational data and has used them in a most practical and effective manner. Reports of much of the work of the council are published regularly in THE JOURNAL, but from lack of space much more, although none the less valuable, can receive only brief mention.

Probably no work which the council has done is more important than the preparation of a standard curriculum for medical colleges, the report of which is referred to on page 1115. In the preparation of this standard, everything possible was done to insure that it would represent the harmonized ideas, if not the ideals, of as large a number as possible of the leading medical educators, who were selected from all sections of the country. The subjects of the medical curriculum were arranged in ten groups, to be taken up by subcommittees for which ten chairmen were carefully selected. These chairmen were asked to name fifteen leading educators in their particular departments, and from these lists nine other members for each subcommittee were secured. A suggestive outline of the points to be considered was prepared; but each subcommittee was left free to take up the study of the problem relating to its particular subject in its own way, and, after careful study and deliberation, to submit a report to the council, making specific recommendations regarding that particular subject. The work was entered into with an energy and enthusiasm that were astonishing, numerous meetings of committees were held and a large amount of systematic correspondence was carried on, not only with those comprising the regular subcommittees, but also with numerous collaborators and corresponding members. More than an entire year of close application was spent before the reports were finally completed. In order that the work of the subcommittees might not be too much at variance, a preliminary meeting of the ten chairmen was held and, just before the final reports were prepared, these chairmen met again and determined on the curriculum which was to be recommended. The standard presented, therefore, represents the work not only of the one hundred educators who made up the ten subcommittees, but also of many others who acted as collaborators and corresponding members. It needs but a glance at the list published in the Department of Medical Education to show the high standing and reputation of those who cooperated in the preparation of the curriculum and the breadth of the field covered.

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[1] These experiments are described in the *Bulletin of the Sleeping-Sickness Bureau*, No. 7, 1909. Prof. Kleine's article "*Weitere wissenschaftliche Beobachtungen über die Entwicklung von Trypanosomen in Glossinen*," appeared in the Deutsch. med. Wchnschr., May 27, 1909, pp. 921-925. Bruce's announcement appeared in a letter to the Royal Society.

Since there has begun an extensive reconstruction of medical teaching in this country, as illustrated by the numerous mergers of colleges, and the rapid movement toward higher standards of preliminary education, the presentation of this standard curriculum is all the more important and timely. It will bring about not only a greater uniformity of curricula in our medical colleges, but will result in each branch being allowed an amount of time proportional to its value and importance. It will also tend to prevent the overcrowding of the curricula with non-essential subjects and details. Although absolute uniformity of curricula for all colleges is not to be recommended, comparative uniformity is highly desirable in the interests both of medical education and of interstate reciprocity in the licensing of physicians.

The standard recommended reflects great credit on the Council on Medical Education as well as on the members of the various committees who have contributed so much valuable time and careful thought to its preparation. The report is well worth a careful study by those interested in modern scientific medical education.

PELLAGRA

Although it is hardly more than two years since the presence of pellagra in the southern states was recognized, it has been found that the disease is a widespread one and new cases and localities of its occurrence are being constantly reported. It is, moreover, not confined to any one section of the country and is being discovered in such widely separated localities as Massachusetts and Arkansas and possibly even further west. It has appeared in at least three state hospitals for the insane in Illinois, and in one or two of them in such numbers as to assume the proportions of a small epidemic. It has not been reported as yet from any large number of northern localities and its distribution seems somewhat local. Probably, as in the case of some other new disorders to which attention has been suddenly called, the apparent sudden prevalence is due, partly at least, to faults of previous observation. Thus Dr. Lavinder, whose report has been noticed in The Journal,[1] mentions the fact that the medical staff could recall that cases had been in the institution years before the present outbreak in the Illinois State Hospital at Bartonville, and very probably this is the case elsewhere to some extent. The late accounts, however, would indicate a much greater prevalence than ever before, and it is hardly probable that such local outbreaks of the disease could have occurred in any locality without being observed and properly diagnosed. Asylum physicians have been acquainted with the disease, at least in their reading, and some have been on the lookout for it without being able to identify it in the patients under their care. At most, the cases that have occurred must have been scattered and only sporadic ones.

It may, therefore, be considered a new disease in the United States, and its occasional occurrence heretofore may perhaps be explainable by such idiosyncrasies as are reported in Dr. Hewitt's patient and his relatives in his communication published in this number on "Pellagra in Virginia." While predisposition has been recognized in the etiology, an idiosyncrasy to corn products, such as that reported by Dr. Hewitt, is novel and suggestive. Besides possibly accounting for sporadic cases it would indicate the possibility of some toxic element in the grain that may not be ordinarily effective in producing the disease unless its virulence is greatly enhanced from some cause or other, or the individual is specially susceptible. Case histories should be carefully studied as to this point, and the physician who runs across a case in his practice should give careful attention to the family history as well as the personal antecedents of the patient. The local distribution should be thoroughly traced and its occurrence in the immigrant population of the asylums should also be carefully studied. There is no evidence, according to Dr. Lavinder, that the disorder had any connection with the feeding of the patients in the Bartonville hospital. It must have originated elsewhere and before their admission. He says that he is unable to assign any satisfactory local cause for the extent of the disease in the Bartonville epidemic, and that the housing, feeding and care of the patients in the institution are above criticism. The facts that practically all of the cases of pellagra in this country have been found in institutions for the insane, and that they present the severe type of the disease usually seen in a late stage, suggest that these cases are old ones which have gravitated to the asylums because of the dementia characteristic of the disease. In at least one case of pellagra in an advanced stage, this had presumably occurred, for the patient had within six months arrived in this country from a pellagrous district of Europe.

We have, therefore, a new public health problem which, though extensively studied in Europe for many years, cannot be regarded as definitely solved. The observation of the disease in its beginnings will have to be made largely by the general practitioner, and it seems probable that there will be considerable opportunity for the profession to study the disease in this country. While pellagra is insidious in its course, the symptom-complex is fairly characteristic even in its early stage. This complex consists of gastrointestinal disturbances with "bald" red tongue, erythema of the exposed extremities and center of cheeks, spinal irritation, with probable pain in back and disturbance of the knee-jerks, and mental depression of varying degree. The skin symptoms, in themselves unimportant, give a very significant clue to the diagnosis, for, in the first place, there is no other disease with cutaneous lesions presenting a closely similar group of constitutional symptoms, and in the second place the cutaneous lesions themselves, after they have become well developed, are unlike those of any other cutaneous disease. The diagnosis must be made early in the disease if the patients are to be saved. Practitioners should be alive, therefore, to the possibility of its occurrence. In doubtful early cases it would seem to be the part of wisdom to make a provisional diagnosis of pellagra, for nothing will be lost by removing corn products from the diet and giving the patient the hygienic treatment indicated.

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[1] The notice of Dr. Lavinder's report which should have appeared in the department of General News was through an oversight published as editorial matter in The Journal, Sept. 25, 1909.

Medical News

ARKANSAS

National Guard Notes.—Major L. R. Ellis, Hot Springs M. C., A. N. G., announces that arrangements are being made to increase the membership of the hospital corps of the guard to 36, the number allowed under the new law.

Personal.—Dr. Avery Moore, formerly state auditor, has resigned as a member of the state tax commission.——Dr. J. E. Quidor, Little Rock, has been appointed a member of the Pulaski County Board of Health, vice W. H. Abington, resigned.

Society Organized.—Dallas County Medical Society was organized at Fordyce, September 9, and the following officers were elected: Dr. Claiborne J. March, Fordyce, president; Dr. O. R. Kelley, vice-president; Dr. Thomas L. Rives, Fordyce, secretary; and Dr. William L. Worthington, Fordyce, treasurer.

Medical Schools Open.—The Medical Department of the University of Arkansas, Little Rock, opened September 30.—— The College of Physicians and Surgeons, Little Rock, opened October 1. Drs. Luther D. Reagan, Little Rock, and George H. Martindale, Hope, have been added to the faculty of the college.

Dropped from Register.—Dr. George A. Hinton, Hot Springs, is said to have been dropped from the list of registered physicians at that place, August 6, by the superintendent of the government reservation, acting under instructions from the Department of the Interior. He will be denied the privilege of prescribing the waters until his name is restored to the list.

New Medical Practice Act in Effect.—The new law regulating the practice of medicine went into effect August 6. Under the provisions of this law the number of state medical board meetings is cut down to two a year; and the revocation of licenses for criminal and persistent inebriety, the practice of criminal abortion, either principal or abettor; for the conviction of crime involving moral turpitude; for the public advertising of special ability to treat or cure chronic or incurable diseases; for representation to a board of any license, certificate or diploma, illegally or fraudulently obtained, or the practice of fraud or deception in passing an examination, is authorized. The board is also authorized to make agreements of reciprocity with the examining boards of other states.

CALIFORNIA

Nurse Dead in Hospital Fire.—St. Caroline's Hospital, Redding, a two-story frame building, was destroyed by fire September 19, with a loss of $18,000. The seven patients were removed in safety, but one nurse was burned to death.

Hospital News.—The new Methodist Hospital, Los Angeles, with accommodation for twenty patients, was opened September 8.——The contract has been let for the construction of a new Childrens' Hospital, San Francisco, to cost about $200,000.

Tuberculosis Stamp.—The California Association for the Study and Prevention of Tuberculosis has issued a special stamp, designed to serve the same purpose as the Red Cross stamp that was sold throughout the country by millions last year.

Sub-Society to Be Formed.—On September 17, Kenneth A. Millican, president of the Alameda County Antituberculosis Society, and Dr. William Von Adelung, first vice-president of the society, went to Alameda and formed a sub-society in that city which will be under the direction of Dr. Weston O. Smith.

News of the Day in Hospitals.—The California Hospital, Los Angeles, has introduced permanently the dissemination of the news from the daily press to the patients of the institution. The contents of the newspapers of the day are communicated to the nurses at luncheon and imparted by them to the patients later in the day

Guests of Faculty.—The annual banquet of the students of the graduating class of the Oakland College of Medicine and Surgery, by the faculty of the college, was held September 14. Dr. Hayward G. Thomas, president of the college, acted as toastmaster, and Dr. Creighton Wellman, professor of tropical medicine, gave an address on "Tropical Diseases."

Personal.—Sir Augustus Waller, director of the physiologic laboratory of the University of London, delivered a series of five lectures at the University of California, Berkeley, beginning September 20, on "Physiology, the Servant of Medicine."——Dr. Newell H. Bullock has been appointed medical inspector of schools of San Jose.——Dr. Claiborne W. Evans, Modesto, has returned from Europe.

CONNECTICUT

Unlicensed Practitioner Fined.—George A. Wilbur, alias Albert Cole, arrested in New Haven on the charge of practicing medicine without a license, is said to have been found guilty and fined $100 and costs.

Personal.—Dr. William S. Hulbert, Winsted, medical examiner, had his left eye enucleated August 19.——Dr. William F. Wood, Danbury, is said to have been adjudged insane and committed to the State Hospital, Middletown.

Tuberculosis Commission Organized.—The State Tuberculosis Commission, at its meeting for organization August 26, elected Dr. John P. C. Foster, New Haven, chairman, and George I. Allen, Middletown, secretary. The commission applied for rooms for a permanent office in the capitol.

State Board of Health Organized.—At the annual meeting of the State Board of Health, the following officers and committees were appointed: President, Dr. Edward K. Root, Hartford; secretary-treasurer, Dr. Joseph H. Townsend, New Haven; director of laboratory and bacteriologist, Dr. Herbert W. Conn; member of board of examiners and embalmers and registrar of physicians for State Board of Health, Dr. Joseph H. Townsend.

Tuberculosis Legislation.—The state legislature has enacted three important antituberculosis laws—the first prohibiting spitting in public places; the second, requiring physicians to report to the local health officer all cases of tuberculosis coming under their care, and giving such instructions as will provide for the safety of persons occupying the same house or apartment, and the third appointing a board of directors to establish county homes for the care and treatment of those suffering from tuberculosis. It is proposed to establish three of these homes. An appropriation of $175,000 has been made for that purpose, with $75,000 additional for maintenance. This appropriation with $50,000 given to aid the Gaylord Farm Sanatorium, Wallingford, Wildwood Sanatorium, Hartford, and Undercliff Sanatorium, Meriden, make a total of $300,000 appropriated by the state for tuberculosis work during the next two years.

DISTRICT OF COLUMBIA

Conflicting Opinions.—The name of John R. Early, the supposed leper, who has been receiving a pension of $72 a month because of total disability, is said to have been stricken from the roll of the pension bureau, as he has been found entirely free from the disease. Dr. G. Armauer Hansen announced September 24 that he had found the bacillus of leprosy in a specimen of Early's skin sent to him for examination.

Personal.—Dr. A. H. Sutherland has been appointed assistant in psychology at the Government Hospital for the Insane, Washington.——Major Frederick S. Russell, U. S. A., professor of pathology in the Army Medical School, and curator of the Army Medical Museum, has been selected to succeed Dr. Joseph J. Kinyoun as professor of pathology and bacteriology in George Washington University.——Dr. William P. Wood of the Episcopal Eye, Ear and Throat Hospital, by presence of mind prevented a fire panic in the institution September 8, but sustained severe burns of the hand in extinguishing the fire.

ILLINOIS

Personal.—Dr. Albert J. Roberts, Ottawa, has been reelected physician of LaSalle county.——Dr. Emery W. Goembel, Rockford, has been appointed physician of Winnebago county.——Dr. Walter S. Eshbaugh, Marengo, has been appointed deputy coroner of McHenry county.

Chicago

Personal.—Drs. G. F. Fiske, L. L. McArthur, A. D. Bevan, John B. Murphy and G. Paull Marquis have returned from Europe.——Dr. William W. Meloy was operated on for appendicitis at the Passavant Hospital, September 19.

Municipal Laboratory Moves.—The municipal laboratory has been moved from the corner of Franklin and Madison to 218 Washington street, where it has leased 2,000 more square feet of space at an annual reduction of $2,000 in rent.

Buys Postgraduate School.—Financial control of the Post-Graduate Medical School and Hospital of Chicago, which has been held by Dr. Franklin H. Martin since its organization in 1888, has been sold to Dr. William L. Baum, a member of the board of directors for fifteen years, and for several years treasurer of the institution. Dr. Emil Ries has been elected secretary, vice Dr. Franklin H. Martin, resigned, and Dr. Otto J. Stein a director, vice Dr. Frederick A. Besley, resigned.

KANSAS

Personal.—Dr. Clifford C. Nesselrode has been appointed city chemist and bacteriologist of Kansas City.——Dr. Elmore S. Pettyjohn, Topeka, has been elected a vice-president of the medical section of the National Fraternal Congress.

Bakeries Must Be Sanitary.—Cardboard posters have been sent out by the secretary of the State Board of Health for distribution to the bakeries, containing rules governing the sanitary condition of bakeries, which will be strictly enforced.

State Tuberculosis Exhibit.—The Kansas Tuberculosis Exhibit, which has been on exhibition in various towns of the state for about six weeks, is attracting a great deal of attention and a schedule has been arranged for to the first week in January.

MARYLAND

Baltimore

Acquitted.—Dr. Louis M. Harrison, charged with passing bogus checks, and confined in jail since last May, has been acquitted in the criminal court.

Spratling May Resign.—It is rumored that Dr. William P. Spratling, professor of physiology and nervous diseases in the College of Physicians and Surgeons, is about to resign, and will open a sanatorium at Summit, N. J.

Mayo to Lecture.—Dr. Charles H. Mayo, Rochester, Minn., will deliver two lectures at the University of Maryland, November 9 and 10, on "Diseases of the Thyroid Gland," and on academic day he will receive from the university the honorary degree of LL.D.

Personal.—Dr. Frank J. Sladen sailed for Europe September 22.——Mrs. Fabian Franklin, Johns Hopkins University, has returned from attendance at the Congress of Psychology, Geneva.——The mayor has nominated Dr. William H. Welch as a member of the new charter commission.——Dr. F. E. Vest has sailed for Europe.

Harriet Lane Home.—The Harriet Lane Home for Invalid Children about to be constructed at Johns Hopkins Hospital is to cost about $200,000. The buildings will conform in construction with the rest of the hospital group. The main building will be 133x65 feet, but the entire space covered by the building and observation wards will be 133x160 feet. The building will be four stories high, with a modern roof hospital, and 102 beds, all of which will have access to open or semi-open porches.

Medical College Changes.—The annual session of the Baltimore Medical College opened September 20, with an address by Dr. Ridgely B. Warfield. The following faculty changes were announced: Dr. Alexander D. McConachie has been elected professor of diseases of the ear, nose and throat; Dr. William S. Love, professor of therapeutics; Dr. Irvin Ebaugh, professor of materia medica; Drs. Josiah S. Bowen and Frank J. Powers, associate professors of diseases of the ear, nose and throat; and Dr. A. C. Beethan, dispensary physician.

MASSACHUSETTS

Bequest.—By the will of Lucius Clapp, Randolph, $5,000 is devised to the Massachusetts General Hospital, Boston, for the establishment of a permanent free bed.——By the will of the late Patrick Cassidy, a hackman of Boston, $100 is bequeathed to Carney Hospital.

Smallpox on Liner.—The steamship *Romanic*, which arrived from the Mediterranean September 9, was held at quarantine five hours on account of two persons with smallpox being among the steerage passengers. The 1,117 steerage passengers on the boat were revaccinated.

Unregistered Practitioner Fined.—Richard H. Farrell, Everett, charged with practicing medicine without having registered, is said to have been fined $100 in the Malden court, September 10. The defendant claimed to hold an A.B. from Bellevue, and a medical degree from Boston University, but was unable to pass the state examination in March, May and August, 1909.

Infant Hygiene.—At a meeting of Boston physicians August 26, presided over by Dr. Walter B. Cannon, secretary of the committee on milk and baby hygiene, an appeal was made for new milk stations at Grove Hall and Roxbury Crossing. The following officers were elected: President, Dr. Charles W. Townsend; vice-presidents, Drs. John L. Morse, Ralph C. Larrabee and Rocco Brindisi; secretary, Dr. John M. Connolly, and treasurer and director, Walter E. Kruesi.

Floating Hospital Work.—During the ten weeks from June 30 to September 7, in which the Boston Floating Hospital was in operation, 17,665 days' service were enjoyed by babies and mothers, divided as follows: Seven thousand one hundred and twelve days' service for poor patients, day and night; 4,848 days' service for day patients; 831 days' service for other children, and 4,847 days' service for mothers.——The sixteenth season of the hospital closed September 15, with the customary cruise in the harbor.——Dr. John Warren Bell, for two years resident physician, has resigned and will return to private practice in Brooklyn.——During the season 144 children died on the boat.

MISSISSIPPI

A Deadly Trio.—The Mississippi State Board of Health has issued an illustrated poem entitled, "Three Dangerous Toughs," namely, liquor, the house-fly, and the anopheles.

Improvements at University Hospital.—In addition to the original contract on the University of Mississippi Medical Building and Hospital, Vicksburg, a contract is to be let connecting the two buildings and making such improvements and interior work as may be deemed necessary before the new building is completed.

Cocain Prescriber Fined.—Dan W. Sherrod, a colored physician and druggist of Meridian, is said recently to have been convicted and fined for illegal sale of cocain. He claims that a favorite prescription of his was cocain hydrochlorate and acetanilid, equal parts, used for ulcers and wounds, but witnesses for the state, negroes arrested in a cocain debauch, swore that they regularly obtained the drug at Sherrod's drug store.——A druggist named Thorne of the same city is said to have been convicted at the same time on a similar charge and fined the same amount—$50 and court costs.

NEBRASKA

Change in Management.—Dr. Charles L. Egbert, Glenville, has assumed management of the hospital in the Madgett Flats, Hastings, which will hereafter be known as the Egbert Hospital and Sanitarium. Dr. John W. Greenman will be in charge of the surgical department.

Personal.—Dr. Robert Henry Wolcott, Lincoln, has been appointed acting dean of the Medical College of the University of Nebraska.——Dr. F. J. Peter, Omaha, has returned from Europe.——Dr. N. T. Johnston has been appointed a member of the board of health of Upland.

Presentation to Dr. Ward.—At a luncheon given in Omaha on September 3, in honor of Dr. Henry B. Ward, formerly dean of the Medical Department of the University of Nebraska, Lincoln, who has accepted the chair of zoology in the University of Illinois, Champaign, his colleagues presented him with a gold watch.

Double Red Cross Camp.—The State Board of Health has designated Tabitha Hospital, Lincoln, as a place where counties may send indigent curable consumptives. The hospital will be known as "The Double Red Cross Consumptive Camp." It is situated in the park just north of Tabitha Hospital, and is under the medical direction of Dr. Julius H. Tyndale.

NEW YORK

The Antituberculosis Conflict.—A gift of $10,000 has been made to the fund for the tuberculosis pavilion to be erected at Albany Hospital by an anonymous benefactor. The fund now amounts to $21,000.——The Board of Health of Poughkeepsie has decided to use the Eastman house for tuberculosis patients when the weather becomes too cold to allow them to remain at Camp Comfort.——The Orleans county branch of the State Association for the Prevention of Tuberculosis has been organized with Dr. Ralph Earle Brodie, Albion, secretary.—— Dr. Zina Gifford Truesdell, Warsaw, has been elected first physician of the Wyoming County Antituberculosis Society. ——The state health commissioner has approved the application of the Workingmen's Circle, a fraternal organization, to establish a tuberculosis sanatorium for its members at Liberty.

New York City

New Hospital for Long Island.—The Sisters of the Poor of St. Francis will erect a hospital to cost about $500,000 at Woodhaven, Queen's Borough, to be known as St. Anthony's Hospital.

To and From Europe.—Dr. and Mrs. John Elmer Weeks, New York City; Dr. John Osborn Polak, Brooklyn, and Dr. Gustav G. Fischlowitz, New York City, have returned from Europe.——Dr. and Mrs. George W. Jacoby have sailed for Europe.

School Acquires Property.—The trustees of the New York Policlinic Medical School and Hospital have taken title to properties at 339-349 West Fiftieth street and 346 West Fifty-first street, on which they expect to erect a hospital in the near future.

Increase in Typhoid Fever.—For the week ended August 7, there were 72 cases of typhoid fever reported; for the week ended August 14, 71; for the week ended August 21, 74; for the week ended August 28, 158; for the week ended September 4, 181; for the week ended September 11, 285; and for the week ended September 18, 276.

People's Hospital.—Plans have been filed for remodeling an old-fashioned four-story and basement dwelling on Second avenue into a home for the proposed People's Hospital; the necessary improvements will cost about $15,000 and will provide for a dormitory, wards and private rooms, operating and sterilizing rooms and nurses' room.

Bequests. Emma A. Tillotson has given in bequests $175,000 to the Woman's Medical College, the Home for Old Men and Aged Couples, St. Luke's Hospital, Bernard College, the New York Society for the Ruptured and Crippled, the Home for Incurables, the Metropolitan Museum of Art, the New York Institute for the Blind, and the American Society for the Prevention of Cruelty to Animals.

Inquiry Into Typhoid.—More than 1,000 cases of typhoid fever have been reported to the Board of Health during the past ten weeks. The distribution of the cases is such that they cannot well be attributed to returning vacationists, and it seems quite probable that the Croton water may be to blame. Thus far the Board of Health cannot ascertain that there is any more typhoid fever in the watershed than usual. It is supposed by some that the heavy rainfall in August after a long drouth was instrumental in washing infected matter into the streams that supply the city.

The Hudson-Fulton Celebration.—Medical emergency stations are being operated during the Hudson-Fulton celebration under the direction of the Committee on Public Health and Convenience, and are divided into two classes: Field hospitals, open day and night, of which there are twenty-three, and first-aid stations, located every few blocks along the route of the land parade and along the Manhattan shore of the Hudson River. These hospitals and stations are furnished, equipped and provided with doctors and nurses by the New York county branch of the Red Cross Society and by the National Volunteer Emergency Service. To supplement the regular city ambulance service, a number of extra ambulances have been secured and these are utilized to transfer serious cases to the city hospitals. Fast ambulance launches patrol the river in the vicinity of the warship anchorage and accompany the naval parade. Ambulance stations are located at several piers to facilitate the transfer of patients from the launches to the hospitals. The hospitals of the city have made preparations to increase their normal capacity to a considerable extent during the celebration. The services rendered at any of the Public Health and Convenience Committee's stations are entirely free of charge to the public. Dr. Eugene H. Porter is chairman of the Public Health and Convenience Committee.

Buffalo

Tag Day.—The yield of "Tag Day," September 18, was more than $9,100, or $1,100 more than the estimate. This amount is to be devoted to the work of the District Nursing Association.

Will Continue to Use Hospital.—The Board of Health has decided to continue using the temporary hospital for scarlet fever which was condemned by the health commissioner, and the commissioner of public works is to decide what improvements are necessary to make the building habitable until a permanent building may be built

NEW JERSEY

Donation to Hospital.—Mrs. James M. Jarvis, Montclair, has donated $6,000 to the Mountainside Hospital in that city.

Personal.—Dr. William Todd, Tom's River, has been selected as medical inspector of the Dover township schools.——Dr. Katherine Porter has been appointed medical inspector of the public schools of Orange.

Tuberculosis Commission Named.—In accordance with the law passed by the last legislature, creating a State Tuberculosis Commission, the governor, on September 17, named as members of that body, Right Rev. James A. McFall, Bishop of Trenton; William G. Cirhauffler, Lakewood; Sidney G. M. Colgate, Orange; William C. Smallwood, Newark, and Mrs. William T. Dayton, Trenton.

August Deaths.—During August, there were 3,255 deaths reported to the Bureau of Vital Statistics, 1,040 of which were children under 1 year of age; 291 of children between 1 year and 5 years, and 742 of individuals 60 years old or over. Chief among death causes were infantile diarrhea, 656; diseases of the nervous system, 355; tuberculosis, 325; diseases of the circulatory system, 271; nephritis, 179; cancer, 164; pneumonia, 114; whooping cough, 31; typhoid fever, 29; scarlet fever, 25; diphtheria, 21, and measles, 11.

NEW MEXICO

State Railway Surgeons Meet.—At the annual meeting of the New Mexico Railway Surgeons Association, held in Roswell, September 17, Dr. John W. Colbert, Albuquerque, was elected president; Dr. George K. Angle, Silver City, vice-president; and Dr. Frank E. Tull, Albuquerque, secretary-treasurer.

State Medical Society Meeting.—At the twenty-eighth annual meeting of the New Mexico Medical Society, held in Roswell, September 15 and 16, the following officers were elected: President, Dr. John W. Elder, Albuquerque; vice-presidents, Drs. Francis T. B. Best, East Las Vegas; Robert L. Bradley, Roswell, and Leroy S. Peters, Silver City; secretary, Dr. George S. McLandress, Albuquerque; treasurer, Dr. Abraham H. Faith, Clovis; editor of the *New Mexico Medical Journal*, Dr. Francis T. B. Best, East Las Vegas; associate editors, Drs. John W. Colbert, Albuquerque; George S. McLandress, Albuquerque, and Leroy S. Peters, Silver City; and council, Drs. George W. Harrison, Albuquerque; Charles M. Yater, Roswell, and Samuel D. Swope, Deming. The next annual meeting is to be held at Albuquerque.

PENNSYLVANIA

Jewish Sanatorium Opens.—The Philadelphia Jewish Sanatoruim for Consumptives, Eaglesville, was formally opened September 22, when 10 patients were admitted. By September 25 50 patients will be cared for. The cost of the sanitarium was $40,000.

To Fight Tuberculosis.—Tuberculosis day was observed throughout Berks county, September 20, when war against the disease was begun by the Tuberculosis Aid Society. Appeals were sent broadcast throughout the county and in Reading $20,000 was raised. It is expected that the surrounding country will raise $5,000 or more. The money will be devoted to the establishment of a sanatorium for the treatment of tuberculosis.

State Society's New Flag.—At the annual meeting of the State Medical Society in Philadelphia during the present week, an official flag was unfurled at its place of meeting. This is the first official emblem in the society's history. The new banner is five feet wide and eight feet long and was the gift of the physicians of Philadelphia. The emblem has a field of the state's color, dark blue, and the state's seal in the center surrounded by the name of the society in white letters.

Enjoined from Practice.—In the case of Dr. John A. Boyd, Pittsburg, against Dr. J. O. Reed, in which the plaintiff claimed that he had bought the practice of the defendant in 1905, the latter agreeing not to engage in practice within two miles of the plaintiff's office, the judge is said to have awarded $600 damages to the plaintiff, and to have enjoined the defendant from practicing medicine in the prohibited locality.

Epileptic Hospital Investigation.—Tales of alleged brutality, mismanagement and misrule on the part of Dr. Henry M. Weeks, superintendent, and other officers and attendants of the new Pennsylvania Hospital for Epileptics and Feebleminded, Spring City, were placed before a special committee of the board of trustees at a meeting of investigation held September 8. None of the testimony heard was made public, but it was reported that some evidence had developed to support the charges. The institution was opened one year ago and contains at present about 200 inmates, principally boys. The investigating committee is composed of Dr. George R. R. Umstad, Phoenixville; Henry W. Comfort, Falsington, and Dr. Thomas C. Detweiler, Lancaster.

Philadelphia

Released.—Dr. Joseph R. Parke, who was arrested and charged with illegally using the mails, was released of the charge recently by the Federal Grand Jury.

Personal.—Drs. James M. Anders, Alfred Stengel, Eugene L. Vansant, John H. Musser, Francis X. Dercum, George E. deSchweinitz and Donnel Hughes have returned from Europe.——Dr. J. Chalmers DaCosta is confined to the house with an affection of the eyes.——Dr. Joseph F. Harold is to fill the chair of chemistry in the Medico-Chirurgical College during the absence of Dr. George Meeker in Europe.

Typhoid's Decrease.—The report of the Bureau of Health for the first three weeks of September, concerning typhoid fever, shows that 158 cases of that disease have been reported. This is 70 per cent. less than the average for the first three weeks of September for the last three years. The mortality from typhoid fever was 248 for the year up to September 1. This is 47 per cent. less than the average mortality for the last five years.

Faculty Changes.—The following changes have been made in the faculty of the Medico-Chirurgical College: Dr. Edward B. Gleason, professor of otology; Dr. Philip Fischelis, associate professor of histology; Dr. Herbert J. Smith, assistant professor of materia medica and therapeutics, and Dr. J. Hamilton Small, assistant professor of bacteriology. Biology is to be made a part of the medical course the first year instead of being required preliminary to the course. This branch will be conducted by Charles H. Shaw, Ph.D., with special reference to the science of medicine.

Course in Public Health.—Courses in public health are being given at the University of Pennsylvania for the first time as a separate series leading to a diploma in "Public Health." The authorities of the university, recognizing the increasing demand for the services of trained men as public health officers, offer these new courses of instruction, especially designed for practical sanitation and include courses on sanitary engineering, public water supplies, theory of hydraulics, sanitary engineering of buildings, inspection of meat, milk and other animal products, practical methods used in sanitary work, personal hygiene, general hygiene, sanitary legislation, and the examination of social and vital statistics in the United States. The course of instruction covers a period of one academic year and twenty hours a week during the second term. At the close of the term all those who qualify in the final examinations will receive a diploma and will be designated as "Certified Sanitarians." Only persons holding the degree of doctor of medicine are eligible to the full course and entitled to the diploma.

TEXAS

Doctors' Building.—The Dallas Chamber of Commerce announces that a twelve-story business and office building is to be erected at Main and Poydras streets, to cost $500,000, and to be utilized for offices for medical practitioners and dentists.

Personal.—Dr. John H. Florence, state quarantine officer at Galveston, has resigned to become chief medical officer of the Great Southern Life Insurance Company, Houston.——Dr. Edward B. Parsons, Palestine, formerly physician of Anderson county, has been made county health officer.

New Laboratories.—Under the provisions of the thirty-fourth legislature, creating a state board of health, Dr. E. H. Lancaster, state bacteriologist, has fitted up in the state health department, Austin, a chemical and bacteriologic laboratory.——Dr. George W. Larendon, health officer of Houston, announces that the equipment for the new city laboratory is ready and that the laboratory will soon be opened. The bacteriologic department is to be under the direction of Dr. Felician J. S. Lataper.

College Matters.—The opening exercises of the Fort Worth Medical College were held September 27.——The work of the State University of Texas Medical Department, Galveston, began October 1. Under the new requirements, the applicant for matriculation must be a graduate of a high school, and next year a more severe requirement is to be exacted, that the student must have been engaged in one year's work at some recognized college or academic school. Dr. Harry O. Knight has succeeded Dr. Henry Hartman as demonstrator of pathology, and Dr. E. E. Calloway has succeeded Dr. H. T. Aynesworth as demonstrator of anatomy.

UTAH

Hospital Notes.—The Dee Memorial Hospital, in memory of the late Thomas Dee, is to be four stories in height, and will accommodate 85 patients.——Dr. Andy J. Stewart, Mount Pleasant, is preparing to build and equip a modern hospital at that place to fill a need long experienced for such an institution in southern Utah.

Personal.—Dr. Ross Anderson has resigned as professor of bacteriology and pathology in the University of Utah, and has been succeeded by Dr. Frank A. McC. Jenkin, Ann Arbor, Mich.——Dr. E. G. Hughes has succeeded Dr. James E. Hosmer, resigned, as city physician of Provo.——Drs. Julius L. Arntzen, Elsinore, and Thomas Ray Gledhill, Ruthfield, have been appointed quarantine physicians of Sevier county.

Declares Against Publicity.—The Utah County Medical Society, at a meeting held in Provo, September 9, adopted resolutions protesting against the publication of medical cases and naming the physicians connected therewith, and instructed the secretary to notify newspapers to this effect, and request reporters and papers to refrain from publishing names of physicians, places of operation, etc., without express permission from the attending physician.

GENERAL NEWS AND COMMENT

A Correction.—In THE JOURNAL, September 18, page 842, in the discussion on the Serodiagnosis of Syphilis, the remarks ascribed to Dr. Frank E. Fox, Fulton, N. Y., should have been accredited to Dr. Howard Fox, New York City.

Obstetricians and Gynecologists Elect Officers.—At the annual meeting of the American Association of Obstetricians and Gynecologists, held in Fort Wayne, Ind., September 21-23, the following officers were elected: President, Dr. Aaron B. Miller, Syracuse, N. Y.; first vice-president, Dr. Charles N. Smith, Toledo, O.; second vice-president, Dr. Raleigh R. Huggins, Pittsburg, Pa.; secretary, Dr. William Warren Potter, Buffalo (re-elected); and treasurer, Dr. Xavier O. Werder, Pittsburg, Pa. Syracuse was selected as the place and September 20, 21 and 22, 1910, as the time for holding the next annual meeting.

Public Health Association Meeting.—The preliminary announcement of the thirty-seventh annual meeting of the American Public Health Association to be held in Richmond, Va., October 19-22, under the presidency of Dr. Gardner T. Swarts, Providence, R. I., states that the Jefferson Hotel is to be the headquarters for all meetings; that a joint session of the Laboratory Section and Section of Municipal Health Officers is proposed, at which Drs. William H. Welch, Harvey W. Wiley and John S. Fulton have promised to read papers on the relation of laboratory work to executive work, and the problems which concern both executive and laboratory men, and their relations to each other. The Section of Municipal Health Officers proposes to take up the following subjects: Appointment and supervision of employees in the municipal sanitary service; the relation of the municipal health department to the city government generally, and to other branches of the city government; the control of the food supply; the prevention and abatement of nuisances; the prevention of the spread of communicable diseases of man; the prevention of the spread of communicable diseases of animals; the medical inspection of schools; the improvement of the physical condition of city dwellers; municipal vital statistics and municipal health laws.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Sept. 18, 1909.

The Hospital Question

With the progress of medical science and the greater development of specialism there is an increasing tendency on the part of the public to seek hospital treatment. This is no doubt partly due to the fact that while competition has lowered the fees of general practitioners sometimes to such a low figure as to render proper treatment impossible or at any rate improbable, only the hastily prescribed stock mixture without proper examination being remunerative, on the other hand the fees of specialists have not only shown no tendency to fall but have actually risen. Some statistics which have recently been compiled show that there are 796 hospitals in the United Kingdom with a total income of $18,000,000. In addition there are 206 dispensaries with an income of $1,160,000, of institutions for the chronic and incurable there are 43, with an income of $1,190,000, and 242 institutions for the convalescent with an income of $1,750,000. Thus $22,000,000 is spent in the relief of the sick by institutions supported by the charitable, to say nothing of the poor-law infirmaries and fever hospitals which are supported by the state. The services of the physicians, which are given without payment (excepting some small salaries for house physicians and surgeons), do not enter into this total of expenditure. The profession is always bewailing the fact that it gives so much away, but there is always the keenest competition for these unpaid posts, because they are the only portal to the select class of consultants and specialists, who receive fees about twenty times as great as the average physician. It might fairly be argued that their services to the hospitals are not unremunerated but are paid by the enhanced fees of their rich patients; their interests are, therefore, in one sense diametrically opposed to those of the general practitioner. Their object is to get sufficient material experience to make a reputation in whatever line of work they take up and the question whether the patients could pay the small fees of the general practitioner does not concern them. However, there are many cases in which the patients could pay those fees but their case is a special and difficult one, requiring the skill of the specialist, whose much larger fees they could not pay. They are then legitimate cases for hospital treatment and indeed are often sent there by the general practitioner under these circumstances. From time to time the question of hospital abuse by those able to pay for medical advice is discussed by the British Medical Association and various other medical societies and resolutions are passed and recommendations made to hospital committees. But these committees consist of laymen, sometimes with a small sprinkling of the consultants on the hospital staff who are in little sympathy with the general practitioner. In some hospitals, however, a method has been adopted of stemming the torrent of abuse by appointing inquiry officers to investigate the financial position of those applying for relief by visits to their homes, etc.

Thief Discovered by a Thermometer Reading

The death of Dr. Whitelaw of Kirkintilloch, Scotland, has revived the following interesting story of his early career. Being called up one night many years ago he was walking with the messenger, when he was attacked and knocked down in a lonely road in the outskirts of Glasgow. His pockets were rifled and he was left lying in the road with a fracture of the fibula. One of the articles stolen was a clinical thermometer with which he had that evening taken the temperature of a patient suffering from typhoid fever. He remembered what the temperature registered and also that he had not shaken down the mercury before putting the thermometer back in his pocket and communicated these facts to the police. Some time afterward a thermometer registering the identical temperature was discovered in a pawn shop in Glasgow. By this means the police were enabled to track the doctor's assailants and to arrest them.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Sept. 10, 1909.

The Medical Record Book in the Marine Service

M. Henri Chéron, assistant secretary of the navy, has just decided on the issue of a medical record book for each man in the marine service, similar to one used in the army on land, in which will be entered the marine's height, weight, chest measurements and acuteness of visual and auditory perception. This book will follow the man wherever he goes. The military medical officers will set down there the results of their examinations, the names of the diseases treated, admissions to hospital, convalescence, etc. This book will permit the medical officers, whose task is particularly difficult because of the incessant changes to which the marine service is subject, to watch over and to treat their patients more easily. Moreover, the examination of this record book will be particularly useful at the time of reenlistment or reengagement, in order to avoid taking on men who are unfit for service. The medical record book will be passed from physician to physician, under sealed cover, and the disease treated, when of a confidential nature, will be indicated only by number. The injuries or accidents which might entitle the man to a pension will be very exactly described in this record.

Measures Against Cholera

About a year ago, in view of the epidemic of cholera which was raging in Russia, the French government put in force a series of preventive measures (The Journal, Oct. 10, 1908, lii, 1245). The terrible scourge has now entered Holland, where twenty-four cases were recorded during the first week of September. Therefore, a decree is about to be issued according to which a watch will be kept over all persons entering France by river or canal.

Fraudulent Assumption of the Doctor's Degree

All our political journals are filled with pseudoscientific articles which really are only advertisements of pharmaceutical products, signed by self-styled physicians.

The law of 1892 in regard to the practise of medicine took cognizance, indeed, of the fraudulent assumption of the doctor's degree, but it provided no punishment except in connection with the illegal practise of medicine, in which case the offense was aggravated and the penalty was greater. Illegal practise is punished by a fine of $20 to $100 (100 to 500 francs), and for a second offense, $100 to $200 (500 to 1,000 francs). Illegal practise with fraudulent assumption of the doctor's degree is punished by a fine of $200 to $400 (1,000 to 2,000 francs), and for the second offense, $400 to $600 (2,000 to 3,000 francs); moreover, the delinquent is subject to imprisonment of six months to a year. As proof of the practise of treating patients is necessary, according to our law, in order to constitute the offense of the illegal practise of medicine, the mere fact of assuming the doctor's degree in the daily papers or in pamphlets does not constitute a legally punishable offense. The Association of Medical Journalists (*Association des journalistes médicaux*) has repeatedly discussed the question of pretended doctors, and decided to recommend to the various scientific and journalistic associations action against the false assumption of degrees.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Sept. 15, 1909.

Campaign Against Proprietaries

The ever-increasing abuse of proprietary medicines has at last called forth protests from both physicians and the official apothecaries. Naturally, the government—the panacea in this country—has been expected to protect the interests of the public as well as those of the profession, but the expectation has not been fulfilled because of the powerful mercantile influences that are behind the proprietary medicine business. A resolution was recently passed at the regular meeting of the Silesian Medical Council (*Aerztekammer*) and forwarded to all "sister" councils in Austria for consideration, so that uniform action might be taken. The resolution aims to formulate some method by which the sale of proprietary medicines may be controlled. Two methods have been suggested. One is the proposal that a tax of 50 per cent. of the sale price of proprietaries shall be imposed on such medicines. The tax thus levied is to be devoted to public health purposes, etc. The chief objection to this plan is that practically the sale of such medicines would hardly be restricted, but the public would have to pay 50 per cent. more for its credulity. The second plan suggested and the one which has more probability of being carried, recommends that all proprietary medicines shall be sold only under the following conditions: They must not be advertised in any but medical periodicals. The labels and containers must have only the names of the articles and the names of their manufacturers or proprietors, and must not contain the names of any of the diseases for which the remedy is recommended. [This requirement is practically identical with Rule 4 of the Council on Pharmacy and Chemistry, which debars from admission to New and Nonofficial Remedies any article "whose label, package or circular accompanying the package, contains the names of diseases in the treatment of which the article is said to be indicated."—Ed.] The manufacturers of proprietary medicines which contain potent drugs, may have to submit evidence regarding the composition and the claims made for these articles. The advantages of this second plan are so numerous that it is expected that it will be adopted.

The Winter Semester

The winter semester of the Vienna University begins officially with the first Monday in October, but some classes begin earlier, while the regular semestral classes do not start before the eighteenth. Amongst the new professors, whose lectures are looked forward to with eager interest, are those of the eye and the gynecologic clinics; they are not yet appointed, but the decision of the ministry of education is expected in October. A number of classes by serologists and pathologists dealing with the latest additions to modern serology are announced, otherwise the number of regular lectures is the same as usual. Including the classes by privat-docents and assistants, no less than 460 courses and classes will be held by the medical faculty of the Vienna University from October till March. The fee is generally from $10 to $25; the duration is from sixteen to twenty-four hours, except in regular semestral classes, lasting six months.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Sept. 8, 1909.

The Etiologic Significance of Spirochæta Pallida

After the significance of *Spirochæta pallida* as a cause of syphilis has been established apparently without dissent, there suddenly appears an article in the *Deutsche medizinische Wochenschrift* from the well-known bacteriologist, Schereschewsky, that is calculated to reopen the question. In his article, which is a reproduction of an address at the International Congress at Budapest, Schereschewsky communicates the results of further investigations which he has made on the culture of the *Spirochæta pallida* at Neisser's clinic at Breslau in pursuance of the work which he published a few months ago. He has succeeded in cultivating the spirochete, but he has not been able to infect animals with these cultures. In spite of an observation period of from one to four and a half months, none of his inoculations gave rise to an affection which could be regarded as syphilis. He meets the question of the significance to be attached to the unsuccessful animal inoculations by himself and others, by asserting a doubt whether the *Spirochæta pallida* is really the exciting cause of syphilis. We must not hesitate, he remarks, to subject to renewed criticism the relation of Schaudinn's spirochete to syphilis which was so readily accepted. It may be possible, indeed, that the spirochetes have lost their virulence by cultivation; such behavior, however, has never been observed in cultivated microorganisms. It might also be possible that the spirochetes cultivated by Schereschewsky in spite of their microscopic resemblance were not the genuine *Spirochæta pallida* which causes syphilis. It would be a severe criticism of the author to accept this explanation; he has hitherto believed that he was able to recognize the *Spirochætæ* in spite of their morphologic variability. If his skill in this respect is to be doubted it would be necessary to doubt the diagnostic significance of the finding of the *Spirochætæ* in general. There is no question that this article, which has been prepared by an experienced author under the supervision of Neisser, will attract the greatest attention.

Advent of Cholera

Cholera has now been introduced into Holland by sea, and 15 cases with 10 deaths have occurred at Rotterdam. There are 74 suspected persons under medical supervision. Undoubtedly, the cholera was introduced from Russia. In St. Petersburg, since the beginning of the present cholera epidemic, about 14,000 persons have been attacked, and 5,500 have died of the disease.

Pharmacology

[Contribution from the Chemical Laboratory of the American Medical Association]

ANUSOL HEMORRHOIDAL SUPPOSITORIES

W. A. Puckner and L. E. Warren

An abstract of an article concerning "anusol suppositories" was published in The Journal, Jan. 23, 1909. This gave the results of an analysis by a foreign chemist, J. F. Suyver, which were to the effect that "anusol suppositories" contained no "anusol." Schering & Glatz, the American agents for "anusol" suppositories, took exceptions to the abstract, asked that The Journal retract, and submitted the findings of a chemist in support of their claim that the suppositories do contain "anusol." To determine the composition of "anusol hemorrhoidal suppositories" as they are found on the American market, trade packages were purchased (April 6, 1909) and submitted to examination in the Association's laboratory.

According to the claims of the manufacturers, 12 suppositories contain:

"Anusoli	7.5 grams
"Zinc oxid	6.0 grams
"Balsam Peruv	1.5 grams
"Ol. theobrom	19.0 grams
"Ungt. cerat	2.5 grams"

Calculated to percentages the formula reads:

Anusoli	20.54 per cent.
Zinc oxid	16.44 per cent.
Balsam Peruv	4.11 per cent.
Ol. theobrom	52.06 per cent.
Ungt. cerat	6.85 per cent.

When this product was submitted to the Council some time ago, Schering & Glatz stated that, according to the manufacturer, "anusol" is the "iodo resorcin sulphonate of bismuth, having the following rational formula: $[C_6H_2ISO_2.O(OH)_2]_3Bi$. In the meta-dioxybenzol $C_6H_4(OH)_2$, the resorcin, one H has been replaced by one I, and for another H the sulfonic-acid group So_2-OH has been substituted, so that meta-dioxybenzol is transformed into $C_6H_2ISO_2$-$OH(OH)_2$. In the sulfonic acid the H of OH is replaced by Bi and, as Bi is trivalent the above rational formula results."

According to this formula "anusol" should contain:

Iodin	32.99 per cent.
Sulphur	8.34 per cent.
Bismuth	18.07 per cent.

And the "anusol" suppositories should contain:

Iodin	6.77 per cent.
Sulphur	1.71 per cent.
Bismuth	3.71 per cent.

Examination[1] showed that the suppositories contain about 0.08 per cent. iodin, or 1.2 per cent. of the amount claimed; 0.28 per cent. sulphur, or 16.3 per cent. of what is claimed; 0.71 per cent. bismuth, or 19 per cent of what is claimed; and zinc equivalent to 16.5 per cent. zinc oxid, or about 100 per cent. of claim.

From the standpoint of the iodin content alone, assuming that all of the iodin found is present in the form of "anusol," the results of the examination of the product (as found on the American market) verifies, for all practical purposes, Suyver's statement that "anusol suppositories contain no anusol," for the quantity of iodin present is so minute (about 1/82 of that required by the formula) as to be unworthy of serious consideration. The presence of sulphid in appreciable amounts was demonstrated showing that the sulphur is present, at least in part, in the form of sulphid and not as sulphonate as is claimed. In a measure, too, this is in accord with the findings of Suyver, who concluded that, in the product which he examined, the bismuth was present in the form of sulphid. The proportions of sulphur and of bismuth (respectively about 1/6 and 1/5 of the required amounts) indicate still further that the product is not all that it is claimed to be.

A specimen submitted by Schering & Glatz to the Council two years ago contained 0.09 per cent. iodin, or 1.3 per cent. of the amount claimed; 0.23 per cent. sulphur, or 13.4 per cent. of the claimed amount; and 0.52 per cent. bismuth, or 14 per cent. of what is claimed by the formula. Since the above determinations were made another specimen of Anusol Hemorrhoidal Suppositories was received from Schering & Glatz, July 16, 1909. This sample was found to contain about: 0.075 per cent. iodin, or 1.1 per cent. of the amount required by the formula; 0.265 per cent. of sulphur, or 15.5 per cent. of the requirement and 0.88 per cent. bismuth, or 23.7 per cent. of the required amount. It will thus be seen that the composition of the oldest specimen and also that of the specimen recently sent, corresponds in a general way with that of the one first examined.

Whether judgment be based on the determination of the bismuth, the sulphur or the iodin, the results just given clearly show that the claims made concerning the composition of "Anusol Hemorrhoidal Suppositories" are not substantiated by the facts.

Hayes Asthma Cure

To the Editor:—Kindly give me information concerning "The Hayes Method for Asthma and Hay Fever," concerning which I enclose a circular. E. Parrish, Brooklyn.

Answer.—The Hayes asthma remedies were analyzed in the pharmaceutical institute of the University of Berlin by J. Kochs, and, according to the *Arbeiten aus dem Pharmazeu-*

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[1] Details of the quantitative analysis of "Anusol Hemorrhoidal Suppositories" will appear in the annual report of the Chemical Laboratory of the American Medical Association, or they may be had on request.

tischen Institut der Universität, Berlin, vol. iv, p. 122, with the following results. Six of the seven remedies were examined:

1 (Labeled No. 781).—A cough medicine for use in colds, catarrhs, bronchitis and for the relief of asthma. Dose 20 to 30 drops. This is said by the analyst to contain about 6.5 per cent. of oils, consisting chiefly of oils of turpentine and peppermint, emulsified and sweetened with syrup.

2 (Labeled T. I. Q.).—A remedy that is to be taken in doses of 15 minims three times a day before meals. According to the report, it contained 13.7 per cent. of iodin in the form of potassium iodid, to which had been added a little wine and a small percentage (0.1) of hydrochloric acid.

3 (Labeled No. 769 A.-C.).—A remedy to be given in doses of 30 minims at bedtime, to be repeated two or three times in several hours. This, says Kochs, was a slightly reddish syrup containing 6.7 per cent. of iodin combined as potassium, sodium and ammonium iodids.

4 (Labeled T. II Q.).—A preparation to be taken in doses of 15 minims three times a day immediately after meals. The analytical report shows it to contain 1.08 per cent. of iron in the form of an iron peptonate.

5 (Labeled No. 808).—These were small capsules filled with 0.1 gm. (1.5 grs.) of a loose white powder. It is said "to strengthen the lungs and reduce the tendency to taking cold." Analysis is said to have disclosed that it consisted of quinin sulphate.

6 (Labeled No. 763).—Small white sugar-coated pills. These are said to act mildly on the liver and regulate the digestion. The active principle of these pills as shown by the analysis was resin of jalap.

Correspondence

Expression of Cataract in Its Capsule

To the Editor:—The letter of Major Henry Smith, I. M. S., in THE JOURNAL, Sept. 11, 1909, needs an answer because of the bias of this "most interesting man in the world."

With all due deference to the great experience of Major Smith, which has never even been approached by any other operator, and to the details of the operation which he (Smith) claims as his own, yet I consider that a slightly larger incision than that described in the original essay of Pagenstecher in 1865, and small modifications claimed in the procedure should not take away the honor of priority of description and practice of the procedure from Pagenstecher and give the operation the name of Smith of Jullundur.

Indeed, as has been noted in Greene's and my papers, the same operation was done even before the time of Pagenstecher, although not generally practised. In Benjamin Bill's "System of Surgery," reprinted in Boston in 1791, it is noted that a French oculist regularly operated in suitable cases by removing the lens in its capsule.

The expression operation is specifically described by Pagenstecher and Elschnig as follows:

> *Nach dem Drittelbogenschitt nach oben mit Bindehautlappen wird iridectamiert und hierauf die Linse, entweder durch das blosse Druckmanöver oder mit dem flachen Löffel der bloss als Gleitfläche dient, entbunden.*
>
> The lens is expelled after incision of about one-third of the circumference made with a conjunctival flap and an upward iridectomy either by means of gentle pressure or with the flat spoon acting purely as a gliding surface.

I have had occasion to look over my collection of so-called Pagenstecher spoons and among the seven which I possess find only one which in any way corresponds with the cup-shaped instrument depicted by Smith. The others all offer the gliding surface as described above.

Why then did I not quote Pagenstecher's writings on "Expression of Cataract in the Capsule" between 1888 and 1908? My position as editor of *Ophthalmology* and kindred publications for the past twenty years gives me rather an exceptional command of ophthalmic literature, yet I am not aware that there have been any such publications of his during this time!

The necessity for at least a 3/5 incision of the sclerocornea or a larger one when purely in the cornea has been pointed out by other writers besides Smith and myself. While I am favorable to the operation of expression of cataract in its capsule it is yet *sub judice*, and it must be proved that it is "the best operation in the world" by its ultimate results.

H. V. WÜRDEMANN, M.D., Seattle, Wash.

Tubercle Bacilli in the Blood—A Claim for Priority

To the Editor:—Referring to your editorial, "Tubercle Bacilli in the Blood," in THE JOURNAL of Sept. 18, 1909, I wish to call attention to the fact that in May, in a paper by Dr. Lyons and myself, which was read before the Louisiana State Society, in which we reported failure to confirm certain observations of Rosenberger, appears the following anent the presence of contaminating organisms in distilled water: "The danger of this occurrence is easily obviated by using water very recently distilled, or direct from the still, and by the thorough cleansing of the jars before using by means of a strong solution of mineral acid." As we were the first to report failure to confirm observations made by Rosenberger and encountering the error, corrected and reported on it, I believe that it should be credited to us and not to Brem. We went through the experiences which he reports in THE JOURNAL, in our paper directed attention to Rosenberger's faulty technic, and gave a method of overcoming the difficulty, and reported this some four months ago. I will thank you for giving this letter publication.

M. P. BURNHAM, M.D., Harrisonburg, Va.

Rhinology at the International Medical Congress

To the Editor:—The papers and discussions of the diseases of the accessory sinuses have been of special interest to rhinologists at the Sixteenth International Congress. Whereas, up to comparatively recent date, the pendulum had swung to ultraradicalism, at the congress it was evident that return had been made to safer measures. The authors of papers that were read and all of those who discussed the subject, with the single exception of Jansen, were strongly in favor of conservative measures except in extreme and rare cases. It was admitted that the radical operation did not usually result in quicker recovery than could be obtained from the less severe and more conservative operations. It was further admitted that these extreme operations were the cause of many deaths. About a dozen papers on these subjects were presented. Among those who read or discussed the papers were Dundas Grant (London), Uchermann (Christiania), Bourack (Charkoff), Jansen (Berlin), Killian (Freiberg), Chiari (Vienna), Massei (Naples), myself and several others whose names I do not now recall. Naturally great weight is given to the change of sentiment by the attitude of Killian, whose work along these lines is well-known. It is to be hoped that the preponderance of evidence brought out will result in placing the radical operation in its proper position, that is, an operation of the last resort.

E. FLETCHER INGALS, Chicago.

Warning Against Book Agent

To the Editor:—At present there is traveling through the southern states, a man reported to us to be about 35 or 40 years of age, clean-shaven face, weighing 250 or 265 pounds, about 6 feet high.

He is calling on physicians and others offering to sell them forty books for $20, and to make them local agents for the Lippincott Publishing Co. So far as we know, there is no concern in this country of that name. After securing the $20 or $25, nothing more is heard of this agent, and as the complaints come to us we have reason to believe that he is working on our reputation. He has been working through Louisiana, Mississippi and Arkansas, and has used the names of Bradford, Howard and Hackett, with various initials.

Judging from the numerous complaints received, his operations are extensive and successful from his standpoint.

We are doing all we can to have the police notified, and the man apprehended, though, of course, we cannot prosecute, as we have not been injured or victimized.

J. B. LIPPINCOTT CO., Philadelphia.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

CHRONIC CEREBRAL HYPEREMIA

To the Editor:—Please outline the treatment (dietetic, hygienic and medicinal) which has been found the most satisfactory for chronic cerebral hyperemia. The patient is a woman, aged 30, unmarried, and has been a sufferer for about seven years. Acute exacerbations have been noted during that period, varying from twice a week to once a month. They are usually preceded by nausea or vomiting, but not in every instance. Dietetic indiscretions have been interdicted and corrected. Refractive errors have been corrected. There is no malformation, lack of function or pathologic disturbance of the uterus or appendages. The patient is a worker on fine oriental rugs. While this may be to some extent a factor, it seems more probable that the disease was induced by extreme mental anxiety due to her father's financial misfortunes and subsequent death. The family history is good.

J. C. C., Philadelphia.

ANSWER.—Modern neurology does not recognize "chronic cerebral hyperemia" as a unique and separate disease. In the "chronic" form, congestion of the brain is always secondary to some other pathologic condition. The congestion may be active (arterial), or passive (venous); but in either case, physical obstruction to the circulation as from tumor, or disease of some sort of the vascular apparatus, is the real malady to be diagnosed and treated. There is no treatment for "chronic cerebral hyperemia" apart from the treatment of the underlying condition of which it is a secondary result. The symptoms that used to be attributed to cerebral hyperemia are now known to be due, when dependent on the intracranial circulation at all, to the quality of the blood and the speed of the current, rather than to the quantity. The anastomoses of the intracranial circulation are so abundant that cerebral hyperemia, except when it is secondary to, and a part of, some other pathologic state, is always a temporary affair. The treatment for temporary congestion of the brain is so well known as to need no special outline here.

The case noted above is not reported in sufficient detail to permit of a diagnosis. If further data can not be obtained from a thorough physical examination of the patient, "the extreme mental anxiety due to the father's financial misfortunes and his subsequent death," coupled with the fact that she "is a worker on fine oriental rugs" may legitimately awaken the suspicion of a psychoneurosis of the hystero-neurasthenic form. A further examination along this line, however, would be needed to establish the diagnosis. The hygienic, dietetic and medicinal treatment of a psychoneurotic patient, in whom there are hysterical and neurasthenic manifestations, is too large a subject for full consideration here; and its details depend on too many contingencies to permit of the formulation of a single scheme.

If the case is one of hysteria, the treatment should be preeminently along psychotherapeutic lines. Psychasthenia, unlike hysteria, is somewhat of a mental inefficiency. The treatment of hysteria, however, is more or less applicable to psychasthenia, with perhaps somewhat greater stress laid on rest, nutrition and a general tonic regimen. Neurasthenia, unlike hysteria and psychasthenia, calls most loudly for prolonged rest and increased nutrition. The entire course of the treatment of neurasthenia should occupy not less than six weeks. The hygiene of the patient, of course, should be of the best. Proper clothing, cleanliness, and regular habits are the requirements here. The dietetics involve no particular line of food; nutrition being the great desideratum, all foods that the patient can digest and assimilate should be tried and pushed to the limit of the physiologic powers of the alimentary organs. Water should be abundantly taken. A few simple tonics, such as iron, arsenic, strychnin, quinin, continued for a long period of time in very moderate dosage, conclude practically the medicinal treatment of nervous exhaustion.

In general practise most of the cases seen are hystero-neurasthenic. A hysterical woman exhausts her nervous mechanism; and a neurasthenic individual sooner or later develops a hysteroid state of mind. The treatment of these patients, therefore, calls for a combination of the methods briefly outlined above.

SOLUBILITY OF PHENOL (CARBOLIC ACID)

To the Editor:—In an editorial in THE JOURNAL (September 18, p. 954) in the discussion of tetanus appeared the statement to cauterize the wound with a "25 per cent. phenol solution." Evidently a 25 per cent. aqueous solution was to be understood. Statements are so frequently made by physicians about 25 per cent. and 50 per cent. solutions of phenol in water at ordinary room temperature that one is forced to think that some of them are not familiar with the solubility relations of water and phenol. The ease with which possibly serious burns might be produced makes a knowledge of these relations important. At ordinary room temperature (25 degrees C), if an attempt is made to obtain a 25 per cent. solution of phenol in water, two immiscible solutions will separate in two layers, the lower layer containing 75 per cent. phenol and the upper layer containing 7.5 per cent. phenol. A fairly thorough exposition of these solubility relations may be found in "The Phase Rule and Its Applications," by Alexander Findlay, on pages 95-8.

C. R., Kansas City, Mo.

ANSWER.—While the failure to state that the 25 per cent. solution of phenol should be "in glycerin or alcohol" was open to criticism, nevertheless, the facts regarding the solubility of this agent have been so often reiterated and its use is so common that details would seem to be scarcely necessary.

TECHNIC OF THE WASSERMANN TEST

To the Editor:—Please give reference to the best description of the technic of the Wassermann test in the medical literature of this country. N. EVANS, Nashville, Tenn.

ANSWER.—Good descriptions of the technic of the Wassermann test are given in the following:

Fleischmann, P. and Butler, W. J.: Serum Diagnosis of Syphilis, THE JOURNAL A. M. A., Sept. 14, 1907, xlix, 934.

Fox, H.: The Principles and Technic of the Wassermann Reaction and Its Modifications, *Med. Rec.*, March 13, 1909, lxxv, 421.

Reference may also be made to the following:

Castelli, E.: The Technic of the Wassermann Reaction, *New York Med. Jour.*, April 17, 1909, lxxxix, 777.

Butler, W. J.: Serodiagnosis of Syphilis, *New York Med. Jour.*, Jan. 30, 1909.

HEADACHE FOLLOWING ADMINISTRATION OF POTASSIUM IODID AND FOWLER'S SOLUTION

To the Editor:—All of our authorities teach that small doses of Fowler's solution will prevent the eruption so common in the administration of potassium iodid. In the past few years I have given it in small doses, but invariably my patients would suffer with an unbearable headache.

I have never seen this mentioned in any medical literature, and I would like some explanation. I am certain that the headache is not a mere coincidence. J. J. HARDY, Poteau, Okla.

The Public Service

Medical Department of the Army

Changes for the week ended Sept. 25, 1909:

Kean, J. R., lieut. col., detailed to attend meeting of American Public Health Association at Richmond, Va., Oct. 19 to 22.

Murtagh, J. A., Van Poole, G. M., Reno, W. W., Gosman, G. H. R., Koerper, C. E., Allen, J. H., Patterson, R. U., Noble, R. E., Van Dusen, J. W., Grubbs, R. B., Sweazy, V. E., capts., ordered to report at Washington, D. C., for examination for promotion.

Truby, A. E., major, granted leave of absence for 1 month.

Brooks, W. H., Barney, C. N., McAndrew, P. H., De Witt, Wallace, Thornburgh, R. M., capts., ordered to report at San Francisco, Cal., for examination for promotion.

Marrow, C. E., major, relieved from duty at the Presidio of San Francisco, Cal., and ordered to Fort D. A. Russel, Wyo., for duty.

Davis, A. D., 1st lieut., relieved from duty at Fort Lawton, Wash., and ordered to Vancouver Barracks, Wash., for duty.

Little, W. L., capt., ordered from Fort Adams, R. I., to Fort Ontario, N. Y., for temporary duty.

Dutcher, B. H., major, granted leave of absence for 15 days.

Wadhams, S. H., major, granted leave of absence for 4 months, when relieved at Fort Shafter, H. T.

Fuller, L. A., major, granted an extension of 1 month to his leave of absence.

Harris, H. S. T., lieut. col., ordered to assume temporary charge of medical supply depot, at San Francisco, Cal.

Craig, C. F., capt., relieved from duty as attending surgeon at New York City, and ordered to Washington, D. C., for duty as assistant curator, Army Medical Museum.

Artaud, F. E., Dougherty, J. C., Hughes, M. E., M. R. C., relieved from duty in the Philippines Division, and will sail December 15, for San Francisco, Cal.

Lemmon, Robt., Conzelmann, F. J., Watkins, V. E., M. R. C., relieved from duty at their present stations and will proceed to San Francisco to sail November 5, for Manila, P. I.

Kershner, W. E., M. R. C., ordered to active duty, and to proceed from Waterville, Me., to Fort Hancock, N. J., for duty.

Maloney, J. E., M. R. C., relieved from duty at Fort Hancock, N. J., and ordered to duty at Seattle, Wash., on the transport *Burnside*.

Lowe, T. S., M. R. C., relieved from duty on the transport *Burnside*, and ordered to duty at the Presidio of Monterey, Cal.

Wiggin, D. C., M. R. C., granted leave of absence for 1 month.

Heterick, R. H., M. R. C., ordered to active duty, and to proceed to Fort Oglethorpe, Ga., for duty.

Cohen, H. M., M. R. C., ordered to active duty, and to proceed to Fort Rodman, Mass., for duty.

Lyon, W. C., M. R. C., ordered to active duty, and to proceed to Fort Du Pont, Del., for duty.

Lavanture, L. A., M. R. C., ordered to active duty, and to proceed to Fort D. A. Russell, Wyo., for duty.

Hallett, H. J., M. R. C., ordered to active duty, and to proceed to Fort Totten, N. Y., for duty.

Sharpe, H. H., M. R. C., ordered to active duty, and to proceed to Fort Jay, N. Y., for duty.

Sherwood, J. W., M. R. C., ordered to active duty, and to proceed to Fort Williams, Me., for duty.

Dawe, C. W., M. R. C., ordered to active duty, and to proceed to Fort Thomas, Ky., for duty.

Miltenberger, V. E., M. R. C., ordered to active duty, and to proceed to Fort Riley, Kans., for duty.

Browoe, R. W., M. R. C., ordered to active duty, and to proceed to Fort Monroe, Va., for duty.

Griffin, J. C., M. R. C., ordered to active duty, and to proceed to Fort Howard, Md., for duty.

Bordeo, W. B., M. R. C., ordered to active duty, and to proceed to Fort Bayard, N. M., for duty at the Army General Hospital.

Northington, E. G., M. R. C., ordered to active duty, and to proceed to Fort McPherson, Ga., for duty.

Hart, J. W., M. R. C., granted leave of absence for 2 months, at the expiration of which he will stand reieved from active duty in the M. R. C.

Watkins, V. E., M. R. C., granted leave of absence for 15 days.

Jones, G. B., M. R. C., granted leave of absence for 1 month.

Medical Corps of the Navy

Changes for the week ended Sept. 25, 1909:

Huntington, E. O., surgeon, ordered to the Naval Recruiting Station, Chattanooga, Tenn.

Williams, R. B., surgeon, commissioned surgeon from Oct. 11, 1909.

Fauotleroy, A. M., P. A. surgeon, ordered to the *Indiana,* and additional duty in connection with the *Lancaster.*

Reed, E. U., P. A. surgeon, detached from the Naval Recruiting Station, Nashville, Tenn., and ordered to Naval Hospital, Norfolk, Va., for duty .

Sutton, D. G., asst.-surgeon, detached from the *Vcstal,* and ordered to the *Des Moines.*

Donelson, M., asst.-surgeon, detached from the Naval Recruiting Station, Chattanooga, Tenn., and ordered to the Naval Recruiting Station, Nashville, Tenn.

Flint, J., asst.-surgeon, detached from the Naval Hospital, Philadelphia, Pa., and ordered to the Naval Hospital, Navy Yard, Boston, Mass.

Crandall, R. P., surgeon, ordered to the *Hancock.*

Seaman, W., P. A. surgeon, ordered to the Naval Hospital, Navy Yard, New York.

The following Acting Assistant Surgeons have been detached from the places opposite their names and ordered to Instruction at the Naval Medical School, Washington, D. C., Sept. 21, 1909:

G. E. Robertson, detached Naval Hospital, Boston, Mass.
J. J. A. McMullin, detached Naval Hospital, Newport, R. I.
J. T. Johnson, detached Naval Hospital, Philadelphia, Pa.
W. L. Irvine, detached Naval Hospital, Boston, Mass.
H. E. Jenkins, detached Naval Hospital, Norfolk, Va.
D. C. Walton, detached Naval Hospital, Norfolk, Va.
A. B. Cecil, detached Naval Hospital, New York City.
W. H. Connor, detached Naval Hospital, Norfolk, Va.
E. W. Phillips, detached Naval Hospital, New York City.
S. D. Hart, detached Naval Hospital, New York City.
G. R. W. French, detached Naval Hospital, Newport, R. I.
W. A. Bloedoru, detached Naval Medical School Hospital.
W. J. Riddick, detached Naval Station, Charleston, S. C.
G. E. Thomas, detached U. S. S. *Franklin.*
J. A. Bass, ordered to instruction, Naval Medical School, Washington, D. C.

Public Health and Marine-Hospital Service

List of changes for the seven days ended Sept. 22, 1909:

White, J. H., surgeon, granted 7 days, leave of absence from Sept. 18, 1909, under paragraph 189, Service Regulations.

Lavinder, C. H., P. A. surgeon, granted 3 days' leave of absence en route to station.

Goldberger, Joseph, P. A. surgeon, reassigned to duty in the Hygienic Laboratory, to date from Oct. 31, 1908.

Frost, W. H., P. A. surgeon, granted 1 day's leave of absence, Sept. 13, 1909, under paragraph 191, Service Regulations.

Warner, H. J., asst.-surgeon, granted 5 days' leave of absence from Sept. 25, 1909.

Browne, R. W., acting asst.-surgeon, granted 16 days' leave of absence from Sept. 16, 1909.

Burlaod, B. W., acting asst.-surgeon, granted 14 days' leave of absence from Sept. 13, 1909.

Curley, C. P., acting asst.-surgeon, granted 21 days' leave of absence from Sept. 25, 1909.

Duffy, Francis, acting asst.-surgeon, granted 3 days' leave of absence from Sept. 21, 1909.

Dynan, N. J., acting asst.-surgeon, granted 16 days' leave of absence from Sept. 13, 1909.

Light, S. D. W., acting asst.-surgeon, granted 30 days' leave of absence from Oct. 5, 1909.

Marsh, W. H., acting asst.-surgeon, granted 13 days' leave of absence from Oct. 2, 1909.

Mason, Wm. C., acting asst.-surgeon, granted 5 days' leave of absence from Oct. 4, 1909.

Robertson, Herman, acting asst.-surgeon, granted 14 days' leave of absence from Sept. 17, 1909.

Seavey, L. T., acting asst.-surgeon, granted 3 days' leave of absence from Sept. 15, 1909, under paragraph 210, Service Regulations.

Small, E. M., acting asst.-surgeon, granted 14 days' extension of annual leave on account of sickness from Aug. 30, 1909.

Thornton, M. J., acting asst.-surgeon, granted 13 days' leave of absence from Oct. 1, 1909.

Wetmore, W. O., acting asst.-surgeon, granted 1 day's extension of annual leave on account of sickness, Sept. 4, 1909.

Health Reports

The following have been reported to the Public Health and Marine-Hospital Service, during the week ended Sept. 24, 1909:

SMALLPOX—UNITED STATES

Illinois: Peoria, Aug. 1-31, 9 cases.
Indiana: Fort Wayne, Sept. 4-11, 3 cases.
Louisiana: New Orleans, Aug. 28-Sept. 4, 1 case.
Missouri: St. Louis, Sept. 4-11, 1 case.
Ohio: Dayton, Sept. 4-11, 5 cases.

SMALLPOX—INSULAR

Philippine Islands: Manila, July 24-31, 1 case.

SMALLPOX—FOREIGN

Brazil: Pernambuco, July 1-31, 27 deaths.
Chile: Valparaiso, Aug. 4-21, present.
China: Amoy, July 1-31, 9 cases, vicinity; Newchwang, July 31-Aug. 14, 2 cases, 1 death; Shanghai, July 31-Aug. 7, 1 death.
Ecuador: Ensenada, Aug. 10, epidemic; Guayaquil, July 1-31, 4 cases, 1 death, in vicinity.
France: Paris, Aug. 14-21, 1 death.
India: Calcutta, July 31-Aug. 7, 2 deaths; Rangoon, 2 deaths.
Italy: Naples, Aug. 22-29, 17 cases, 3 deaths.
Java: Batavia, July 31-Aug. 7, 1 case.
Mexico: Monterey, Aug. 29-Sept. 5, 1 death; Veracruz, 2 cases, 1 death.
Peru: Mollendo, Aug. 30, present.
Portugal: Lisbon, Aug. 21-28, 14 cases.
Russia: Moscow, Aug. 14-21, 3 cases, 2 deaths; Odessa, Aug. 7-21, 14 cases, 5 deaths; Riga, Aug. 21-28, 9 cases; St. Petersburg, Aug. 7-21, 40 cases, 11 deaths; Warsaw, July 10-17, 1 death.
Spain: Barcelona, Aug. 21-28, 6 deaths; Vigo, Aug. 14-28, present.
Turkey: Bagdad, July 17-Aug. 4, present.

YELLOW FEVER

Brazil: Manaos, July 7-14, 2 deaths; Para, Aug. 14-28, 9 cases, 9 deaths; Pernambuco, July 1-31, 2 deaths.
Ecuador: Guayaquil, Aug. 14-21, 3 deaths.
Mexico: Merida, Sept. 3-10, 2 deaths, in vicinity.
Venezuela: Maiquetia, Aug. 25, 1 case, vicinity of La Guaira.

CHOLERA—INSULAR

Philippine Islands: Manila, July 24-31, 1 case, 1 death; Provinces, July 24-Aug. 7, 278 cases, 191 deaths.

CHOLERA—FOREIGN

China: Amoy, July 31-Aug. 7, 15 deaths; Hankau, Aug. 3, present; Shanghai, Aug. 3-11, present.
India: Calcutta, July 31-Aug. 7, 7 deaths; Madras, Aug. 7-13, 1 death; Rangoon, July 31-Aug. 7, 3 deaths.
Manchuria: Dalny, Aug. 7-14, 1 case, on steamship Kobe Maru.
Netherlands: Amsterdam, Sept. 10, 1 case; Dirksland, 1 case; Middelburg, Aug. 28-Sept. 4, 1 case; Rotterdam, Aug. 20-Sept. 4, 34 cases, 14 deaths; Tholen, Aug. 28-Sept. 4, 1 case; Utrecht, 1 case; Vlaardingeo, 1 case.
Russia: General, Aug. 21-28, 573 cases, 243 deaths; Moscow, Aug. 14-21, 1 case, 1 death; Riga, Aug. 21-28, 17 cases, 8 deaths; St. Petersburg, Aug. 22-29, 180 cases, 64 deaths.
Sweden: Stockholm, Aug. 12, 1 case, imported.

PLAGUE

Chile: Iquique, Aug. 22, 4 cases, in lazaretto.
China: Amoy, July 31-Aug. 7, 51 deaths; in Vicinity, July 1-31, 19 cases, 7 deaths; Hongkong, July 24-31, 2 cases, 2 deaths.
Ecuador: Guayaquil, Aug. 14-21, 5 deaths.
Egypt: General, July 29-Aug. 5, 9 cases, 2 deaths; Alexandria, Aug. 5, 1 case.
India: General, July 31-Aug. 7, 1,287 cases, 938 deaths; Calcutta, 15 deaths; Rangoon, 29 deaths.
Japan: Kobe, Sept. 13, present.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phœnix, October 4-5. Sec., Dr. Ancil Martin.
Colorado: Capitol, Denver, October 5. Sec., Dr. S. D. VanMeter, 1723 Tremont St.
Geoagia: Regular, Capitol Bldg., Atlanta, October 12. Sec., Dr. E. R. Aothony, Griffin. Homeopathic: Atlanta, October 4. Sec., Dr. R. E. Hinman, 153 Whitehall St.
Idaho: Boise, October 5-6. Sec., Dr. W. F. Howard, Pocatello.
Illinois: Coliseum Annex, Chicago, October 20-22. Sec., Dr. J. A. Egan, Springfield.
Kansas: Topeka, October 12. Sec., Dr. F. P. Hatfield, Olathe.
Michigan: Lansing, October 12-14. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.
Minnesota: State University, October 5. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.
Mississippi: Jackson, October 12. Sec., Dr. S. H. McLean.
Montana: Capitol, Helena, October 5. Sec., Dr. W. C. Riddell.
New Jersey: State House, Trenton, October 19-20. Sec., Dr. E. L. B. Godfrey, Camden.
New Mexico: Santa Fe, October 11-12. Sec., Dr. J. A. Massie.
North Dakota: Grand Forks, Oct. 5-7. Sec., Dr. H. M. Wheeler.
Oklahoma: Ione Hotel, Guthrie, October 13. Sec., Dr. Frank P. Davis, Eaid.
Rhode Island: Room 313, State House, Providence, October 7-8. Sec., Dr. Gardner T. Swarts.
Utah: Room 207, City and County Bldg., Salt Lake City, October 4-5. Sec., Dr. G. F. Harding, 310 Templeton Bldg.
Wyoming: Laramie, October 20-22. Sec., Dr. S. B. Miller.

A Standard Medical Curriculum

At the Fifth Annual Conference of the Council on Medical Education, held in Chicago, April 5, 1909, a standard medical curriculum was recommended, the report of which is published in the *American Medical Association Bulletin,* September, 1909.[1] This supplies a long-felt need. Without a standard curriculum as a guide there would be danger that, instead of securing a fairly uniform curriculum, some colleges might lay too much stress on some subjects and too little on others, or might overload the curriculum with unimportant subjects and details. It was essential to arrange a medical curriculum which would not be so overcrowded as to prevent the best work but which would furnish the best training and equipment for practitioners in medicine. The domain of medical knowledge has become so extensive that it was quite necessary to point out what subjects should be required, how much emphasis should be laid on each and what subjects should be made elective.

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[1] A copy of the Bulletin will be sent on receipt of four cents for postage.

In order to prepare this standard curriculum, the Council on Medical Education selected a Committee of One Hundred from the leading medical educators of the United States and Canada to make an exhaustive study of the problem. The subjects of the medical curriculum were arranged in ten groups and a subcommittee of ten members was selected for each group. Before active work was begun an outline was prepared giving the main propositions on which the curriculum was to be constructed. These propositions were: 1. The entire medical course was to cover four years of *at least* thirty weeks each, exclusive of holidays, consisting of thirty hours per week of actual work. 2. A four-year high-school education and in addition at least one year of college work devoted to courses in physics, chemistry, biology and modern languages was to be required for admission. 3. The total requirement in all branches of the medical curriculum for the four years was to be *at least* 3,600 hours. (The 4,100 hours of the curriculum recommended represents, therefore, the *maximum* requirement). Each member was forewarned that the chief difficulty would be the fixing of the number of hours to be devoted to each subject since the claims of all other subjects would have to be kept in mind.

In order to secure some uniformity of procedure a suggestive outline of the points to be taken up was prepared and specific recommendations were asked regarding: (a) prerequisite courses, referring either to preliminary requirements or to medical courses which should precede the subjects under consideration; (b) the place in the curriculum, whether in first, second, third or fourth year; (c) portions of the subject to be required and portions to be optional; (d) necessary qualifications of instructors; (e) the best methods of instruction; (f) the necessary laboratory equipment (apparatus), or, if a clinical branch, the minimum number of hospital or dispensary patients which should be required; (g) auxiliary facilities (library, museum, charts, stereopticons, reflectoscopes, etc.) which should be required; (h) the proportions of didactic (lectures or recitations) and practical (laboratory or clinical) teaching; (i) the minimum total of hours of a 3,600-hour curriculum to be devoted to the subject or subjects of each section. It was made clear that the outline was not intended to limit the discussions to the items mentioned but that specific recommendations relating to any other subjects or to the curriculum as a whole would be strictly in order.

It is stated by the Council on Medical Education that this standard curriculum is advanced for its educational value and not with the idea that all colleges should be required to conform strictly to it. In fact, absolute uniformity of curricula in all colleges is not desirable, although comparative uniformity will be of much benefit in permitting students more freedom to migrate from one college to another and in facilitating a larger interstate reciprocity in the licensing of physicians.

The ten divisions of the curriculum and the subcommittee assigned to each are as follows:

SECTION 1.—ANATOMY, INCLUDING HISTOLOGY AND EMBRYOLOGY

Chairman: Charles R. Bardeen, M.D., Professor of Anatomy, University of Wisconsin, College of Medicine, Madison, Wis.

Albert C. Eycleshymer, Ph.D., Professor and Director of the Department of Anatomy, Histology and Embryology, St. Louis University, Grand Ave. and Carolina St., St. Louis.

Irving Hardesty, Ph.D., Assistant Professor of Anatomy, University of California, Medical Department, San Francisco.

G. Carl Huber, M.D., Professor of Histology and Embryology, University of Michigan, College of Medicine, 1330 Hill St., Ann Arbor, Mich

George S. Huntington, M.D., Professor of Anatomy, Columbia University, 437 W. 59th St., New York City.

Clarence M. Jackson, M.D., Professor of Anatomy and Histology, University of Missouri, Medical Department, Columbia.

Thomas G. Lee, M.D., Professor of Histology and Embryology, University of Minnesota, College of Medicine and Surgery, 509 St. Anthony Parkway, S.E., Minneapolis.

Franklin P. Mall, M.D., Professor of Anatomy, Johns Hopkins University Medical Department, 1514 Bottom St., Baltimore.

James P. McMurrich, Ph.D., Professor of Anatomy, University of Toronto, Medical Department, 576 Huron St., Toronto, Canada.

George A. Piersol, M.D., Professor of Anatomy, University of Pennsylvania, Department of Medicine, 4724 Chester Ave., Philadelphia.

SECTION 2—ORGANIC CHEMISTRY, PHYSIOLOGY AND PHYSIOLOGIC CHEMISTRY

Chairman: Elias P. Lyon, Ph.D., Professor of Physiology, St. Louis University, School of Medicine, St. Louis.

Percy M. Dawson, M.D., Associate Professor of Physiology, Johns Hopkins University, Medical Department, Baltimore.

Otto Folin, Ph.D., Professor of Biologic Chemistry, Harvard Medical School, Longwood Ave., Boston.

Walter E. Garrey, Ph.D., Professor of Physiologic Chemistry, Cooper Medical College, San Francisco.

Winfield Scott Hall, M.D., Professor of Physiology, Northwestern University Medical School, 2431 Dearborn St., Chicago.

Frederic S. Lee, Ph.D., Professor of Physiology, Columbia University, College of Physicians and Surgeons, New York City.

Warren P. Lombard, M.D., Professor of Physiology, University of Michigan, College of Medicine, 805 Oxford Road, Ann Arbor, Mich.

Graham Lusk, Ph.D., Professor of Physiology, Cornell University Medical College, 338 E. 26th St., New York City.

Gustav Mann, M.D., Professor of Physiologic Chemistry, Tulane University of Louisiana, New Orleans.

Albert P. Mathews, Ph.D., Professor of Physiologic Chemistry, University of Chicago.

SECTION 3.—PATHOLOGY AND BACTERIOLOGY

Chairman: William T. Councilman, M.D., Professor of Pathology, Harvard Medical School, 240 Longwood Ave., Boston.

J. G. Adami, M.D., Professor of Pathology, McGill University, Medical Department, Montreal, Canada.

W. M. L. Coplin, M.D., Professor of Pathology and Bacteriology, Jefferson Medical College, Tenth and Walnut Sts., Philadelphia.

Harold C. Ernst, M.D., Professor of Bacteriology, Harvard Medical School, 240 Longwood Ave., Boston.

James Ewing, M.D., Professor of Pathology, Cornell University Medical College, 256 W. 57th St., New York City.

Ludwig Hektoen, M.D., Professor and Head of the Department of Pathology, Rush Medical College, 5803 Washington Ave., Hyde Park, Chicago.

William T. Howard, M.D., Professor of Pathology, Pathological Anatomy and Bacteriology, Western Reserve University, 1838 E. 65th St., Cleveland, Ohio.

Richard M. Pearce, M.D., Professor of Pathology and Bacteriology, University and Bellevue Hospital Medical College, 338 East 26th St., New York City.

Alfred S. Warthin, M.D., Professor of Pathology, University of Michigan, College of Medicine and Surgery, 924 Baldwin Ave., Ann Arbor, Mich.

William H. Welch, M.D., Baxley Professor of Pathology, Johns Hopkins Medical School, 807 St. Paul St., Baltimore.

SECTION 4.—PHARMACOLOGY, TOXICOLOGY AND THERAPEUTICS

Chairman: Torald Sollmann, M.D., Professor of Pharmacology and Materia Medica, Pharmacologic Laboratory, Western Reserve University Medical Department, Cleveland, Ohio.

John J. Abel, M.D., Professor of Pharmacology, Johns Hopkins University Medical School, Charles St. Ave. (P. O. Sta. L.), Baltimore.

Joseph A. Capps, M.D., Assistant Professor of Medicine, Rush Medical College, University of Chicago, 100 State St., Chicago.

David L. Edsall, M.D., Assistant Professor of Medicine, University of Pennsylvania, Medical Department, 1432 Pine St., Philadelphia.

Charles Wallis Edmunds, M.D., Junior Professor of Therapeutics and Materia Medica, University of Michigan, College of Medicine, 520 East Ann St., Ann Arbor, Mich.

John Taylor Halsey, M.D., Professor of Materia Medica, Therapeutics and Clinical Medicine, Tulane University of Louisiana, 124 Baronne St., New Orleans.

Egbert LeFevre, M.D., Professor of Therapeutics and Clinical Medicine, University and Bellevue Hospital Medical College, 52 West 56th St., New York City.

Eli H. Long, M.D., Professor of Materia Medica and Therapeutics, University of Buffalo, Medical Department, Buffalo, N. Y.

William De Berneire MacNider, M.D., Professor of Pharmacology and Bacteriology, University of North Carolina, Chapel Hill.

Oliver Thomas Osborne, M.D., Professor of Materia Medica and Therapeutics and Clinical Professor of Medicine, Yale Medical School, 252 York St., New Haven, Conn.

SECTION 5.—MEDICINE, INCLUDING PEDIATRICS AND NERVOUS AND MENTAL DISEASES

Chairman: George Dock, M.D., Professor of Medicine, Tulane University of Louisiana, 124 Baronne St., New Orleans.

George Blumer, M.D., Professor of the Theory and Practice of Medicine, Yale Medical School, New Haven, Conn.

William Fitch Cheney, M.D., Professor of Principles and Practice of Medicine, Cooper Medical College, Shreve Bldg., San Francisco.

Henry A. Christian, M.D., Professor of the Theory and Practice of Physic, Harvard Medical School, 252 Marlboro St., Boston.

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John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania, Medical Department, Philadelphia.

W. Gilman Thompson, M.D., Professor of Medicine, Cornell University, Medical College, 34 E. 31st St., New York City.

SECTION 6.—SURGERY; GENERAL AND SPECIAL

Chairman: Charles H. Frazier, M.D., Professor of Clinical Surgery, University of Pennsylvania, Department of Medicine, 1724 Spruce St., Philadelphia.

Dudley Peter Allen, M.D., Professor of the Theory and Practice of Surgery and Clinical Surgery, Western Reserve University, Medical Department, 1110 Euclid Ave., Cleveland, Ohio.

Joseph A. Blake, M.D., Professor of Surgery, Columbia University, College of Physicians and Surgeons, 601 Madison Ave., New York City.

Herbert L. Burrell, M.D., Professor of Clinical Surgery, Harvard Medical School, 22 Newbury St., Boston.

Frederick Henry Gerrish, M.D., Professor of Surgery, Medical School of Maine, 675 Congress St., Portland, Me.

William S. Halsted, M.D., Professor of Surgery, Johns Hopkins University, Medical School, Baltimore.

Rudolph Matas, M.D., Professor of General and Clinical Surgery, Tulane University of Louisiana, 2255 St. Charles Ave., New Orleans.

Lewis S. McMurtry, M.D., Professor of Abdominal Surgery and Gynecology, University of Louisville, Medical Department, The Atherton, Fourth and Chestnut Sts., Louisville, Ky.

William L. Rodman, M.D., Professor of the Principles of Surgery and Clinical Surgery, Medico-Chirurgical College, 1904 Chestnut St., Philadelphia.

Harry M. Sherman, M.D., Professor of the Principles and Practice of Surgery, University of California, Medical Department, 2210 Jackson St., San Francisco.

SECTION 7.—OBSTETRICS AND GYNECOLOGY

Chairman: Joseph B. DeLee, M.D., Professor of Obstetrics, Northwestern University Medical School, 810-34 Washington St., Chicago.

John G. Clark, M.D., Professor of Gynecology, University of Pennsylvania, Department of Medicine, 2017 Walnut St., Philadelphia.

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Ernest S. Lewis, M.D., Professor of Obstetrics and Gynecology, Tulane University of Louisiana, 124 Baronne St., New Orleans.

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Henry Schwartz, M.D., Professor of Obstetrics and Gynecology, Washington University, Medical Department, St. Louis.

J. Whitridge Williams, M.D., Professor of Obstetrics, Johns Hopkins University Medical School, 1128 Cathedral St., Baltimore.

SECTION 8.—DISEASES OF THE EYE, EAR, NOSE AND THROAT

Chairman: George E. deSchweinitz, M.D., Professor of Ophthalmology, University of Pennsylvania, Department of Medicine, 1705 Walnut St., Philadelphia.

Diseases of the Eye

Edward Jackson, M.D., Professor of Ophthalmology, University of Colorado, School of Medicine, 1434 Glenarm St., Denver.

Myles Standish, M.D., Assistant Professor of Ophthalmology, Harvard Medical School, 256 Newbury St., Boston.

William H. Wilder, M.D., Professor and Head of the Department of Ophthalmology, University of Chicago, 103 State St., Chicago.

Diseases of the Ear

Clarence John Blake, M.D., Professor of Otology, Harvard Medical School, 226 Marlboro St., Boston.

B. Alexander Randall, M.D., Clinical Professor of Diseases of the Ear, University of Pennsylvania, Department of Medicine, 1717 Locust St., Philadelphia.

Frank C. Todd, M.D., Professor of Ophthalmology and Otology, University of Minnesota, College of Medicine, 304 Pillsbury Bldg., Minneapolis.

Diseases of the Nose and Throat

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SECTION 9.—DERMATOLOGY AND VENEREAL DISEASES

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SECTION 10. HYGIENE, MEDICAL JURISPRUDENCE AND MEDICAL ECONOMICS

Chairman: F. F. Wesbrook, M.D., Professor of Pathology and Bacteriology, University of Minnesota, College of Medicine, Minneapolis.

Charles V. Chapin, M.D., Superintendent of Health, Providence, R. I.

Irving Fisher, Ph.D., Professor of Political Economy, Yale University, 460 Prospect St., New Haven, Conn.

John S. Fulton, M.D., Secretary-General, Sixth International Congress on Tuberculosis, 714 Colorado Bldg., Washington, D. C.

J. N. McCormack, M.D., Secretary Kentucky State Board of Health, Bowling Green, Ky.

C. O. Probst, M.D., Secretary Ohio State Board of Health, Columbus, Ohio.

M. P. Ravenel, M.D., Professor of Bacteriology, University of Wisconsin, Madison, Wis.

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M. J. Rosenau, M.D., U. S. Public Health and Marine-Hospital Service, Washington, D. C.

Victor C. Vaughan, M.D., Professor of Hygiene and Physiologic Chemistry, University of Michigan, College of Medicine, Ann Arbor, Mich.

COLLABORATORS

Besides the regular members of the subcommittees there was a number of collaborators, or corresponding members to whom credit is due for many suggestions and much valuable assistance. These are as follows:

ANATOMY

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Robert Bennet Bean, M.D., Associate Professor of Anatomy, Philippine Medical School, Manila, P. I.

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PHARMACOLOGY, TOXICOLOGY AND THERAPEUTICS

E. D. Brown, M.D., Acting Professor of Materia Medica and Pharmacology, University of Minnesota, College of Medicine, Minneapolis.

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HYGIENE, MEDICAL JURISPRUDENCE AND MEDICAL ECONOMICS

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Henry Martyn Bracken, M.D., Secretary and Executive Officer of the Minnesota State Board of Health and Professor of Preventive Medicine, University of Minnesota, Minneapolis.

George W. Fuller, Hydraulic and Sanitary Engineer, New York City.

Allen Hazen, Hydraulic and Sanitary Engineer, New York City.

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Herbert D. Pease, M.D., Director of the New York State Department of Health Laboratories, Albany.

Robert Spurr Weston, Sanitary Engineer, Boston.

George C. Whipple, Sanitary Engineer, New York City.

Iowa June Report

Dr. Louis A. Thomas, secretary of the Iowa State Board of Medical Examiners, reports the written examinations held at Des Moines, June 1-3 and 22-23, 1909, and at Iowa City, June 9-11, 1909. The number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 99, of whom 92 passed and 7 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
George Washington University	(1908)	79.5
Northwestern University Medical School	(1906) (1907) (1908) (1909)	88.7; 84; 79.2; 77.9, 83.1.
Hahnemann Medical College and Hospital	(1907) (1908) (1909)	75.4; 83.1; 84.5.
College of Physicians and Surgeons, Chicago	(1909)	84.1, 85.1, 86.4, 88.2.
Rush Medical College	(1905) (1906)	90; 90.1
Drake University	(1909)	75, 79.4, 79.7, 80, 81.5, 82.7, 83.6, 83.7, 84.9, 85.5, 86, 86.2, 87.9, 88.7, 89.4, 89.6, 89.7, 90.2.
University of Iowa, College of Medicine	(1909)	77.9, 80.6, 81, 82.1, 82.2, 82.2, 83.6, 83.7, 83.7, 84, 84.1, 84.2, 84.5, 84.5, 84.7, 84.9, 85, 85.2, 85.4, 85.4, 85.5, 85.9, 86.2, 86.4, 86.6, 86.4, 86.9, 86.9, 87, 87.1, 87.2, 87.4, 87.4, 87.7, 88, 89, 89.4, 90, 90.6, 91, 92.4, 92.6.
University of Iowa, College of Homeopathic Medicine	(1909)	86.5, 86.9, 89.5.
Sioux City College of Medicine	(1909)	75.2, 76.9
Johns Hopkins University	(1909)	81.6, 84.1
St. Louis College of Physicians and Surgeons	(1909)	76.5, 78.
Washington University, St. Louis	(1894)	76.7
University of Missouri	(1909)	82.5
University Medical College, Kansas City	(1909)	76.9
Creighton Medical College	(1909)	86.7
Ohio Medical University	(1896)	84.2
Jefferson Medical College	(1909)	90.1
Wisconsin College of Physicians and Surgeons	(1909)	80.2
Marquette University, Milwaukee	(1909)	77.4
FAILED		
Chicago College of Medicine and Surgery	(1909)	69.2
Keokuk Medical College	(1900)	65.4
Keokuk Medical College, College of Physicians and Surgeons	(1901) (1906)	65.7;* 66.7.†
Drake University	(1909)	72.
University of Iowa	(1906)	67.6**
St Louis College of Physicians and Surgeons	(1909)	53.1

* Second examination. ** Third examination. † Fourth examination.

Marriages

William Edgar Lower, M.D., Cleveland, Ohio, to Miss Mabell Loring Freeman of Worcester, Mass., September 14.

Gideon Harmer Patton, M.D., Philadelphia, to Miss Martha Emerick of Harrisburg, Pa., at Philadelphia, September 15.

Charles Walter Waddell, M.D., Fairmont, W. Va., to Miss Myrtle DeVene Shaw Hoult, of Baltimore, September 14.

Guy Luvergne Bliss, M.D., Three Rivers, Mich., to Miss Edith Gertrude Smith, of Oskaloosa, Iowa, September 1.

Emil Francis Tholen, M.D., Tropico, Cal., to Miss Mary Sydney Shephard of Fort Madison, Iowa, September 15.

George Stanberry Walker, M.D., to Miss Mabel Robinson, both of DeLand, Ill., at Bloomington, Ill., September 15.

James B. Padgham, M.D., Donahue, Iowa, to Miss Ida Louise Battey of West Liberty, Iowa, September 8.

Francis Albert Brugman, M.D., Minot, N. D., to Miss Mabel V. Shalla of Iowa City, Iowa, September 15.

Edward Carlon Ferguson, M.D., to Miss Etta Louise Schwartz, both of Edwardsville, Ill., September 7.

William Frederick Zierath, M.D., to Miss Lydia Clair Hoehle, both of Sheboygan, Wis., September 17.

Gustavus Charles Dohme, M.D., Baltimore, Md., to Miss Ada Frances Chinn, at Baltimore, September 15.

E. Carlton Foster, M.D., Penn Yan, N. Y., to Miss Pearl A. Wixom of Hammondsport, N. Y., September 9.

John W. Sneed, M.D., Brentwood, Tenn., to Miss Margaret Williams of Nashville, Tenn., September 15.

J. Burton Rutherford, M.D., to Miss Bessie H. Shipley, both of Wilmington, Del., September 20.

Wibb Earl Cooper, M.D., U. S. Army, to Miss Pearl Herron of Nashville, Tenn., September 15.

Lewis Carthrae, Jr., M.D., Corder, Mo., to Miss Ella Mallonee of St. Louis, September 1.

Elijah C. Trout, M.D., to Miss Vernice L. Petty, both of Birds, Ill., September 8.

Deaths

William Christopher Krauss, M.D. Bellevue Hospital Medical College, New York City, 1886; University of Berlin, Germany, 1888; of Buffalo, N. Y.; a member of the American Medical Assotion and American Neurological Association; a member of the board of managers of the Buffalo State Hospital; medical superintendent of the Providence Retreat for the Insane; consulting neurologist to the Buffalo General, Erie County, German Deaconess, Emergency and Woman's hospitals, and the Buffalo Eye and Ear Infirmary; one of the editors of the *Buffalo Medical Journal*; an alienist and neurologist of repute; author of a work on syringomyelia and other spinal cord tumors; and translator of Mendel's work on "Psychiatry, a Study of Insanity," died suddenly in the New York Hospital, September 21, from nervous breakdown, aged 45.

Thomas Hovey Gage, M.D. Harvard Medical School, Boston, 1852; medical director and vice-president of the State Mutual Life Assurance Company, Worcester, Mass.; an original trustee of Washburn Memorial Hospital; a trustee and treasurer of Clark University; president of the Massachusetts Medical Society from 1886 to 1888; a member of the American Antiquarian Society; in charge of the hospital ship *Knickerbocker* during the Civil War; for many years a member and president of the board of trustees of the Worcester City Hospital; died at his home, September 17, from heart disease, aged 83.

George Howell, M.D. University of Michigan, Ann Arbor, 1863; a member of the Michigan State Medical Society, and for many years a member of the American Medical Association; from 1882 to 1886 a member of the legislature and for one term state senator; for fifteen years a member of the board of education, and one year president of the village of Tecumseh, Mich.; died at the home of his daughter in Macon township, September 14, from cerebral hemorrhage, aged 72.

James Galloway Buchanan, M.D. New York University, New York City, 1848; of Pittsburg, Pa.; local surgeon to the Pennsylvania System for 49 years; a member of the staff of the Allegheny General Hospital; surgeon of the Thirty-second and One Hundred and Twenty-fifth Ohio Volunteer Infantry throughout the Civil War; one of the oldest practitioners of western Pennsylvania; died at the home of his daughter in Pittsburg, September 14, aged 85.

John W. Coffin, M.D. Western Reserve University, Cleveland, 1889; a member of the American Medical Association; formerly of Beaver Falls, Pa.; major and surgeon of the Tenth Pennsylvania Infantry, U. S. V., during the Spanish-American War; and later in charge of the Bilibid Hospital, Manila; after his removal to Texas, captain and assistant surgeon in the Texas National Guard; died at his home in El Paso, September 16, aged 42.

George Lafayette Martin, M.D. College of Physicians and Surgeons, Baltimore, 1877; a member of the South Carolina Medical Association; for eight years supervisor of vaccination and quarantine for the Piedmont section of South Carolina under the State Board of Health; died at his home near Greenville, September 16, aged 55.

Richard S. Forsyth, M.D. Detroit (Mich.) College of Medicine, 1892; of Houston, Texas; a member of the American Medical Association; formerly local surgeon to the Northwestern System at Escanaba and physician of Delta county, Mich.; died at his summer home in La Porte, Texas, September 10, aged 42.

Joseph W. Wassall, M.D. College of Physicians and Surgeons, Chicago, 1884; of Chicago; a member of the American Medical Association; for several years dentist to the Czar of Russia; was washed from the deck of a yacht in Lake Michigan, off Racine, Wis., September 18, and drowned, aged 51.

Henry E. Thornton, M.D. Barnes Medical College, St. Louis, 1901; a member of the American Medical Association; died at his home in Maplewood, St. Louis, September 12, from the effects of carbolic acid, taken, it is believed, with suicidal intent, aged 30.

Philip G. Nichols, M.D. Missouri Medical College, St. Louis, 1872; for fifty years a practitioner of Pike county, Mo.; a clergyman of the Methodist Episcopal Church South; died at his home in Ashley, September 11, from cerebral hemorrhage, aged 69.

Benjamin L. Stovall, M.D Memphis (Tenn.) Hospital Medical College, 1884; of Lonoke, Ark.; a member of the Arkansas Medical Society; died in the Physicians and Surgeons' Hospital, Little Rock, Ark., September 14, from nephritis, aged 50.

William Benjamin Artz, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1878; for six years a member of the council of Osage City, Kan., and for four years mayor of the city, died at his home, September 12, from asthma, aged 59.

Julius B. Huber, M.D. Beaumont Hospital Medical College, St. Louis, 1896; of South St. Louis; a member of the Missouri State Medical Association; died in St. Anthony's Hospital, St. Louis, September 15, from tuberculosis, aged 49.

Alfred Meyers Fisher, M.D. Jefferson Medical College, Philadelphia, 1890; of McAlisterville, Pa.; died in Lebanon, Pa., May 22, from the effect of hydrocyanic acid, self-administered, it is believed with suicidal intent, aged 40.

Grenville Smith Stevens, M.D. College of Physicians and Surgeons, New York City, 1854; for more than half a century a practitioner of Providence, R. I.; died at his home in Edgewood, Providence, September 16, aged 80.

G. N. Harcy, M.D. University of Budapest, Hungary, 1848; surgeon in the Austro-Hungarian service, and exiled with Kossuth in 1852; died at his home in Bellevue, Ohio, September 14, from a congestive chill, aged 79.

Augustus Benjamin Southwick, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1867; physician to the Rome (N. Y.) City Hospital; died at his home in that city, September 11, from pneumonia, aged 69.

John Dambach, M.D. University of Buffalo (N. Y.), 1868; a member of the Medical Society of the State of New York; surgeon of volunteers during the Civil War; died at his home in Buffalo, September 15, aged 67.

Winfield Scott, M.D. Medical College of Ohio, Cincinnati, 1877; of Senecaville, Ohio; while making a professional call in Byesville, Ohio, died suddenly, September 14, from heart disease, aged 61.

John Sydenham Wilson, M.D. Kansas City (Mo.) Medical College, 1874; a member of the State Medical Association of Texas; died suddenly at his home in Houston, Texas, September 12, aged 59.

Ezra A. Palmer, M.D. University of Michigan, Ann Arbor, 1876; Northwestern University Medical School, Chicago, 1886; died at his home in Hartford, Mich., September 18, from nephritis, aged 62.

John Wheeler Pray, M.D. Harvard Medical School, Boston, 1879; a member of the New Hampshire Medical Society; died at his home in Northwood, June 19, from tuberculosis of the bowels, aged 57.

Charles Henry Springer, M.D. Wooster University, Cleveland, Ohio, 1882; of Cleveland; died in the Cleveland City Hospital, September 17, it is said, as the result of drug addiction, aged 48.

Fremont C. Warne (license, Mich., years of practice, 1900); one of the oldest practitioners of northern Michigan; died at his home in East Jordan, September 12.

William H. C. Moore, M.D. Rush Medical College, Chicago, 1867; died at his home in Essex, Iowa, September 4, from carcinoma of the stomach, aged 68.

Clarence Stephen Perry, M.D. Long Island College Hospital, Brooklyn, N. Y., 1885; died at his home in South Brooklyn, September 16, from pleurisy, aged 44.

Truman Squire Sumner, M.D. New York University, New York City, 1871; died at his home in Brooklyn, September 17, from nervous breakdown, aged 62.

Ernest E. Adelsberger, M.D. University of Maryland, Baltimore, 1902; died at his home in Baltimore, September 16, from tuberculosis, aged 30.

Daniel Young, M.D. formerly of Adolphustown, Ont., died at his home in Toronto, February 22, from edema of the lungs, aged 77.

Carl Schleifenheimer (license, Berks county, Pa.); died at his home in Reading, Pa., August 6, aged 81.

Sir Stephen Mackenzie, M.D. Aberdeen, 1875; M.R.C.S., England, 1869; F.R.C.P., London, 1879; of London, England; medical registrar and assistant physician of the London Hospital; formerly president of the Metropolitan Counties Branch and president of the section of medicine of the British Medical Association in 1897; formerly president of the Hunterian Society; lecturer on medicine and pathology in the London Hospital Medical Society; consulting physician to many London hospitals; Lettsomiam lecturer on the pathology, symptoms and treatment of anemia before the Medical Society of London in 1891; orator of the same society in 1902, when he delivered the annual oration on "The Powers of Natural Resistance, or the Personal Factor in Diseases of Microbic Origin;" an untiring research worker, whose labors on albuminuric retinitis, filariasis, sleeping sickness and anemia were especially notable; died at the home of his son in Dorking, Surrey, September 3, aged 64.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Medical Defense Adopted in Michigan

The Michigan State Medical Society at its recent meeting in Kalamazoo adopted the plan of medical defense proposed a year ago. The by-laws of the state society were amended so as to provide for: (1) an initial assessment of $1.50 from each member of the state society for the year 1910; (2) an annual per capita assessment thereafter of $1 per year; (3) a standing committee on medical defense consisting of an executive board of five and one member from each county society. The executive board is to be elected by the council for five years. The other members of the standing committees are to be elected by the county societies for one year. The chairman of the executive board, to be elected by the council of the state society for a term of one year, is to be the custodian of the defense fund. The executive board is authorized to retain by the year a competent firm of attorneys. Any member not in arrears is entitled to the benefits of the medical defense plan when sued or threatened with suit for civil malpractice. Dues must be paid before June 1. No member is entitled to defense in a suit the cause of which arose while the member was in arrears. Two years' liability is assumed for each member, provided suit was threatened or begun before the member joined the society or before the medical defense plan was established. Suits brought against the estate of a deceased member are also defended. All attorneys' fees and court costs are to be paid from the defense fund, but no damages assessed against any defendant will be paid. Each county society in the state is given the right to withdraw from the benefits of the medical defense plan on a majority vote of all of the members of the society.

The adoption of this feature by the Michigan State Medical Society is an extension of medical defense from the Wayne County Medical Society to the rest of the state, the plan having been first tested in Detroit. In many points the development of medical defense in Michigan is similar to that in Illinois, in which it was first taken up by the Chicago Medical Society, and later extended to the entire state. The proposed plan was submitted to the county societies and has been thoroughly and carefully discussed during the past year. Its adoption by a practically unanimous vote shows that the members of the state society were thoroughly convinced of the value of the plan. A number of objections similar to those raised in other states were made against the proposal. It is safe to say, however, that in the course of a year all of these objections will disappear in the light of practical experience and that the medical defense feature will become one of the most valued of membership privileges.

Medical Poor Relief in England

The supplement to the *British Medical Journal* for August 21 contains an address on "The Medical Aspect of the Report of the Royal Commission on Poor Law Reform" by Dr. H. Manley, President of the Birmingham branch of the British Medical Association. His discussion of medical relief of the poor is of particular interest in view of the recent consideration given the abuse of medical charities by some of our larger local organizations. Dr. Manley says: "The recent showing of the report of the Poor Law Commission has furnished me with an opportunity of discussing the grievous disabilities under which we are laboring as a profession. . . . Never has there been a moment in our professional history when there was greater need or greater opportunity for the general medical practitioners of this country to decide for themselves what is to be done for them and then to take united action to induce . . . the great departments of the state to recognize and to protect a body of its most highly trained citizens who are indispensable to its welfare and who receive a very scant return, either in cash or courtesy, for the services rendered to the public and to the government."

After discussing the lack of united action, which he considers the cause for this condition, Dr. Manley states that there are at present in England and Wales 3,713 physicians holding appointments as district medical officers, who in the past year attended 216,022 patients, in addition to those who were also in receipt of regular parish pay and to inmates of the poor law infirmaries. This relief he estimates to have cost about $2,500,000, which does not, however, represent the net income of the district medical officer, many of whom, according to the report of the Royal Commission, do not receive more than eight or twelve cents a visit. Dr. Manley also criticizes the details of administration and the character of relief afforded under the present poor law and concludes. "In plain English, a great part of this half million of money is spent in providing the poor with bottles of medicine—a dark medicine with a strong taste, preferably that of peppermint. . . . As the local medical humorist wrote, 'You just tell the medicine by the corks. If the cork is black you know it's the iron tonic; if it is stained brown with a crust on it, its the rhubarb and soda; and if it isn't any color at all it's the salts and the quassia. The pot. nit. you can tell by the taste, and the asafetida and bromid by the smell. And that's all, except the cough mixture, which smells of paregoric. It's only fools as wants prescription books.'"

Dr. Manley reviews at length the report of the Royal Commission as well as the minority report submitted by two members, and from the entire discussion draws the following conclusions: "It is abundantly evident that we are on the eve of great and sweeping changes in the administration of medical aid. The reform of the poor law . . . is inevitable. . . . Two schemes will be before the country: (1) The arrangement of all medical relief on a provident basis; (2) the establishment of a state medical service with power to the state to recover the cost from those who can afford to pay." Owing to the higher ratio existing in England between the number of physicians and the total population as compared with the United States, as well as the relatively larger number of persons coming under the operation of the poor laws in England, this question is one of great importance to the British medical profession. In both the question of contract practice and that of the administration of medical charities, we can learn much from the experiences of English physicians, and can perhaps profit by the attempts that have been and are being made in England to solve these questions equitably. The report of the Royal Commission, as well as the discussion thereon, should be read and carefully considered by those interested in similar problems in this country.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Second Month—First Weekly Meeting

DISEASES OF THE BRAIN

Anatomy of Brain

Membranes of Brain: (1) Dura mater—structure, attachments; (2) arachnoid—structure, subarachnoid space; (3) pia mater—structure.

Portions of Brain: Medulla, pons Varolii, cerebellum, midbrain, cerebrum.

Ventricles: Lateral, third, fourth, foramen of Majendie, aqueduct of Sylvius, communications, contents.

Distribution of Gray Matter: (1) In the bulb; (2) in the pons; (3) in the midbrain; (4) in the cerebrum; (5) in the cerebellum.

Structure of Bulb: Shape, size, surfaces, white matter, gray matter, pyramids, olives, restiform bodies, funiculi, corpora quadrigemina.

Structure of Pons: Distribution of white and gray matter.

Structure of Midbrain: White and gray matter, aqueduct, fillet. Crus cerebri. Origin of cranial nerves.

Cerebellum: Vermis, hemispheres, peduncles, white and gray matter.

Cerebrum: Hemispheres, corpus callosum, cortex, lobes, basal ganglia, corpus striatum, optic thalamus, internal capsule, corona radiata, projection fibers, association fibers, commissural fibers.

Blood-Vessels: (a) To meninges; (b) to pia and brain substance. Circle of Willis and branches. Charcot's "artery of cerebral hemorrhage." Cerebral veins and sinuses.

Physiology of the Brain

Sensori-Motor Area: Fissure of Rolando, anterior and posterior central gyri, paracentral lobule, operculum, third frontal gyrus. Leg, arm and head regions. Hemiplegia, monospasm, Jacksonian epilepsy. Muscular sense, parietal lobes. Pressure, pain, temperature, sense.

Speech Areas: Sylvian fissure, third frontal convolution, motor aphasia. First and second temporal convolutions, sensory aphasia. Visual speech area, lower parietal. Right- and left-handed persons.

Sight Area: Occipital lobes, hemianopsia. Two visual centers.

Sound Area: First and second temporal convolutions.
Psychic Centers: Frontal lobes. "Silent Areas."
Functions of Cerebellum: Co-ordination, psychical functions, location of function.
Functions of Medulla: Respiratory and circulatory centers.
Cerebral Topography: Fissure of Rolando, fissure of Sylvius. Horseley's method, Kronlëin's method, Chiene's method.

Society Proceedings

COMING MEETINGS

Amer. Academy of Ophth. and Oto-Laryngology, New York, Oct. 4-6.
Amer. Association of Railway Surgeons, Chicago, October 20-22.
Assn. of Military Surgeons of U. S., Washington, D. C., October 5-8.
American Public Health Association, Richmond, Va., October 19-22.
Delaware State Medical Association, Dover, October 8.
Indiana State Medical Association, Terre Haute, October 7-8.
Kentucky State Medical Association, Louisville, October 19-21.
Minnesota State Medical Association, Winona, October 13-14.
Mississippi Valley Medical Association, St. Louis, October 12-14.
South Dakota State Medical Association, Aberdeen, October 6-8.
Vermont State Medical Assn., White River Junction, Oct. 14-15.
Virginia, Medical Society of, Roanoke, October 5-8.
West Virginia State Medical Association, Elkins, October 6-8.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Twenty-Second Annual Meeting, Held at Fort Wayne, Ind., Sept. 21-23, 1909

The President, Dr. William Henry Humiston, Cleveland, Ohio, in the Chair.

An address of welcome was made by Dr. H. A. Bruggemann, president of the Fort Wayne Medical Society, and was responded to by Dr. James Edgar Sadler, Poughkeepsie, N. Y.

Advantage of the Combined Intraperitoneal and Extraperitoneal Urethro-Lithotomy for Removal of Stones from Lower Ureter

Dr. Ernst Jonas, St. Louis: In this paper I call attention to the respective value of the various methods of examination in the diagnosis of ureteral stone and emphasize the importance of not relying on any one of these methods, but on a combination of all of them. Particularly important are repeated examinations of the urine, especially after attacks of kidney colic, and thorough physical examination with repeated vaginal and rectal examinations, good radiographs, and cystoscopic examination, with catheterization of the ureters.

The proper operation for the removal of stones from the lower ureter (brim of the pelvis down to the bladder) must not only offer the simplest technic but must permit an examination for possible etiologic factors, as adhesions around the appendix, tubes and ovaries, or retroflexion of the uterus. The above conditions may produce ureteritis, periureteritis, or increase the normal bend of the ureter to such a degree that it becomes kinked. As a result, small kidney stones may be arrested or increased in size in the ureter, or a stone may be primarily formed in the ureter and remain there *in situ*. The only operation which enables us to remove these causes for ureteral stone and thus prevent recurrence of the stone is the combined intraperitoneal and extraperitoneal ureterolithotomy. The intraperitoneal steps serve for the repair or removal of such pathologic conditions, and in addition facilitate the finding of the ureteral stone. The extraperitoneal steps serve for the removal of stone. I advocate, therefore, that the combined intraperitoneal and extraperitoneal ureterolithotomy become the typical operation for the removal of stones from the lower ureter.

DISCUSSION

Dr. John Young Brown, St. Louis: In my own work, and in watching the work of others, I have frequently been impressed with the fact that the appendix may be removed when macroscopically there seems to be no indication that it was at fault. The anatomic relationships of the appendix and ureter are interesting. During the last year I have been studying this by cross-section work and by injecting the appendix with bismuth, doing skiagraphic work in all cases sent to my clinic with a diagnosis of appendicitis, in which I have found stones in the ureter, but in which the appendix was not diseased. I do not know of any condition that is more difficult to differentiate than certain forms of chronic appendicitis and stones in the ureter. In the last year I have had nine cases, three of them being in physicians in whom the differential diagnosis was exceedingly difficult. In one case I found a shadow of a supposed stone in the ureter, which proved to be a concretion in the appendix. I removed the appendix, which was retrocecal. In another case a physician's brother was sent to me with a diagnosis of appendicitis. I found blood in the urine. Roentgen examination seemed to indicate stone in the ureter. I did the combined operation, and removed not only a stone from the ureter but the appendix, which was adherent to the right ureter, and I am inclined to believe that the condition around the appendix had a good deal to do with the development of the stone in the ureter.

Dr. A. H. Ferguson, Chicago: A man presented himself at the Chicago Hospital on Sept. 15, 1909, with the following history: Four years ago he had a very severe attack of kidney colic, in the left kidney. He was laid up two weeks, and since then has had several minor attacks, referable to the region of the ureter. The patient is a healthy man of 58. The radiographs showed a stone in the lower end of the left ureter, between one and two inches from the bladder. The sound and cystoscope revealed nothing of the nature of calculus in the bladder. The left ureteral orifice protruded somewhat and was a trifle redder than normal. The patient was given, besides the usual preparation for laparotomy, hexamethylenamin and methylen blue. The anesthetic was ether, given by the drop-method. A skin incision was made directly over the external ring, extending upward along the course of the inguinal canal for five inches. The aponeurosis of the external oblique muscle was opened freely, exposing the entire inguinal region, and internal oblique muscle. The internal abdominal ring was enlarged without opening the peritoneal cavity. The transversalis fascia was severed along the entire length of the incision, exposing the deep epigastric vessels which were ligated and cut. The vas deferens was taken as the guide to the ureter. It was followed by blunt dissection to the base of the bladder. The sigmoid and small bowel were pressed toward the median line by gauze sponges. To obtain sufficient room to admit the hand, the origin of the internal oblique and transversalis muscles was severed from Poupart's ligament for a distance of two inches. This afforded room to reach and explore the ureter from the pelvic brim to the base of the bladder. The stone was felt in the ureter. An effort was then made to milk it into the bladder or toward the kidney. Both these measures proved impossible. An incision was made into the ureter, parallel to its long axis, about one inch below the brim of the pelvis. A stout catgut ligature had been passed around the duct as a guy-rope. The ureter was empty. There was no staining of the tissues with methylene blue. It was thus evident that anuria existed in the left kidney. An olive, flexible, bougie was passed into the ureter and the stone located. The grating of the probe against the stone could be distinctly heard. Another attempt was made to shove the stone into the bladder, but it was unsuccessful. Then a long, curved, alligator-jawed forceps was passed into the opening in the ureter. The stone was seized in its blades and carefully extracted. The entire course of the ureter from kidney to bladder was explored and found perfectly clear. No attempt was made to suture the ureter. The loose tissues on either side of the wound were drawn together, and the same suture caught about a gauze drain, covered with rubber tissue. This drain was brought out, at the upper angle of the wound. The cord was left behind the transversalis fascia. This structure, with the transversalis and internal oblique muscles were sutured to Poupart's ligament. The lower angle of the wound was drained with a cigarette drain which passed down to the side of the bladder. The external oblique was closed with continuous catgut suture, and the skin with silkworm gut sutures. A catheter was passed into the bladder to keep it empty. The procedure varies with the side of the body. If the colicky attacks are on the right side, the appendix must be thought of, and there is an indication for opening the abdomen. If the attacks are on the left side, and the patient is a man, there is no indication for opening the abdomen because such a stone can be removed more safely without the complication of an additional cut in the peritoneum. In women these stones can be reached through the bladder, when they are low down, depending on the size, etc.

Dr. H. W. Longyear, Detroit: I have seen many operations on the appendix that were not justified and were prompted by the pain in the ureter under a mistaken diagnosis. In these cases we see more or less of what we may call storms of uric acid coming from intestinal toxemia. Large quantities of uric acid are thrown out from the kidney, passed down the ureter, causing inflammation of the ureter and pain, and when the pain is on the right side the condition is apt to be mistaken for appendicitis, and the temperature arising from the toxemia simulates appendicitis still more.

Dr. Miles F. Porter, Fort Wayne, Ind.: I recall a recent case in which there was typical ureteral colic and anuria. The patient had had nephritis for years. In this case, as the subsequent post-mortem revealed, there was no calculus formation whatever. Moreover, the case illustrated the value of the skiagraph. The skiagram in this case showed no ureteral calculus.

Dr. C. C. Frederick, Buffalo: There is no question but what there are many cases of pain in the right ureter for which the appendix in the past has been blamed and removed. I have seen a number of cases of this kind in my own practice as well as in that of others, and I have been forced during the last three or four years to a realization of the fact that pain on the right side on pressure deep down over McBurney's point does not always mean that a patient has chronic appendicitis, and I believe that in many instances the trouble is in the ureter.

Dr. M. I. Rosenthal, Fort Wayne, Ind.: Four or five years ago I reported a case of ureteral stone, complicating appendicitis. This was the only case I had then seen of ureteral calculus complicating appendicitis. Since then I have been careful to investigate the right ureter in operations for appendicitis, but I have not seen another such case. This would indicate that this complication is not frequent, although it does occur.

Dr. Hugo O. Pantzer, Indianapolis: In operating on a case of gangrenous cholecystitis, with a discharge of the contents of the gall-bladder into the peritoneal cavity, I was led to examine lower down and found that at the bifurcation of the abdominal aorta a number of stones which were hard and fixed to the feel. I removed one of these stones and found it to be a calcareous degeneration of tuberculous glands. The history of the case would seem to show that this woman, 50 years of age, had in early life a tuberculosis of this part.

Dr. John W. Keefe, Providence, R. I.: In one case I introduced a wax-tipped catheter and found markings on the wax. The catheter was introduced in the pelvis of the kidney, and on the day the patient was to be operated on I again passed the wax-tipped catheter to the kidney, made my incision in the loin, and found the catheter in contact with a stone in the kidney, showing that the first markings on the wax were correct.

Dr. K. I. Sanes, Pittsburg, cited a case illustrating the difficulty of making a differential diagnosis between ureteral trouble and appendicitis, saying that this difficulty is not only encountered in chronic but in acute cases of appendicitis.

(*To be continued*)

MICHIGAN STATE MEDICAL SOCIETY

Forty-Fourth Annual Meeting, held at Kalamazoo, Sept. 15-16, 1909

(Continued from page 1048)

Syphilis of the Liver—Unusual Types

Dr. A. R. Edwards, Chicago: Syphilis of the liver is not fully appreciated either in practice or in the literature. Syphilis of the liver typically includes gummata and syphilitic cirrhosis. Aside from the close resemblance to cancer frequently presented by large and multiple gummata, cancer is frequently simulated by hepatic syphilis when gummata in the liver are attended by pain, ascites, icterus and emaciation. Alimentary symptoms are common in hepatic syphilis. A luetic cachexia may make differentiation impossible except by the therapeutic test, etc. In a second group of cases, gummata may exactly mimic abscess of the liver; deception is most likely when gummata cause fever, chills, hepatic tenderness, pain and enlargement; leucocytosis, emaciation and even fluctuation may be observed also. In a third series, local hepatic symptoms are lacking and the rigors, fever, sweats, etc., may simulate malaria, typhoid, tuberculosis, or septicopyemia; the course may cover weeks or months. In a fourth group, gall-stones, cholecystitis or calculous obstruction of the common duct are suggested until the specific remedies or operation disclose the error. In the fifth group the symptoms are almost identical with those of alcoholic cirrhosis; even in far-advanced cases recovery may ensue under mercury and iodids. The sixth type is syphilitic pylephlebitis, of which an exceptional instance was reported; the course covered over four months and was first diagnosticated septic pylephlebitis. There was sudden pain over the portal vein with a precipitate and extreme ascites, great variations in temperature which frequently rose and fell six or eight degrees in a day, severe rigors, and profound anemia and emaciation. Rather late, syphilis was considered and recovery was immediate.

DISCUSSION

Dr. W. F. Breakey, Ann Arbor, Mich.: In acquired syphilis particularly, and that in early life the activity of this large gland must account in a large degree for the liver being the seat by preference of all the attacks of syphilis on the abdominal viscera. In all cases a thorough investigation should be made to determine the diagnosis. Many patients consult a physician with an obscure history or none at all; and even when a patient does not intend to deceive there may be abundant reason for suspecting syphilis. The period of latency is usually uncertain, and it may cover a considerable number of years, and while the physician may prescribe treatment as an aid to diagnosis, yet he is entirely justifiable in so doing when other measures have been followed and no clew results. If with the modern tests for syphilis the *Spirochæta pallida* is found, the way is clear, and there is no hesitation as to what to do. If the spirochetes are not found, and they often are not, and a longer period elapses during which the disease is suspected, in the absence of clear and definite physical signs by which we may determine carcinoma or nodular conditions of the liver, it is right, in my opinion, to try antisyphilitic treatment. Our function as physicians is to treat this disease and to lessen it, if it is not possible for us to stamp it out. I do not see why it is not just as feasible to try to stamp out syphilis as tuberculosis. There is need for higher requirements by teaching bodies and examining boards on the subject of syphilis. We should encourage the study of this disease, and one essential thing is to disabuse the public mind of the disgrace of it, because so many patients who have the disease have acquired it innocently.

Dr. Andrew P. Biddle, Detroit: I wish to refer specifically to gummatous lesions, and would emphasize the point that time has no limits in the formation of gumma. While it is usually taught that gumma is a late-appearing lesion, yet we know that a patient may have gumma in certain forms of destructive syphilis as early as the first few months. Another point is the relationship of syphilis to other obscure conditions. When we consider that the influence of syphilis is particularly on the blood-vessels and on the nervous system, we can easily see why there is such a variety of manifestations. We know how difficult it is, even when we see cancer on the face, to differentiate it from some of the lesions of syphilis, and it is no wonder that it is difficult sometimes to differentiate these lesions when they involve the internal organs. It is difficult with all the manifestations present to differentiate between cancer of the liver or simple gummatous formation of the liver.

Dr. J. Collins Johnston, Grand Rapids: As an illustration of the good results of what we may call the diagnostic use of syphilitic treatment in doubtful cases of the kind referred to by Dr. Edwards, I want to report briefly an interesting case in my own experience. A year-and-a-half ago I was called to see a man in a little town near Grand Rapids who had been ill for several months, the prominent symptoms being those of alcoholic cirrhosis of the liver. He had been in the hospital two or three weeks and had been seen by several physicians, all of whom diagnosed either cancer of the liver or alcoholic cirrhosis. He went to Ann Arbor and was sent home to die of alcoholic cirrhosis of the liver. I do not know what prompted me to think the case might be syphilitic. It was decided by the attending physician and myself that the man had no hope if the diagnosis already made was correct. He had been in bed several weeks. He had been tapped a number of times, large quantities of liquid being removed from the abdomen. We put him on hypodermics of mercury and iodids internally. Under this treatment he improved rapidly, and two or three months later appeared in my office. I have seen him several times during the last year and apparently he is absolutely well, but his liver still remains large. I would like to ask Dr. Edwards if in a case of hypertrophic cirrhosis or syphilitic cirrhosis the liver ever returns to its normal size.

Dr. Frank Smithies, Ann Arbor: Three cases have come under my notice recently, all of which gave the hemolytic test by the original Wassermann procedure. One case particularly had been diagnosed as pernicious anemia, on account of anemia and symptoms of cachexia; it had also been diagnosed as carcinoma. The patient vomited constantly, lost 60 pounds, and altogether was in a bad way. The Wassermann test revealed the absence of hemolysis. The patient, after having vigorous lavage, promptly stopped vomiting, and was put on combined treatment. I saw him recently and he has gained within two pounds of his gross weight, and feels well in every way. A patient seen last year had an epigastric tumor, but there were no marked gastric symptoms. The patient insisted on being operated on; a portion of the tumor was removed and was found to be a gumma of the liver. A third case showed a roundish tumor in the epigastrium, which appeared to be beyond the stomach. The stomach could be inflated and did not move the tumor, which did not have any relation to the large bowel. It had no relation apparently to the liver, yet on opening the abdomen it was found to be a large gumma that had a deep connection with the liver; it cleared up to a certain degree under the combined treatment. All these patients gave the Wassermann reaction by the original procedure. The first patient has not given such a prompt reaction since the beginning of the combined treatment.

Dr. Morton, Battle Creek: I would emphasize the fact that there is such a thing as luetic fever. In the last three or four years I have had three cases that puzzled me a great deal. These patients had been treated for tuberculosis. One of them had been kept on the usual dietetic and fresh air treatment for nearly three months, and kept a regular temperature chart. He came under my care, and I could find nothing the matter with his lungs. I could not find any evidence of trouble in the respiratory tract. The man gave a history of having had syphilis seventeen years previously. I observed him for a few days, during which time the temperature ranged from 102 to 104 F. every afternoon, and in the morning it ranged from 99 to 100 F. I had read Janeway's article on luetic fever, and had also seen cases reported, and I tried the iodid treatment. In two days his temperature was normal, and two days later he had no further trouble. The other two patients behaved in the same way. It should be impressed on the minds of practitioners, therefore, that there is such a thing as luetic fever. In the cases mentioned, there was no enlargement of the liver, and I could find no abnormal condition of any of the organs of the body.

Dr. W. M. Donald, Detroit: Is it not a fact, borne out by autopsies, that hepatic syphilis in prenatal or postnatal life is of the interstitial type? Is it not a fact that hepatic syphilis in later life is almost entirely gummatous?

Dr. Arthur R. Edwards, Chicago: It is true that interstitial hepatitis is more frequent in the hereditary than in the acquired type of syphilis; and the converse is true, although either form may be observed in either type of syphilis. As a rule, the liver remains larger afterward, although in some instances there is apparent recovery. In other instances the liver becomes smaller than normal. With regard to cases resembling pulmonary tuberculosis, the type described by Janeway, and suggesting tuberculosis in the absence of any visceral findings, one cannot say in such instances that temperature of that variety is always due to syphilis of the liver. It may be due to syphilis of the bones, or to syphilis of any of the viscera. I think that the hypodermic method of treating these patients gives more rapid results than any other method of administering the mercury, although it is sometimes painful and some patients will not tolerate it.

Aneurism of the Descending Thoracic Aorta

Dr. Johann Flinterman, Detroit: This condition is rare. In aneurism of the descending aorta, which often escapes detection, the earliest symptom is pain, and the patient complains of it before there is a single other physical sign or indication of the presence of a tumor. One patient, a man of 43, had an aneurism of the descending aorta. He suffered for a long time with severe pain only, and after it, about a year and a half later, from cough, dyspnea, then stridor, expectoration of blood, and paresis of the left recurrent nerve. Syphilis and lead poisoning were suspected. The diagnosis of aneurism is easy in many cases, but in others extremely difficult, often impossible. Auscultation, the condition of the heart and arteries, symptoms due to intrathoracic pressure, and most of all, the Roentgen rays, are the means of helping in the diagnosis.

DISCUSSION

Dr. A. S. Warthin, Ann Arbor: Syphilis plays the chief, if not the entire part in the etiology of aortic aneurism. The Wassermann reaction, and more recent studies of the lesions confirm the old pathologic view that these aneurisms are syphilitic in origin.

Dr. Hugo A. Freund, Detroit: It was my good fortune to witness the post-mortem examination on the case reported by Dr. Flinterman. It was an unusual aneurism, in that its dilatations were saccular from the main fusiform dilatation. There were three separate ones which went out in different directions, one going upward and backward, adherent to the long, and posterior surface of the ribs, as well as posterior part of the chest. The other dilatation went distinctly outward and to the left. The one from which rupture took place was over the surface of the left bronchus. The left lung was filled with blood, and was absolutely airless. There was considerable fluid in the left pleural cavity. The effusion was old and had been brought about by some process of irritation. There was nothing else in the lung. Even with the *x*-ray it was impossible to make a diagnosis of this aneurism, yet the post-mortem revealed an unusual specimen.

Dr. J. Collins Johnston, Grand Rapids: I wish to report a case illustrating the value of the *x*-ray in the diagnosis of aneurism. Several years ago a man came to me who had great pain in the side of the neck, which had continued for two years. For three months he had a slight swelling at the junction of the strenum, and left clavicle and soreness on pressure. This swelling was of the hardness of stone, and was circumscribed. Percussion did not show any dulness to the right of the sternum, and for about an inch to the left, extending down to the second interspace. there is a point of interest in connection with what the *x*-ray picture showed. There were no physical signs of aneurism other than that. At my first examination I thought it might be syphilitic, tuberculous, or some osteomyelitic disease, due to some other cause. There was no difference in the radials, no signs of pressure on the bronchus or esophagus. The heart was normal and in its location. The sounds at the apex and base were normal. There was no accentuation of the second sound. I sent the patient to an *x*-ray man and he got a beautiful picture of aneurism of the ascending aorta. The picture showed that the aneurism extended a good deal farther to the left of the sternum than to the right. The tumor was a little larger than a dollar, and only a small part of the aneurism presented to the front. The man is now taking large doses of iodid of potassium.

Dr. A. R. Edwards, Chicago: I believe that practically all aneurisms are syphilitic, and this is borne out positively both pathologically and clinically.

(*To be continued*)

INTERNATIONAL CONFERENCE ON LEPROSY

(Held in Bergen, Norway, Aug. 16-19, 1909)

(Continued from page 1046)

Transmission of Leprosy

Dr. Dehio, of Dorpat, Russia, maintained very emphatically the contagiousness of leprosy. Ehlers, of Copenhagen, referred to his experiments with parasitory human insects which have been considered capable of spreading this disease, especially pulex and cimex lectularius, but he was not able to come to any determined conclusion. Dr. Sand of Trondhjem, Norway, in his thirty-five years' experience in the leprosarium of that city, having treated 1,558 lepers, has come to the conclusion that leprosy is not transmitted by immediate contact.

Dr. V. Dühring, Dresden, discussed hereditary transmission of leprosy. He has found that the disease affects the descendants so far as to deteriorate the race. The offspring of lepers are more subject to mortality, and, moreover, they show a disposition to acquire with infectious diseases, as tuberculosis. The transmission of leprosy from parents to children biologically and clinically is in no way probable. The direct transmission of leprosy to the fetus *in utero*, although theoretically possible, has never been proved.

Psychoses of Lepers

Dr. Moreina, of Rio de Janeiro, called attention to the psychoses of the lepers. He believes that in lepers there is no peculiar kind of insanity. Only the polyneuritic leprosy can be accompanied by the whole syndrome of Korsakow. At the onset of the disease not often can be found any kind of mental alienations. In many cases complications of leprosy, as tuberculosis, streptococcus infections, or arteriosclerosis may be cause of mental trouble in the lepers. The ordinary mental condition of the patients affected with leprosy is different and is greatly influenced by the duration of the disease, by the age, by education and the clinical forms of the disease.

Mental Disturbances in Leprosy

Professor de Beurmann, Paris, discussed the mental troubles in leprosy and the psychism of the lepers. He called attention to the mental condition of the lepers in the extreme East, which is far different from that of the Europeans. The Hindoos, the Malays and the Mongolians, although blind, mutilated and in the most terrible general condition, never show signs of mental trouble. In Asiatic asylums have been found lepers jovial and satisfied with their condition. In consequence, the sadness and the despondency of the European lepers is more due to their education and to the consciousness of having a disease of hopeless prognosis.

Treatment

The meeting on Wednesday, August 18, was devoted entirely to therapy. Dr. von Deycke, of Hamburg, discussed nastin injections. Nastin is obtained as a neutral grease from the culture of a kind of streptothrix and it seems to be identical with the neutral fat obtained from the tubercle bacillus. This so-called streptothrix has been called *streptothrix leproides*, but has no other relation to the true leprosy bacillus than to contain a kind of nastin fat. The pure nastin has the ability to produce in some of the lepers more or less reaction of general or of local nature. The reaction is subject to the greatest oscillation. While some patients are absolutely refractory to its action, others show symptoms of so severe a nature as to jeopardize life. For these reasons nastin alone cannot be used in the treatment of leprosy. When nastin is mixed with such substances which *in vitro* remove the grease from acid-fast bacilli, like tubercle bacilli, then we obtain a preparation, which can be used as therapeutic means. One preparation is nastin-B., which is nastin combined with benzoyl chlorid in an oily solution. According to the degree of concentration, nastin-B. does not usually produce a very intense reaction, and can be obtained in a form which will not cause any reaction at all. Although nastin-B. is therapeutically much more sure and constant in its action than pure nastin, yet in individual cases it shows different action. Nastin-B. acts directly on the specific cause of leprosy in the sense of bacteriolysis, as it prepares the bacilli, by removing their fat, to be susceptible to bacteriolysis. In a large percentage of lepers treated with nastin-B. improvement has followed in the general feeling. Moreover, it seems that it has prevented the farther progress of the leprous process. The nastin treatment has to be continued for one year, in form of an intermittent therapy just as it is used in syphilis.

Treatment of Ophthalmic Diseases in Lepers

Dr. Lyder Barthen, Trondhjem, Norway, spoke first on treatment of non-leprous diseases in leprous eyes, then on the genuine leprous diseases of the eyes, finally the last stages of the leprous eye diseases and their treatment.

Nastin Treatment in Russia

Dr. E. Kiwull, Wenden, Livonia, Russia, spoke on his experience with nastin treatment in the leprosarium of Wenden. He had used only nastin-B. The injections although painful were well-borne. After the injection only an increase in the temperature occurred. In the symptoms during the treatment some better and some worse could be found. Frequently ulceration occurred of old infiltrations in tubercules and in scars. In several cases swelling and pains occurred in the ulnar nerve and its ramifications. It was often remarked that hard tubercles imbedded in the depth of the skin disappeared under its action leaving only a slight pigmentation. Ulcerations of the hard palate become much more flat and showed a tendency to heal up. Examination of the blood showed that nastin increased the number of leucocytes.

Nastin Treatment in Australia

Dr. J. Ashburton Thompson, Sidney, is greatly opposed to the use of nastin. He employed the injections in 5 selected cases: 4 of tuberculous leprosy and 1 of pure leprosy of the nerves. He continued the treatment for from 6 to 9 months. In 3 of the patients the disease remained as it was. In the nervous case, the pains increased. A child became much worse. He claims that nastin is an inert substance with some irritant and also caustic effects on the seat of injection. In none of the patients did the injection produce any local reaction, or any fever.

Treatment of Leprosy

Dr. H. P. Lie, Bergen, Norway, maintained that the nastin treatment is in no way a specific treatment, and the reactive symptoms produced by the injections of nastin in the lepers is nothing but a reaction which follows the injection of any fatty substance from acid-fast bacilli. The same action is found in patients affected with tuberculosis. It is necessary to be very careful with nastin, which in patients with a tendency to tuberculosis shows a detrimental action. He considers the nastin treatment, however, as a step forward toward the betterment of this disease. He spoke of good results obtained with the method of Unna, and also from other treatments, but at the end showed a patient who for 12 years had suffered severe symptoms of leprosy and for the last eight years has shown no symptoms whatever. The patient can be considered practically well, and yet the treatment was entirely expectant.

Present Knowledge of the Lepra Bacillus

Dr. J. M. H. Macleod, London, England: The researches of the last 12 years have more firmly established the lepra bacillus of Hansen as the specific cause of this disease. By special staining methods, it is possible to distinguish the young, old and dead bacilli and the contained fat. By these methods it has been shown that the majority of the bacilli found in the tissues are dead. The finding of a cladothrix arrangement and branching forms like actinomyces, suggest that the lepra bacilli belong to the class of the streptotrix. No medium has so far been found on which lepra bacilli can be cultivated, nor is there any proof that the bacilli can live as saprophytes on decayed organic matter, decayed fish, etc. No lower animals have been found susceptible to leprosy. The presence of bacilli in gnats and bed-bugs suspected of disseminating the disease is still doubtful. The way of entrance of the bacilli into the organism is still obscure; it may be by the nasal mucosa and the upper respiratory tract, or the infection may be from the alimentary tract, or through the genitals; perhaps through the skin.

So far there is no clear idea concerning the relation of maculo-anesthetic and nodular leprosy. May it be due to the quantity of bacilli which cause nodular leprosy, due probably to racial peculiarity, climatic condition and absence of hereditary or acquired immunity. It may also be due to a qualitative difference in the virulence of the bacilli. The pathologic lesions produced in the tissues by the direct or indirect action of the bacilli are the production of the infective granuloma. In the beginning, the bacilli are outside of the cells, but later many gain entrance and multiply therein. Obscurity still surrounds the cells which may be connective-tissue cells or plasma cells containing bacilli, or may be clusters of bacilli around a nucleus or a lymphocyte, or may be masses of bacilli accumulated in lympatic spaces. In skin lesions, the bacilli are found in the corium, but may be present in the epidermis and in the surface of the skin. Not yet clear is the manner in which the bacilli reach the surface, it is possible that they pass through the interepithelial lymphatics, or by the sweat or through the epithelial cells, and from without being deposited by the nasal discharge or by the sputum. Not much has been added to the knowledge of visceral leprosy. In the spleen true leprous infiltration occurs, and also in the lungs, where caseation and necrosis are often found. Bacilli have been found in the glomeruli of the kidneys, in the epithelium of the uriniferous canals, but not in the urine. The genitals, ovaries and testicles have been found extensively affected with leprosy, but yet the bacilli have never been found in the Graffian follicles, in the seminiferous tubules, or in the semen. Bacilli have been found in the blood, but as it has been taken from the lepromata it may be that bacilli were taken from the lymph. The blood shows all characteristics of anemia with a slight eosinophilia.

Leprosy of the eye is a late manifestation of nodular leprosy, only rarely primary. It is possible that the infection takes place in consequence of the general infection as the chorioid is the chief site of the disease and the cornea is involved after the deeper parts. It is also possible that the infection takes place from without, the conjunction being infected first, then the cornea, corneosclerotic limbus, ciliary body and finally the uveal tract. Diversity of opinion is found in reference to the pathogenesis of maculo-anesthetic leprosy. It has not yet been decided whether the maculo-anesthetic lesions are identical with those of the nodules, and have to be considered as an early stage of the skin lesion, or whether they are to be considered as a form of inflammatory process of the type of erythema persistans. Peripheral nerves may be affected in all forms of leprosy, but more markedly in the maculo-anesthetic type. The presence of the bacilli and of their toxins leads to neuritis and interstitial proliferative alterations, which by pressure on the vital nerve tissue cause degeneration of the axis cylinder. It seems that the neuritis so produced causes eventual destruction of the bacilli and consequently leprosy of the nerves is self-curative. It is doubtful if the spinal cord and the ganglia are affected by the bacilli, and it is also possible that the changes which take place in the posterior columns of the cord are not due to the bacillus *in situ*. These changes are not characteristic, and resemble the changes following the ascending degeneration of a peripheral nerve from injury or as the results of general cachexia. The possibility of the association of leprosy with other diseases as tuberculosis, syphilis, etc., must not be forgotten, and the ravages of these associated diseases must not be attributed to leprosy.

Blood Reactions in Lepers

Dr. Bares, Bucharest, spoke on the reactions of the blood in the lepers: it seems that there is nothing specific to give much light on the subject.

Dr. George Meyer, Berlin, maintained that the lepra serum gives the same reaction as the serum in syphilis, only in cases of the tuberculous type.

Bone and Joint Changes in Leprosy

Professor Harbitz, Christiania, Norway, spoke on the leprous alteration of the bones and joints from trophoneurotic causes. The hands and the feet, especially at the tarsal and carpal joints, often show joint affections, which greatly resemble arthritis deformans, followed at times by a true atrophy of the bones. These conditions have to be referred to leprous neuritis.

Presentation of Pathologic Specimens

Interesting demonstrations were given at the closing of the session. Specimens of the bacilli of leprosy in the tissues were exhibited from the laboratory of Unna, at Hamburg. Dr. Arning exhibited several specimens of leprous pathologic alteration in the nerves. It seems that the Gram method with diluted stain and continued for from 24 to 48 hours has given the best results in finding the bacilli. Dr. Goodhue, of Hawaii, exhibited lantern slides showing the pathologic alterations of the bones in leprosy.

Prophylaxis of Leprosy

Dr. Holmbae, Christiania, Norway, spoke on the fight against leprosy in a general way.

Dr. Wise, Washington, D. C., directed attention to the fact that in the countries where leprosy has disappeared or has greatly diminished there has been an elevation of the standard of living among the masses of the people. He emphasized the necessity of segregation of the lepers and strict laws forbidding immigration of leprous subjects, in order to prevent the establishment of new foci of the disease.

The following resolutions were proposed and, with the exception of No. 5, were unanimously adopted:

1. The Second International Scientific Conference on Leprosy confirms in every respect the resolutions adopted by the First International Conference, at Berlin, in 1897. Leprosy is a disease which is contagious from person to person, whatever may be the method by which this contagion is effected. Every country,in whatever latitude it is situated, is within the range of possible infection by leprosy, and may, therefore, usefully undertake measures to protect itself.

2. In view of the success obtained in Germany, Iceland, Norway and Sweden, it is desirable that these countries should isolate lepers, placing them under such conditions of life as can be voluntarily accepted by them.

3. It is desirable that the children of lepers should be separated from their parents as soon as possible, and that they should remain under observation.

4. An examination should be made from time to time of those having lived with lepers by a physician having special knowledge.

5. All theories on the etiology and the mode of propagation of leprosy should be carefully examined to ascertain if they accord with our knowledge of the nature and the biology of the bacillus of leprosy. It is desirable that the question of transmissibility of leprosy by blood-sucking insects, bugs, fleas, etc., should be elucidated and that the possibility of leproid disease among animals (rats) should receive early study.

6. The clinical study of leprosy induces the belief that it is not incurable. We do not at present possess a certain cure. It is desirable, therefore, to continue the search for a specific remedy with the greatest zeal.

The Next Conference

Professor Kobler, in the name of the Austrian Government, invited the conference to meet in Bosnia. The invitation was accepted, but the place was not decided. It has been left to the international committee to decide the time of the conference, which they must call three years before. In the same way the place has to be left to the choice of the same committee.

Hospitals for Lepers

It is of interest to report briefly visits to the leprosy hospitals.

In Bergen at present are two lepers' hospitals, both only for the nursing and for isolation of the lepers. Leprosy was formerly very wide-spread in Norway. This was only understood after the investigations of Dr. Danielssen in the forties. One hospital taken into use in 1857, was built and maintained by the state. In 1861 the state opened two new hospitals, one in Molde and one in Trondhjem. All expenses of nursing were paid by the state, and as most of the lepers are poor, the hospitals were soon filled; in 1860 and subsequent years between 700 and 800 lepers were housed in these hospitals.

The results of these measures were very beneficial and while in 1865 there were 2,870 lepers in Norway, there are now only about 400.

There is no more need for so many hospitals, therefore, the one at Molde has been converted into a tuberculosis hospital. In St. Joergen's hospital in Bergen there are at present 29 patients; no new patients are admitted, so that when those now living there die, the hospital will be abolished. St. Joergen's had its own property, acquired in earlier ages by the levying of a tax on every farm in the province of N. Bergenhus.

In the other hospital at Bergen are housed at present 84 patients. They are visited daily by Dr. Lie and Dr. Rückner, who give them the most scientific and the most charitable treatment. There are usually four patients in each room. The rooms are spacious and well aired. All forms of the disease can be seen. Most of the patients have suffered contraction of the fingers with that resulting characteristic deformity of the hand. Many have their fingers, hands and feet badly mutilated. In many cases lesions of the feet, knees, and nose, have caused extended and deep ulcerations, which are daily washed with boracic-acid solution and dressed with iodoform gauze. In many patients the eyes have been destroyed; and in a great many the nose has been entirely destroyed. In some the mouth has been reduced to a small deformed hole, which scarcely permits the introduction of food. In many cases the tongue showed lepra tubercles, mostly at its edges. Nearly every patient has leucoderma of the arms and of the legs in form of deep whitish spots, surrounded by deeply pigmented edges.

In one case of lepra tuberosa in a man, the face was so full of tubercles that his features had entirely disappeared. In a woman with a form of lepra maculosa, deeply red erythematous spots covered the neck, chest, shoulders, arms and legs. The spots were somewhat raised at the edges, brilliant, glossy and somewhat hard. Some of her fingers were somewhat swollen, but the hands were not yet contracted. Many patients were suffering with muscular and arthritic pains, and neuralgic pains.

In the men's department there is a large room where the patients work as cabinet makers. In the women's department those who can work are spinning, knitting, etc. In this way the patients may earn a little money, which they are allowed to keep.

It might be thought that the articles manufactured in the hospital would have been of danger to other people, but during all the years the hospital has existed and the people in town have bought articles made there, not a single instance is known of leprosy having spread from the hospital, not even in the years when it was not thought that the disease was infectious and, therefore, no cleansing of the articles made in the hospital was done, as it is practised at present. No one is allowed in the hospital except medical men.

Conditions in the United States

It may be of some interest to refer to conditions in the United States. The statistical dates are taken from Dr. H. P. Lie's paper. The official statistics of the commission of United States Public Health and Marine-Hospital Service gave the number of lepers in 1902 as 278, 145 of which were born in the United States. Foreign born individuals affected with leprosy in the United States are represented as follows:

Norwegians	22	From the Antilles	4
Icelanders	11	Mexicans	3
Swedish	8	Irish	6
Chinese	20	English	3
Japanese	1	French	3
Germans	12	Italians	4
Bohemians	12	Spaniards	1
Cubans	6	Australians	3

Of this number only 72 lepers are segregated. The forms of leprosy in the United States can be divided as follows: Anesthetic, 107; tuberculous, 88; mixed, 56. In California, San Francisco has 18 cases of leprosy. Of the 24 cases reported in this state, 11 patients are Chinese, but 7 of them have acquired the disease in the United States. The 11 Icelanders are settled in North Dakota and it seems that all contracted the disease in Iceland. Minnesota is the preferred state for the Scandinavians, of which 4 from Sweden and 16 from Norway affected with leprosy have established their home. Armauer Hansen in 1900 remarked that 287 lepers had left Norway and that 170 had emigrated to the United States. But only in 30 had the disease showed manifest signs before they left their native country. Bracken has found in Minnesota, 5 Swedes and 6 Norwegians affected with the leprosy. He believes that in the United States there are 160 lepers of Scandinavian origin scattered in Minnesota, Wisconsin, Iowa and South and North Dakota.

Twenty-four lepers are reported to be in Florida, of which 12 are Bohemians, 6 are Cubans and 5 are Americans.

Isadore Dyer, who is so interestingly connected with the history of this disease in the United States, maintains that leprosy was introduced in Louisiana from the Antilles about 1776. The leprosarium of Indian Camp has received since 1894, 80 lepers, of which 38 are still living, 37 are dead and 5 ran away from the asylum.

Morrow in 1899 and James N. Hyde in 1894, have tried to determine the number of lepers in the United States. It can be stated that lepers in the States of the Union can be at present considered as 278. The danger is mostly in the immigration.

The disease is too horrible for the government to wait before taking any prophylactic step. The disease is obscure and treacherous, and the lepers try to conceal it. Physicians who have had no special training in this disease are frequently unable to recognize leprosy. Leprosy must be considered contagious and as such reported to the health officer of the state. The reported leper should be examined by a specialist, and when the disease is definitely diagnosed should be segregated in a government colony.

MEDICAL SOCIETY OF THE MISSOURI VALLEY

Twenty-second Annual Meeting, held at Council Bluffs, Iowa, Sept. 9-10, 1909

(Concluded from page 1049)

Unrecognized Gall-Stone Disease

Dr. Daniel Morton, St. Joseph, Mo.: In this paper I discuss neuralgia of the stomach, biliousness, autointoxication, nervous symptoms, pain in the gall-bladder, referred pain, vomiting, colic, tumor, jaundice, gall-stones and cancer of the gall-bladder. Let us not be deceived with the belief that gall-stones represent the final stage of gall-stone disease. It is now conceded and statistics prove that the frequent concurrence of gall-stones and malignant disease is not accidental, but that the former by their irritation produce the latter. I mention this fact in order that I may emphasize the necessity for early recognition of gall-stone disease. Courvoisier found 72 cases with gall-stones in 84 cases of primary gall-bladder cancer. Possibly, the inaugural symptoms of gall-stone disease may be best brought to the attention of general practitioners by stating that cases of "indigestion," "biliousness," "neuralgia of the stomach," "gastralgia" and "autointoxication" are, in the majority of cases, in reality, cholecystitis, and should be recognized and treated as such. The diagnosis can usually be confirmed by a physical examination of the gall-bladder and a search for the pressure pain points described. The symptoms which heretofore have been considered inaugural, for instance, stone colic and jaundice, are really terminal and are found only after the disease has been long existent and indicate a late stage of the disease.

Our knowledge of cholecystitis is increasing rapidly not only as a pathologic condition affecting the gall-bladder alone, but also affecting the liver itself and the pancreas. We are also discovering that the stomach is a much maligned organ and that it has heretofore been charged with offenses of which it was guiltless and for which its nearby neighbor, the gall-bladder, has been proved responsible. In a word the gall-bladder as an important factor in the causation of trouble in the organs adjacent is assuming a rapidly increasing important rôle. In the beginning of gall-bladder surgery attention was directed to the organ itself and it was made the objective point of all surgical measures. But it was found that with the relief of the pathologic condition in the gall-bladder not only was the original purpose, for which the operation was done accomplished, but in addition, over and above this, symptoms disappeared which had formerly been attributed to other organs. Putting operative findings and clinical together, therefore, a number of obscure abdominal disturbances are coming out of the darkness of ignorance into the light of scientific knowledge.

DISCUSSION

Dr. John Monroe Bannister, Omaha: I would like to relate my experience in the Philippine's, in reference to this line of work. Conditions of extreme congestion of the liver and enlargement are not found in the United States as they are in the tropics; consequently a diagnosis of enlarged gall-bladder is easy. While in the Philippines, I did a large amount of surgical work. There were many cases of liver disease to treat, and in the number of patients operated on there was not a single case of disease of the gall-bladder. Frequently disease of the gall-bladder was suspected, but in these cases the livers would be so enlarged from passive or active congestion as to fill the abdominal cavity. It was a rule in suspicious cases to perform laparotomy as a routine measure, going in, getting the enlarged liver out of the way, exploring and examining the gall-bladder to see if there was anything the matter with it. It was found that the livers of these patients were very much congested and enlarged. It was also a rule to aspirate the liver and if an abscess was not found a good deal of blood was drawn off; but these patients invariably did well.

Dr. A. I. McKinnon, Lincoln, Neb.: It is possible to have biliary or gall-stone colic without the presence of gall-stones. Gall-stones are due ordinarily to infection. Cholecystitis frequently accompanies infectious diseases, and many times the trouble begins in childhood, following some infectious disease. When there is an acute cholecystitis, for instance, complicated with pneumonia, there is jaundice, and as the growth of fibrous tissue replaces the exudate, contraction takes place, and obstruction to the bile tracts occurs.

Dr. A. B. Somers, Omaha: The removal of the gall-stones does not always relieve or cure the primary condition which still exists, and the patient should be taught to go to a physician when he gets through with the surgeon, unless the surgeon is also a physician.

Dr. W. F. Milroy, Omaha: I want to go one step further than the last speaker, and say that these patients should go to see a physician before consulting a surgeon, as I am firmly convinced that most of these individuals can be cured by medical treatment and require no operation whatever.

Surgical Suggestions for the Treatment of Chronic Appendicitis

Dr. A. I. McKinnon, Lincoln, Nebr.: In this paper I recommend that the incision be made high enough for examination of the upper abdomen and treatment of those parts which may be found involved. This incision can be made about the same as a gall-bladder incision, the lower end being even with the umbilicus, or at a point where most authorized incisions begin. Through such an opening, the appendix can be easily pulled up and with the aid of a proper position of the patient the whole abdomen and pelvis will be open for examination. For further faciliating this exploration, I advocate the sitting posture of the patient. This not only allows complete exploration, but permits it to be done through a small incision. I have used this posture for several years with great success in handling the abdominal viscera. Chronic appendicitis often either complicates or is complicated by a pathologic condition of the upper abdomen, which, if overlooked, will lead to continued trouble on the part of both patient and surgeon.

Scientific Feeding

Dr. Minda A. McLintock, Atchison, Kans.: Man is said to be the net product of what he eats and drinks. Food bears the same relation to him that soil does to vegetation. No man can be at his best physically who is underfed. A celebrated chemist says: "If we could ascertain perfectly the demands of the human body and supply perfectly those demands, life might be prolonged indefinitely." He enjoys the best health, the keenest mentality, the high physical powers, who can select for himself those articles of diet that will most nearly supply all the constituent parts of the body in natural proportions. To do this: First, food must contain all the nutritive elements the body requires. Second, only such foods must be combined at each meal as will produce chemical harmony in the stomach. Third, food must be proportioned so that the body will not be overfed with certain elements of nutrition and underfed with others. No less important is the observance of natural laws or idiosyncrasies, namely, age, sex, temperament, environment, together with the season of the year, occupation, exercise, etc.

The Bacteriologic Diagnosis of Epidemic Cerebrospinal Meningitis

Dr. S. R. Hopkins, Omaha: I wish to present a brief and practical method of establishing a bacteriologic diagnosis in this affection. A Gram-negative diplococcus occurs most often in the interior of the leucocytes of the spinal fluid. There are six species of Gram-negative diplococci with which it is possible to confuse the diplococcus of Weichselbaum, and chief among these are the diplococcus of gonorrhea and the so-called pseudomeningococcus. For practical purposes, however, the identification of the meningococcus in the spinal fluid withdrawn by lumbar puncture from a patient presenting phenomena suggesting meningitis, is a procedure fraught with little difficulty, and it is the only means of affirming a positive diagnosis. In staining by the method of Gram it is well to finish the staining process by flooding the slide with a 0.25 per cent. solution of eosin in water, thus giving to the Gram-negative bacteria a red color. In order to establish a certain bacteriologic diagnosis one should in every instance resort to cultivation of the germs on artificial media, and in this connection I wish to state that I have never encountered the slightest difficulty in obtaining a luxuriant growth of the meningococcus, by simply inoculating a slant of plain agar or blood serum, with the infected spinal fluid, and this, in from eighteen to twenty-four hours. In inoculating the artificial culture media, it is necessary that the inoculation be made very soon after the withdrawal of the fluid, as the germs are short-lived outside of the body and show little resistance to drying. The growth on blood serum is more abundant than on agar and it does not liquefy it. The growth appears as white, glistening spots which rapidly coalesce. The organisms do not live long on the media, and if one would keep a culture for any time it is necessary to reinoculate other tubes at least every forty-eight hours.

Advantage of Cholecystostomy in Draining the Deeper Biliary Tracts

Dr. H. G. Welpton, Des Moines, Iowa: This paper was suggested by a serious and unexpected complication that attended two cases of cholecystectomy in my practice. The cases were of the simple type, without adhesions, obstruction, or destructive changes. The gall-bladder was removed with much the same assurance of a cure as we have when we remove an infected appendix. In one of the cases a large calculus formed with the hepatic duct above an acute angulation of the common duct. The angulation was due to an adhesion to the colon. In the other an acute exacerbation of a chronic pancreatitis came on at intervals obstructing the common duct. My patients were only partially relieved by removing the stone, by releasing the adhesions, and by drainage. Since reviewing the literature, I have limited cholecystectomy to those cases in which either the gall-bladder or cystic duct has been contracted or obstructed, or in which an irreparable damage from gangrene, infection, ulceration perforation or malignancy has occurred. I prefer to leave the gall-bladder, when possible, since excision does not remove the infection that is in the common and biliary ducts. I believe from my clinical, pathologic and bacteriologic findings that the common and biliary ducts partake of the infection of the gall-bladder in every case to a greater or less degree. Gall-bladder drainage offers the best means of a complete cure of the infections of the deeper tracts as well as those of liver and pancreas. It also provides for a cholecystenterostomy in case of complete obstruction, and serves as a guide to the deeper structures. In cases in which later calculi reform, or partial obstruction develops, cholecystenterostomy will prove a happy solution of these complications.

Diagnosis and Treatment of Stricture

Dr. A. C. Stokes, Omaha: In this paper I summarize the treatment of stricture of the urethra as follows: 1. Alkalies, diluents, and rest are serviceable in most cases of strictures—sometimes indispensable if there be any serious complications. 2. All uncomplicated strictures, not highly irritable or resilient, should be treated by dilatation with soft instruments up to No. 15 French, and with conical steel sounds afterward; reintroductions being made every third or fourth day. 3. Until well acquainted with the temper of a given stricture, every sounding should be preceded by hexamethyelenamin, followed by nitrate of silver. 4. Dilatation need rarely be carried beyond the caliber of the normal meatus. 5. Any stricture resisting dilatation must be cut. 6. For the pendulous urethra do internal urethrotomy; for the perineal urethra do external urethrotomy or the combined operation. 7. In general, anterior stricture of the urethra is curable; deep stricture of the urethra incurable. 8. Impassable strictures without retention may usually be overcome with whalebone bougies by time, patience and skill. If they finally proved impassable, the treatment is external perineal urethrotomy. 9. Retention is treated by hot baths, ether, opium, tincture of the sequichlorid of iron; failing these, by aspiration, or by external urethrotomy without a guide. 10. Traumatic stricture may be prevented by section at the time of injury. Once having shown itself, it usually requires excision for a cure. 11. Resilient and nodular strictures are best treated by excision. 12. Irritable strictures may often be cured without cutting.

Does the Present Conservatism in Pelvic Surgery Serve the Best Interest of the Patient?

Dr. Bernard A. McDermott, Omaha: Summing up the literature I find that it gives widely divergent views as to the relative value of conservatism in pelvic surgery. But whether we advocate conservatism or radicalism in pelvic operations our object should be the same—namely, the relief of existing conditions. If in this we fail, the operation has been a failure. My experience makes me oppose conservatism or any plastic work in certain pelvic lesions, such as a partially diseased tube or ovary. In the latter condition, the resection of a cystic or partially diseased ovary, as a routine procedure, it is to be mentioned only to be condemned, as the cutting and plastic work necessary to such an operation usually produce more postoperative pain tenderness and general symptomatology than would the original condition. I have seen this follow so many times that I am convinced that, if there is any real reason for saving the ovary other than conservatism of ovarian tissue, it is far better for the patient to remove the entire organ or leave it entire. Most operators leave one or both ovaries after hysterectomy for a non-malignant condition, stating that the menopause is much milder and the woman is better off in every way. Granted that the menopause may not be so acutely ushered in when the ovaries are left; but does not the condition last indefinitely? Is it not better for the woman to have the symptoms early? Though acute, they will be brief. Again, in uteri containing multiple fibroids, is it not better as a routine procedure to do a supravaginal hysterectomy than myomectomy?

Other Papers Read

The following papers were also read: "Cataract," by Dr. F. B. Tiffany, Kansas City, Mo.; "Dementia," by Dr. G. H. Hill, Des Moines, Iowa; "The Neglected Anus," by Dr. D. T. Quigley, North Platte, Nebr.; "Cancer of the Breast," by Dr. B. B. Davis, Omaha; "Diseases of Metabolism as a Group," by Dr. Alfred C. Croftan, Chicago; "Renal Tuberculosis," by Dr. F. Kreissl, Chicago; "The Objects of Mechanical and Surgical Treatment of Infantile Paralysis," by Dr. H. Winnett Orr, Lincoln, Nebr.

SIXTEENTH INTERNATIONAL MEDICAL CONGRESS

Held at Budapest, Aug. 29—Sept. 4, 1909

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Treatment of Diffuse Free Progressive Peritonitis

Dr. Arpad G. Gerster, New York: The basis of this report is formed by 609 cases of the malady, observed at Mount Sinai Hospital during about ten years. Of these, 461 were caused by the appendix (out of a total of 3,144 cases of appendicitis) and 148 were due to injuries and affections of other viscera. Difficulties surround the making of a precise diagnosis and estimation of prognosis in peritonitis. To uncertainties dependent on these difficulties in establishing a uniform and reliable nomenclature of the disease may be ascribed the small value to be placed on statistics. In accepting the diagnosis of free progressive peritonitis very strict criteria must be insisted on; and even with these statistics have only a relative value. Every patient with appendicitis and *a fortiori*, every patient with peritonitis, in whatever stage of the malady they may present themselves to the surgeon, ought to be operated on without delay, except moribund patients. The arguments by which the advice is supported, not to operate on "intermediate" cases of appendicitis on account of the high mortality, are fallacious. A tabulated *résumé* of the results of operative treatment in 461 cases of diffuse, free, progressive peritonitis, due to appendicitis, shows a steady decline of mortality from 79 per cent. in 1899 to 14 per cent. in 1908. This improvement is ascribed to the abandonment of heroic and incisive measures in cleansing of pus and in drainage of the peritoneum, which were in vogue in 1899, and the adoption of early, simple, rapid and less exhausting operative procedures, complemented by Fowler's posture and Murphy's proctoclysis. Of complications, the most common, observed in 9.3 per cent. cases, was that of secondary intraperitoneal abscess. This may be regarded as a residual manifestation of a primarily general process. Mechanical ileus, rather frequent (158 per cent.) in 1899, has become much rarer (5.4 per cent.) since the abandoning of the use of extensive gauze packings. My procedure is as follows: (1) Preliminary lavage of the stomach; (2) anesthesia by nitrous-oxid gas followed by ether; (3) rapid exposure of primary focus of infection; (4) stoppage of visceral leak by suture or tamponade; (5) gentleness and rapidity of procedure, avoidance of friction by wiping, etc.; (6) no irrigation; (7) soft rubber-tube drainage of right iliac fossa and, if necessary, of Douglas's pouch; (8) closure of external wound by three layers of suture; (9) for paralytic ileus repeated gastric lavage, low and high enemata, or systematic rectal lavage, enterotomy by stab done in intractable cases only; (10) rational administration of opiates; (11) withholding of all ingesta while vomiting is present; (12) Murphy's proctoclysis; (13) Fowler's position; (14) early incision and drainage of secondary abscesses; (15) laxatives, calomel and salts, to be given only after cessation of vomiting; and (16) tampons used for walling off necrosed areas not to be disturbed without necessity till they become detached of themselves.

Diagnosis of Laryngeal Cancer

Sir Felix Semon, London, Eng., described cases of malignant disease in which exceptional diagnostic difficulties were encountered and diagnostic mistakes made. They amounted to 13 in a total number of 246 cases of malignant disease seen in 33 years' practice, and after faithfully recording the salient features of each of them, he exhorted his younger *confrères* not to consider the early diagnosis of malignant disease of the larynx as exceedingly difficult, but to keep in mind the following unusual features present in the series of cases reported: 1. Malignant disease of the larynx, appearing first in the form of a curious tumefaction of the left vocal cord, which remained stationary for nearly two years before showing its true nature. 2. Chronic infective inflammation, simulating malignant disease of the larynx. Extravasation of blood into the right vocal cord and below it, simulating malignant disease of the larynx. 4. Laryngeal tuberculosis in which the laryngoscopic appearances left the diagnosis between malignant disease and tuberculosis quite undecided. 5. Laryngeal tuberculosis simulating malignant disease in a man aged 70 years. 6. Tuberculous tumor, simulating malignant disease, in the anterior commissure of the vocal cords. 7. Leucoma of a vocal cord, simulating malignant disease of the larynx. 8. Epithelioma of the left ventricle of Morgagni, at first mistaken for papilloma. 9. Epithelioma originating in the form of an angioma. 10. Papilloma, occupying the whole posterior part of the right vocal cord and the inner aspect of the right arytenoid cartilage in a man aged 60, mistaken for malignant disease of the larynx. 11. Epithelioma of the larynx appearing in the form of a snow-white, sharply pointed "meadow." 12. Granuloma originating in the scar due to removal of an epitheliomatous tumor of the right vocal cord. 13. Inflamed papilloma in a man, aged 60 years, closely simulating the appearance of an epithelioma of the larynx.

Adenoid Growths

Dr. Citelli, Catania, Sicily, after referring in his historical remarks to the great merit of Meyer in making known to the scientific world such a frequent and important disease, recorded briefly the normal and pathologic anatomy of the tonsil, founded also on extensive researches of his own.

In order to be able to determine with some exactness whether a tonsil is to be considered as normal or as hypertrophied—an indispensable decision for investigators undertaking the study of the tonsil—a thorough knowledge is required of the normal evolution of the tonsil in man. The tonsils are of use during early infancy as hematopoietic organs, and besides this as organs of defense against infection. In view of their position they may also serve as a means of exit for infection, and in some cases, when the defensive elements are not sufficient for their purpose, as a means of ingress. It is not probable that the tonsils belong to the so-called organs for internal secretion, but in view of certain general or secondary disturbances which are found in adenoid-bearing subjects, and which often disappear after an operation, and, more especially on account of anatomic researches I believe it probable that the hypertrophy of the tonsil alone can determine, first the functional, and then the anatomic, alterations of the pharynx and central hypophysis. The causes of this disease may be congenital or acquired; these latter, however, will only provoke the growth of adenoids in predisposed subjects. Adenoid symptoms may be divided into local symptoms, disturbances in nasal respiration and its relative consequences, disturbances in the other respiratory organs, vocal disturbances, uricular disturbances, etc., and general or secondary symptoms, alterations in the circulation, psychic disturbances, exophthalmos, spasms of the larynx, night-terrors, nocturnal enuresis, nervous cough, etc. The treatment in the majority of cases is operation. Almost all the instruments designed (for the purpose) are good, in experienced hands. Adenoid growths, which can exert a great influence over the physical or psychological development of individuals, and hence the great utility of making such a disease and its consequences known to the public.

Present State of the Knowledge of the Prophylaxis of Dental Caries

Mr. Kenneth W. Goadby, London, England: The prevention of dental caries holds the same position with regard to stomatology that preventive medicine does to general medicine, and, as in preventive medicine, both preventive measures and treatment of the disease are essential factors. The recent developments in the appointment of qualified officers to treat dental disease in the army, navy, industrial schools, public schools, and institutions, as well as the recent development of municipal dental surgeons, are important factors in distributing knowledge. The principles laid down by stomatologists for the guidance in the prophylaxis of caries are based on a consideration of the pathology, but sometimes important questions are overlooked. In dental caries the etiology must be considered under the heading of—(a) the predisposing causes:—structure, environment, and position; (b) exciting causes:—micro-organisms and foodstuffs; and (c) contributory causes:—hygiene. In a hundred cases taken at random, 25 per cent. of the individuals had no dental caries. These were patients with suppuration of the gums and alveolar processes. The bacteria present in the mouths of all these people have been isolated and carefully tested by bacteriologic means, including fermentation of carbohydrates. It was found that in the mouths in which dental caries was not present organisms capable of fermenting lactose were less frequently present than in those in which caries was present. In mouths without caries 64 per cent. were free from lactose fermenters, while in mouths in which caries was present, or had been present and was treated, the lactose fermenters were present in 60 per cent.

Arteriosclerosis, Including Its Cardiac Form

Dr. H. Huchard, Paris: The chief points of M. Huchard's argument were the following: There exists great confusion among pathologists as to the nature and process of arteriosclerosis, so that it is impossible to give an exact and rational definition of the disorder from the pathologic side. Neither can pure experience settle the question, but the clinical evolution of arteriosclerosis affords the method of distinguishing between that disease and atheroma. Atheroma is really a senile affection, coming on in persons of from 60 to 80 years of age, and it is entirely a vascular change. Arteriosclerosis, on the other hand, attacks persons between 30 and 60 years of age and is so largely a visceral complaint that its best name is arteriovisceral sclerosis. Gull's and Sutton's conception of an "arteriocapillary fibrosis" is incomplete. There are some arterioscleroses at their outset typically aortic and which may be called myovalvular. From the triple view-point of the pathologist, the clinician, and the therapist the distinction between such endocardial valvular "cardiopathies" and the endarterial "cardiopathies" are of considerable importance. The six principal causes of the latter condition are gout and "uricemia," lead poisoning, syphilis, faulty diet, tobacco, mental strain, and overwork. There are four stages recognized clinically in the evolution of arteriosclerosis: (1) arterial presclerosis; (2) the cardioarterial stage; (3) the mitroarterial stage; and (4) the final stage of cardiac failure. The symptoms fall under the three heads, toxic (the predominant group), cardioarterial, and renal, and each requires a special line of treatment. The beginning, the course, and the climax of the arterial cardiopathies are comprised in the word intoxication, having for its chief symptom dyspnea. Careful distinction must be made between a pathologic lesion and clinical disease. Simple atheroma may remain for a long time nothing more than an anatomic change. In cardiosclerosis, on the other hand, the subjective symptoms predominate over the physical signs which may indeed be absent, as in mitral contraction of sclerotic origin. In mitral regurgitation of similar origin the patient may be considered "a mitral case" so far as his murmur goes, but he is really "an arterial or aortic case." From the outset the renal factor is of great importance in determining the retention of the toxic substances and the increase in the arterial tension. Renal insufficiency is an early and constant symptom in arterial cardiopathies even if there be no albuminuria, and this fact accounts for the importance of renal treatment to eliminate the toxins during the whole course of the disease. Clinically cardiosclerosis can take its beginnings in the kidney, the heart, or some other organ, but there is no such thing as arteriosclerosis without both arterial and renal lesions. It may happen that cardiac lesions of rheumatic origin become complicated by arteriosclerotic changes between the ages of 30 and 50 years and a fresh train of symptoms may ensue. Asthma and emphysema only lead to stoppage of the heart through the arterial lesions which occur with them, but asystole of true gastric origin is extremely rare. The therapeutic indications are different in the four stages of the disorder, but dietetic regimen with measures directed to the renal efficiency are always the basis of sound treatment. In a disease which is above all things an intoxication, the abuse of drugs, especially of the iodids and digitalis, is to be especially avoided, and also the abuse of so-called anti-sclerotic serums, high-frequency currents, and climatic and some mineral water "cures."

The Nature of Antagonism in Bacteria and Its Practical Importance

Prof. N. Pane, Naples, Italy: Among the pathogenic microbes only the bacillus of anthrax can be destroyed in the system by the antagonistic action of several bacteria—*Streptococcus erysipelatis, Staphylococcus pyogenes, Bacillus* *pyocyaneus*, pneumococcus, and *Bacillus prodigiosus*—under special conditions. The most favorable of these conditions is the subcutaneous inoculation of anthrax mixed with one of the others in suitable doses. The particular state of virulence or non-virulence of the antagonists, and the choice of the animals for experiment are of great importance. The antagonistic action of a bacillus may meet with complete success in the animal organism, even when it fails or is only partially successful when applied to infected grazing land or when tested for on nutritive substances in the laboratory. The substance or substances which act against the bacilli of anthrax in the organism belong partly to the antagonist and partly to the antibodies in the organism itself. As regards the nature of the antagonistic substances, confining ourselves to the *Bacillus pyocyaneus*, which is the most energetic and the most certain in its action, it is to be observed that the broth culture of this bacillus, killed by exposure to a temperature of 55 C. for an hour, shows in the test-tube a bactericidal action at from 35 to 37 C. by far superior than that which is shown at 15 C., and this bactericidal action weakens considerably after heating to 100 C. for an hour. If the dry remains of the broth culture be mixed with absolute ethyl alcohol a clearly demonstrable bactericidal substance is diffused into the alcohol, although it is readily separated from the alcohol by evaporation at 60 C. The practical application of the resistance of *B. pyocyaneus* to anthrax might be made in the vaccination of animals susceptible of spontaneous infection, since a considerable immunity can be conferred on animals under experiment by means of subcutaneous inoculation with the anthrax bacillus mixed with the soluble products of *B. pyocyaneus*.

A Comparative Estimate of Pharmaceutical and Physical Agents in Therapeutics

Dr. C. Colombo, Rome, Italy, reviewed the physiologic and therapeutic action of certain chemical and physical agents on the human body in the light of recent medical literature and of his own experiences. He considered three possible requirements of a physician in search of a special remedy. He may want to produce an effect which could be obtained equally well from a physical or a chemical agent, or an effect which could only be obtained from one or other of those agents. In the first case Dr. Colombo would always choose the physical agent for the following reasons. Such an agent constitutes an external stimulus of which the nature and effect on the body is exactly known, the effect is always the same for the same stimulus with the intensity of which it is in strict proportion. On the other hand, the chemical agent does its work inside the body in contact with the cellular fluids: it follows that however well we may understand its composition and its action *in vitro*. we remain in the dark as to its effect *in corpore* and of the resulting reaction of the organism. Dr. Colombo quoted examples of each of those three groups.

Recent Progress in the Clinical Study of the Evolution of Syphilis

Dr. H. Hallopeau, Paris, France: When the chancre manifests an intense reaction, and the morbid products formed by it are of great virulence, it is a sign of an over-activity of the treponema. The germs given off by the chancre may take different routes. (a) They may go by the lymphaticus, which transmits them with or without lymphangitis to the neighboring lymphatic glands. (b) They may go by the capillaries. (c) They may enter the neighboring tissues where they spread. These last show a higher degree of virulence than those which later come from the lymphatic glands, for the glands possess a great power of attenuating the micro-organisms. Among the ultravirulent manifestations must be put most of the secondary manifestations of the vulva, of the prepuce, and of the parts around the anus. When the lymphatics and the lymphatic glands do not transmit the micro-organisms infection can only take place by the blood stream, and then the roseola does not appear, and, therefore, it may be said that the roseola is associated with the early affection of the lymphatic glands. The generalized infection only takes place at the beginning of the secondary stage and later the lesions are spread exclusively by intrainoculation and extrainoculation. 4. In grouped syphilides, the initial lesion often shows signs of a virulence greater than that of the lesions derived from it. On the other hand, extensive cicatricial syphilides may continue to spread with increasing outbursts, so it is clear that the resistance of the tissues can be increased or diminished. As the disease advances in evolution it gives rise to modifications in the intensity and the modification of the treponema, and, consequently, in the nature of the toxins produced. The pathologic action of the treponema is entirely due to the soluble substances to which it gives rise. In different subjects the treponema is prone to attack certain tissues. There are also affections liable to be produced under the influence of syphilis and later progress spontaneously, and these are the so-called syphilitic deuteropathies.

Treatment of Lupus Erythematosus

Sir Malcolm Morris, London, Eng.: The disease appears to be essentially a chronic inflammation of the skin, local in origin, and depending on a condition of the circulation which makes the integument prone to vasomotor disturbance. This may cause a predisposition to toxic infection, but neither the fact of such infection nor its nature has been positively demonstrated. Each case must be dealt with according to its peculiarities. The treatment should be constitutional and local. Under the former head must be included careful regulation of the diet, so that the intestine may not be loaded with materials that may form a favorable soil for infection. Anything, like coffee and tea, which causes flushing of the face, is contraindicated. Quinin is often useful. Locally, in the hyperemic stage, cooling lotions and ointments of subacetate of lead may be prescribed. Ichthyol in the form of a lotion or an ointment is among the most useful of local remedies. In chronic cases the constant application of a strong solution of ichthyol is the best remedy, but iodin liniment is also valuable. In several conditions linear scarification or light touches of the thermocautery often gives good results. In subacute cases high-frequency currents and in chronic cases the Finsen light and the *x*-rays may be used with success. These agents are particularly useful in the later stages when there is thickening of the integument.

(*To be continued*)

Medicolegal

Liability of Counties to Physicians for Expert or Other Witness Fees in Criminal Cases

The Supreme Court of Wisconsin says that the complaint in the case of Philler vs. Waukesha County evinced a purpose to state a cause of action against the county for the value of a physician's time and services in making examinations of the symptoms and mental condition of a defendant in a criminal trial, and in attending court to testify with respect to his sanity "as an expert witness," in the words of the complaint. Except for said quoted clause, there was no suggestion as to the character of the testimony he gave, whether it related to facts which he discovered by observation, albeit a trained and expert observation, or to an opinion, probably both.

The effect of the Wisconsin statutes is to require all persons to obey the subpœna of a court, and their compensation for such obedience is fixed at $1.50 per day, with mileage. In a civil action between private parties those fees must be paid in advance, if demanded. In a criminal case they need not be tendered or paid in advance, though doubtless a contract may in some cases be implied to pay the specified fees for the service. The duty of every witness is to attend as long as commanded, and to testify to all material facts within his knowledge. This is a duty resting on all members of the community as such to aid the courts in the administration of justice and insistence on it by the courts does not constitute such a taking of property as is forbidden by the Constitution.

This was not seriously controverted by the plaintiff's counsel in its application to what they called ordinary witnesses testifying to ordinary facts, but they contended that, when a physician is called on to give expert testimony, his services are of a different character, and can not be demanded without compensation.

The word "expert" in this connection is somewhat loose and uncertain. Much of the testimony of a so-called expert is in no wise different in character from that of any other witness. He may be called on to testify to that which he sees, hears, or otherwise discovers by the use of his senses; but those facts may be such that no one but a trained expert would discover them by such use of his senses. A skilled physician discovers facts by the use of sight, hearing, or feeling which another man might not. But this distinction is one of degree merely, and not of kind. All men differ in their ability to observe accurately and in the certainty of knowledge which they derive from such observation. An illustration of such testimony, not in the legal sense expert, and yet dependent on the peculiar knowledge and abilities of the witness, is presented in Hocking vs. Windsor Spring Co., 131 Wis., 532, where an oculist, not competent under the Wisconsin law to testify as an expert, was allowed to testify to physical injuries which doubtless could not have been seen and discovered or described by a nonprofessional.

There can be no doubt in this field that every man owes a duty to attend and testify to the material facts that he knows notwithstanding the knowledge thereof may be due either to his learning or his expert faculties. Any attempt to draw a line between the exceptionally stupid and non-observant person and others who, by greater alertness, training or skill in observation, may acquire more knowledge, is impracticable and irrational. The educated and intelligent owe the same duty of aid to the courts up to the limit of their ability as does the less competent man—the man whose services are worth $50 per day as well as he whose time is worth but $2.

The more difficult field is entered when the court approaches the question of calling on men of exceptional experience and qualifications to give their opinion as the result either of facts which they observe or from an hypothetical statement of facts. This is the real field of expert evidence. It is there that the expert can testify and the non-expert can not. But here also the expression "expert" is of very broad meaning. It includes the mechanic, whose opinion may be asked on the strength or value of a brick wall or chimney, or the farmer, with reference to quality and value of lands, crops or farm animals, as well as the man of most abstruse research and learning in the fields of chemistry and bacteriology or medicine. So here, again, no line can be drawn on principles between the men or the testimony in favor of a physician over a bricklayer.

It would seem on principle, in analogy to the previous discussion, that, if from the witness' observation or from the hypothetical facts stated to him he has consciously in mind either knowledge or an opinion, such knowledge or existent opinion is a fact as to which he may be required to testify; but, as is often the case, and in the higher branches of expert learning perhaps usually, an amount of study, experimentation, thought, and reflection may be necessary to the formation of an opinion, and the witness may often honestly answer that he has not formed such opinion. The chemist, after submitting a substance to various analyses and reactions, may yet need to study the books or make further experimentation before he can assert the presence or absence of certain elements. The physician, after exhaustive inspection and tests, is still often left in doubt, and does not venture an opinion to his patient until after long study. Such study, reflection, etc., is not the function of the ordinary witness. It is not within the command of the subpœna, and there is no reason to think that the statutes were intended to require it of any witness merely as such. If a party desires that any witness, expert or otherwise, equip himself with knowledge by research or inspection, it may employ him to do so, but such employment will be controlled by the ordinary rules of contract, express or implied.

In some of the earlier text-books and decisions it was asserted that courts could not or would not compel certain professional men to attend and testify on professional subjects for the mere ordinary witness fee, more especially on the ground that the time of such witnesses was so valuable that they ought not to be thus coerced. Most of these seem to result from a custom amongst the English courts to treat physicians and lawyers as exempt from coerced attendance on the same terms as other witnesses, a custom often criticized, but which had some justification in an early statute which provided for the tender to a witness "according to countenance or calling his reasonable charges."

The fallacy of the reason on which these earlier customs were supported has, however, been recognized and their authority repudiated in a great multitude of more recent decisions. The result of these cases is that the expert, be he mechanic, physician, engineer, or chemist, must obey the subpœna of the court, and must testify to such facts as are within his knowledge, whether these facts may have required professional learning, study, or skill to ascertain them or not. If, when placed on the witness stand, he has such knowledge, he must testify to it. They substantially all recognize, however, that the subpœna under statutes like those of Wisconsin does not compel the expert or other witness to equip himself by labor with ability to testify either to an opinion or to any other fact which might be ascertained by special services, and hence that from the mere subpœna and compulsion to testify as a witness results no implied contract on any one to pay the expert anything in excess of the statutory fees, recognizing, however, that, if he does perform work in preparation and qualification to enable him to testify at the request of any person, implied contract for reasonable compensation may arise, or an express contract will be valid.

Applying these principles to the present case, it is very obvious that no statute in Wisconsin has authorized any one to make any contract for such services at the expense of the county. The allegation of the complaint was that all services of that character were performed at the request of the attorneys for the accused, albeit with their assurance that the county would be liable therefor. Liability can not be imposed on counties or other governmental subdivisions of the state except in accordance with statute law, and no statute was referred to conferring any such authority on counsel for one accused of crime. The court is therefore unable to discover any basis on which the county of Waukesha could be held liable for any compensation to this witness other than the statutory fees, if indeed it could be made liable for those.

The right to fees from the public must be found in the statute. Nowhere in the Wisconsin statutes is there any provision for the payment of a defendant's witnesses except in Section 4062 of the Wisconsin Statutes of 1898, which permits witnesses "ordered" for the defendant by the court or judge to be paid their fees out of the county treasury in the same manner that witnesses for the state therein are paid; that is, only on a certificate of the clerk of court (Section 4060) after a prior order by court or judge. This is a necessary prerequisite to the existence of any liability of the county therefor. The complaint in this case failed to allege either any order of court or judge for the appearance and attendance of the plaintiff, and the form of procedure in presenting his claim to the county board at least impliedly negatived the issue of any certificate by the clerk of court. Without such prerequisites, no cause of action, even for the amount of the statutory fee, can be stated. The court therefore concludes that the complaint failed to state any cause of action against the county.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

September 18

1 Practical Aspects on the Surgery of the Peritoneum. W. A. N. Dorland, Philadelphia.
2 Significance of Certain Pathologic Conditions in the Fossæ of Rosenmüller. J. W. Jervey, Greenville, S. C.
3 The Influence of Meteorologic and Climatic Conditions on Metabolism. J. B. Nichols, Washington, D. C.
4 Anesthesia in the Control of Inflammation. J. W. Wainwright, New York.
5 Our Medical Educational System. O. L. Mulot, Brooklyn.
6 *Clinical and Bacteriologic Study of Forty-one Consecutive Cases of Diphtheria. E. E. Wuttke, Halstead, Kan.
7 Compilation of Facts Concerning High-Frequency Currents. W. P. Worster, New York.
8 Case of Hemorrhagic Renal Infarct. F. R. McCreery, New York.

6. **Diphtheria.**—A summary of the 41 cases reported by Wuttke may be made as follows: In 13 cases there was a typical pseudomembrane. The bacilli were longer than in the non-membranous, averaging 3 microns on the 24-hour cultures; the cases ran a more severe course and were frequently followed by paralyses. Twenty-eight cases never exhibited membrane at any time. The bacilli in these non-membranous cases were smaller than those in the cases with membrane, running from 1 to 3 microns, most of them being about 1.5 microns long. These cases ran a milder course throughout, responded readily and in a characteristic manner to treatment by antitoxin, none developed paralysis. It would seem that in these cases the bacilli belonging to the short variety were not so virulent as the longer forms in the cases with membrane. One case followed a peritonsillar abscess after its spontaneous rupture. Two cases followed scarlet fever, with an interval of perfect health of four and seven weeks, respectively. One case was followed by an abscess due to staphylococci and streptococci, which was treated surgically. Paralytic sequelæ were noted in 5 cases. In three of these there was a myocarditis. Antitoxin in doses of 4,000 units was administered to all patients as early as possible. In 2 advanced cases this dose was repeated twice. Recovery was complete and prompt in all cases. No local treatment was used in any case. Prophylactic doses of 1,000 units each were given to 54 individuals who had been exposed. None of these developed the disease. The only undesirable effect of the serum noted was an urticarial eruption in about 20 per cent. of all cases, but most frequently in those cases in which only 1,000 units had been administered.

Boston Medical and Surgical Journal

September 16

9 Relationship Between True and False Angina Pectoris. G. G. Sears, Boston.
10 *Spina Bifida Occulta. J. W. Sever, Boston.
11 *Cysts of the Long Bones. C. C. Simmons, Boston.
12 Fatty Infiltration of the Liver in an Infant of Three Months. C. A. Pratt, Fall River, Mass.
13 The Pediatric Society and the General Practitioner. M. Kelly, Fall River, Mass.
14 The Importance of Distinguishing Simple Round Ulcers of the Duodenum from those Ulcers which Involve the Pylorus or are Above it (concluded). E. A. Codman, Boston.

10. **Spina Bifida Occulta.**—Sever reports 11 cases, the deformity occurring in the cervical region in 4 cases, the dorsolumbar region in 1 case and lumbar region in 6 cases. Paralyses were present in 4 cases; dislocation of hip in 2 cases, and scoliosis in 2 cases. Sever says that operation is not indicated in a large number of these cases, especially when not accompanied by pain, anesthesia, hyperesthesia or complete paralysis. In a number of cases, the deformity itself cannot be corrected and one has to devote attention to the complications. Hypertrichosis is not constant, but is more frequent in the low dorsal and lumbar region. Lateral curvature may or may not exist, and if it does, it is to be treated as such. Prognosis for life is good and in the paralytic cases not a great deal can be done except to attempt to correct the deformity.

11. **Cysts of Long Bones.**—Simmons reports three cases of the rarer forms of bone tumors: (1) Bone cyst of the head of the humerus with fracture; (2) bone cyst of neck of femur, with fracture; and (3) bone cyst of shaft of femur, with spontaneous fracture. From a review of the literature and the history and findings in these three cases, Simmons draws the following conclusions:

1. The so-called solitary cysts of the long bones are in most cases due to the degeneration of pre-existing tumors, that is, growth and softening of a chondroma arising from a misplaced piece of epiphyseal cartilage. This theory, however, does not account for all the cases
2. The tumors are essentially benign growths and may be cured by a conservative operation.
3. They are seen almost exclusively in children and young adults
4. In any case of spontaneous fracture or fracture following slight violence, a radiograph should be taken to determine the presence or absence of a bone cyst as a predisposing cause.
5. A positive diagnosis is impossible without a radiograph, which should be examined by a man conversant with the appearance of bone tumors.

New York Medical Journal

September 18

15 Surgery of Cirrhosis of the Liver. B. M. Ricketts, Cincinnati.
16 Treatment of Mechanical Constipation and Obstipation. S G. Gant, New York.
17 *Determination of Casein in Cow's Milk. L. L. Van Slyke and A. W. Bosworth, Geneva, N. Y.
18 *A New Diagnostic Skin Reaction in the Acute Infections. L. K. Hirshberg, Baltimore.
19 *An Apparatus for the Chemical and Bacteriologic Examination of Gastric Contents and Feces. A. Bassler, New York.
20 *Treatment of Recurrent Hordeolum. A. Brav, Philadelphia.
21 *Mammary Fibroadenoma. A. Denenholz, New York.
22 Physiology and the Second Law of Thermodynamics. F. H. Garrison, Washington, D. C.

17. **Determination of Casein.**—The method described by Van Slyke and Bosworth is said to require only apparatus and reagents that are in common use; its operation in the determination of casein in a sample of milk requires only from 12 to 15 minutes; and the results usually come within 0.1 or 0.2 per cent. of the correct amount. With the proper equipment several samples can be run simultaneously with much economy of time. A given amount of milk, diluted with water, is made neutral to phenolphthalein by addition of a solution of sodium hydroxid. The casein is then completely precipitated by addition of standardized acetic acid; the volume of the mixture is made up to 200 c.c. by addition of water and then filtered. Into 100 c.c. of the filtrate a standardized solution of sodium hydroxid is run until neutral to phenolphthalein. From the difference between the amount of acid and the amount of alkali used, a simple calculation enables one to determine the percentage of casein in the milk examined. The method is described at length.

18. **Diagnostic Skin Reactions in Acute Infections.**—Deeming it possible to diagnosticate accurately the species and variety of infecting organism by scarifying a small area of the skin with a definite amount of each of the dead organisms suspected, Hirshberg devised the following method: The skin is scarified with sterile water, a salt solution of physiologic strength, or 50 per cent. glycerin and 1 per cent. phenol in isotonic salt solution. This is used as a control. Usually 5 other vaccinations are made. The types of organisms used depend on the suspected infection. A fairly good reaction shows a slightly reddened area in the neighborhood of 5 mm. in diameter with slightly tense, firm and hard center. A moderately good reaction shows the hyperemic area about 10 mm. persistent and distinctly infiltrated. A very good reaction shows a distinctly edematous site about 25 mm. or more and marked infiltration and hyperemia. On what this reaction depends Hirshberg has not yet determined. So far this method has been used in 22 cases. Known cases were sometimes taken in order to determine the value of the method.

19. **Examination of Gastric Contents and Feces.**—The main part of the apparatus devised by Bassler consists of the well-known form of fermentation tube, the upright limb of which has a 15 c.c. capacity and is graduated in per cents., and the bulb a 30 c.c. capacity. The tube is less than 6 inches in height, so that it will go into a medium-sized incubator, and is constructed so that 25 c.c. sufficiently fills the instrument. Into it is placed a portion of an Ewald test meal; or for the chemical test of feces, 7.5 grams of the soft end of a stool (mushy consistence) or 10 c.c. of a fluid stool (each of which are mixed in 25 c.c. of water). In the bacteriologic examinations, the tube is filled with bouillon or a 2 per cent. dextrose in bouillon and inoculated with about 1 c.c. of the test meal or 3 or 4 drops of the watery suspension of feces. In the case of the chemical test of the feces, the weighed portion of the stool is thoroughly mixed with water in a casserole by means of a common teaspoon and any large sticks of cellulose or vegetable substance present removed. The fermentation tube (a) is then placed in a water-jacketed oven, where it is kept for twenty-four hours at 37 C., when the examinations are made. If at the time of examination more or less feces and incorporated gas are seen at the top of the fluid in the upright tube, No. 3 or 4 shot are placed into the bulb which is then filled with water, and corked so that no air from without is confined. After this the instrument is shaken to allow the shot to break up the floating fecal mass at which the gases from it are liberated; such gas as escapes into the bulb is then passed back again into the upright end, the cork withdrawn, some of the fluid run out, and the observations made as follows:

First the total gas content is observed, after which in the feces tests some of the fluid is extracted and examined for indol and uroresin, and in the nutritive media for aerobic bacteria. The carbon dioxid present is extracted by introducing into the contents 1 or 2 c.c. of saturated solution of sodium hydrate by means of the pipette, and the tube inclined to permit this heavy solution to run up into the upright portion and allowing 15 minutes of time for complete extraction. The rise in the fluid corresponds to the amount of carbon dioxid present. The remaining mixed gases are then tested in the twin bottles, being driven through, when the cock is opened, by means of adjustment and blowing. The reactions are noted in the bottle which contains a very weak solution of neutral litmus (a control in a test tube being used to note the color change), or distilled water into which are put small pieces of phenolphthalein and methyl-orange papers (the first turns red with alkalies and the second turns red with acids). Another bottle contains common lead water to note the presence of sulphuretted hydrogen (turns black): and the hydrogen and marsh gas may be ignited at the outlet, but as both of these burn with an indistinguishable blue flame and neither is important in the clinical way, the authors consider that this may be omitted. With the nutritive media the contents of the closed upright limb is then examined for anaerobic bacteria.

20. **Treatment of Recurrent Hordeolum.**—Brav's line of treatment is the following: During the acute stages hot applications are advised. As soon as the acute stage has somewhat subsided, he applies locally the following mixture:

℞.	gm. or c.c.	
Tincturæ arnicæ	16	℥ss
Tincturæ opii	8	ʒii
Liquoris plumbi subacetatis dil........	8	ʒii
Aquæ destillatæ	90	q. s. ℥iii

M. S.: Apply locally by means of absorbent cotton at bed time.

After the disappearance of the stye for a period of four weeks, the following antiseptic ointment is employed:

℞.	gm. or c.c.	
Hydrargyri chloridi corrosivi..........	008	gr. ⅛
Petrolati albi	8	ʒii

M. S.: Externally.

This should not be merely smeared over the lids, but should be applied with gentle massage every night. Prior to the application of this antiseptic ointment hot compresses should be applied to stimulate the circulation of the margin of the lids. While an ordinary stye does not always require the correction of any errors of refraction it is always an essential procedure in the recurrent type. It is often a contributory factor in the development of styes. Having corrected any error of refraction an antiseptic nasal wash is given. A teaspoonful of boric acid in a glass of water to be snuffed up, twice daily, is a good simple procedure. The constitutional aspect of the case must, of course, be remembered. Brav usually employs compound syrup of hypophosphites with good result. In order to keep the bowels in good condition he incorporates the fluid extract of cascara.

℞.	gm. or c.c.	
Extracti cascaræ fluidi.................	16	℥ss
Syrupi hypophosphati. comp.............	90	q. s. ℥iii

M. S.: A teaspoonful three times a day.

This simple method of treatment has never failed in his hands and even the most protracted cases have yielded to this medication within four weeks' time, provided the intelligent cooperation of the patient can be secured.

21. **Mammary Fibroadenoma.**—Denenholz reports a case of this kind in which both breasts of a young male were involved.

Lancet-Clinic, Cincinnati

September 11

23 Therapeutic Nihilism. L. A. Molony, Cincinnati.
24 Obscure Fractures Discovered by Roentgen-Ray Examination. S. Lange, Cincinnati.
25 Acute Catarrhal Otitis Media. W. E. McKinley, St. Joseph, Mo.

Medical Fortnightly, St. Louis

August 25

26 What the Physician who has no *X*-Ray should Know about it. N. M. Eberhart, Chicago.
27 Little Stories of Physician and Patient (continued). A. H. Moodricker, Wabash, Ind.

Northwestern Lancet, Minneapolis

September 1

28 The Epidemiology of Anterior Poliomyelitis. H. W. Hill, Minneapolis.
29 Physician's Investments: Country Bank Stocks. J. J. Lambrecht, Minneapolis.
30 Plea for the Neurasthenic. W. T. Adams, Elgin, Minn.
31 *Retroperitoneal Lipoma. M. S. Henderson, Rochester, Minn.

31. **Retroperitoneal Lipoma.**—Henderson reports a case in which a tentative diagnosis of ovarian tumor was made, and exploration advised. The abdomen was opened through a median incision. All the intestines, including the transverse colon, were found down in the pelvis, while the stomach and liver were crowded up against the diaphragm. The mass was seen to be retroperitoneal, presenting largely through the gastrocolic omentum, making a tumor a little larger than a full term pregnancy. Fat lobules showed clearly through the peritoneum, and it could be made out that the tumor had its origin in the left kidney region extending through the mesentery well across into the right side. The posterior layer of the peritoneum was incised, and the tumor seen to be non-encapsulated. It was carefully shelled out, the greater part coming in bulk, but much of it being taken out piecemeal. The kidney was not molested, as it was not densely adherent to the growth. Comparatively little bleeding was encountered, and that was controlled by clamps and afterward by ligation. The posterior layer of the peritoneum was then drawn together, and the median incision closed in the usual manner. No drainage was provided. The tumor weighed 19¾ pounds. Recovery was uneventful, the patient returning to her home in three weeks.

Vermont Medical Monthly, Burlington

August

32 Hydrotherapy. J. B. Macdonald, Concord, N. H.

Colorado Medicine, Denver

August

33 Typhoid Fever in Infancy. W. T. Little, Canon City.
34 Medical Treatment of Advanced Pulmonary Disease. J. F. McConnel, Colorado Springs.
35 Treatment of Typhoid. H. S. Henderson, Grand Junction.

September

36 Importance of Early Diagnosis in Certain Troubles of the Upper Abdomen. C. B. Lyman, Denver.
37 Tuberculous Involvement of the Bones in Childhood. H. W. Wilcox, Denver.
38 Rheumatism in Childhood. W. T. Spaulding, Kersey.

Illinois Medical Journal, Springfield

September

39 Diagnosis of Exophthalmic Goiter. H. T. Patrick, Chicago.
40 *Medical Treatment of Exophthalmic Goiter. D. Hecht, Chicago.
41 *Advisability of Thyroidectomy in Catatonic Dementia Præcox. A. B. Kanavel, L. J. Pollock, and A. B. Eustace, Chicago.
42 Tuberculosis in Infants and Children. C. W. Lillie, East St. Louis.
43 *Early Pulmonary Tuberculosis Treated by Different Tuberculins. E. H. Butterfield, Ottawa.
44 *Cutaneous Reactions of Tuberculin. F. Tice, Chicago.
45 *Serotherapy of Epidemic Cerebrospinal Meningitis. F. S. Churchill, Chicago.
46 Race Breeding. J. Grinker, Chicago.
47 Typhoid from a Municipal Standpoint. H. Spalding, Chicago.
48 Immunity. W. C. Bouton, Waukegan.

40. Abstracted in THE JOURNAL, June 19, 1909, p. 2018.

41. **Thyroidectomy in Catatonic Dementia Præcox.**—In three patients operated on by Kanavel seven-eighths of either the right or left lobe of the thyroid was excised without cutting any muscle, except the platysma. The patients all made an immediate and uneventful recovery. The glands were sectioned and studied. In three cases parathyroids were removed by choice to note what effect this might have on the course. Two glands were practically normal, two showed excessive parenchymatous growth; one was a marked colloid growth. Marked hyperemia was present in all of the glands and microscopic hemorrhage was commonly present. So far as could be determined the parathyroids removed did not show any characteristic pathologic change. Kanavel concludes that while one cannot assume any distinct pathologic basis for ascribing dementia præcox to a hyperthyroidism similar to Graves' disease, the pathologic picture cannot definitely exclude a perverted thyroid metabolism as a factor. Partial thyroidectomy is absolutely of no avail in old cases. But when one remembers that Berkley has had five patients apparently completely recover and Kanavel has had two greatly im-

proved, if not cured, by this procedure, and nothing else is known which may offer any hope in this group of psychoses, it seems justifiable to continue investigations in the early cases.

43, 44, 45. Abstracted in The Journal, June 5, 1909, pp. 1878, 1881.

Mississippi Medical Monthly, Vicksburg

September

49 Diagnosis of Malaria. W. Krauss, Vicksburg.
50 The Financial Aspect of the Medical Profession. D. G. Mohler, Gulfport.
51 Why Join the County Society? M. J. Alexander, Tunica.

Philippine Journal of Science, Manila

June

52 Development of a Piroplasma and Trypanosoma of Cattle in Artificial Culture Media. E. Martini, Manila.
53 *Bactericidal Substances in Fibrin. A. F. Coca, Manila.
54 Development of the Miracidium of Paragonimus under Various Physical Conditions. P. E. Garrison, U. S. Navy, and R. Leynes, Manila.
55 Intestinal Worms of 385 Filipino Women and Children in Manila. P. E. Garrison, U. S. Navy, and R. Llamas, Manila.
56 *Relation of the Indian Form of Relapsing Fever to African Tick Fever. R. P. Strong, Manila.
57 Diet and Nutrition of the Filipino People. H. Aron, Manila.
58 Poisonous Snakes of the Philippine Islands. L. E. Griffin, Manila.

53. **Bactericidal Substances in Fibrin.**—The claim has been made in recent years that fibrin is a carrier of considerable quantities of bactericidal and hemolytic substances, and therefore is an important therapeutic means in the combating of infections, chiefly of a localized inflammatory nature. Bergel claims to have found both antibodies and complement in washed fibrin, and was the first to make practical use of this element of the blood as a therapeutic agent. Coca repeated some of the experiments described by Bergel, and always with the same result, namely, that there is an incomparably greater quantity of the substances under consideration in the serum than in the fibrin of the same specimen of blood. Consequently, the logical conclusion of his study is that dependent on the classes of substances under investigation, it must be considerably more advantageous to use the corresponding serum for the purpose of treatment. However, it becomes apparent that if the injected fibrin does prove to be efficacious in the cases mentioned, it will not be because it carries bactericidal substances.

56. **Indian Form of Relapsing Fever.**—Experiments conducted by Strong seem to show that Bombay spirillum fever is distinct from African tick fever, but that it constitutes a form of relapsing fever very closely related to, if not identical with, the forms of relapsing fever encountered in Europe and the United States. However, it does not yet seem clearly demonstrated that the American and Indian strains are distinct from the European, if not identical.

Journal of Abnormal Psychology, Boston

August

59 *Dissociated Personality. C. D. Fox, Philadelphia.
60 Complete Autopsychic Amnesia. E. Jones, Toronto.
61 Mechanism of Amnesia (concluded). I. H. Coriat, Boston.

59. **Dissociated Personality.**—The case reported by Fox was characterized by the presence of somnambulistic states and ambulatory automatism; recovery followed the employment of hypnotic suggestions.

Journal of the New Mexico Medical Society, Albuquerque

September

62 Fractures of the Skull. L. G. Rice, Albuquerque.
63 Acute Intestinal Diseases of Children. C. E. Lukens, Albuquerque.
64 Headaches. J. A. Reidy, Albuquerque.
65 Diagnosis of Appendicitis. W. L. Bishop, Billings, Mont.
66 Articular Rheumatism. F. J. Patchin, Albuquerque.
67 Nephritis or Bright's Disease. L. G. Rice, Albuquerque.

Bulletin Johns Hopkins Hospital, Baltimore

September

68 *Relation of the Islands of Langerhans to Glycosuria. W. G. MacCallum, Baltimore.
69 *Tuberculosis of the Parathyroids and its Relation to the Occurrence of Tetany in Tuberculous Meningitis. M. C. Winternitz, Baltimore.
70 *Use of Animal Membrane in Producing Mobility in Ankylosed Joints. W. S. Baer, Baltimore.
71 Municipal Management of Tuberculosis. W. C. White, Pittsburg.
72 *Chloroform Poisoning: Liver Necrosis and Repair. G. H. Whipple and J. A. Sperry, Baltimore.

68. **Islands of Langerhans and Glycosuria.**—MacCallum found that when a portion of the pancreas is separated from the rest and its duct ligated, it undergoes extensive atrophy, a tissue remaining which is apparently composed of enlarged islands of Langerhans and the remnants of pancreatic ducts. If the rest of the pancreas be removed, this atrophied remnant is capable of warding off glycosuria even when considerable amounts of dextrose are ingested. When it is removed also, glycosuria appears at once spontaneously. Whether the glycosuria would persist until the death of the animal remains to be determined, but MacCallum believes that this experiment suggests the possibility that there may be some compensation on the part of other organs, both with regard to glycosuria and the faulty assimilation in so far as it was intended as a demonstration of the specific control of carbohydrate metabolism by the islands of Langerhans.

69. **Tuberculosis of Parathyroids and Tetany.**—During the past year, two patients suffering with tetany as a terminal complication of acute miliary tuberculosis have come to autopsy at the Johns Hopkins Hospital. Both patients were colored women, aged 21 and 26 years respectively. The illness was acute, and in both cases typical symptoms of tetany had been observed during life. At autopsy both showed general miliary tuberculosis. In one of the cases there was a small focus of tuberculosis in one parathyroid gland. The parathyroids were not carefully examined in the first case, but it is interesting to note that the convulsions immediately subsided following the injection of calcium into the arm vein. Winternitz holds that it seems quite possible that in certain cases of tuberculosis there may be a marked disturbance in the calcium metabolism. This might be of sufficient extent alone to bring about a deficit in the calcium of the circulating fluids, and in this way cause an hyperexcitability of the nerve cells. This is at least a tempting hypothesis which would explain tetany in some cases of tuberculosis in which no lesion of the parathyroid is demonstrable. On the other hand, if there is already a deficit of calcium in the circulating fluids of the body, a slight injury to the parathyroids might very readily be of crucial importance and cause sufficient additional disturbance in the calcium metabolism to bring about tetany.

70. Abstracted in The Journal, Aug. 7, 1909, p. 478.

72. **Chloroform Poisoning.**—Whipple and Sperry report the results of experiments which they believe prove beyond doubt that chloroform is a powerful poison, that narcosis with this drug for any considerable length of time invariably causes central necrosis of the liver (in animals), and that this necrosis, if extreme, will cause death. The essential change is an extensive necrosis and fatty degeneration of the liver. There may be numerous ecchymoses and hemorrhages into the peritoneum or upper intestinal tract. The pancreas may show many fat necroses and ecchymoses. The kidney and heart may present a moderate grade of fatty degeneration. Repair is effected by solution of the necrotic liver cells and rapid multiplication of the remaining peripheral cells. Cirrhosis does not follow extensive central necrosis and repair.

Texas State Journal of Medicine, Fort Worth

September

73 *Experimental Study of the Use of Nitrites in Accidents Occurring During Anesthesia. O. H. Plant, Galveston.
74 *Four Unusual Neoplasms of the Uterine Adnexa. B. F. Stout, San Antonio.
75 The Musca Domestica as a Carrier of Disease: The Improvement of Sanitary Conditions in Country Homes and Villages. A. L. Lincecum, Louise.
76 Gynecologic Conditions which may Arise from Pathologic Changes in the Contents of Pregnant Uteri, with Special Reference to Chorion Epithelioma. E. Dunlap, Dallas.
77 Skin Diseases and the Public. I. Dyer, New Orleans, La.
78 Treatment of Chronic Suppurative Otitis Media. J. H. Foster, Houston.
79 Necessity of an Early Diagnosis and Treatment of Acute Purulent Otitis Media. F. D. Boyd, Fort Worth.

73. **Nitrites in Accidents During Anesthesia.**—According to Plant, the administration of nitroglycerin or other nitrites in accidents during anesthesia is not only contrary to the principles of rational therapeutics, but a dangerous procedure as well. Experiments by Plant demonstrated that nitroglycerin only exaggerates the depression of the heart and respiratory

center when it is given during those stages of anesthesia where a stimulant is indicated; for instead of having a beneficial effect in these experiments it prevented the recovery of the animals, even when artificial respiration was performed. The failure of these animals to recover from the anesthetic when nitroglycerin was used, could only have been due to the nitroglycerin itself; for in the last series of experiments in which exactly the same conditions prevailed as to anesthesia, the injection of true cardiac and respiratory stimulants (i. e., strychnin and cocain) was sufficient to bring about the recovery of the animals without any artificial respiration.

74. **Neoplasms of Uterine Adnexa.**—The cases reported by Stout are (1) bilateral fibromata of the ovary; (2) primary myoma of the broad ligament; (3) sarcoma of the ovary; and (4) primary adenocarcinoma of the Fallopian tube.

Journal Arkansas Medical Society, Little Rock

August

80 Amebiasis. J. J. Jelks, Memphis, Tenn.
81 Causation, Mode of Infection, Prevention and Hygiene of Tuberculosis. E. R. Dibrell, Little Rock.
82 Clinical Observations in Doing Mastoid Surgery. R. Caldwell, Little Rock.
83 An Interesting Case of Abdominal Surgery. G. S. Brown, Conway.
84 Reynaud's Disease. T. G. Brewer, Osceola.
85 Separation of Lower Epiphysis of Radius. T. F. Kittrell, Texarkana.

Louisville Monthly Journal of Medicine and Surgery

September

86 The Antituberculosis Movement. J. Glahn, Owensboro, Ky.
87 Cervical Lacerations. L. Bloch, Louisville.
88 *Cancer in Two Members of the Same Family. J. G. Sherrill, Louisville.
89 *Subperitoneal and Retroperitoneal Fibroid Tumor of Unusual Shape. L. Frank, Louisville.
90 Cerebrospinal Meningitis. J. B. Marvin, Louisville.

88. **Cancer.**—One of Sherrill's patients was a young man, 25 years of age, who had been suffering from symptoms of obstruction. On examination of the rectum, Sherrill found a hard cancerous tumor surrounding the gut about two inches above the anus. The patient's mother, a woman about 47 years of age, who had been having uterine hemorrhages, on examination was found to have an epithelioma of the cervix.

89. **Subperitoneal and Retroperitoneal Fibroid.**—On opening the abdomen half of the tumor was found above and the rest of it wedged into the pelvis. It could not be moved or lifted out of the pelvis; the peritoneum hugged the tumor pretty closely, passing on to the rectum. On the left side, however, was a large pus tube which had been leaking, over which tube was agglutinated the sigmoid and one coil of small gut, but as soon as these were separated the pus began to escape. Frank walled this side off with gauze and then placed a large clamp on the tube on the left side, ligated the tube and ovary on the other side and cut them away; then clamped the round ligament, then deflecting the bladder downward over the front of the tumor, the broad ligament was opened up and the ureter and uterine vessels were exposed. The uterine vessels were isolated and caught with a clamp and then the tumor was cut across. He tied all the vessels, then passed the hand down between the vagina and the deep pelvic portion of the tumor, separating the vagina, then lifting the tumor away from the separated vaginal wall with the right hand; the peritoneum on each side was made taut and split, leaving the tumor unattached and easy to roll out. As soon as it came out the tumor assumed a cylindrical shape. It sprang entirely from the posterior wall of the uterus. Frank never before removed a tumor in this manner, nor has he seen any mention of such a procedure.

Pennsylvania Medical Journal, Philadelphia

August

91 Bacterial Vaccines and the Opsonic Index. A. P. Hitchens, Glenolden.
92 *Adenopathy in Infectious Conditions of the Buccal Region. E. Rosenthal, Philadelphia.
93 *Importance of Rhinologic Examination in Meningitis of Doubtful Origin. R. H. Skillern, Philadelphia.
94 Hot-Air Current in Treatment of Certain Ear Affections. L. L. Doane, Butler.
95 *Acute Contagious Conjunctivitis. O. H. Fretz, Quakertown.
96 Scope of Local Anesthesia in General Surgery. L. J. Hammond, Philadelphia.
97 Spinal Anesthesia: Clinical Study of 658 Administrations. W. W. Babcock, Philadelphia.
98 Roentgen-Ray Interpretations. S. L. McCurdy, Pittsburg.
99 A Plea for More Painstaking Diagnosis in Chronic Gastric Disturbances. W. Howe, Shinglehouse.
100 *Recent Improvement in Operations for Tumors of the Breast. J. H. Gibbon, Philadelphia.
101 Gall-Stones. H. C. Hoffman, Connellsville.
102 The Campaign against Cancer. J. W. Wainwright, Buffalo, N. Y.

92, 93, 95. Abstracted in The Journal, Oct. 24, 1909, pp. 1455, 1456.

100. Abstracted in The Journal, Oct. 31, 1909, p. 915.

West Virginia Medical Journal, Wheeling

August

103 Rheumatism in Children. S. L. Jepson, Wheeling.
104 Infant Feeding. E. F. Glass, Wheeling.
105 Diphtheria. G. D. Jeffers, Parkersburg.
106 The Child and the Public School. O. G. Wilson, Wheeling.
107 Defective Eyesight in Public School Children. E. R. McIntosh, Elkins.
108 Laryngismus Stridulus—Report of a Fatal Case. H. Beates, Philadelphia.

September

109 Nervous Dyspepsia—Misapplication of the Term. T. A. Williams, Washington, D. C.
110 Fractures. A. P. Butt, Davis.
111 *Exophthalmic Goiter. J. A. Guthrie, Huntington.
112 Cardiac Asthenia, Cheyne-Stokes Respiration, Bradycardia, Adams-Stokes Syndrome. L. D. Wilson, Wheeling.
113 *A New Suture. R. M. McMillen, Wheeling.
114 Piece of Stone in the Iris for Fifty-Four Years. J. L. Dickey, Wheeling.

111. **Exophthalmic Goiter.**—Guthrie reports three cases of exophthalmic goiter treated successfully with Beebe's serum. The symptoms were typical, so that there was no doubt about the correctness of the diagnosis. The cases were recent ones. A cure was effected in each instance in about three months.

113. **A New Suture.**—McMillen has devised a suture which he believes to be superior to the sutures commonly employed It is made as follows: First put in the suture the same as the ordinary interrupted suture. Thread the reverse end of suture, insert needle into the skin very close to the edge of the wound, about one-sixteenth of an inch. Pass the needle through the skin only, and on over, and catch the skin on wound side and come out on cuticle side about one-sixteenth inch from edge. The suture is then tied by a reef knot drawn with sufficient force to bring deep structure together. The inner margins of the skin will then be seen to be in exact apposition, and the cut surfaces of the skin will be together when the pressure of the dressing is applied. The knots are at the side of the wound, and their removal will not disturb the line of union. The line of union is not constricted by the suture and the blood and nerve supply is not interfered with. He states that this suture reduces the size of the scar to a minimum.

Journal Michigan State Medical Society, Detroit

August

115 Surgery in Treatment of Hypertrophic and New Growths of the Face. A. P. Biddle, Detroit.
116 Bacteriology and its Relation to Public Health. M. L. Holm, Lansing.
117 Treatment of Exophthalmic Goiter. B. N. Epler, Kalamazoo.
118 Abdominal Diagnosis. H. E. Randall, Flint.
119 Electrotherapeutics. W. E. Ogden, Ionia.
120 Drainage Following Cholecystotomy. J. J. Reyeraft, Petoskey.

September

121 Indications for Major Gynecologic Operations. R. R. Smith, Grand Rapids.
122 Technic for the Intramuscular Injection of Mercury in Syphilis. H. R. Varney, Detroit.
123 William Beaumont and his Work in the Light of Modern Research. B. R. Corbus, Grand Rapids.
124 The Specialist and the General Practitioner. F. B. Tibbals, Detroit.

California State Journal of Medicine, San Francisco

September

125 Requisites for the Treatment of the Psychoneuroses; Psychopathologic Ignorance and the Misuse of Psychotherapy by the Novice. T. A. Williams, Washington, D. C.
126 *Chronic Colitis. D. Fulton, Los Angeles.
127 Treatment of Mucomembranous Colitis from the Standpoint of its Bacterial Origin. R. L. Wilbur, Palo Alto.
128 A Phase of Unequal Inspiratory Murmur. T. C. Edwards, Salinas.
129 Conservative Surgical Procedures for Protecting and Preserving Pelvic Organs. J. H. Sampson, San Jose.
130 The Hygienic and Climatic Treatment of Arteriosclerosis. R. Reed, Alhambra.
131 Genitourinary Tuberculosis. T. J. Clark, Oakland.
132 The Theory and the Value of Tuberculins. E. von Adelung, Oakland.
133 The Immediate Removal Treatment of Morphin Habituation. R. E. Bering, Tulare.
134 Surgical Treatment of Trifacial Neuralgia. C. D. Lockwood, Pasadena.

135 Cutaneous Anesthesia as a Symptom of Osteomyelitis. H. I. Wiel, San Francisco.
136 Rheumatism: Its Relation to Diseases of the Throat. B. F. Walker, Fresno.
137 Suture of the Aorta. H. E. Castle, San Francisco.
138 *Reverse Peristalsis. R. Brown, Santa Barbara.
139 *Mercury in Tuberculosis. G. G. Moselay, Redlands.

126. **Chronic Colitis.**—Fulton's paper is a summary of 158 cases of chronic colitis in which the disease was limited to a large bowel. Of the 158 cases, 67 were males and 91 were females. The youngest individual was a boy of 6 and the oldest a woman of 65; 75 per cent. of the patients were from 20 to 50 years of age. The duration of the disease was from 2 months to 20 years. One hundred and forty-two, or 85 per cent., were poorly nourished; ptosis of the stomach was present in 118 cases. The right kidney was palpable in 53, both kidneys in 15, and the left kidney alone in 2 cases. Ninety-two had the "habitus enteropticus;" 154 had chronic constipation. In 131, the constipation was of the spastic variety. Four of the 158 patients had diarrhea, and 7 alternating constipation and diarrhea; 3 stated that their bowel functions were normal.

The symptomatology consisted of constipation, mucus, flatulence and abdominal distress, besides a large number of reflex, nervous, dyspeptic and circulatory disturbances. The treatment was based on the principle that in the large majority of cases chronic colitis is a superficial catarrh of the large bowel which accompanies chronic constipation. Contrary to usual custom no treatment was directed primarily to the nervous system. Endeavor was made to restore, when indicated, the abdominal pelvic organs to their normal anatomic relations. Properly-fitting abdominal supporters or corsets were therefore invariably prescribed when marked ptosis of the stomach or colon was present, and for displacements of the uterus operations for their correction were advised. In two cases colonic adhesions were no doubt the cause of the constipation and its resulting colitis. One of these patients was permanently cured by surgical treatment. The other presents evidence of reformation of adhesions since the operation, two months ago. Twenty-eight of the 158 patients have been lost sight of; of the remaining 130, 18, or 14 per cent., received no benefit, or soon relapsed after the cessation of active treatment; 36, or 28 per cent., were greatly benefited, by which is meant freedom from symptoms, except an occasional temporary return of constipation; 76, or 58 per cent., have remained well.

138. **Reverse Peristalsis.**—Brown did a posterior drainage operation with the Murphy button to relieve the symptoms dependent on carcinoma of the pylorus in a man of 65. The stomach was found to be about normal in size. The immediate convalescence was uneventful—patient was home in two weeks and was eating and enjoying solid food in the third week. Free easy bowel movements occurred daily. One month after the operation, having been outdoors and very comfortable all the morning, the patient had a light luncheon, immediately followed by abdominal pain, severe enough to send him to bed. He felt nauseated and vomited a small amount of greenish-yellow fluid. Shortly after he had a large, free evacuation. During the afternoon the patient was not especially uncomfortable, though he had some pain. Toward evening the nurse noted that the abdomen was a trifle distended and hard. She gave one and one-half quarts of a saline solution—three large teaspoonfuls of salt to a quart of water—which failed to give relief. Immediately the abdomen progressively increased in size. Becoming alarmed, the nurse gave another quart and a half of saline enema. This, too, failed to relieve, and the abdomen attained still greater dimensions. The patient vomited volumes of fluid of a very salty taste and containing fecal matter. Examination revealed a patient practically in collapse. Eserin 1/50 and atropin 1/60 hypodermically were given at once. The patient was turned on his left side. No more vomiting occurred, the abdomen rapidly fell to its normal proportions and the pulse dropped to 90. By midnight the patient was asleep and had a fairly easy night. The next afternoon, by enema, there was a large, loose movement in which the button came away.

139. **Mercury in Tuberculosis.**—The results obtained by Mosely in 33 cases are as follows: Marked improvement, 5 (15.15 per cent.); slight improvement, 11 (33.33 per cent.); stationary, 8 (24.24 per cent.); failed, 4 (12.12 per cent.); died, 5 (15.15 per cent.).

Iowa Medical Journal, Des Moines

August

140 *The Seamy Side of Surgery. G. G. Cottam, Rock Rapids.
141 The Training of the Surgeon. V. Knott, Sioux City.
142 The Management of Fractures. A. B. Bowen, Maquoketa.
143 Comprehensive Surgery. C. H. James, Centerville.
144 Treatment of Appendicitis. P. E. Sawyer, Sioux City.
145 The X-Rays as an Aid to the Physician in General Practise. R. D. Mason, Omaha, Neb.

140. Abstracted in The Journal, July 10, 1909, p. 139.

Washington Medical Annals

September

146 *Home Treatment of Insanity. P. C. Hunt, Washington.
147 Diseases of the Ear, Complicating Measles and Scarlatina. W. A. Wells, Washington.
148 Prognosis and Dietetic Management of Diabetes Mellitus. H. D. Fry, Washington.
149 *Arthrodesis for Flail-Foot. A. R. Shands, Washington.
150 Specimens of Urinary Calculi. H. A. Fowler, Washington.

146. **Insanity.**—In acute insanity the treatment employed by Hunt resolves itself into rest in bed, overfeeding, wet pack, fresh air and the occasional use of drugs, as may be indicated. The patient should be put to bed at once. Remove all sharp instruments, drugs, etc., have the windows so arranged that they may not be opened over six inches. The bed treatment impresses the patient with the fact that he is ill, and by further impressing the fact that the illness is curable, and by not occupying the patient's mind with games, odd jobs, etc., but by treating the disease as an ordinary illness, we obtain both physical and mental rest, and the result is a more frequent and speedy recovery. If motor excitement be present, it may require the temporary use of drugs, but it is much better for the patient to resort at once, if possible, to hydrotherapy. The warm bath produces diaphoresis, influences the circulation, lowers the blood pressure, causes the elimination of morbid products, renders the surface of the body less sensitive and produces a sedative action. The cold bath should be used only in cases that respond to the severe shock produced by the application of cold water to a large surface of the body, and it should be followed by energetic rubbing. It increases the nervous energy, stimulates the functions of the body and raises the blood pressure. The spray, either warm or cold, should follow the bath in suitable cases, for about five minutes. It is produced by a nozzle attached to a rubber tube which is connected with the spigot. The wet pack is very useful in excited patients, as well as in insomnia. It may be used either hot or cold, as the condition of the patient warrants, and may be continued for from twenty minutes to several hours. The wet pack also proves a good temporary restraint for excited patients. Insomnia is almost a constant feature of the acute forms of insanity. Drugs should be used only when indicated. Massage and gentle faradism are useful aids to nutrition. Overfeeding is necessary to restore the great waste of tissue going on in the system. As autointoxication is a frequent factor in the etiology of insanity, the alimentary canal should receive prompt and careful attention, the result at times of such attention being most gratifying.

149. **Arthrodesis for Flail-Foot.**—Shands' patient was a little girl, the victim of acute anterior poliomyelitis, both feet having been paralyzed; one foot remained completely useless and was a source of annoyance on account of its extreme flexibility—such as to make the term dangle-foot or flail-foot applicable. The operation of arthrodesis was done, after the method of Whitney. It consisted simply in opening the joint and denuding the articular surfaces—in this case those of the astragalus and the bones of the leg; the result was a beneficent ankylosis. The improvement in the girl's locomotion was very marked.

Northwest Medicine, Seattle

August

151 Relations of the Internal Secretions to Surgical Conditions. R. Park, Buffalo, N. Y.
152 A Correct Medical Discernment. J. L. Stewart, Boise, Idaho.
153 The Medical Profession of Idaho. J. L Stewart, Boise.
154 Problems of the Medical Profession of the Northwest. C. A Smith, Seattle.
155 The Complement-Deviation Test in Syphilis. R. C. Matson, Portland, Ore.

American Journal of Surgery, New York

September

156 *The Cancer Problem from a Surgical Viewpoint: with Possible Explanation of the Remarkable Freedom of the Duodenum from Cancer Invasion. R. W. Westbrook, New York City.
157 Excision of the Sternum for Sarcoma. A. E. Isaacs, New York.
158 Otitic Brain Abscess. W. S. Bryant, New York.
159 *Abscess of the Brain; Report of Two Cases with Death from Insufficient Exploration. W. H. Magie, Duluth, Minn.
160 Applications of Roentgen Rays in Diagnosis. E. W. Caldwell, New York.
161 *Fibroids and Pregnancy. C. L. Bonifield, Cincinnati.
162 Appendicostomy. J. M. Lynch, New York.

156. **The Cancer Problem.**—It is generally accepted that cancer develops especially in tissues exposed to long-continued irritation, and in scars, chronic ulcers, etc., of long standing. This so-called "precancerous" condition in the stomach is furnished by chronic gastric ulcer, and yet in 1,112 operations on the stomach and duodenum in one clinic there was but one instance of duodenal ulcer becoming carcinomatous. It has been very interesting to Westbrook to note, often, how gastric cancer will extend along the stomach to the pyloric ring, and then stop suddenly short in its progress in that direction, not at all involving the duodenum. The most striking difference in the involvement of the duodenum by cancer as compared with the stomach has received as yet no attention, beyond the statement of the fact, and an adequate explanation of this difference would be going a long way toward solving the cancer problem. Either it is a mistake that ulcer often forms a precancerous stage in the stomach, or there is lacking in the duodenum the essential cause which gives origin to cancer. There is nothing in the tissue formation of the stomach and of the duodenum to explain the great difference, and no one has shown that misplaced histologic cell-elements which might give rise to new growths are vastly more common in the stomach than in the duodenum. Westbrook asks whether this can be explained on the theory that cancer is due to a parasitic cause. It would seem that this would form a reasonable explanation, and that the intestinal secretions are the inhibiting cause which prevents the frequent occurrence of cancer in the upper intestinal tract.

159. Abstracted in The Journal, Jan. 9, 1909, p. 159.

161. Abstracted in The Journal, Jan. 16, 1909, p. 242.

Maryland Medical Journal, Baltimore

September

163 *Myasthenia Gravis (Asthenic Bulbospinal Paralysis). I. J. Spear, Baltimore.
164 The True Function of the Tuberculosis Nurse. M. E. Lent, Baltimore.
165 Roger Bacon, Linacre, Caius, Vesalius, Fallopius, Dover. H. M. Cohen, Baltimore.
166 Ideals of Health in Town and Country. C. O'Donovan, Baltimore.

163. **Myasthenia Gravis.**—Spear reports a typical case of myasthenia gravis, pursuing a characteristic course, beginning with transient weakness of the ocular muscles and muscles of mastication, later involving all the voluntary muscles, the respiratory and cardiac muscles, terminating in about four years with cardiac asthenia. There was also present a mediastinal tumor.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

September 4

1 *Cancer in Man and Animals. E. F. Bashford.
2 Development of Physics. Sir J. J. Thomson.
3 *Experiences in the Treatment of Distal Paralysis by Nerve Anastomosis. A. H. Tubby.
4 A Possible Natural Enemy to the Mosquito. J. M. Atkinson
5 *Delayed Chloroform Poisoning Treated with Dextrose: Recovery. A. A. Weir.
6 Vacuolation of Blood Platelets: An Experimental Proof of their Cellular Nature. H. C. Ross.
7 Hydroa Gestationis. N. M. Falkiner.
8 Syphilis with an Unusually Long Incubation Period. G. P. James.
9 Foreign Body in the Nose for Forty-four Years. D. L. Sewell.
10 Domiciliary Medical Treatment under the Poor-Law. Major Greenwood.

1. Published also in the *Medical Record*, New York, Sept. 4, 1909; abstracted in The Journal, Sept. 18, 1909.

3. **Nerve Anastomosis.**—The types of paralyses for which Tubby has performed anastomosis are (1) traumatic and (2) infantile paralysis. The total number of patients operated on is eight. These have been watched for a period of not less than 3 years since the operation. Of the 8 cases quoted, 2 were of traumatic origin, of which one patient recovered after complete severance of the nerve, and the other is showing steady progress toward recovery. Of the cases due to anterior poliomyelitis, 6 in number, in 4 there is distinct evidence of a more partial recovery of the muscles, but in 1 of these cases improvement has ceased for a year. In 2 others no clinical signs of regeneration are apparent, even after 4 years. In 1 of the latter cases operative exploration showed, however, that the external popliteal nerve was being regenerated centrifugally.

5. **Delayed Chloroform Poisoning.**—Weir's case presents several points of interest. The abdomen was opened and drained for an abscess which extended down into the pelvis. The anesthetic administered was chloroform, which was taken exceedingly well, the time occupied being about three-quarters of an hour. After the operation, the patient was restless and complained of a good deal of thirst, but vomited once only and that was twelve hours afterward. Saline solution was administered by rectum on account of the thirst. For forty-eight hours the patient seemed well, except for restlessness; the temperature was normal and the pulse good. On the following day, however, the restlessness had become a maniacal delirium, the patient screamed, threw the clothes about, tore off his dressings, and had to be placed under mechanical restraint. There was almost entire absence of vomiting. The urine showed diacetic acid when tested with liquor ferri perchloridi, and although the quantity of urine was not measured, it was judged by the nurse to be about normal. Rectal injections and sodium bicarbonate were continued, and a solution of glucose, half an ounce to half a pint of milk was administered by the nasal tube, and a 10 per cent. solution by the rectum. This was given once every four hours, and, in addition, a good supply of carbohydrate food. For the next twenty hours the patient went from bad to worse, the face became a rich plum color, the coma deepened, frothy saliva oozed from the mouth, and the prognosis seemed absolutely hopeless. Typical Cheyne-Stokes respiration was present, and the sweating was profuse. The pulse, however, remained good, and was never above 108 a minute. The patient retained everything given by the nasal tube and by rectum. After remaining in this desperate-looking condition for a few hours, he began to show a little improvement, the first sign being an attempt to move his head. Within six hours, in fact, the intellect was quite clear and the patient expressed a wish for some food. Recovery was perfect.

British Medical Journal, London

September 4

11 Educational Number.

11. **Educational Number.**—This issue is devoted entirely to medical education.

Journal of Tropical Medicine and Hygiene, London

August 16

12 *Bacterium anaërogenes* Isolated from Human Feces. J. M. Swan.
13 *Filaria (Microfilaria) philippinensis* C. F. Craig.
14 Apparent Cure of Filarial Hematochyluria. J. R. McDill and W. B. Wherry.

Practitioner, London

August

15 *Chronic Ulceration of the Rectum. D'A. Power.
16 The Rôle Played by Diet in Bright's Disease. W. B. Warrington.
17 Report on 250 Cases of Spinal Analgesia by the Use of Stovain-Glucose Solution. L. McGavin, and G. Williams.
18 *The Treatment of Fractures of Long Bones. J. H. Pringle.
19 Acute Infective Endocarditis treated with a Vaccine Prepared from the Patient's own Blood and Ending in Recovery. A. F. R. Conder, and J. R. Collins.
20 Diagnosis of Permanent Mental Deficiency in Infancy and Childhood. C. P. La Page
21 Medical Inspection and Treatment of School Children C. Dukes.

22 Use of Thorium and Radium in Some Diseases of Pharynx and Larynx. L. M. Chesney.
23 The Prophylaxis of Aphasia. F. C. Coley.
24 Adventures with a Curette. R. Watson.

15. **Chronic Ulceration of Rectum.**—Power reports 9 cases 3 of ulcerative colitis, examples of the condition known as sporadic ulcerative colitis, which is an infective inflammation attacking all parts of the large intestine. It is not identical with dysentery either of the bacillary or amebic type, nor is it quite the same disease as asylum dysentery. There was no cause localizing the inflammation to the rectum in the first and third cases, except, perhaps, the changes occurring in connection with recent parturition. In the second case, the rectum had already been the seat of chronic inflammation, as was shown by the fistulas, and the patient was also suffering from Bright's disease. There were 3 cases of ulcerative colitis occurring in patients who had acquired syphilis. There was one case of chronic ulceration occurring after labor, one case each of anorectal syphiloma, gummatous ulceration, and malignant ulceration of the rectum. Power classifies chronic ulceration of the rectum as follows:

Chronic ulceration of rectum.
- Ulcerative colitis
  - Dysenteric.
    - Sporadic.
    - Epidemic.
  - "Syphilitic."
  - Tuberculous
  - Secondary to pelvic cellulitis.
- Syphilitic.
  - Gummatous.
  - Anorectal syphiloma.
- Tuberculous.
- Carcinomatous.

Considerable stress is laid on the part played by infective colitis in producing chronic inflammation of the rectum.

18. **Treatment of Fractures.**—Pringle favors the extension method in the treatment of fractures of long bone. In his experience the results obtained surpass those by any other method of treatment, operative or non-operative.

Australasian Medical Gazette, Sydney

July

25 Protection of our Frontiers from Invasion of Disease. J. H L. Cumpston.
26 Prevention of Parasitic Anemia. A. J. Turner.
27 Ankylostomiasis Among Queensland Children. A. G. Salter.
28 Enlarged Prostate. W. Chisholm.
29 Successful Case of Strangulated Umbilical Hernia with Resection of a Piece of Ileum. C. E. Todd.
30 *Anesthetics. A. Aspinall.
31 *Heterophoria as a Cause of Intractable Headache. E. T Smith.
32 Complicated Pelvic Hematocele, Successfully Treated by Hyperemia. M. A. Schalit.
33 Heart Block in Acute Rheumatism. J. M. Gill.

30. **Anesthetics.**—Aspinall presents a most admirable review of the history of anesthesia and discusses tersely, but well, the use and indications for the anesthetics now in use. In closing he emphasizes the following points: 1. Every breath taken by the patient should be felt or heard by the anesthetist. 2. The color should be continually observed and an explanation sought for any change in it. 3. The pulse should be felt regularly. 4. If in doubt as to the depth of anesthesia present, temporarily without the anesthetic. 5. Never attempt to hurry the administration, and do everything quietly, so as not to attract the surgeon's attention and cause anxiety on his part. 6. Have everything ready in case of emergency. 7. Do not be impatient during the induction of anesthesia. 8. Watch the patient and not the operation.

31. **Heterophoria as Cause of Intractable Headache.**—A cautious central tenotomy of the right superior rectus was performed by Smith in this case. The day after the operation, for the first time for twelve months, the patient awoke free from headache. But it recurred next day and remained. A month later she had only one degree of hyperphoria, instead of two degrees. As the pain persisted, Smith did a small central tenotomy of the left inferior rectus. This, from the day after the operation till the present time, completely removed the headache, but gave rise to constant diplopia, which she had never been conscious of before, and an obvious vertical squint. To shut out the persistent second image, she kept her left eye generally closed (previously, closing one eye did not relieve the headache at all), and she became a bright cheerful woman, doing her housework and resuming her sewing. Subsequently, Smith remedied the vertical squint by a carefully performed advancement of the left inferior rectus, which, fortunately, just hit the happy medium and resulted in orthophoria, binocular single vision, and happiness.

British Journal of Children's Diseases, London

August

34 Congenital Heart Affections Especially in Relation to Diagnosis. G. Carpenter.
35 *Treatment of Advanced Cases of Acute Diaphysitis. H. M. W Gray.
36 *Acute Meningitis in Children. F Tresilian.

35. **Treatment of Acute Diaphysitis.**—The case reported by Gray was a typical acute suppurative diaphysitis or osteomyelitis of the upper half of the shaft of the left tibia. The upper epiphysis and neighboring knee-joint were, so far as could be ascertained, free from disease. An incision, slightly internal to the crest of the tibia, was made from the upper limit to three-fourths of an inch below the lower limit of denudation of periosteum, down to the bone in its whole extent. The subperiosteal cavity was washed out, first with peroxid of hydrogen (10 per cent.) and then with saline solution. The periosteum, corresponding in extent with the lower three-fourth of an inch of the incision, which was adherent to bone and healthy, was elevated off the bone, which was then chiselled across at the lower end of the incision. The upper half of the tibia was then easily lifted out of its periosteal bed, as it was only very loosely adherent to the epiphyseal cartilage. The cavity thus made was carefully washed out as before, dried, and packed lightly with sterile gauze wrung out of peroxid of hydrogen (3 per cent.). The opening of the medullary cavity of the remaining part of the tibia was previously smeared over with Beck's bismuth paste, so as to prevent any possibly infective material from penetrating to the healthy medullary cavity of the lower part of the bone. The limb was then enveloped in sterile dressings and a moulded splint applied (made of plaster-of-Paris bandages soaked in biniodid of mercury, 1 in 2,000 solution).

The temperature fell to normal in a few hours. Three days later the child was anesthetized again and the gauze removed. The cavity was found to be clean and dry, free from pus. The catgut sutures were tied. Bismuth paste which oozed out between the stitches was lightly wiped away and the skin was carefully sutured with fine catgut. Dressings were applied and the limb placed again in the plaster splint. Small sinuses formed, one at the upper and one at the lower end of the wound. Through the upper sinus the greater part of the bismuth paste was gradually pushed out—as the periosteal cavity became filled with "granulation tissue" and bone. The discharge was a thin, honey-like fluid. At no time was there an ordinary purulent discharge. The lower sinus was found to be due to the presence of a thin flake of necrosed bone, which separated and was extruded during the sixth month. At the end of a month the patient was able to walk freely without pain. Thirteen months after operation she had perfect use of the limb, had no discomfort of any kind, and on examination, apart from the scar, one could make out scarcely any abnormality of the bone. On careful measurement from the upper margin of the internal tuberosity to the tip of the internal malleolus it was found that the affected tibia is one-fourth of an inch shorter than the other.

36. **Acute Meningitis.**—Tresilian reports four cases: The first case was one of tuberculous meningitis, which began in a hemiplegic form. The second was an ordinary case of posterior basic meningitis in an infant, which left behind it the very unusual sequel of complete deafness only. The next case was a typical and severe one of acute cerebrospinal meningitis. The fourth was a case of posterior basic meningitis.

Journal of Obstetrics and Gynecology of British Empire, London

August

37 *Sarcoma of the Ovaries. F. A. L. Lockhart.
38 Fibromyomata Uteri. E. McDonald.
39 *Urinary Fistulas in Women: Prophylaxis and Treatment. R Worrall.
40 Peritonitis as a Complication of Fibroids Especially in Association with Torsion of the Pedicle; Report of an Illustrative Case. J. McGibbon.
41 Ruptured Tubal Gestation Twice in the Same Tube: Normal Pregnancy Intervening. M. G. Pearson.

37. **Ovarian Sarcoma.**—Lockhart has 65 cases of ovarian tumors in which operation was done during 20 years, and of these, 14 were of malignant nature. These were divided as follows: Sarcomata: right ovary 3, left ovary 2, double 2. Carcinomata: mixed sarcoma and carcinoma 1, papilloma malignum 1.

39. **Urinary Fistulas.**—Worrall reports the following cases: (1) Vesicocervico-vaginal fistula, hemorrhage into bladder; (2) ureteral fistula; (3) vesicoutero-vaginal fistula; (4) vesicourethro-vaginal fistula; (5) vesicocervico-vaginal fistula; (6) very large fistulas, vesicocervico-vaginal.

Annales de Médecine et Chirurgie Infantiles, Paris

August 15, XIII, No. 16, pp. 541-576

42 *Pathogenesis of Rachitis. P. Hutinel.
43 *Defective and Perverted Thyroid Functioning in Children L. Concetti.

42. **Pathogenesis of Rachitis.**—Hutinel reports research on the bone marrow, bones and cartilage, the conclusions being that the disturbances in rachitis are due to an evolutionary dystrophy affecting the least resistant tissues. During the first three or four months of life all the tissues suffer in case of defective assimilation. But, as the child grows, certain organs acquire greater resistance, while others feel more the influence of the nutritional derangement. These dystrophies are particularly important during periods of intense nutritional activity, that is, during the first two years and in adolescence.

43. **Defective and Perverted Thyroid Functioning in Infants.** Concetti ascribes to thyroid insufficiency many of the phenomena noted in young infants, such as a tendency to obesity, to transient edema, cold feet and hands, scanty and brittle hair, vasomotor disturbances, vomiting, somnolency and slight resistance to infections. With artificial feeding, these signs become more pronounced, with eczema, urticaria, tardy dentition, etc. It seems evident that nurslings receive in mother's milk some of the products of the mother's thyroid functioning. The physiologic hypothyroidism of the new-born may assume pathologic proportions; any derangement in thyroid functioning on the part of the mother or wet-nurse may lead to severe symptoms of hypothyroidism in the infant. In several instances in his experience infants became myxedematous when the mothers had goiter. In other cases, the healthy infants of healthy parents became myxedematous when they had a wet-nurse with goiter. All these children were cured with thyroid treatment and change of nurse. Experimental research with goats has confirmed, he asserts, the fact of transmission of thyroid secretion by the placenta and in the milk. He is convinced that in many cases the symptoms of thyroid insufficiency in infants have escaped detection or have been attributed to other causes or grouped in other syndromes. There is a promising field for study, he says, in this infantile disthyroidism and the prompt change for the better under thyroid treatment. Typical, complete forms are rare, but the *formes frustes* are encountered on every hand and have been hitherto classed as "lymphatism," "neuroarthritism," atrophy, rachitis, etc. They all show notable improvement and sometimes a rapid cure under correct thyroid treatment, as he has witnessed in many cases. His pupils are now examining infants in crèches, asylums, schools and dispensaries for signs suspicious of defective thyroid functioning, and are instituting thyroid treatment when possible. With the Wassermann test an excess or lack of thyroid secretion can be determined in animals, but the findings are less decisive in the clinic. In some cases the infants seem to be suffering from excessive thyroid functioning, or the deficiency and excess may alternate. The thyroid treatment should be given with caution. He does not give the details of his dosage, but says that he makes a point of treating the nursing mother also.

Archives des Maladies du Cœur, etc., Paris

August, II, No. 8 pp. 449-496

44 *Syphilitic Phlebitis. C. Achard and R. Demanche.
45 The Blood in Lead Colic. (Des altérations des globules rouges au cours de la colique de plomb.) N. Fiessinger and A. Peigney.

44. **Syphilitic Phlebitis.**—Achard's patient, a waiter 20 years old, presented swelling and pain in the left knee simulating phlegmasia, of abrupt onset, but explained by a history of possible syphilitic infection nearly three months before. There were also evidences of roseola and of secondary syphilitic nephritis, with pronounced albuminuria and edema. Under mercurial treatment the phlebitis and the edema subsided completely, but some albuminuria still persisted when the patient left the hospital about the seventh week.

Presse Médicale, Paris

August 25, XVII, No. 68, pp. 601-608

46 The Karyogamic Theory of the Origin of Cancer. (Problème du cancer et la biologie générale.) L. Hallion.
47 Cerebrospinal Meningitis. (Quelques particularités bactériologiques et cytologiques dans la méningite cérébro-spinale.) G. Fischer and P. Scherrer.
48 Tenotomy of Achilles Tendon. V. Veau.

August 28, No. 69, pp. 609-616

49 Apparatus or Electricity in Treatment of Peripheral Muscular Atrophy. (Mécanothérapie ou électrothérapie dans le traitement des atrophies musculaires périphériques.) E. Rochard and P. de Champtassin
50 Pathogenesis of Phlegmons of the Hand. L. Imbert.

September 1, No 70, pp. 617-624

51 Hysterectomy by Anterior Section of Cervix. (Quelques mots en faveur de l'hystérectomie par décollation antérieure.) T. de Martel.

Semaine Médicale, Paris

September 1, XXIX, No. 35, pp. 409-420

52 Combinations of Drugs in Therapeutics. (Des synergies médicamenteuses et de leur utilisation systématique en clinique.) M. Roch.
53 *Guaiac Test for Blood in Helminthiasis. (Réaction de Weber et trichocéphale.) J. Guiart and C. Garin.

53. **The Guaiac Blood Test and Helminthiasis.**—Guiart found the Weber reaction positive in thirteen cases in which the eggs of the trichocephalus were found in the stools, and eggs were never found without this positive reaction occurring sooner or later. The patients were on a diet that excluded all source of error from this cause, so that the conclusion seems inevitable that the trichocephalus induces hemorrhage in the intestines, the presence of occult blood being revealed by this sensitive test. This is of considerable practical importance, as the symptomatic value of the test thus depends on whether the patient is free from the trichocephalus or not. The findings are reliable only when the stool gives negative microscopic findings in regard to this parasite. This test for occult blood is frequently accepted as decisive for cancer of the stomach or intestine, but its differential value is annulled if the eggs of the trichocephalus are found in the stools, and statistics show, he says, that this parasite occurs in about 50 per cent. of the population. He has not found the reaction so constantly in case of presence of ascarides. The Weber test should never be accepted as decisive in case of positive findings unless the stools are examined under the microscope at the same time.

Archiv für Verdauungs-Krankheiten, Berlin

August, XV, No. 4, pp. 443-555

54 Importance of Dietetic and Therapeutic Measures even for Nervous Functional Dyspepsia. A. Schule.
55 *Value of Salomon Test in Diagnosis of Stomach Carcinoma. (Wert der Salomonschen Probe für die Frühdiagnose des Magenkarzinoms.) E. H. Goodman (Philadelphia).
56 Yoghurt and Its Indications. (Kritik des Yoghurt und die Indikationen für seine Anwendung.) E. Rosenberg.
57 *Use of Atropin Sulphate and Atropin Methylbromid in Diabetes Mellitus. (Einfluss von Atropinsulfat und Atropinmethyl-bromat "Merck" auf die Zuckerausscheidung bei Diabetes mellitus.) J. Rudisch (New York).

55. Practically the same article was published in the *University of Pennsylvania Medical Bulletin*, May, 1909, and abstracted in The Journal, July 3, 1909, page 78.

57. A similar article by this author was abstracted in The Journal, July 10, 1909, page 143.

Beiträge zur klinischen Chirurgie, Tübingen

July, LXII, No. 1, pp. 1-279

58 Hernia of the Cecal Recess. (Eine neue pericoecale Hernie: die Hernie des Recessus coecalis.) A. Reich.
59 *Surgical Treatment of Retropharyngeal Abscess. F. Rosling
60 *Experiences with Spinal Anesthesia in 600 Cases. (600 Lumbalanästhesien.) Meissner
61 Isolated Fracture of the Semilunar Bone. (Der isolierte Bruch des Mondbeines.) H. Finsterer.
62 Transplantation of Bone to Remedy Defects in Long Bones (Freie Knochentransplantation zur Deckung von Defekten langer Röhrenknochen.) H Frankenstein.
63 Congenital Angioma in Relation to Deformities in Bony Frame of Face. (Zur Kasuistik der Deformitäten des Gesichtsschädels bei angeborener Angiombildung.) W Wolf.

64 Acute Yellow Atrophy of Liver Consecutive to Suppurative Disease in Abdominal Cavity. (Die akute gelbe Leberatrophie als Folgeerscheinung eitriger Erkrankungen der Bauchhöhle.) J. Amberger.
65 Origin of Congenital Dislocation of Hip Joint. (Zur Lehre von der Entstehung der angeborenen Hüftverrenkung.) P. Graf.
66 *External and Internal Secretion Viewed by the Light of Diffuse Incorporated Stain. (Die äussere und innere Sekretion des gesunden und kranken Organismus im Lichte der "vitalen Färbung.") E. E. Goldmann.
67 Nail Extension in Treatment of Fractures. (Ueber Nagelextension.) M. Kirschner.

59. **Retropharyngeal Abscess.**—Rösling epitomizes 17 cases in which operation was by the Chiene technic, and extols its advantages. Recovery was prompt and complete in all but 3 cases in which the patients succumbed to the progress of advanced tuberculosis. He compares the outcome with this technic in the hands of various surgeons with the outcome when the Burkhardt or other technics were followed, the results sustaining his assertions, he declares, in regard to the superiority of the Chiene method.

60. **Spinal Anesthesia in 600 Cases.**—Meissner remarks that the recent improvements in the methods of local anesthesia will restrict the field of spinal anesthesia more and more as, even in the hands of experts, it cannot be regarded as free from danger, although it has proved useful when strictly indicated. In 15 of the 600 cases in which spinal anesthesia has been used at von Bruns' clinic at Tübingen, the spine was deformed, the ligaments ossified or the patient was obese to such an extent that it proved impossible to introduce the needle. By using minute amounts of the anesthetic and refraining from raising the pelvis, the anesthesia proved sufficient for operations below the umbilicus, free from threatening mishaps while the by-effects and after-effects were much reduced.

66. **Study of the Vital Processes by Incorporation of a Stain.**—Goldmann injected white mice subcutaneously with 1 c.c. of a 1 per cent. solution of pyrrhol blue and obtained most interesting findings with this "vital staining" which did not seem to injure the health of the animals in the least, although the illustrations show that they had "the blues" to an unprecedented extent. The stain was attracted to different tissues in different ways, and revealed vital processes of internal secretion, as well as external, throwing light on many hitherto obscure points, especially in the gravid animals. One of the facts learned was the presence of a certain granulated cell in the connective-tissue cell wherever important metabolic processes were taking place. This cell shares with the stellate liver cells and some others the property of taking up and binding substances dissolved in the blood and holding them a long time.

Berliner klinische Wochenschrift, Berlin

August 30, XLVI, No. 35, pp. 1597-1636

68 Surgical Treatment of Tuberculosis of Nasal Septum. (Behandlung der Nasenscheidewandtuberkulose.) A. Onodi.
69 Case of Tumor in Third Ventricle of the Brain. (Fall von Hirntumor.) A. Piazza.
70 Resection of Right and Part of Left Upper Jaw. (Resektion des Oberkiefers.) M. Albricht.
71 New Spectra of the Blood. A. de Dominicis.
72 Central Dislocation of Hip Joint. A. Heschelin and E. Schapiro.
73 *Threatening Collapse after Injection of Diphtheria Antitoxin. (Gefahrdrohende Dyspnoe mit Kollaps nach Seruminjektion.) A. de Bessche.
74 Hemolysis with Paroxysmal Hemoglobinuria. A. A. Hymans van den Bergh.
75 Improved Technic for Wassermann Reaction. J. A. Finkelstein.

73. **Threatening Collapse After Injection of Diphtheria Antitoxin.**—A young physician describes the collapse in his own person. It occurred in less than half an hour after a prophylactic injection of 1,000 units of antitoxin. The threatening symptoms lasted nearly three hours and then gradually subsided so that he had quite recovered by the next day. He had noticed from childhood that the smell of horses produced discomfort and symptoms suggesting hay fever; they came on when he went into a stable or was driving. Cows and other domestic animals did not have this effect, and he never had hay fever or asthma. It seems evident that the collapse was due to a special hypersusceptibility to horse serum, and this view is confirmed by the fact that a kind of immunity persisted for three months afterward and then gradually subsided.

Correspondenz-Blatt für Schweizer Aerzte, Basle

August 15, XXXIX, No. 16, pp. 545-576

76 *Sahli's Desmoid Reaction as Practical Test of Stomach Functioning and for Control of Therapeutic Measures. R. Nadler.
77 *Treatment of Asphyxia in New-born Infant. (Ein neues Verfahren bei der Behandlung des Scheintodes der Neugeborenen.) Volland.

September 1, No 17, pp. 577-616

78 *Aims, Means and Problems of Research on Endemic Goiter. (Erforschung des endemischen Kropfes.) W. Kolle.
79 Defects in Skull of New-born Infants. (Wesen und Bedeutung der kraniellen Ossifikationsdefekte Neugeborener.) E. Wieland.
80 Masked Chlorosis. (Ueber "larvierte" Chlorose.) F. Seiler.

76. **Simple, Practicable Tests of Stomach Functioning.**—Nadler extols the simplicity, reliability and diagnostic importance of Sahli's desmoid test of stomach functioning; this is merely the ingestion of a pill of methylene blue around which is drawn tight a tiny square of thin rubber tissue tied with catgut. As the catgut dissolves in the stomach, the rubber springs open and throws out the pill. A positive reaction indicates that the gastric juice is normal or with an excess of acid or pepsin or both. A negative reaction indicates little or no acid or pepsin or else excessive motility. He gives the patient the blue pill tied up in its bag, and also four half-ounce bottles, the corks marked, respectively, I, II, III, IV. The pill is taken with the noon meal and the urine, voided at three-hour intervals thereafter, is poured in turn into the first three bottles, and the urine voided next morning in the fourth. After this the patient eats a Boas-Ewald test breakfast at home, and then with the four bottles he returns to the doctor's office. If the first bottle shows a positive reaction, the gastric juice is normal or hyperacid; the latter condition is diagnosed by the subsidence of disturbances on administration of an alkali. If the reaction is positive only in the second or third bottles, the acidity is not excessive and an alkali will not do so good service as hydrochloric acid or pepsin. In case of a negative reaction he siphons out the stomach content if the patient consents; if not, he gives hydrochloric acid and a pill of iodoform. A positive reaction in three or six hours indicates merely lack of hydrochloric acid. If the reaction is still negative, he gives pepsin with the hydrochloric acid and a methylene blue pill. The urine is always green after this, unless there is excessive motility, and if the gastric disturbances have then subsided the assumption is that the trouble is merely a lack of pepsin or excessive motility. If the gastric disturbances persist, he omits the hydrochloric acid; if there is merely a lack of pepsin, the urine next day will give the iodin reaction. If the disturbances still continue, notwithstanding the ingestion of hydrochloric acid and pepsin, the trouble may be due to hypermotility, and the salol test will decide the matter, especially with Huber's modification. With this technic the patients can see for themselves the secretory anomalies and therapeutic results, and the whole procedure has a tranquilizing effect in nervous gastric disturbances.

77. **Simplified Method of Treating Asphyxia in New-Born Infants.**—Volland had just delivered a woman after difficult labor and the child was in livid asphyxia. There was no one to assist him, and he had to act quickly and alone. Without attempting to cut the cord he set the infant up against the inside of the mother's thigh and took hold of it as for Schultze swinging, but he did not lift the child more than just enough to let it hang by its whole weight from his hands and then set it down again, pressing with his thumbs, the mother's thigh meanwhile offering the counter support for the pressure, which simulated natural expiration. He repeated this lifting and pressure rhythmically and soon heard the child's cry. He then attended to the umbilical cord. The advantages of this procedure are that no precious time is lost, the child is not chilled, while the expiration rhythm can be made to correspond with the natural tempo and the maneuver is free from the dangers of Schultze swinging and other technics, while it is much less fatiguing for the obstetrician.

78. **Endemic Goiter.**—Kolle states that 6 or 7 per cent. of the recruits in the Swiss army each year present a goiter, and that the proportion of cretins and goitrous individuals is about as high in the Alpine regions surrounding Switzerland

proper. In certain towns in Switzerland from 80 to 90 per cent. of the children were found goitrous in 1908, the same proportion that was recorded in 1886. He adds that the thyroid is always found unusually large in the cadavers in Berne and other foci of endemic goiter, and the same is observed in domestic animals, especially in dogs. The evidence seems to incriminate the water, he reiterates, either as the bearer of some living virus or some chemical substance affecting the thyroid gland injuriously. In two endemic foci the tendency to goiter seemed to disappear when a new source for the water supply was utilized. He urges the medical profession to pay special attention to the influence in this line of boiling the water. Laborious research to isolate some special substance from the goitrous thyroid or the stools or to immunize against goiter has proved disappointing to date, as also all experiments for direct transmission of goiter to animals, but this research has cleared the way for future work, and he urges all the members of the profession in Switzerland to preach the necessity for individual prophylaxis by boiling or filtering the drinking water and for public works to provide an unobjectionable water supply.

Deutsche medizinische Wochenschrift, Berlin

August 26, XXXV, No. 34, pp. 1463-1504

81 *Pathology and Treatment of Disturbances in the Circulation in the Mesenteric Vessels. (Zirkulationsstörungen in den Mesenterialgefässen.) A. Neumann.
82 *Test for Blood. (Verfahren zum Nachweise von Blut.) J. v. Kossa.
83 *Tests for Bile Pigment in Urine. (Neue Gallenfarbstoffreaktionen im Harn.) A. v. Torday and A. Klier.
84 *Diagnosis of Functional Heart Disturbances. (Beitrag zur funktionellen Herzdiagnostik.) S. v. Ritook.
85 *Orthostatic Albuminuria Due to Curvature of the Spine? (Zur Frage der lordotischen Albuminurie.) B. Vas.
86 Treatment of Gunshot Wounds of the Lungs. (Behandlung der Schussverletzungen der Lungen.) S. Sandor.
87 True Congenital Homosexuality and Pseudohomosexuality. P. Nacke.
88 *Operative Treatment of Hay Fever. (Operative Behandlung des Heufiebers.) E. Blos.
89 Improved Technic for the Wassermann Reaction. N. Popowski.
90 Immunization of Rats and Mice against Rabies with Normal Nerve Substance, and Action of Carbolic Acid on Rabies Virus. C. Fermi.

81. **Thrombosis in the Mesenteric Vessels.**—Neumann has encountered five cases of a syndrome diagnosed as due to embolism or thrombosis of the mesenteric arteries or veins. Only one of his patients presented the entire quintette of signs that point to this affection, namely, a source for the embolism; abdominal colic; functional disturbance in the digestive tract; tympanites and palpation of bunches between the sheets of the mesentery which can be only engorged blood-vessels. A source for the embolism or a predisposition to thrombosis was discovered in 58 per cent. of 96 cases on record; colic was observed in 84 per cent.; functional intestinal disturbances in 86 per cent., while the complete picture of mechanical ileus was observed in only 14 per cent. of 63 cases in which the mesenteric arteries were obstructed and in 56 per cent. of the 31 cases in which the veins were involved. Admixture of blood in stools or vomit was observed in half the cases. In fully 75 per cent. of the cases only 3 of the above symptoms were evident. In one of his personal cases an anemic infarct was the cause of the trouble and this is the sixth case on record in which recovery followed resection of the part of the intestine involved. In 2 other patients, the presumptive diagnosis of obstruction of mesenteric vessels was shown to be erroneous at the operation. In treatment it is well to bear in mind that although in rare cases the intestinal infarct may be spontaneously absorbed, yet the serious secondary disturbances justify a prompt laparotomy in every case in which obstruction of the mesenteric vessels is suspected. He advises resection with primary union of the stumps, even if a long stretch has to be removed. He resected 9 feet of small intestine in a youth eight years ago, on account of volvulus, and the patient is still in good health. Extensive resection has as good prospects with mesenteric circulatory disturbances as with volvulus.

82. **Test for Blood.**—Kossa states that the technic which he describes is very sensitive, surpassing other tests in this respect, while it is simple and rapid. It is based on the principle that blood in an extremely diluted watery solution can be flaked out if some substance is added which reduces the solubility of blood in water. If, for example, 5 c.c. of defibrinated dog blood is mixed with 10 liters of distilled water it forms a 5 to 10,000 solution. To 10 c.c. of this solution 10 c.c. of 90 per cent. alcohol is added and the two fluids are mixed by gently swinging the test-tube, not shaking it; 5 c.c. of chloroform is then added and mixed in this same way. At the junction of the water and chloroform the blood shows as a precipitate of small red flakes. They show up better against a white background. The test is modified a little for urine; 10 c.c. of urine is diluted with the same amount of distilled water, then mixed with 5 c.c. of 90 per cent. alcohol; 5 c.c. of chloroform is then added and the whole is mixed by gently swinging the tube. It is then set aside to settle. If there is much blood a pink ring forms at the junction of the fluids. If not the supernatant fluid is decanted and a few more cubic centimeters of alcohol are added, when the pink flakes of blood become more apparent. If there is still doubt as to the outcome, the supernatant fluid is again decanted and a little diluted potash and one or two drops of yellow ammonium sulphid are added and the fluid is examined with the spectroscope. The lines show up better if the test-tube is held over a white background and the fluid examined from above, vertically. Any albumin present may flake out, but it is not red, and the physiologic elements of the urine are not precipitated.

83. **Bile Pigment Reaction in the Urine.**—Torday states that in examining the gastric juice of a jaundiced patient he obtained a red discoloration reaction with methyl violet instead of the expected blue stain of free hydrochloric acid. Study of this reaction shows that it is the result of admixture of bile pigment. He has utilized this reaction as a very sensitive test for the presence of bile pigment, especially in the urine. Comparison of this test with others in vogue showed that it gave positive findings with such minute proportions of bile pigment in the urine that the other tests were negative.

84. **Functional Diagnosis of the Heart Action.**—Ritook here describes comparative tests of the heart functioning by the Strasburger and v. Recklinghausen technics and v. Koranyi's method. The latter is based on the fact that the composition of the urine is influenced by the rapidity of the circulation. When the circulation becomes sluggish, as in case of failing compensation of heart defects, the elimination of chlorids suffers first and most, and when the circulation starts up again the elimination of chlorids increases first and most rapidly. As the freezing-point of the urine is the measure of the molecular concentration, the freezing-point divided by the chlorid content gives a quotient which rises and falls as the circulation is sluggish or rapid. The careful application of these methods reported confirms the value of the Koranyi quotient as an index of the functional capacity of the heart, especially when the person is put on a test regimen: supper at 6 p. m.; urine voided at 12 and again at 6 a. m., when 100 gm. of milk is ingested and urine is again voided at intervals of 90 minutes. Examination of the different portions of urine under these conditions gives a uniform basis for comparison.

85. **Orthostatic Albuminuria.**—Vas has examined 150 girls between the ages of 9 and 14 to determine the influence of curvature of the spine on orthostatic albuminuria. His findings confirm those of Jehle, mentioned in THE JOURNAL, Feb. 27, 1909, page 740, except they show that curvature of the spine is not the exclusive cause of orthostatic albuminuria, although it is an important factor in many cases by its interference with the circulation in the kidneys.

88. **Operative Treatment of Hay Fever.**—Blos reports three cases in which he cured the tendency to hay fever by resecting the anterior ethmoidal nerve on both sides to induce permanent anesthesia of the mucosa of the anterior part of the nose. The nerve was resected under chloroform or with local anesthesia plus morphin or with local anesthesia alone.

Fortschritte der Medizin, Leipsic

July 20, XXVII, No. 20, pp. 753-784

91 Mongoloid Idiocy. Meltzer.

August 10, No. 22, pp. 817-864

92 *Pathogenesis of Rachitis. P. Sittler.

93 *Influence of the Ductless Glands on Immunity to Infections and Intoxications. (Einfluss der Blutdrüsen auf die Immunität gegen Infektionen und Intoxikationen.) Lorand. Commenced in No. 21.

92. **Pathogenesis of Rachitis.**—Sittler declares that rachitis occurs most frequently and in its severest form among bottle-fed children receiving too large amounts of carbohydrates, especially flour. Incipient rachitis can be cured by dropping the flour from the diet. The limits of injury from the flour and carbohydrates vary widely in different children.

93. **Influence of the Ductless Glands on Immunity to Infections and Intoxications.**—Lorand presents arguments to sustain the assumption that immunity to infections and intoxications depends on the possession of well-functioning ductless glands. They protect against factors that tend to shorten life, and may afford a more rational basis for the life expectancy in insurance. He cites as the most important causes that affect these glands and reduce the resistance to infections and intoxications, insufficient food, chilling, worry and sorrow, although all other factors detrimental to personal hygiene may cooperate. This assumption explains why children are so exposed to infectious diseases as these glands are yet imperfectly developed, while in the aged they have undergone senile modifications.

Medizinische Klinik, Berlin

August 22, V, No. 34, pp. 1255-1290

94 *Therapeutic Hypnosis. (Ueber Hypnosebehandlung.) T Becker.
95 Resisting Power of Red Corpuscles and Action of Iron and Arsenic. (Ueber die "Resistenz" der roten Blutkörperchen und die Wirkung von Eisen und Arsen.) A. Strasser and F. Neumann.
96 Trional Poisoning. Weyert.
97 Favorable Experiences with Goldschmidt's Endoscopy of Posterior Urethra. J. Heller.
98 Operative Treatment of Deltoid Paralysis. K. Lengfellner and F. Frohse.
99 Treatment of Hyperhidrosis. K. Gerson.
100 Physiologic Action of Carbonated Baths. (Neue Untersuchungen über die physiologische Wirkung der Kohlensäuregasbäder.) L. Fellner.

94. **Therapeutic Hypnosis.**—Becker reports successful application of hypnosis in a number of cases, but he never applies this technic until after absolute failure of all other measures. He does not induce the hypnosis by sensory means, but sits near the patient who is reclining on a sofa in a quiet room, he places two fingers on each eye, and suggests tranquil sleep by telling the patient to lie quiet, relax and rest. In a short time the hypnotic sleep is complete, with catalepsy. This phase is the most propitious for therapeutic suggestion. He insists that there is no mystical explanation of the condition, the whole being a psychophysical process distinguished merely by the acceptance of the suggestion while the inhibiting critical counter-suggestions are not aroused. As functional morbid phenomena are frequently associated with organic disorders, and as these functional symptoms may be the cause of the main discomfort, the therapeutic hypnosis is thus liable to benefit even in the organic cases. The psychogenic phenomena once banished, the patient pays no attention to the persisting organic disturbances and may be restored to comparatively satisfactory health. This is frequently the explanation of the benefit from a trip to a health resort. He cites a few cases in detail to show his exact method and its results. Traumatic neurasthenia frequently resists this therapeutic hypnosis and may recur after a transient improvement; the outlook is more favorable in cases of dread and phobias, obsessions, and in sexual weakness and enuresis of psychogenic origin.

Münchener medizinische Wochenschrift

August 31, LVI, No. 35, pp. 1769-1824

101 Does the Side-Chain Theory Conflict with Actual Facts? (Ist die Ehrlichsche Seitenkettentheorie mit den tatsächlichen Verhältnissen vereinbar?) I. Bang and J. Forssman.
102 *Experimental Research to Provide Basis for Intra-arterial Anesthesia. (Experimentelle Grundlagen der arteriellen Anästhesie.) W. A. v. Oppel.
103 "Heart Defect Cells" in the Urine. (Ueber "Herzfehlerzellen" im Harne.) A. Bittorf.
104 Verrucous Form of Skin Tuberculosis in Coal Miners. (Ueber die bei Bergleuten in Kohlenbergwerken beobachtete verruköse Form der Hauttuberkulose.) J. Fabry.
105 *Gynecologic Peritonitis. W. Hagen.
106 Lactic Acid Therapy in Gastrointestinal and Metabolic Disturbances. (Wirkung des in der Joghurtmilch enthaltenen Milchsäurebazillus und die therapeutische Verwendung der Joghurtmilch bei Magen-, Darm- und Stoffwechselerkrankungen.) A. Ohly.
107 Four Cases of Word Blindness in One Family. (4 Fälle von kongenitale Wortblindheit in einer Familie.) E. Plate.
108 Application of Cold to Back of Neck for Epistaxis. (Kälteapplikation auf den Nacken bei Nasenblutungen.) A. Jurasz.
109 Infant Consultations at Weissenburg. (Tätigkeit der Säuglingsfürsorgestelle in Weissenburg i. B. für das Jahr 1908.) H. Doerfler.
110 History of Introduction of Salicylic Acid into Treatment of Acute Articular Rheumatism. (Einführung der Salizylsäure in die Therapie des akuten Gelenkrheumatismus.) O. Meltzer.

102. **Intra-Arterial Anesthesia.** Oppel is convinced that local anesthesia will finally require an intra-arterial technic before it can be regarded as perfected. As a basis for research in this line, he reports experiments with cocain injected into the abdominal aorta and the femoral and carotid arteries. His technic is somewhat similar to that of Bier's venous anesthesia, illustrated in The Journal, May 1, 1909, page 1466, only he made the injection into the artery instead of a vein, thus going with the blood stream instead of against it, and not having to contend with the valves in the veins. One fact has been learned from this research, namely, that the fatal dose is eight or ten times as large when injected into an artery. It is evident that the broader the area of ramification the lesser the toxicity as the cocain is neutralized in an extensive arteriocapillary field like that of the abdominal aorta. Another Russian, Goyanes, has already successfully applied the intra-arterial technic in two clinical cases.

105. **Gynecologic Peritonitis.**—Hagen calls attention to the peculiarly mild nature of peritonitis when it originates merely from a local chemico-toxic process, such as results from the gradual spread of the inflammation from a suppurative affection of the ovaries or tubes which has been established for some time. As the pus germs find their way through the lymphatics to the peritoneum, the latter is enabled to summon its defensive forces to repel this gradual invasion. The symptoms may be tempestuous at first, but the peritonitis is not suppurative; it is merely a typical chemical peritonitis, accompanied by tympanites, but without rigidity of the abdominal walls. Palpation of the genitalia is easy, but very painful; it early reveals the source of the trouble. Another aid in the differentiation of this comparatively mild form of gynecologic peritonitis is that the onset so often coincides with the menses when the infection is of gonorrheal origin. Complete repose and other appropriate measures for expectant treatment generally suffice. He was obliged to operate only in two out of the fifteen cases in this category in his experience during the last few years. In all other forms of peritonitis in women, puerperal, from perforation, etc., the ordinary surgical principles of prompt intervention prevail, but this local chemico-toxic process permits temporizing. The acute process subsides relatively soon and order returns, but relics of the extinct chemical inflammation are sometimes found, in operating for a pyosalpinx, in the form of multiple, serous peritoneal cysts or adhesions even in parts of the abdomen remote from the uterus.

Wiener klinische Wochenschrift, Vienna

August 26, XXII, No. 34, pp. 1171-1198

111 Antitrypsin Content of Infant's Serum. (Ueber den Antitrypsingehalt des Serums beim Säugling.) A. v. Reuss.
112 Heat from Electric Current in Treatment of Gonorrhea. (Verwendung von Thermopenetration in der Gonorrhoetherapie.) E. Eitner.
113 Etiologic Connection between Lupus Erythematodes and Tuberculosis. K. Ullmann.
114 Phenomena of Anaphylaxis in Psoriasis. (Ueberempfindlichkeit bei Psoriasis vulgaris.) J. Sellei.
115 *Clinical Importance of Iodin Reaction of the Intestinal Flora. (Klinische Bedeutung der Jodreaktion der Darmflora bei verschiedenen Verdauungskrankheiten.) A. Rodella.

September 2, No. 35, pp. 1199-1226

116 The Operability of a Rectal Carcinoma Dependent on its Clinical Course rather than on its Shape and Structure. A. Zinner.
117 *Present Status of Tendon Transplantation. (Der heutige Stand der Sehnentransplantation.) G. Hohmann.
118 Plexiform Angioma of the Brain plus Tuberculous Meningitis. (Zur Kasuistik kombinierter Hirnaffectionen.) F. Ranzel.

115. **The Diagnostic Iodin Reaction in the Intestinal Flora.** Rodella refers to the staining reaction of bacteria in the stool which has been proposed as a means of differentiating them. His experience has shown that it is of little value for differentiating species, but that it is important as an index of

conditions in the intestines. A particle of stool on the object glass is mixed with the official compound solution of iodin and examined under the microscope. There is a distinct granulose reaction in the bacteria present when the digestion of starch or its absorption is interfered with. With a pancreatic affection the flora is strongly iodin positive. This iodin reaction is not only a more sensitive test for the digestion of carbohydrates than microscopic discoloration of the stool with iodin, but it also affords information in regard to the etiology and topography of various digestive disturbances, as he describes in detail.

117. **Present Status of Tendon Transplantation.**—Hohmann here reports the experiences at Lange's clinic at Munich with tendon transplantation, with twenty-six illustrations and discussion of the preferable technic. One of the impediments to fine functional results is the tendency to adhesions after the transplantation, and he gives directions how to avoid this, especially by making a canal for the transplanted muscle through the subcutaneous adipose tissue instead of below it. The results on the whole are encouraging and promise important progress in this line.

Zentralblatt für Chirurgie, Leipsic

August 28, XXXVI, No. 35, pp. 1193-1224

119 Improved Technic for Goiter Operations. (Die Knopflochverlagerung des Kropfrestes.) F. Hofmeister.
120 *Operative Mobilization of the Knee. (Operative Mobilisierung des Kniegelenks.) R. Klapp.

120. **Mobilization of Knee.** Klapp declares that the problem of mobilizing the knee by an operation has not yet been effectually solved. Interposition of soft parts, after breaking up the ankylosis, mobilizes the knee, but does not make it stable. It should be capable of weight-bearing, and he thinks that this can best be accomplished by excising a wedge from the epiphysis of the femur. The wedge forms an angle of nearly 90 degrees, and is cut out entirely across the femur, as he shows in an illustration. The knee is bent beyond a right angle to the extreme limit and is held thus for a few minutes to correct the tension of the soft parts; then it is held at a right angle while the wedge is excised, the aim being to retain the connection with the tibia without modification. After the resection he nails the lower part to the upper stump, removing the nail six days later. A plaster cast is applied extending to the ankle. It is cut to the knee from the rear by the end of a week, to permit some movement, and is removed by the end of the second week. The movements are painful at first. The soft parts are passively stretched after the fourth week, not by massage, but by elastic traction; the patient sits on a chair and the leg is fastened by a rubber band to the leg of the chair. As no ligaments are severed there is not the least lateral movement. He has thus operated on two patients; one is already able to make active movements of more than 45 degrees, with a little larger passive range. The other has only recently been operated on.

Zentralblatt für Gynäkologie, Leipsic

August 28, XXXIII, No. 35, pp. 1217-1248

121 Differentiation of Hemolytic Streptococci. F. Fromme.
122 Acute Thyroidism as Complication after a Gynecologic Prolapse Operation. K. Himmelheber.
123 *Pathology of Female Sexual Organs in Relation to Wage-earning Work. (Pathologie der weiblichen Geschlechtsorgane in Beziehung zur Arbeit.) L. M. Bossi.
124 Bilateral Herpes Zoster. (Doppelseitigkeit des Herpes zoster faciei und der Fall Kalb.) Kocks.
125 *Syphilis Affecting the Kidneys during Pregnancy and Confinement. (Nierensyphilis in Schwangerschaft und Wochenbett.) M. Hirsch.

123. A similar article by this author was abstracted in The Journal, July 10, page 157.

125. **Renal Syphilis During Pregnancy and Confinement.** Hirsch has recently reported three cases of renal syphilis, one being in a pregnant woman, and he here gives the details of this last case to warn obstetricians to be on the lookout for this syndrome. His patient was a woman of 35 with albuminuria and edematous swelling after the fifth month of her last pregnancy four years before. The kidney disturbances subsided for a time, but then there was pain in the right kidney region, with tenesmus but little urine. She grew thin and the kidney disturbances increased during her last pregnancy, which was complicated by hydrocephalus and ascites in the child. Notwithstanding the painful tumor in the right kidney region, there were no tube-casts, but merely epithelial cells in the urine. After delivery the patient was given potassium iodid for four weeks and all the symptoms disappeared; there has been no recurrence since. The husband recently applied for relief from violent headache in the vertex, which had resisted ordinary measures for five years. He also was given potassium iodid, and by the end of the fifth bottle was completely cured. Hirsch affirms therefore that a unilateral painful diffuse tumor in the kidney, with reduction in the amount of urine, but with large albumin content, speaks for a syphilitic affection demanding potassium iodid. It is well to bear this in mind in every case in which the ordinary treatment of assumed pregnancy kidney is not promptly effectual after delivery.

Gazzetta degli Ospedali e delle Cliniche, Milan

August 26, XXX, No. 102, pp. 1073-1080

126 Helminthiasis in Relation to Intestinal Tolerance. (L'elmintiasi in rapporto alla tolleranza intestinale.) T. Oreste.

Policlinico, Rome

August 29, XVI, No. 35, pp. 1093-1124

127 Malta Fever Infection in Palermo Goats. (L'infezione da "micrococcus melitensis" nelle capre di Palermo.) G. Palumbo.
128 Hemorrhage in Second Stage of Labor. (L'emorragia del secondamento.) G. Massini.

August, Surgical Section, No. 8, pp. 333-380

129 *Surgery of the Pancreas. Connection between Pancreatitis and Gall-Stones. L. Cappelli. Commenced in No. 7.
130 Origin and Treatment of Anterior Luxation of the Astragalus. M. Fasano.
131 *Mental Manifestations with Tumors of the Brain and its Various Convolutions. (Studio clinico-statistico intorno alla manifestazioni psichiche nei tumore del cervello.) A. Osti. Commenced in No. 7.

August, Medical Section, No. 8, pp. 337-380

132 Experimental Research on Necrosis of the Aorta under Influence of Suprarenal Preparations. (Studio delle necrosi aortiche da adrenalina.) G. Egidi.
133 *Addison's Disease and the Internal Secretions. E. Leonardi.
134 *The Blood in Exophthalmic Goiter. (Ulteriore contributo alla ematologia del morbi di Flaiani-Basedow.) O. Ciuffini. Commenced in No. 7.
135 *Variations in Viscosity of Blood as Early Sign of Cardiac Insufficiency. (Sulla diagnosi precoce della insufficienza cardiaca.) C. Rubino.

129. **Surgery of the Pancreas.** Cappelli emphasizes the importance of the lymphatic connection between the bile passages and the head of the pancreas. A group of lymphatics from the gall-bladder unite in the head of the pancreas. This demonstrates the importance in treatment of chronic pancreatitis of draining the hepatic duct after removal of the gall-bladder as the most rational means of curing the pancreatic trouble. In acute hemorrhagic pancreatitis the gravity of the affection is due to the necrotic destruction of the pancreas rather than to the hemorrhage. Chronic pancreatitis consecutive to gall-stones is a well-individualized morbid entity, and the cure after effectual drainage of the bile passages proves its dependence on the lithiasis. The operation is more successful the earlier it is done, before glycosuria reveals disturbance in the internal secretion.

131. **Mental Disturbances with Brain Tumors.** Osti concludes his study of this subject with summaries of 54 cases from the literature to confirm his assertion that early psychic symptoms, predominating over all the other symptoms of a tumor, are of the greatest importance for the diagnosis of a tumor in the frontal lobe.

133. **Addison's Disease and the Internal Secretions.**—Leonardi reports the clinical and autopsy findings in three cases; the morbid changes in the suprarenals were accompanied by corresponding changes in the other glands with an internal secretion, the thyroid, hypophysis and spleen—all of these were hypertrophied with evidence of hyperfunctioning. He does not regard Addison's disease as due to a single gland but to several participating in the process. The first symptom in one patient was tremor of the arms, probably the result of professional exposure to electric currents, the man's work being done under an electric light of between 15,000 and 20,000 candle-power. The effect of the Roentgen rays on glandular organs suggests that the light here may have affected the cervical sympathetic, the thyroid and the hypophysis.

Later the process seems to have extended to the abdominal sympathetic and suprarenals. In another case, atrophy of the ovaries followed a pregnancy with premature menopause. Calcareous degeneration of the thyroid followed, with tuberculous infection later and fulminating suprarenal symptoms. The diseased suprarenals could not obtain help from the ovaries and thyroid and there was merely slight hyperfunctioning of the hypophysis as a defensive reaction. In the three cases, patients in the last stages of Addison's disease recovered their energy and the bronzing subsided under thyroid treatment. The thyroid was already modified and was inadequate to supplant the diseased suprarenals, but it only required slight additional aid from without to be able to counteract temporarily the destructive process in the suprarenals. The disease, the course, the outcome, the histologic findings, the research in the experimental field, all sustain the assumption that Addison's disease in its complete form is a general affection of the entire great sympathetic system.

134. **Exophthalmic Goiter.**—Ciuffini tabulates the details in four cases of exophthalmic goiter after strumectomy with special reference to the blood picture.

135. **Early Diagnosis of Cardiac Insufficiency.**—Rubino states that the viscosity of the defibrinated blood becomes much increased as one of the earliest signs of cardiac insufficiency. He offers a plausible explanation of this fact and suggests its importance for the early diagnosis.

Riforma Medica, Naples

August 30, XXV, No. 35, pp. 953-980

136 Agglutinating Power of Tuberculous Serum on Malta Fever Germ. (Sul potere agglutinante del siero dei tubercolotici sul cocco melitense.) A. Evangelista.

Hospitalstidende, Copenhagen

July 21, LII, No. 29, pp. 897-928

137 Advantages of Transverse Incision for Laparotomy. (Pfannenstiels Tværincision.) E. Wanscher.

July 28, No. 30, pp. 929-960

138 To Remedy Overcrowding in Insane Asylums. (Størrelsen og Arten af Pladsmangelen paa Sindsygeanstalterne, samt Muligheder for dens Afhælpning.) A. T. Jacobsen.

August 4, No. 31, pp. 961-992

139 *Formaldehyd Disinfection without Special Apparatus. L. E. Walbum. Commenced in No. 30.

140 Laryngologic Instruments. (Ringkniv med Fangapparat, Larynxtang.) V. Lange.

August 11, No. 32, pp. 993-1016

141 *The Urine Sediment in Athletes and Nephritics. (Undersøgelser over Urinsediment hos Sportsmænd og Nefritikere.) H. B. Christensen.

August 25, No. 34, pp. 1049-1080

142 Is Artificial Light Rich in Ultraviolet Rays? (Er vore kunstige Lyskilder riga paa ultraviolette Straaler?) E. S. Johansen.

139. **Formaldehyd Disinfection Without Apparatus.**—Walbum reports a series of comparative tests of various methods of formaldehyd disinfection. The most effectual and the cheapest is with the special disinfecting formaldehyd apparatus, but good results can be obtained with the potassium permanganate-formaldehyd technic, only larger amounts of the chemicals must be used than the directions call for. He found it impossible to obtain satisfactory results until he increased the amounts to 3.3 kg. potassium permanganate, 3.3 liters formalin and 3.3 liters water for each 100 cubic meters. Disinfection of passenger cars and hacks was one of his aims, and he describes the methods found most convenient. Strips of paper pasted along the crevices left unsightly marks, but it proved feasible to plug the crevices around doors and windows with cotton and the ventilators with cushions filled with cotton, while a special device closed the water-closets air-tight and permitted them to be filled to the top with a disinfecting fluid. The upholstery absorbs so much of the fumes that unusually large amounts are required. It was found possible to disinfect a hack in fifteen minutes with 500 gm. each of the permanganate, formalin and water, after doors and windows had been plugged with moist cotton. Staphylococci, diphtheria and typhoid bacilli were thus destroyed in the tests. After fifteen minutes the doors of the hack were opened and after five more minutes the zinc vessel holding the mixture was removed and another introduced containing 1.5 kg. of slaked lime in small pieces over which was poured a hot solution of 250 gm. of ammonium chlorid in 500 gm. boiling water. The doors of the hack were then closed again for fifteen minutes, after which the vessel was removed, the doors thrown open, and the vehicle was again ready for use in an hour or hour and a half. Full descriptions are given of the different tests and methods used.

141. **The Urine Sediment in Nephritis and After Sports.**—Christensen gives the tabulated details respecting the urine findings in 10 football players, 12 wrestlers, 27 athletes after their exercises, and a number of others—all showing that the urine sediment after these exertions resembles the sediment in severe nephritis. Half an hour's wrestling by a robust and healthy individual will bring fat into the sediment of the urine just as is observed in chronic nephritis, but evidently it is merely the result of the changes induced in the circulation by the violent exercise.

Ugeskrift for Læger, Copenhagen

August 19, LXXI, No. 33, pp. 933-954

143 Eye Diseases Occasioned by Nephritis. (Øjenlidelser foraarsagede af Nefritis.) C. F. Heerfordt. Commenced in No. 32.

August 26, No. 34, pp. 955-976

144 *Hypertrophy of the Heart in Nephritis. (Hjertehypertrofien ved Nefritis.) V. Scheel.

144. **Hypertrophy of the Heart in Nephritis.**—Scheel regards it as practically established that the heart hypertrophies in nephritis on account of the changes in the smaller arteries, compelling it to greater efforts. These changes in the arterioles are the result of the action of some still unknown substance circulating in the blood owing to the defective elimination by the kidneys of nitrogenous waste, and it is probably an important factor in the development of arteriosclerosis. Cystic kidney and hydronephrosis, interfering with the elimination through the kidneys, are also frequently accompanied by enlargement of the left ventricle. The substance in question may have some direct action on the heart itself, stimulating it to greater efforts, so that the right ventricle may hypertrophy also. Changes in the myocardium do not play much part in nephritis; as a rule the coronary arteries are not much affected. Death from heart failure is more frequent with secondary than with primary nephritis. In his 27 cases of nephritis after acute glomerulitis, 6 of the patients died from heart failure, while only one fatality from this cause occurred in his 20 cases of contracted kidney. Hypertrophy of the heart was constant in his glomerulitis cases, but was not encountered once in 15 cases of chronic parenchymatous nephritis.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Annual Report of the Mt. Sinai Hospital of Boston. Seventh Year. Boston, January, 1909. Paper.

Pennsylvania Hospital: Annual Report of the Department for the Insane. For the year ending April 22, 1909. Paper. Pp. 36.

Miner's New Complete Obstetric Record. Improved Edition, Giving all Medical Data Bearing on the Problem of Heredity. Cloth. Pp. 124. Copyright, 1883, by Joel A. Miner. Ann Arbor, Mich.: Joel A. Miner.

The Great White Plague: Tuberculosis. By Edward O. Otis, M.D., Professor of Pulmonary Diseases and Climatology, Tufts College Medical School. Cloth. Pp. 321. Price, $1.00 net. New York: Thomas Y. Crowell & Co.

Minor Ophthalmic and Aural Technique. By Alfred Nicholas Murray, M.D., Chicago, Assistant in the Department of Otology and Laryngology, Rush Medical College. Cloth. Pp. 233, with 98 illustrations. Price, $3.00. Chicago: Cleveland Press, 1909.

Text-Book of Anatomy and Physiology for Nurses. Compiled by Diana Clifford Kimber, Graduate of Bellevue Training School Third Edition, Revised by Carolyn E. Gray, R. N., Assistant Superintendent, New York City Training School for Nurses. Cloth. Pp. 421, with illustrations. Price $2.50. New York: The Macmillan Co., 1909.

A Text-Book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and Their Employment on a Rational Basis. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Thirteenth Edition. Cloth. Pp. 866, with 122 engravings and 4 colored plates Price, $4.00. Philadelphia: Lea and Febiger, 1909.

PROGRESSIVE THERAPEUTICS

THE GENERAL THERAPY OF SEXUAL DISEASES

By DR. MAX JOSEPH, (Berlin).

(Reprint from Deutsch med. Wochenschrift, No 25, 1907).

ABSTRACT

The interests of the community at large, as well as of the individual, are so closely concerned in this connection that the attempt seems justifiable to enforce certain generally accepted fundamental rules, upon what is as yet a debatable territory. It is more particularly *gonorrhea* with its usually local course, but by no means harmless character, according to present knowledge—which urgently requires energetic treatment, in order to guard the patients against subsequent evils. Every case of *acute gonorrhea* should be immediately examined as to the presence of gonococci. The mere clinical diagnosis of gonorrhea is no longer permissible at the present day, the microscopical examination being required in every instance. On the one hand, confusions may occur with simple urethritis, or with venereal ulcers of the urethral mucosa. On the other hand, the treatment of gonorrhea, at the present day, may be said to be regulated by the microscope, or to depend upon the microscopical examination.

As soon as gonococci have been demonstrated, the antiseptic treatment should begin; instead of waiting until the first acute inflammatory manifestations have subsided. At present we have such excellent "gonococcidal" agents at our command, that we certainly will not harm the patient, but rather benefit him, by killing the gonococci in the anterior portion of the urethra, so that they can not penetrate into the posterior portion.

The author introduced a compound of silver nitrate and gelatose: Albargin (see description New and Nonofficial Remedies). This is readily soluble in cold water: it will dialyse through animal membrane, and in the absence of distilled water may be dissolved in ordinary well water. In view of the high silver contents of Albargin a solution of 0.1 to 0.2, at the outside 0.3 per cent., is sufficient. For greater convenience in copious flushing, Albargin is placed upon the market in shape of tablets of 0.2 grm. each, thus permitting an economical use of the remedy.

The manner of application is also of importance, besides the selection of a suitable remedy. Prolonged injections, according to Neisser's suggestion, are advisable, the patient being instructed to retain the bactericidal fluid in his urethra for half an hour at a time, if possible, several times (6-8) in the course of the day.

The administration of internal remedies, for the purpose of disinfection, is opposed by the author. The gonococcus is killed solely and exclusively by antiseptic therapeutics. The balsams may be given for the relief of pain.

While a cure of the gonorrhea is most rapidly obtained by the antiseptic method of treatment, no general statement is possible as to the length of time required until the disappearance of the gonococci, after the employment of Albargin. The microscopical examination must come to the constant support of the clinical observation. The employment of antigonorrheic agents must certainly not be stopped until the gonococci have disappeared for a considerable length of time. The author continues the antiseptic treatment for several days after the gonococci have ceased to be demonstrable by the microscope.

A transition to the astringent treatment is justifiable only after the discharge has been found to be aseptic, after repeated microscopical inspection, and after epithelial cells begin to appear in the secretion, instead of the formerly almost exclusively present polynuclear leukocytes. For precaution's sake, it will be well to continue the Albargin injections about twice daily, for the purpose of destroying gonococci which may still be present; and to administer, besides, an injection of potassium permanganate solution, about 3 to 4 times daily. The author begins with a strength of 0.01 grm. to 200.0 c.cm., rising to 0.02 grm. to 200.0 c.cm. in proportion to the increase of the epithelial cells and the subsidence of the leukocytes, even up to 0.1 grm. to 200.0 c.cm., provided the patient tolerates it.

Finally, the epithelial character of the discharge becomes more and more predominant; and in conclusion, one or two bottles of bismuth are usually injected:

R. Solut. Magist. Bismuth. 3.0-5.0 grm. to 200.0 c.cm. of water.

The above outlined treatment is advisable in all those cases where there has been no opportunity to institute, at the earliest possible moment, an abortive treatment with Albargin—(with which the author was enabled to obtain a permanent cure within six or seven days, in a considerable series of cases). It goes without saying that the strictest abstinence from alcohol, as well as careful diet and rest, are to be enjoined upon the patient during the entire term of treatment.

Unfortunately, in at least the same number of cases, no cure results, despite of all precautions, the process extending to the posterior portion of the urethra, and giving rise to acute posterior gonorrhea. As soon as the first symptoms of this rather obvious complication has been recognized, it is advisable to stop the injections altogether, so as not to irritate. Here the balsams are indicated for the removal of the subjective disturbances, in addition to rest, milk diet and warm abdominal compresses. In the presence of severe strangury and very cloudy urine, it is well to administer salol, 1.0 grm. three times daily, and to prescribe the following tea:

℞. Fol. Uvae Ursi 100.0.

Sig.: Three tablespoonfuls of the leaves, with four cups of water, to be boiled down to three cups of tea, to be taken in the course of the day.

Should this fail to relieve the symptoms promptly enough, it will be necessary to prescribe morphin. As a rule, the disturbances of this sudden and painful complication will soon subside under this treatment, and the acute posterior gonorrhea not uncommonly is cured at the same time. In another series of cases, the gonorrhea persists in the posterior portion of the urethra. In these subacute forms, an attempt should be made to flush the posterior urethra with the large Janet hand syringe, in order to free it from its secretion. This procedure must be repeated every day. The character of the injection is again dependent upon the microscopical findings. As long as gonococci are in evidence, Albargin is selected (1 to 1,000). After the epithelial character of the discharge manifests itself, the astringents are in place, potassium permanganate usually effecting a cure within a reasonable length of time.

In those cases, however, where the second portion of the urine remains cloudy, especially in the morning, and where the "morning drop" does not yield to the treatment, the complication of *prostatitis* may be safely assumed to exist. This means a further delay in the recovery of the patient. The same principle obtains here as in the treatment of posterior gonorrhea. While the acute inflammatory symptoms of prostatitis persist, all local treatment should be omitted and only internal remedies be prescribed. Suppositories frequently contribute to the relief of these cases; for instance:

℞. Ammonii sulfo-ichthyolici ....0.5 grm.
Or Morphini hydrochlorici ....0.015 grm.
Or Kalii Iodati ....0.5 grm.
Pulv. agar. neutr. q. s.
Misce exastissime u. f. suppositorium.

Cold or warm applications may be made to the perineum, to suit individual requirements. In certain severe cases, where a fluctuating point is felt in the prostate, in rectal examination, prompt incision is indicated. The intolerable pain is almost immediately relieved by this procedure.

Chronic prostatitis, as a sequel to chronic gonorrhea, does not lead to suppuration, but rather to a partial or total chronic infiltration, with scar formation, considerably aggravating the prognosis. In these cases it is necessary to resort to massage of the prostate, followed by flushing of the urethra. The secretion expressed during this massage per rectum is subjected to microscopical examination, the findings determining the selection of the agent for the flushing of the urethra. Silver nitrate is indicated as long as gonococci are present; beginning with a solution of 1 to 4,000, and gradually increasing to 1 to 2,000. After the prostatic secretion has become perfectly aseptic, astringent solutions may be substituted for the flushing of the urethra, especially potassium permanganate of the same strength as the silver nitrate. As a rule, a long time is required for the treatment. Generally, however, the morning drop is finally removed, and the urine becomes clear. In other cases, after the prostatitis and posterior gonorrhea have been cured, there still remains a remnant of anterior (chronic) urethritis. The treatment here must depend upon the findings demonstrated in the endoscopical view of the urethra. In the existence of a soft infiltration, stretching by means of special dilatators may be adopted as inaugurated by Oberlander. In other cases surprising results may be obtained by means of Kutner's flushings under pressure. After a hard infiltration has once developed, however, nothing is left but treatment with bougies, which must be kept up for a long time, in order to prevent strictures.

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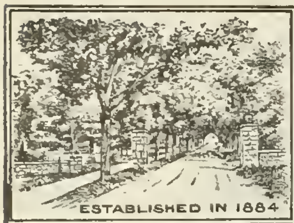

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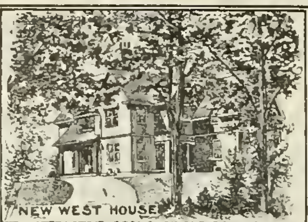

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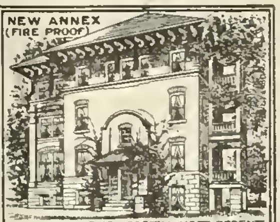

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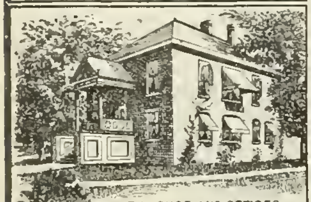

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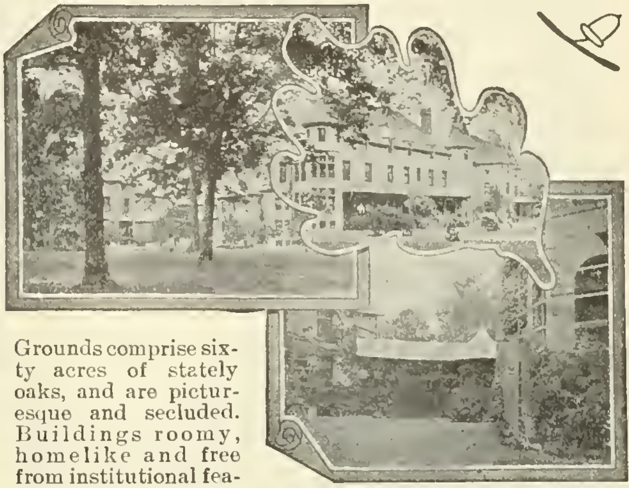

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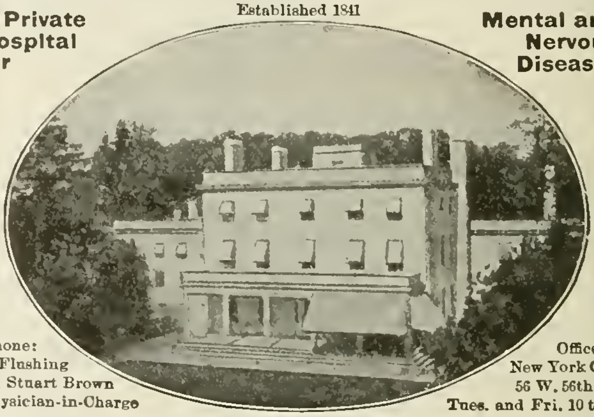

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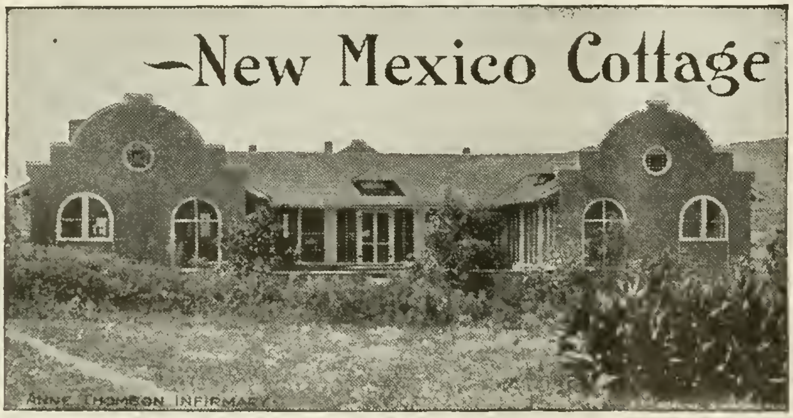

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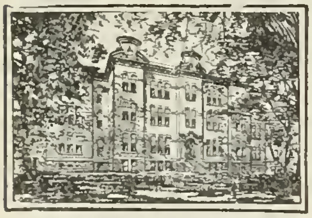

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Original Articles

DIET IN TYPHOID FEVER *

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NEW YORK CITY

The conclusions which I have reached concerning the food requirements of the typhoid fever patient are based on studies on the protein metabolism of the disease which have been carried out in Bellevue Hospital and the Department of Experimental Pathology of Cornell University, in collaboration with Dr. P. A. Shaffer, during the last two years.

I believe that the solution of the essential problems of the typhoid-fever diet will be found in the correct answers to two questions:

I. Shall the typhoid fever patient be given enough food to meet his energy requirements?

II. How much food may be considered necessary to fulfill these requirements?

It is obvious that the digestibility and general suitability of the various foods can not be ignored, and these will be referred to later.

I. SHALL THE TYPHOID FEVER PATIENT BE GIVEN ENOUGH FOOD TO MEET HIS ENERGY REQUIREMENTS?

Brief reference to the history of typhoid diets will assist us in finding the answer to this question.

Starvation was the accepted practice for centuries in fevers of all kinds, and included deprivation of water. Graves[1] (1835) convinced himself that, for want of food, the ill effects of starvation were added to the ravages of the disease and recommended a diet which at that time was considered revolutionary. The diet consisted of carbohydrate-water made from toast-crumbs, meat-broths and jellies. It is difficult to estimate the caloric value of Graves' diet, since exact quantities are not mentioned, but at the most liberal reckoning it furnished not more than 300 calories in 24 hours—the equivalent of about 10 ounces of milk. Graves' belief that patients were benefited by this meager diet was shared by the great Trousseau and other eminent men of his time. The next advance in the feeding of typhoid patients was due, according to Nichols,[2] to the teaching of the late Austin Flint. Flint popularized the milk diet (about 1870). The usual quantity of milk taken by a typhoid patient in 24 hours—2 quarts—furnishes about 1,400 calories. The milk diet remained unchallenged until 1892, when Peabody's[3] paper, questioning its suitability, was published. Since 1892 there has grown up a school of practitioners who advocate liberal diets. Among them may be mentioned Shattuck,[4] Barrs,[5] Bushuyev,[6] Fitz,[7] Mueller,[8] Manges,[9] Kinnicutt[10] and LeFevre.[11] Bushuyev is the only one of these authors who has mentioned the quantities of the various foods to be given, and, therefore, the caloric values of these diets are difficult to estimate. Bushuyev's diet furnishes approximately 2,000 calories a day.

Thus, in each of these three diet-periods, there has been an increase in the energy value of the food recommended—an increase of 1,100 calories a day from Graves to Flint and a further increase of 600 calories from Flint to Bushuyev. With each addition to the diet the statement has been made that the patients have been benefited. With respect to each addition, the profession as a whole has been perhaps too conservative.

Since the chief objections which have been raised to the liberal diets relate rather to the physical state of the food than to the amount of energy they furnish, no attempt will be made at this time to answer them.

The history of diets in typhoid fever, then, clearly indicates a steady, but very slow, tendency to increase the amount of food allowed to the patients. Only exceptionally to-day do we find physicians, once they have used the higher caloric diets, advocating a return to the older methods, and as a rule their arguments are based on questions of digestibility rather than on the energy value of the foods. McCrae[12] has expressed the opinion that more harm may result from overfeeding than from underfeeding, but he is evidently referring to the possibility of setting up digestive disturbances. A distinction must be made between properly nourishing and improperly feeding a patient.

Turning from the history of the typhoid diets and the claims which have been made for them, we may inquire whether there is evidence that definite harm may come to a patient through partial starvation. It is well known that partial starvation lowers the resisting power of healthy persons, and there is reason to believe that immunity to infective diseases is not so readily acquired when patients are undernourished. Healthy laboratory animals develop a better immune serum than those which are not robust. Ewing[13] believes that many of the clinical and pathologic phenomena in severe cases of typhoid fever are directly attributable to an autoin-

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Clinical Medicine, New Sydenham Society, 1884, i, 136.

[2] Diet in Typhoid Fever, Fiske Fund Prize Dissertation, Providence, 1907.

[3] Diet in Typhoid Fever, Med. Rec., 1892, xlii, 620.

[4] The Journal A. M. A., 1897, xxix, 51.

[5] Brit. Med. Jour., 1897, i, 125.

[6] Progressive Med., 1899, i, 328.

[7] Boston Med. and Surg. Jour., 1899, cxli, 509, 526.

[8] Therap. d. Gegenw., 1904, vi, 23.

[9] Med. Rec., 1900, lvii, 1.

[10] Boston Med. and Surg. Jour., 1906, clv, 1.

[11] Med. News, 1904, lxxxiv, 11.

[12] Modern Med., 1907, article on "Typhoid Fever," p. 211.

[13] Proc. Path. Soc., Philadelphia, 1905.

toxication resulting from the excessive destruction of body tissues. Furthermore, Ewing and Wolf[14] state, in a recent study of the urinary nitrogen in typhoid fever, that "the most obvious conclusion of this study is the inadequacy of the diet used in these cases and of that generally employed in typhoid fever."

There is, therefore, strong experimental and clinical evidence in favor of giving typhoid patients sufficient food to meet their demands for energy.

II. HOW MUCH FOOD MAY BE CONSIDERED NECESSARY TO FULFILL THESE REQUIREMENTS?

In answering this question I shall consider, first, the energy value of the food. The relative proportions of protein, fat and carbohydrate to be employed will be referred to later.

One of the chief characteristics of typhoid fever, as we know it, is emaciation (Fig. 1). Losses of 25 pounds during the course of cases of even moderate severity are not uncommon, and as much as 50 pounds may be lost by patients during prolonged, severe attacks. If these losses concerned only fat and water, they would probably not be serious, but they involve muscle and other tissues as well. Losses of from 15 to 20 gm. of nitrogen a day, representing from ½ to ¾ pound of muscle, are not unusual. Scarcely any one would deny that these losses should be prevented if possible, provided the means taken for their prevention is not more dangerous than the losses themselves. The hunger of many patients during the course of the disease and of all patients during convalescence is probably Nature's protest against the practice of partial starvation. Patients who are well enough complain of it, those who are too ill to complain probably have even greater need for food.

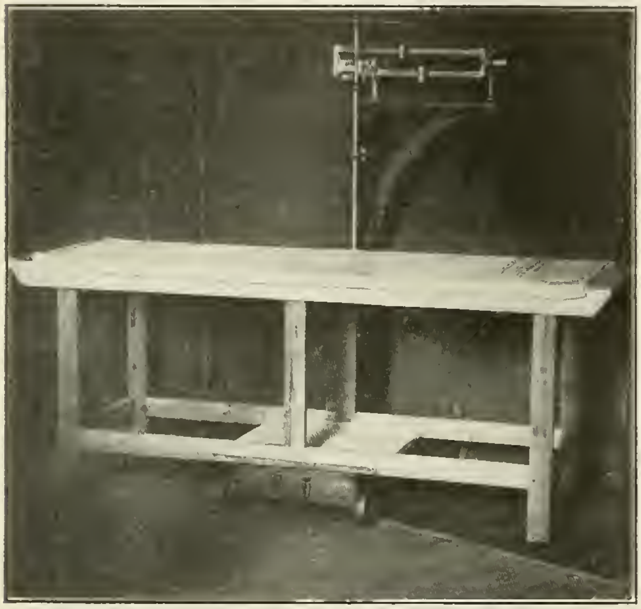

Fig. 1.—Apparatus for weighing bed patients constructed by hospital carpenter. The height of the table when placed on scales corresponds with that of the bed. The legs of table which just clear the floor prevent tilting.

The loss of weight in typhoid fever has been attributed to two causes: to the temperature and to so-called toxic destruction.

The Temperature.—The belief is common, even among the laity, that fever burns up tissues. Fritz Voit[15] and Linser and Schmid[16] have shown experimentally both in animals and man that pyrexia does increase metabolism. There is, therefore, a substantial basis for the common belief.

Toxic Destruction.—In addition to the febrile loss of body substances, there is a further increase in metabolism in the course of infective diseases which is due to the action of bacterial toxins. This is the so-called toxic destruction. The manner in which the toxins act is not definitely known.

Shaffer and I have found in our cases[17] that the losses due to both of these causes can be prevented by a high caloric carbohydrate diet. As no diet hitherto proposed for typhoid fever has furnished sufficient energy for the metabolic exchanges of the patient, we have concluded that the most potent factor in the losses of the disease is partial starvation.

We may calculate the minimum energy requirement of the typhoid patient as follows: A normal man at ordinary rest requires about 33 calories per kilo of body weight each day. According to Krehl,[18] the average typhoid patient requires a 25 per cent. addition to this in order to meet the febrile increase in heat production. This gives 41 calories per kilo of body weight per day or approximately 3,000 calories for a man weighing 150 pounds. It must be emphasized that this is the calculated minimum requirement.

If this calculation is approximately correct, then a patient weighing 150 pounds, taking 2 quarts of milk a day, is getting only 50 per cent. of his minimum requirement, and a patient of the same weight on a "liberal diet" is getting only 75 per cent. of this requirement. As a matter of fact, the discrepancies are even greater, since we found that the optimum requirement varied in different patients and at different stages of the disease, but was always greater than the calculated minimum. Our best results were obtained when the diets furnished from 60 to 80 calories per kilo per day, or 4,000 to 5,500 calories. In one case we reached 100 calories per kilo or 6,000 calories a day.

We have studied patients on a strict milk diet—2 quarts a day—and found that they lost from 5 to 12 gm. of nitrogen. These losses would cease, or at least be greatly reduced, when the energy value of the diet was raised. Forty-six patients altogether have been on our diet, with only one death. This was a case of ambulatory typhoid; the patient's pulse was alarmingly feeble on admission to the hospital, and he died a week later from what appeared to be acute dilatation of the heart. (I feel that this case might, with fairness, have been excluded from the total.) Many of the 46 patients suffered from very severe forms of typhoid fever. For example, the temperature ranged from 103 to 105 F. in one case and lasted 47 days, with a relapse of 27 days' duration. Some of the patients were kept almost in nitrogen equilibrium throughout the disease. It was not unusual for patients to weigh as much or even more when they were allowed to get up (usually about the fourteenth day of convalescence) as when they were taken ill. In one instance, the patient actually gained 2 pounds during a sharp relapse of 10 days' duration. In all instances, the patients appeared brighter and stronger and better able to fight the disease. The percentage of relapses was slightly lower than in another division of the hospital where the usual diets were employed. I do not feel disposed to make any statement as yet regarding the course and rapidity of convalescence. All of the patients left the hospital in excellent condition. Some of them I have been able to follow, and the impression I received was that convalescence progressed rapidly. But it is difficult to judge of this unless the patient can be seen frequently, which is manifestly impossible in the case of hospital patients.

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[14] To appear in Arch. Int. Med.

[15] Sitzungsb. d. Gesellsch. f. Morph. u. Physiol. in München, 1895, xi, 120.

[16] Arch. f. klin. Med., 1904, lxxix, 514.

[17] To appear in Arch. Int. Med.

[18] Principles of Clinical Pathology, Hewlett translation, Philadelphia, 1905.

Since the calculated minimum requirement of 3,000 calories diminishes but does not prevent protein loss, I would answer the second question by saying that a patient of 150 pounds' weight should be given food equivalent to 4,000 calories a day, but that the greater the energy value of his food, provided his digestive organs can handle it, the greater will be the sparing of protein and other body substances.

Fig. 2.—W. G. Blood culture positive. Very severe. Temperature 103-105 F. Duration of fever 47 days. Relapse of 27 day's duration. Ill for 3 weeks before admission. Said he had lost 15 lbs. Weight on admission, 151 lbs.; at end of first period, 140 lbs.; at beginning of relapse 144 lbs.; at end of relapse 140 lbs.; at first day up 154 lbs.; on discharge, 174 lbs. Picture was taken before patient was allowed out of bed.

Diet.—The diet we used consisted, in the main, of milk, cream, milk-sugar and eggs. In addition, we allowed small slices of stale bread or toast, with as much butter as the patient wished. The daily quantities of these articles of food were about 1½ quarts of milk, from 1 to 2 pints of cream, from ½ to 1⅔ pounds of milk-sugar and from 3 to 6 eggs. It will be necessary to say a few words about each of these articles.

Milk: I am convinced after much experience with it that milk, in moderate quantity, is not an undesirable constituent of the typhoid diet. When the quantity is excessive, it may unquestionably produce harm, but the argument that it forms an excellent culture medium for the typhoid bacillus in the intestine has been exploded by the investigations which have shown that typhoid fever is a bacillemia. Milk in the quantity mentioned has not produced tympanites in our cases. Occasionally milk curds have appeared in the stools and then the quantity of milk has been diminished or it was peptonized. A good average milk will furnish 740 calories to the quart.

Cream: Though cream furnishes a large amount of energy, it is not advisable, according to our present knowledge, to give more than one-third of the total calories of the diet in the form of fat. Fat in the food, if absorbed, will protect an equivalent amount of fat in the body. Fat protects protein also, but not so efficiently as does carbohydrate. Other objections to cream in large amounts are its tendency to upset the stomach and to produce diarrhea. Patients usually can take a pint of cream a day without difficulty. We have given as much as 42 ounces. In only one instance has the cream disagreed. This patient developed diarrhea when the quantity reached a quart a day. The diarrhea stopped immediately when the cream was withdrawn. The cream supplied at Bellevue Hospital contains from 25 to 30 per cent. of fat and furnishes 1,300 calories to the pint.

Fig. 3.—J. C. Blood culture positive. Severe. Temperature 101-105 F. Duration of fever 21 days. Weight, 12th day, 60½ lbs. (2 days after admission); 16th day, 58 lbs.; 18th day, 59½ lbs.; 22d day, 59 lbs.; 26th day, 58 lbs.; 28tb day, 60 lbs. Picture was taken before patient was allowed out of bed.

Milk-sugar: Carbohydrate protects body protein better than any other foodstuff. For this reason a large proportion of the energy of our diet is supplied in that form. Starches can not be used in quantity because of their bulk and the consequent tax on the digestive organs. Therefore, it became necessary to select one of the sugars. We chose milk-sugar because it is not very sweet and not so likely to pall on the taste as other sugars, and because it does not so readily produce digestive disturbances. We have not found that it exhibited the laxative properties which have been ascribed to it; in fact, patients taking it often suffered from the constipation which is so common in typhoid fever.

The objections which we have found to milk-sugar are: some patients complain that it is too sweet; in some instances it produced nausea and vomiting, but more often vomiting without nausea, the stomach contents being simply regurgitated. When vomiting occurs, the milk-sugar should be stopped. As a rule, however, its administration may be resumed in smaller quantities after several days and the quantity then be gradually increased. In a few instances the milk-sugar has caused moderate tympanites. We have not had a patient who could not be educated to take it in sufficient amount to materially raise the caloric value of the diet. The method of giving the milk-sugar will be discussed later. Milk-sugar furnishes 4 calories for each gram, or 120 per ounce.

Eggs: While it has not been determined definitely how much nitrogen a typhoid patient requires in 24 hours, our results indicate that the optimum amount lies between 12 and 16 gm. One and one-half quarts of milk and a pint of cream furnish 11 gm. of nitrogen and we made up the deficit with eggs. A two-ounce egg supplies 1+ gm. nitrogen.

We chose eggs because they are easily digested and readily obtained. Meat and home-made meat juice are more likely to cause digestive disturbances. I have specified "home-made" meat juice because the consensus among scientists is that commercial meat preparations possess very little food value.[19]

Fig. 4.—P. Z. Blood culture positive. Moderately severe. Temperature 101-103.8 F. Duration of fever 34 days. Weight 6th day, 129 lbs.; 10th day, 132 lbs.; 15th day, 136 lbs.; 17th day, 135 lbs., 21st day, 133 lbs.; 24th day, 132 lbs.; 27th day, 132 lbs.; 35th day, 130 lbs Picture was taken before patient was allowed out of bed.

It is important that the protein content of the typhoid diet be kept as low as is consistent with the nitrogen demands of the patient. In addition to digestive disturbances, the injudicious administration of meat may seriously disorder metabolism. It is well known that meat may cause the *febris carnis*. Ewing and Wolf[14] have recently found evidence in the urinary nitrogen to indicate that this "meat-fever" is due to the inability of the patient to digest and metabolize properly some alien proteins. They noted also in their cases this very important fact, that the *febris carnis* was soon followed by albuminuria, which, they suggest, may be the starting point of nephritis. Therefore, the caution may be repeated, to keep the protein content of the typhoid diet low during the disease and to allow meat sparingly early in convalescence.

Some Practical Considerations.—The diet which I have outlined is a difficult one to give to patients, on the whole rather more difficult than milk. Intelligent and reasonable persons, however, take it readily when the objects of the diet are explained to them. In other instances, patients are not told that the milk differs from what they have been accustomed to taking. The greatest difficulty has been experienced with adolescents who refused to take the diet because patients near them were allowed other food. When I have been convinced that the reason for not taking it was sheer stubbornness, I have insisted on carrying out the order. When I have even suspected that the diet was disagreeing with the patient, I have modified or stopped it, but always have cautiously resumed it (Figs. 2 and 3).

The food has been given at two-hour intervals, except that patients have not been awakened at night. The cream has usually been added to the milk, in the proportion of 2 ounces cream to 6 ounces milk, though a palatable ice-cream may be made with cream and milk-sugar. The milk-sugar should be given in small quantities at first—a tablespoonful to the glass of milk—and gradually increased to 4 tablespoonfuls. Many patients will take 2 ounces of cream, 6 ounces of milk and 2 ounces of milk-sugar several times a day, but this is a rich combination. At other times the milk-sugar may be given in tea, coffee, or cocoa, or it may be made with an egg into soft or baked custard. A milk-sugar lemonade may be given once or twice a day. If the water and sugar are boiled for two minutes before the lemon juice is added, 4 ounces of milk-sugar may be put into 8 ounces of lemonade. If the lemonade is not sweet enough, a tablespoonful of cane-sugar may be added. The eggs may be given soft boiled, soft poached or shaken up in milk, with or without whiskey.

While I believe that the foods mentioned must form the basis of the ideal diet for typhoid fever, much remains to be done in working out details. The greater the variety and the more palatable the dishes presented to the patient, the more content will he be to adhere to the prescribed diet. We have not yet been able to devote much time to the selection of variety in foods and dishes, but this is one of the questions which soon will engage our attention.

CONCLUSIONS

1. The practice of partial starvation, at present followed in the treatment of typhoid fever, is highly detrimental to the patient's welfare.

2. It is not only desirable but necessary that the typhoid patient be given sufficient food to cover his energy expenditures.

3. The amount of food required for this purpose will vary with different patients, but may be estimated approximately on the basis of 40 calories per kilogram of body weight per day.

ABSTRACT OF DISCUSSION

Dr. Max Einhorn, New York: The principles contained in the paper were recognized as far back as Graves, but they were not carried out as by Dr. Coleman. Since the days of Hippocrates it has been customary to subject these patients with fever to starvation diet, giving only water and barley-water, and under this rest treatment the patients felt quite comfortable; this method of treatment was carried out up to the time of Graves, who began to feed his typhiod patients with milk. The Hippocratic principle of rest was correct in caring for patients with diseases which run a short course, or last but a short time. Take an adult, with pneumonia, for instance, who is in good condition, the disease will last but five, six or seven days, the loss of a little flesh is not going to do him any harm; in starvation treatment may be carried out. The only important point that should be borne in mind and not forgotten is that these patients should have plenty of water. Individuals may go without food for a short time, but they can not stand the loss of water for even five, six or seven days. They can stand twenty days, loss of food, provided they are given plenty of water. But if we extend this principle a little further to patients with typhoid fever we then begin to see harm in the system. Typhoid fever lasts two, four, five or six weeks, and if we try to extend that principle the organism loses too much and irreparable consequences result to the system caused by the great loss of flesh. For that reason Graves believed that these patients should not be starved; he believed that they should receive nourishment and that one of the best substances for this was milk. Since then milk has been given to patients with typhoid fever, except perhaps when some fanatics give the starvation treatment. Twenty-five years ago, when I was house physician in a hospital, patients with typhoid fever were given a diet consisting particularly of milk, broths and raw eggs. Ten ounces every two hours were given, and also plenty of water and lemonade. With that diet, although we could not keep up the weight, we did prevent some loss. We gave occasionally a soft diet and farinaceous foods. What is new in Dr. Coleman's report is that he has succeeded in checking this loss of weight during the typhoid fever period. That has not been done before. During that period the organism requires more and more calories to replace the loss caused by the increased oxidation; the patient requires forty instead of twenty-five or twenty-six calories. Dr. Coleman has succeeded and we must follow his example and feed patients suffering with typhoid fever.

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[19] Bull. No. 114, Bureau of Chemistry.

Dr. Thomas A. Claytor, Washington, D. C.: For five or six years I have been feeding my typhoid fever patients along the lines advised by Dr. Shattuck and I agree with Dr. Coleman in his statement that when a physician has once fed these patients he will never be likely to return to the starvation diet. I believe that typhoid fever patients are more likely to recover when fed than when starved. They are far more contented. One of the most trying experiences with which these patients have to contend is hunger. When fed they are comparatively happy, they are much stronger, they convalesce more rapidly. Instead of being reduced to skin and bones they get up in good physical condition and are able to return to work much earlier, which, to the working man, is a very important thing. I certainly have not seen any more instances of hemorrhage or of perforation among the patients liberally fed than in those on liquid diet. I feel convinced that within the next ten years liberal feeding will become the rule rather than the exception in the treatment of typhoid.

Dr. Arthur K. Stone, Boston: In a series of over fifty typhoid patients treated by me last summer at the Massachusetts General Hospital the diet used was much more mixed than that used by Dr. Coleman and was the diet suggested a number of years ago by F. C. Shattuck. It represented about 2,000 calories and my patients did as well as did Dr. Coleman's; there was only one death in the series. On the whole, the patients behaved very well on that diet and lost but little weight, but I debated whether it would not be wiser to add sugar of milk or in other ways to increase the caloric value of the diet; but as they were doing so well I concluded that this would not be necessary. However, to make sure, I invited Professor Follin to see these patients with me, requesting him to suggest whether it would be wise to increase the caloric value of the diet. He said he saw no reason why I should change from the diet I had been using. Practically no drugs were used in the treatment of these cases and the baths were light sponges.

Dr. A. Jacobi, New York: Dr. Coleman is to be congratulated on his results, which, with that diet, I should not expect. I am greatly astonished at the good results he obtained. His diet was milk and, I hope, good milk. He has been very fortunate and I have not the slightest doubt the patients did very well; but what he told us certainly does not agree with what we know. It looks almost impossible to expect a healthy person, far less one with typhoid fever, to digest as much food as his patients did. I have never seen more disorders of digestion with indicanuria, acetone and diacetic acid in the urine than in patients who consumed a great deal of fat in that shape. Moreover, his patients taking so much fat took, at the same time, much milk undiluted and unmixed; my patients could not take it without becoming ill. I know that few children will stand an exclusively milk diet very long. It is true that patients will stand a great deal, but we should not contribute to their suffering. I wish to state that it is impossible for an average intestine to digest an unmixed cream to that extent. We cannot go into the physiology of digestion at this time, but I know that both adults and children, healthy or diseased, will bear milk that is diluted with cereal better, particularly in fevers in which the gastric secretions are lower than before the individuals were taken ill. In typhoid fever I would rather furnish the patients with 2,500 calories than 3,000, 4,000 or 5,000. It seems to me that Dr. Coleman, in his good wishes for the patient, has gone too far. Yet he says he has lost but one patient, and I think that other conditions in the hospital must have been extremely favorable and the patients well cared for. I congratulate him on his results, but I wish to give warning that we should be very careful in fat feeding to the extent that he has proposed to us. If a cereal is mixed with the milk, it will be more digestible. For many years I have not given pure milk in typhoid fever; I always mix it with rice-water or barley-water or other cereals or gelatin. I may not agree with Dr. Coleman's views, but I cannot gainsay his results, which are almost unprecedented. What I have said, however, is intended as a warning only.

Dr. James M. Anders, Philadelphia: I think it is a significant fact that general practitioners no longer pursue a starvation diet in the treatment of typhoid. Certain dietetic principles should be kept in mind in connection with the management of typhoid fever, and this remark applies to other infections as well. First of all, we should consider the proteid substances and recollect that the energy they represent is not all utilized by the system. For example, too much proteid food favors putrefaction in the intestinal tract, and with this there is brought about increased gravity of the case, especially in the direction of local symptoms. On the other hand, we should recollect that the energy represented by carbohydrates and fats is entirely utilizable within the system; therefore, we should give a certain amount of carbohydrates and fat to typhoid patients. This is what Dr. Jacobi has just hinted at in connection with the giving of milk. It should be remembered that one object of the dietetic treatment is the preservation of the tissues of the body and the prevention of emaciation which would otherwise occur. Fats, however, will not do this, but the carbohydrates will do it. Some of Dr. Coleman's success in maintaining the bodily weight of his patients so well may have arisen from the use of carbohydrates which were easily digested, and particularly the milk sugar which he recommended. It seems to me that his main suggestions are excellent ones and could be profitably followed by the general profession. The preservation of tissues, however, can only be accompanied by the use of carbohydrates.

Dr. James B. Walker, Philadelphia: I have been very much interested in Dr. Coleman's paper because I have feared that increase in feeding of typhoid-fever patients may go too far to the other extreme. I believe that Dr. Coleman's results are thoroughly honest and true, but I fear, with Dr. Jacobi, who is always right, to give as much cream to a typhoid patient as Dr. Coleman has done. One article of diet which I think should not be given is starch. Starches are digested in the small intestine largely, as in the absence of chewing, insalivation is almost *nil*. Those who advocate a crust of bread or toast or other starchy food make a mistake in that they throw work on a part of the bowel that is not prepared to do it. I have found calves'-foot jelly—freshly prepared from the calves' feet and not made from the gelatin of the shops too often containing the clippings from tanneries—an appetizing and digestible addition to the typhoid diet. I should like to add this to Dr. Coleman's list. I have given as much as one pint daily. As gelatin is believed to be antehemorrhagic, it may help to avert this dangerous complication. I want to advise against the use of starches for what seems to me good physiologic reasons, to advocate the use of calves'-foot jelly as an addition to the diet, and to protest against too varied and liberal feeding of patients affected with typhoid fever.

Dr. D. L. Parker, Detroit: The tendency to more liberal feeding in typhoid is establishing itself rapidly, and it seems to me that the principle that underlies the whole scheme is the return to the mode of living which is natural to the patient, so far as his condition will permit. Certain articles of diet must be eliminated, such as starches, which are digested in the small intestine, as Dr. Walker stated. One of the most important things to remember is that the natural diet contains salt, and, as a rule, the diet given to patients with typhoid fever contains very little salt. For a number of years it has been my practice to see that these patients receive as much salt at least as on an ordinary diet. Another important thing is to have sufficient time between the feedings. It has been found in the forced feeding of tuberculous patients, for instance, that the taking of food at intervals of four or five hours is very much better for these patients than if the meals are closer together. No person here in this room would think of taking food every two hours. I think the giving of food should be at longer intervals. Sufficient time should be given for the digestion of one meal before another is given.

Dr. Woods Hutchinson, New York: Nothing illustrates the progress of medicine better than the treatment of typhoid fever. Over sixty years ago Graves of Dublin chose as his epitaph "He fed fevers." Prior to this, blankets were placed over these patients, they were given very little food; even with high temperatures they were not allowed much water and no fresh air; the windows were kept closed; cold water to drink was regarded as deadly; and only lukewarm slops were permitted; in fact, the patients suffered almost as much from what was done for them as they did from the disease. Six years ago I began to use a liberal diet in my cases of typhoid fever, and the results have been the same as Dr. Coleman's. I had not the courage to carry it so far as Dr. Coleman has done, but the patients were given an abundance of tender meat, broths, jellies, crackers, toast, ice-cream, etc., and the results were excellent, not only as to keeping up the weight and strength of the patients, but also in preventing that condition of collapse after the fever subsided and the violent convalescent appetites which hitherto had craved such things as corned beef, beans and cold slaw. The patients made more rapid recoveries, had fewer complications and the results as a whole were very good. We think too much of the risk to the damaged intestine from liberal feeding in this disease, and regard typhoid fever as an intestinal disease too exclusively. Typhoid is a general disease, and, as has been shown, those patients who have been fed liberally, instead of suffering more from putrefactive changes in the intestines and tympany, have less of these changes, and fewer complications than those who are underfed. We are coming to see that many of the later symptoms that occur in the disease are due not so much to the actual toxic products of the bacilli as to the poisons generated from the broken-down tissues of the patient. Many of the symptoms occurring late in typhoid fever and are not so much to the disease itself as to the mistaken method of treatment, among which starvation ranks high. There is a risk in withholding food as well as in giving it.

Dr. Warren Coleman, New York: I did not foresee the nature of the questions which have been asked me or I should have requested more time of the chairman for my paper. One cannot deal adequately with such a subject as diet in typhoid fever in ten minutes. For lack of time I cannot answer all the questions that have been raised in the discussion. I feel, however, that I must attempt to reply to Dr. Jacobi.

The first thing I would say, and say emphatically, is that I did not experiment with patients in a way that was not thoroughly justifiable. Every increase made in the amount of milk-sugar was carefully controlled by observation in the hospital and by examinations in the laboratory of experimental pathology. Every increase made in the amount of fat was controlled in the same fashion. When there was reason even to suspect that the food was not agreeing with a patient, that particular article of food was stopped or diminished in quantity. I think that Dr. Jacobi perhaps has gained a wrong impression with regard to the amount of cream given. The usual quantity was one pint; sometimes as much as a quart; and in one or two instance even more. I did not observe any digestive or intestinal disturbances in any patient who was fed on this relatively large amount of cream except once; diarrhea occurred in that instance. The cream was stopped and at once the diarrhea ceased. Cream was not given again to this patient. The stools of all the patients were watched very carefully. There was no evidence that the cream was not, for the most part, utilized.

I am convinced that the principal question regarding the typhoid diet is whether it is desirable to let a patient live on his own tissues when it is possible to protect his tissues by giving him enough food. I have not yet worked out all the details of the diet. It has been estimated that gelatin may replace protein to the extent of one-fifth of the daily need of nitrogen. I started out to determine whether by giving a patient a sufficient number of calories to cover his expenditures, I could protect the body tissues. This was accomplished. In future I shall work in part on more practical problems, such as the varieties of food which may be given and the proper ways to prepare them. I did not follow the plan of giving large amounts of water, but was guided chiefly by the desires of the patients.

The patients are weighed on a long table, which, when placed on the platform of the scales, corresponds with the height of the bed. The weight is obtained without more disturbance to the patient than moving him from one side of the bed to the other.

INTRADURAL TUMOR OF THE MID-DORSAL CORD

OPERATION: COMPLETE RECOVERY OF SENSATION AND PARTIAL RESTORATION OF MOTION *

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The era of spinal tumor surgery began in 1887 when Gowers[1] correctly diagnosed and Horsley successfully removed a tumor from the mid-dorsal cord. The operation was followed by almost complete recovery of sensation and motion. Since the publication of this remarkable case, in 1888, neurologists and surgeons have vied with each other in their efforts to improve the neurologic and surgical technic of the diagnosis and surgery of spinal tumor.

Although many patients have been rescued from early graves and others have been restored to perfect health from a state of invalidism, yet the total number of complete and partial recoveries is not so large as to make the report of a single case superfluous. The diagnosis in some instances is extremely easy and certain, while in others it can never reach beyond a probability. The difficulties in diagnosis have been sufficiently set forth in the instructive article by von Malaisé,[2] the complete monograph of Bruns,[3] the lucid reports of F.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Gowers and Horsley: Med.-Chir. Tr., 1888, p. 407.

[2] Von Malaisé: Zur Differentialdiagnose der extra- und intramedullären Tumoren, Deutsch. Arch. f. klin. Med., 1904, lxxx, 143.

[3] Bruns: Die Geschwülste des Nervensystems, 1907.

Schultze,[4] Oppenheim,[5] Fedor Krause,[6] and a number of American and English observers.

In my remarks at the conclusion of the following case report I shall briefly allude to the literature bearing on cases of spinal tumor in which operation has been performed.

REPORT OF CASE

Patient.—B. F., a working girl, aged 23, was first seen at the request of Dr. A. Goldspohn on Dec. 17, 1906.

Family History.—The parents were living and well; the grandparents on the mother's side died of old age; on the father's side they lived to middle age; their death was due to causes other than tuberculosis, malignancy, or vascular accident. An only brother and a sister were healthy. The family was remarkably free from functional and organic nervous disease.

Personal History.—The patient was born in normal labor and during infancy and early childhood had been free from serious disease. With the exception of an attack of typhoid at 12, measles and pertussis at 13, her health had been good until the beginning of the present illness. Her menses were regular, habits correct; there was no trauma or evidence of venereal infection.

Onset and Course of Disease.—Early in 1906 (January or February) the patient began to experience attacks of pain in the right hypochondriac region, which subsequently became more or less persistent. Occasionally the pains radiated into the epigastrium and produced a sensation of nausea, accompanied with eructations. It was the latter circumstance which first induced her to seek medical assistance. For some time she was treated for dyspepsia and neuralgia. Later an osteopath was consulted who endeavored to reduce a supposed displaced vertebra. In spite of all treatment, however, the symptoms continued to progress. The pains, which were at first almost entirely confined to the right half of the body, soon began to invade the left side, and in less than two months had nearly encircled the trunk at a height of one or two fingerbreadths below the nipples. Though there was considerable variation in the intensity of the pains, they were never entirely absent. The upper portion of the trunk, the face and upper extremities were at no time the seat of sensory disorder, but several weeks after the beginning of the disease, fatigue and numbness were complained of in the lower extremities, and these sensations had a tendency to become more or less constant. On Sept. 23, 1908, after having retired for the night, the patient awoke feeling numb and stiff in the left leg from the knee downward. When she stepped out of bed to ascertain if she could still walk, the discovery was made that the left leg dragged and was partially paralyzed. There was considerable improvement in this limb on the following day, but the right leg had meanwhile become similarly affected; the latter grew rapidly worse and within three days was paretic. One week after these motor disturbances a feeling of tightness appeared about the waist and all sensation was abolished below the umbilical line. The sphincters were somewhat affected. The patient could then still walk without support, but was obliged to take rather small steps, as the feet seemed glued to the floor. At this period of the progress of the case she entered a hospital where she received vigorous antispecific treatment for about ten weeks. It was while under such treatment, about three weeks after the first motor symptoms had appeared, that the left and, soon afterward, the right leg became completely paralyzed. With the paraplegia there appeared more marked muscular twitchings and jerkings, which had for some time previously been the cause of considerable discomfort. In addition there were burning sensations in the paralyzed parts. The bladder and rectum subsequently became paralyzed. Her condition continuing to grow worse, the relatives caused a transfer to the Evangelical Deaconess' Hospital, where she became a patient of Dr. Goldspohn, who kindly referred the case to me for an examination. This was made on Dec. 16, 1906, and the following notes taken:

"*Examination.*—The patient, a well-developed girl, weighing about 150 pounds, of average height, occupies a recumbent posture and answers questions intelligently. But for the occasional demonstrations of pain caused by recurrent muscular spasms in the lower extremities, she gives one the impression of perfect health. Examination reveals normal findings in heart, lungs and abdominal viscera; the pulse is soft, regular and 75 beats per minute. Blood and urine normal. Pupils are equal, respond to light and in accommodation. Vision is unimpaired and eyegrounds appear normal. Glandular enlargements or evidences of neoplasm can not be discovered on her body.

"Motion: Eyes, face, neck and upper extremities are not involved; in marked contrast with these organs are the parts below the nipple line; here everything seems lifeless. The abdominal muscles are paretic and there is a condition of "leadpipe" rigidity in the spastic lower extremities. From time to time the legs are seen to draw up and slowly to relax; voluntary control over the muscles is completely lost. The sphincters are distinctly paretic. The bladder empties itself periodically without the patient's knowledge. The bowels are absolutely constipated; several enemas are usually required to cause a partial evacuation.

"Reflexes: Normal in eyes, face and upper extremities. Abdominal reflexes are absent. The patellar and ankle-jerks are pathologically exaggerated; there is distinct bilateral rectus and ankle clonus. Babinski, Oppenheim and Gordon signs are promptly obtained.

"Sensation: 1. Tactile sensation is abolished up to a point which corresponds on Seiffer's charts to the space midway between the fifth and sixth dorsal segments on the right and to about the sixth segment on the left side anteriorly (Fig. 1). Posteriorly tactile sensation is lost up to about a line indicating the sixth dorsal segment on the right and to about one-half segment below this on the left side (Fig. 2).

"2. In a small strip below the upper limit of tactile anesthesia pain and temperature sense are still preserved (areas shaded lightly in Figs. 1 and 2).

"3. There is a somewhat larger area below the one last mentioned in which the pain sense is still preserved, while other sensory qualities are lost (circles in Figs. 1 and 2). Sensation seems to have suffered first and most in tactile conduction, then the temperature qualities appear to have yielded and last of all the pain sense has succumbed."

Diagnosis.—A history of unilateral pain gradually becoming bilateral, followed by motor paralysis of first one lower extremity, then of the other, with sphincter and sensory paralysis added, presented the classical symptom-complex of spinal tumor. The negative findings above the line of beginning anesthesia certainly excluded diffuse cerebrospinal disease. The relatively slow evolution of symptoms was against the diagnosis of acute transverse myelitis and in favor of slow compression of the cord by tumor. Syphilis and tuberculosis had still to be considered. But there were no stigmata of congenital or acquired lues and no evidence of tuberculosis anywhere on the patient's body. Neither was there a history of trauma or of infection. Having decided that there was a tumor of the cord, the next task was to localize it. This was comparatively easy. Sensory disturbances of any kind being found opposite a line midway between the fifth and sixth dorsal segments, the upper end of the neoplasm was probably situated opposite the spine of the third dorsal vertebra.

In the determination whether the tumor was extradural, intradural or medullary in character, I was influenced by the following considerations:

1. There were no neoplastic formations anywhere in the body; there was no deformity of, or tenderness in the vertebræ. The pains were, in the beginning at least, not agonizing, constant or of long duration. These negative findings spoke strongly against the existence of an extradural tumor.

2. The early presence of root irritation (pain) and at the same time the absence of cord symptoms make the diagnosis of intradural tumor at least improbable; for in such tumors the rule is for cord symptoms to appear early and for pain to come late.

My diagnosis was: Spinal tumor, probably intradural and situated at or about the spine of the third dorsal vertebra.

Immediate operation was advised.

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[4] Schultze, F.: Zur Diagnose der Operabilität der Hirn- und Rückenmarkstumoren und Operationserfolge bei denselben, Mitt. a.

[5] Oppenheim: Beiträge zur Diagnostik und Therapie der Geschwülste im Bereich des centralen Nervensystems, 1907.

[6] Krause, Fedor: Zur Kenntniss der Rückenmarkslähmungen, Arch. f. klin. Chir., 1907, lxxxiv, 583.

My colleague, Dr. Goldspohn, concurred in the diagnosis and was ready to operate, when for some unknown reason the patient's friends moved her to Wesley Hospital and entered her there as a ward patient. While at this hospital she was assigned to Dr. S. C. Plummer, the surgeon on service, who kindly referred the case to me for a neurologic opinion. After a re-examination, finding that no material change had occurred in her condition, I again concluded that a laminectomy was indicated. Dr. S. C. Plummer performed the operation on Jan. 4, 1907. He has kindly permitted me to abstract the following notes from his surgical report of the case before the Chicago Surgical Society, May 8, 1908:

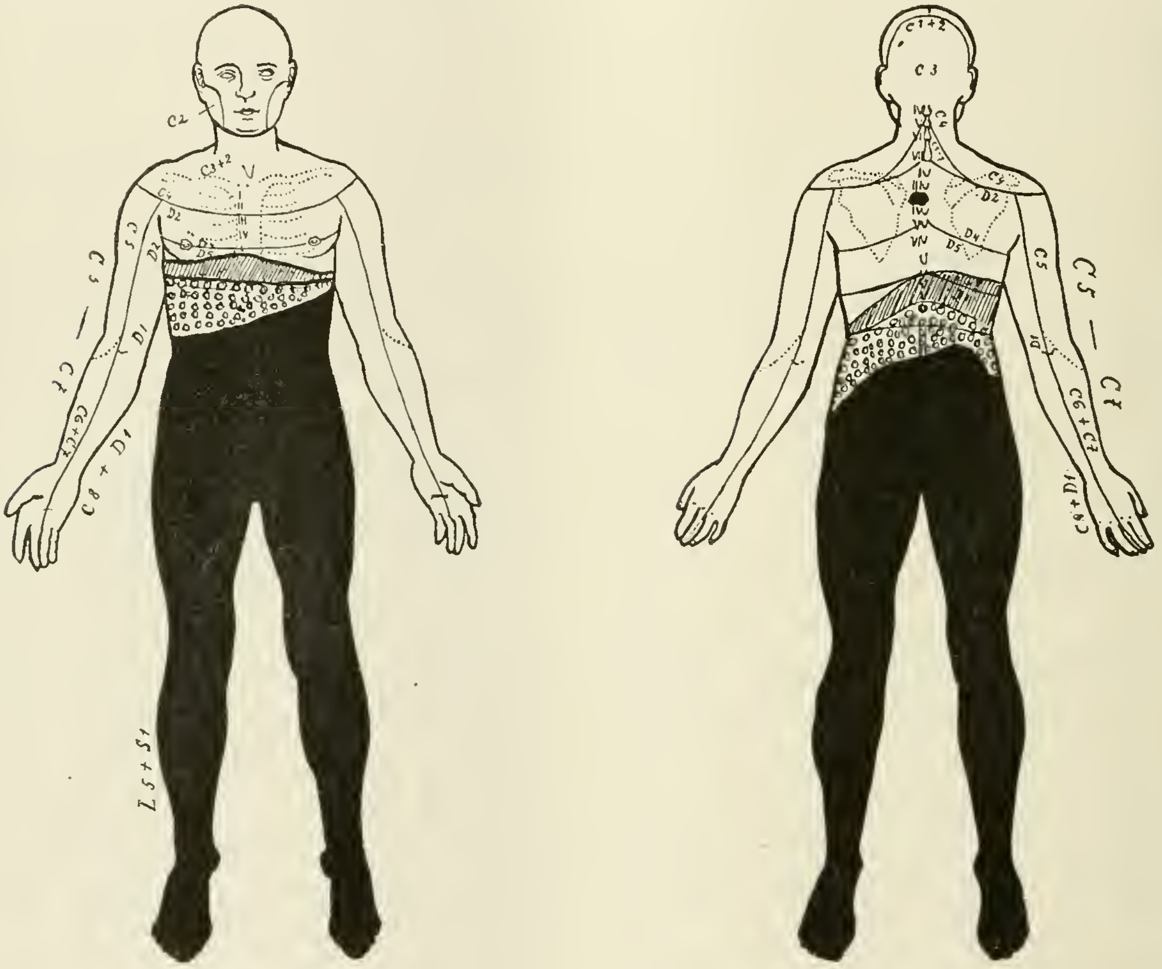

Fig. 1. Fig. 2.

Figs. 1 and 2.—In both figures, the black space signifies total loss of all qualities of sensation; the circles indicate loss of thermal and tactile sensation; the shading denotes more loss of tactile sensation. In Figure 2 (the back view), the heavy dot shows the highest border of the tumor.

Operation.—Patient was placed in the semiprone position on the left side. Ether anesthesia was used. The incision was made in the median line of the back, beginning just below the seventh cervical vertebra and extending downward to the seventh dorsal spine. The muscles were cut away from the sides of the spinous processes from the first to the sixth dorsal vertebræ on the left side. Several vessels were clamped and ligated, and a hot laparotomy sponge was packed into the wound, while on the right side the muscles were separated in a similar manner. Hemorrhage having been checked, the vertebral grooves were now cleared with a chisel by using the spinous processes as a fulcrum and pushing the tissues away from the laminæ. The spinous process of the fifth dorsal vertebra was now cut off with a bone-cutting forceps, and the ligamentum subflavum between it and the fourth dorsal vertebra severed with a knife. A special laminectomy forceps was used to cut away part of the laminæ of the fourth dorsal vertebra and the remainder was removed with the rongeur forceps. The dura, which now lay exposed from the lower border of the first to the upper border of the sixth vertebra, appeared normal in color; nothing abnormal could be felt on palpation. Pulsation seemed normal, but it was stronger in the upper third than in the lower two-thirds. This extensive exposure of the dura is explained by the circumstance that, having uncovered three cord segments and finding the dura seemingly normal, we believed an error in localization had been made. It was therefore decided to snip off another spine. When consequently the fifth vertebral spine had been removed and the dura still appeared normal, it was thought best to open it and search for the tumor. The patient's head was now somewhat lowered and the dura opened in the median line. Opposite the third dorsal spine a tumor was found lying between the membranes and the cord posteriorly and somewhat to the right. Using the handle of the knife this was easily delivered and the small pedicle broken off. While its exact attachment could not be definitely ascertained, it appeared to spring from the inner surface of the dura. The anesthetist noticed that the pulse, which up to this time had been but little above the normal, suddenly became very fast and difficult to count. The dura was now closed with a continuous suture and the muscles brought together with interrupted catgut sutures, leaving a space for a gauze drain down to the dura at the upper and lower extremities of the wound. The skin was closed with silkworm-gut sutures, a secondary suture being used at each end of the drain. In forty-eight hours one gauze drain was removed and in seventy-two hours the remaining one, secondary sutures being tied after removal of the drains. Aseptic healing throughout.

Pathologic Report.—When examined macroscopically the tumor appeared reddish-yellow, was rather soft in consistency and measured 3 cm. in length, 0.8 cm. in its widest diameter and 0.2 cm. in thickness. The microscopic examination was made by Prof. F. R. Zeit, of the Department of Pathology at Northwestern University Medical School, who kindly reported on the tumor and pronounced it a typical fibromyxoma.

Postoperative History.—Immediately after operation the patient complained of severe pain in the back and over the entire lower half of the body. The pains somewhat subsided after two or three days and then became localized in the back and legs, where they remained for several weeks. Improvement occurred in the following order: Within twenty-four hours after operation the temperature sense showed signs of recovery; it was noted that hot-water bottles applied to the feet caused a disagreeable sensation. In less than a week after the operation the patient experienced a feeling of discomfort from a full bladder. Within two weeks she could distinguish between extremes of temperature. After three weeks painful stimuli, such as pin-pricks, were perceived as disagreeable. Tactile sensation and fine discrimination, as well as correct localization, of touch were very slow in returning. It was probably one year before the patient's sense of position and fine localization of touch were restored to normal. Although perfect recovery of all forms of sensation occurred within the period stated, it was quite different with motion. It will be recalled that the patient was completely paraplegic at time of operation; all motion in legs and toes was entirely abolished. Signs of return of motion appeared about six weeks after opertion. She could then flex the left big toe; somewhat later she gained control over the small toes of the left foot. Slowly and only after many months did a slight degree of motion return in the feet, but the thighs and legs remained spastic. For a long time one could still see the spasmodic movements of the legs on the thighs, which would only with great difficulty be passively extended. This condition gradually improved, but the patient never walked again.

Repeated examinations, made at intervals of three months each, revealed practically the findings as stated.

An examination made Feb. 20, 1909, showed: Good physical condition. Sensation and sphincters perfect. In the sphere of motility considerable improvement was noted; the patient could now use the feet and legs in operating a sewing machine several hours in succession. She was also able voluntarily to flex the legs against the thighs, full length. Flexion and extension of feet and toes could be performed fairly well. With some effort extension of the left leg was possible with the thigh flexed; extension of the right leg with the thigh flexed was only partial. For a few moments she could stand when supported by her upper extremities. She had not attempted the use of crutches because of her present faith in Eddyism, which forbids the use of such physical artificial aids.

Examination on May 22, 1909, yielded practically the same findings as previously. She had been persuaded to try crutches, but they did not sustain her weight, owing perhaps to her inability to extend the legs completely, slight contractures having formed in the knee joints. By means of orthopedic measures I believe her condition may be considerably improved.

REMARKS

The case presented a typical classical picture of intradural tumor in the upper dorsal cord, not unlike the first case with successful operation by Victor Horsley.[1] In that case, however, the neuralgic state was protracted over a period of four years, from 1884 to 1887. In this case the period of root-irritation lasted seven or eight months. The pains, for a time at least, were distinctly localized on the right side, and, as the tumor enlarged in width, pains also appeared on the left side. Eight months later cord symptoms were very much in evidence, and, as in other cases, the most vulnerable motor tracts suffered before the more resistant sensory strands. A further similarity of this case with that of Gowers-Horsley is seen in the fact that the tumor on microscopic examination proved to be a fibromyxoma; but in this case, unlike theirs, the tumor had grown rapidly.

Considering the final outcome, how should this case be classified?

According to Collins,[7] it will have to be classed with the partially successful cases. In Collins' excellent article on spinal cord tumors he notes that an operation is considered successful when there is cessation of pain and recovery of motor power; partially successful when there is relief from pain, cessation of progress of the case, and slight regain of motor power; unsuccessful, when followed by death within a few weeks. This patient showed complete recovery of sensory functions, some regain of motor power and no return of symptoms two and a half years after operation.

Had the case been diagnosed before degeneration occurred in the motor tracts it would in all probability have found a place among the completely successful cases. From the history it is apparent that a positive diagnosis of spinal tumor could have been made at least three months before operation, yet ten weeks had been lost in treating the patient for syphilis. This is all the more regrettable since we know that gumma of the cord membranes is rare, and when found should be treated surgically the same as other tumors.

In a perusal of the recent literature on spinal tumor we discover—in marked contrast with the earlier publications—that cases are now diagnosed and patients operated on much earlier than formerly, with the inevitable result that the percentage of recoveries is becoming larger. Recent conservative estimates place the proportion of partial and complete recoveries after operation at 50 per cent. This has become possible only through the combined efforts of neurologists and surgeons, the former of whom have made spinal localization comparatively easy, while the latter have simplified and improved the surgical technic.

The wide interest which is at present being taken in surgical neurology is largely a result of the awakening to the possibilities of surgery, particularly of the peripheral nerves and spinal tumors. Already in 1895 M. Allen Starr,[8] after analyzing 123 tumors of the cord, argued that an early diagnosis of spinal tumor was possible; that removal could be accomplished without injury to the cord; and that the operation itself was not one of great danger. He considered that in nearly 75 per cent. of cases spinal tumors could be operated on successfully and he expressed the opinion that future statistics should show recovery in a much larger proportion of the cases than they did at that time. Considering that Bruns[9] in 1897 could collect only 20 cases of spinal tumors operated on, and Bregman[10] as late as 1906 could find only 50 cases of operation, it was remarkable that Stursberg[11] in his report could make the statement that up to 1908 he had already been able to collect 119 observations of extramedullary tumors operated on, in which diagnosis was proved either by operation or by autopsy. In the same year E. Flatau and N. Zylberblast,[12] who conjointly reported a case, estimated the total number of published cases of extramedullary tumor with operation to be 136, of which number 106 were intradural or extradural tumor, while 29 were cases of tumors originating from or extending to the vertebræ. It is noteworthy that Schultze[4] alone in 1907 could report on 14 cases with operation, in which number 6 patients made perfect recoveries and 2 showed improvement. Oppenheim[5] in the same year reports practical recovery in 4 out of 9 cases with operations in which he had made a correct localizing diagnosis.

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[7] Collins, J.: Spinal Cord Tumors, Med. Rec., 1902, p. 882.

[8] Starr, M. Allen: Tumors of the Spinal Cord, Am. Jour. Med. Sc., 1895, p. 614.

[9] Bruns: Die Geschwülste des Nervensystems, 1897.

[10] Bregman: Ein Beitrag zur Klinik und zur operativen Behandlung der Rückenmarksgeschwülste, Deutsch. Ztschr. f. Nervenh., 1906, xxxi, 68.

[11] Stursberg: Die operative Behandlung der das Rückenmark und die Cauda comprimirenden Neubildungen, Centralbl. f. d. Grenzgeb. d. Med. u. Chir., 1908, Nos. 3 and 7.

[12] Flatau, E. and Zylberblast, Frl. N.: Beitrag zur chirurgischen Behandlung der Rückenmarkstumoren, Deutsch. Ztschr. f. Nervenh., 1908, xxxv, 334.

In spite of the great activity displayed in this branch of surgery during the last ten years, the total number of cases with operations up to date has not exceeded 150. And of this number the percentage of recoveries has only risen in the hands of the most expert surgeons when working conjointly with neurologists.

As for the total number of complete recoveries in cases with operation, Harvey Cushing,[13] who reports a case of his own with complete recovery, in 1904, could find only 10 other successful cases. But already in 1908 R. T. Williamson[14] found 51 published cases of meningeal spinal tumor in which operation was successful and had been followed by complete or almost complete recovery from spinal symptoms.

Several reasons have been advanced for the few recoveries so far recorded. One is that spinal tumor is not always easy to diagnose and localize; a failure to find the tumor usually means death by further inaction. A second important cause for failure is the discovery on the operating table that a correctly localized tumor is inaccessible, hence irremovable, as are most intramedullary and vertebral tumors. And, last but not least, the danger to life during and after operation is still great. While, therefore, by no means underestimating the dangers and pitfalls of surgical interference I am in thorough agreement with those who recommend exploratory laminectomy even in those instances in which the diagnosis is only probable. There should be less unwillingness on the part of the patient to consent to an operation if he is told that inaction will almost invariably destroy his life.

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ABSTRACT OF DISCUSSION

Dr. Pearce Bailey, New York: I think we have a good many lessons yet to learn in the surgical treatment of spinal cord tumors. If one reads the list of cases in which the patients were successfully operated on, and those in which the operation has not been successful although the tumor has been found, the conclusion is inevitable that we ought to have a very much higher percentage of cures in these cases than we have at present. Many patients die of shock and sepsis and, I believe, from loss of cerebrospinal fluid. I am much in favor of doing operations in spinal cord tumors with the patient's head down, so that the loss of cerebrospinal fluid can be controlled. In a patient operated on in St. Luke's Hospital a short time ago, by Abbe, the tumor was found where we thought it would be. The operation was skillfully performed. There is no better operator for spinal cord tumors than Dr. Abbe; the operation took only 40 minutes; there was no hemorrhage, no infection, and yet there was considerable loss of cerebrospinal fluid. The operation was done on a horizontal table. Within a few hours the temperature began to rise and rose steadily to 103 degrees and 105 degrees, and within about 18 hours after the operation the patient died with a temperature of 107 degrees, with absolutely no infection and no cause discoverable except the loss of cerebrospinal fluid. I think this operation is a grave and serious one and very hazardous to life, and I think it should be undertaken with every precaution.

Dr. Grinker says that the surgeon in his case started by taking out 5 laminæ. I do not see any reason for that. I try to get the surgeons who operate for me to limit themselves in the start, if they will trust my localization, to two laminæ. And then it is easy enough to take out others if necessary. At first remove two laminæ, and then examine, and possibly the tumor will be found in one extremity. Then it is time enough to take out the extra lamina; and 3 is generally enough for the expression of the tumor. I think it is very important, because many patients die of shock, and the operation should be limited to as small an area and done as quickly as possible. In regard to localization I have found useful in the dorsal region Horsley's old rule of 10 cm. above the superior line of anesthesia, however slight the anesthesia may be. We seldom find in spinal cord tumors the profound anesthesia we find in transverse lesions from other causation, and consequently I take as my limiting line the slightest blunting of anesthesia. I think also that we should not refuse this operation simply because we are unable to decide whether the tumor is in the vertebræ or extradural or intradural, or even intramedullary. I know of no absolute means of deciding definitely on any one of these conditions. Thermoanesthesia is no index. Over and over again, meningitis, tumors of the vertebra and tumors of the membranes have caused dissociation of anesthesia. I have seen many operations given up because the anesthesia was disassociated. I think it is a mistake. Even if exact localization can not be made I think the operation should be undertaken promptly and independently of the situation of the tumor with reference to the cord.

Dr. Max Mailhouse, New Haven: I want to endorse Dr. Bailey's statement with regard to the dissociation of sensation being due to spinal cord or spinal tumors. I recently had a case of recurrent carcinoma about and in the spine, which resulted in the spine forming a knuckle and pushing the cord to one side, in the middle cervical region, in which an early symptom was disassociation of sensation in addition to severe pain and marked spasm of the muscles, so intense that the case at first resembled a case of spondylitis; but one of the early symptoms, as I said before, was disassociation of sensation; and this disassociation, preservation of tactile sense, with diminution of pain and temperature sense, was very striking in this case.

Dr. Charles W. Hitchcock, Detroit: I recall an interesting case which was presented to the Detroit Neurological Society last November by Drs. Inglis of Detroit and Klingmann of Ann Arbor, the findings of Dr. Inglis, who had seen the case, not being known to Dr. Klingmann. Dr. Klingmann accurately diagnosed the segments involved and the position of the tumor, and it was my good fortune to be present a week later at the operation performed by Dr. Max Ballin of Detroit. As in the case reported, too low a laminectomy was made in the hope of finding the tumor lower down, neglecting Chipault's rule of subtracting two from the determined segment, in the upper dorsal region, to find the exact spinal vertebra. The tumor was found just as Dr. Klingmann had diagnosed it, involving the sixth, seventh, and eighth dorsal segments. The tumor was removed, the patient did well, and the sensory and motor symptoms were both very much improved at the last report.

Dr. M. Allen Starr, New York: My experience in spinal cord tumors is quite extensive, and I consider the diagnosis a comparatively easy one. I think that the typical symptoms appear so definite and distinct in these cases that there is hardly any danger of mistaking them for anything else. Early operation is essential and in two cases recently the question of whether the patients were syphilitic was decided by the Wassermann test. Finding the cerebrospinal fluid and blood absolutely negative, we avoided the supposed necessary delay of attempting to use mercury and iodid, as has been done so often. In my last case I first saw the patient on Saturday afternoon and the operation was done the following day. The tumor was found. The patient is recovering nicely and regaining power over and control of bladder and rectum that were absolutely lost when I saw her. The paraplegia is passing off. The excessive pain is, of course, the very most important symptom in these cases. I know of absolutely no condition resembling it in all respects except caries of the spine, and that, of course, can often be ruled out by physical examination, or certainly by an *x*-ray examination.

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[13] Cushing, Harvey: Intradural Tumor of the Cervical Meninges, Ann. Surg., 1904, xxxix, 934.

[14] Williamson, R. T.: Diseases of the Spinal Cord, 1908.

The point is well taken by Dr. Bailey that the success in the operative interference with these tumors depends, first, on the avoidance of shock; secondly, the avoidance of hemorrhage; thirdly, the rapidity of the operation, and, fourthly, the limitation of the operation, so far as possible, to the essential parts. There is absolutely no necessity of making very large incisions in these cases. Horsley has laid down a reliable guide: it consists of measuring 4 inches above the level of the upper faintest trace of sensory disturbance, and by that I think the sensations should be tested always from below upward. I wish to make it very clear that a patient who is tested from above downward does not notice the little disturbance of sensation, a little loss, as you go down, but a patient with a disturbance of sensation if you get to the lower part and come up will immediately notice the improved sensation; 4 inches above the upper line you are pretty sure to find your tumor. Therefore, I think two laminæ are ample, the surgeon always having made his preparations to lay bare the lamina above if he fails to find the tumor under the two laminæ that are taken out. The tumor can not be taken out by simply dividing one lamina; two must be removed in order to give room for the enucleation of the tumor. So far as I have seen, these tumors have to be carefully elevated and enucleated in their removal. It seems to me that the prognosis in these operations is constantly becoming better.

Dr. Julius Grinker, Chicago: Much as we may dislike it, surgeons are still laboring under the antiquated idea that myelitis is largely syphilis of the cord, and not until they have subjected the patient to a course of rigorous antispecific treatment do they decide to operate. I believe that we should urge exploratory laminectomy in suitable cases, and that we should discourage the routine administration of antisyphilitic remedies, which are useless in spinal tumor and merely permit irreparable damage to be done to the cord structures, as in the case which I reported. I fully agree with Dr. Bailey that as few laminæ as possible should be removed, but certain exigencies will necessitate the removal of several laminæ. I think the danger from loss of support to the spinal column has been exaggerated. In my case four laminæ were removed, yet there is not the slightest sign of wakening in the spinal column.

THE ENDOMETRIUM AND SOME OF ITS VARIATIONS*

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AND
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It is surprising to note how few sharply defined and generally accepted facts have been crystallized out of the great amount of work which has been done on the histology and pathology of the endometrium. The numerous classifications of endometritis, for example, are ample evidence that none is entirely satisfactory, while some, as a matter of fact, are little short of absurd. Particularly unfortunate have been the attempts to classify endometritis along clinical lines, and it seems to have been decided that the most satisfactory or, at any rate, the least unsatisfactory basis for classification is a histologic one.

In this brief communication we propose first to present the results of our studies on the normal histology of the endometrium, with especial reference to the modifications thereof which are associated with the menstrual cycle. It is not our intention to take up a consideration of the various diseases of the endometrium, except in so far as our conception of these diseases may be influenced by our knowledge of normal variations in the structure of the uterine mucosa.

Our general study is based on the microscopic examination of the uterine mucosa from over 200 cases in the gynecologic clinic of the Baltimore City Hospital during the past three years. In the majority of these cases the mucosa was obtained by curetting, in a smaller number by extirpation of the uterus for one reason or another. In all cases the material was fixed immediately after removal, and the stain employed, with few exceptions, was the ordinary hematoxylin-eosin method.

In order to study the menstrual phenomena there was selected from the entire number of cases a series of 50 in which an accurate record of the menstrual history was available, including the date of the menstrual onset and usually of the termination of the period preceding the operation. In some of this group the material was obtained by routine curetting in connection with plastic operations of one form or another, there being no evidence of uterine disease. In other cases the mucosa was obtained from cases complicated by various associated conditions, such as myoma, salpingitis, displacement, etc., although no case was admitted to the series unless the regularity of the menstrual cycle was undisturbed.

In the main, therefore, the conditions surrounding our work have been similar to those under which was carried on the valuable work of Hitschmann and Adler,[1] to which we shall have frequent occasion to refer.

In order to appreciate the change which recent investigations have produced in our conception of the normal structure of the endometrium one need only read the descriptions contained in the various text-books of gynecology and anatomy. In the usually accepted sense the endometrium is the corporeal portion of the uterine mucosa, i. e., the portion above the level of the internal os. It is usually described as consisting of a surface epithelium, glands, and an interglandular tissue or stroma. The epithelium is of the ciliated columnar variety, differing from that in the cervix in that the cells are not so tall and slender, that the nuclei take on a paler stain and are situated near the center of the cells instead of near the basement membrane, and that the protoplasm takes on the eosin stain, while that in the cervix not infrequently takes a pale hematoxylin stain on account of the excessive amount of mucus which it contains. The glands are described as being of the simple or branched tubular variety, being lined by epithelium continuous with and similar to that of the surface. The stroma, according to most authors, consists of a delicate reticular network of fibrillar connective tissue containing in its meshes large numbers of round, oval, or spindle-shaped cells. At the present time there is no unanimity of opinion as to the exact nature of the stromal tissue. Nagel[2] and Waldeyer[3] believe it to be of a lymphoid type and compared it to the stroma of the intestinal mucosa. Leopold[4] regarded it as a spread-out lymph gland (*Lymphdrüsenfläche*), while Johnstone[5] believes that it is of an adenoid type. Most of the best authorities, however, accept the view of Minot, that the stroma is merely a form of embryonic connective tissue, and this is probably the correct one.

From a physiologic standpoint the endometrium bears an important relation, whether active or passive, to the function of menstruation, and it would be interesting, if time permitted, to trace the various views which have at different times been held as to the changes which take place in the endometrium at the time of menstruation.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Monatsh. f. Geburtsh. u. Gynäk., 1908, xxvii, 1.
[2] von Bardeleben: Handbuch der Anatomie des Menschen.
[3] Quoted by Williams: Text-Book on Obstetrics.
[4] Arch. f. Gynäk., xi.
[5] Brit. Gynæc. Jour., November, 1886.

Unfortunately, up to recent years, the extent of these changes had been gauged largely by the comparative study of menstruating and non-menstruating uteri, and there had been no systematic effort to study the histologic structure of the endometrium from the beginning to the end of the menstrual cycle. Within the past few years, however, an important contribution to our knowledge of this subject has been made by Hitschmann and Adler,[1] whose work bids fair to revolutionize our former ideas of the histology and pathology of the endometrium. These observers, after a painstaking study of the uterine mucosa from fifty-eight women at various periods of the menstrual cycle, found that the endometrium, from the cessation of one menstrual flow to that of the next, presents a constantly-changing histologic picture. This cycle of changes they divide into four phases: postmenstrual, interval, premenstrual, and menstrual.

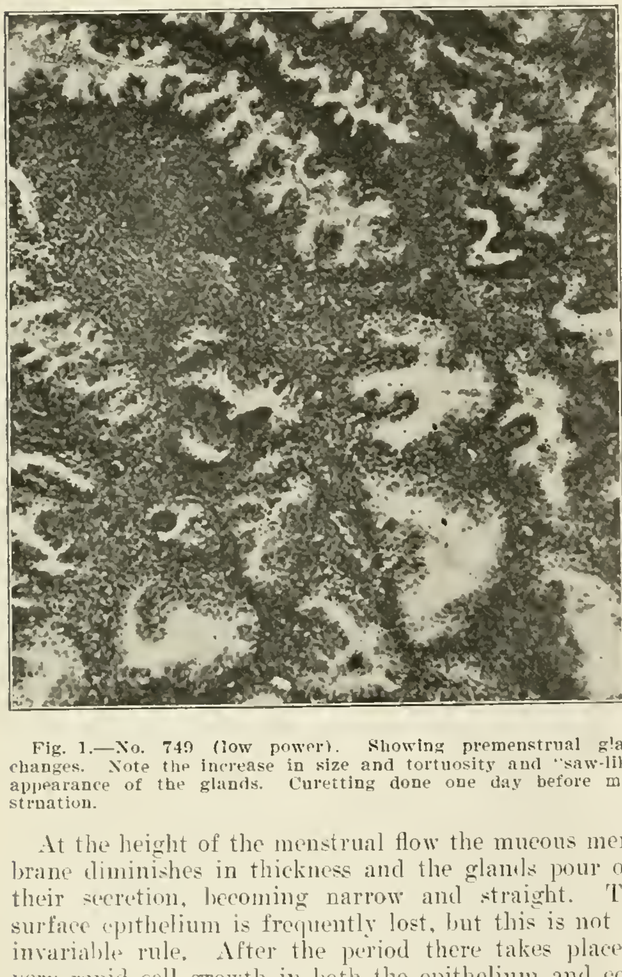

Fig. 1.—No. 749 (low power). Showing premenstrual gland changes. Note the increase in size and tortuosity and "saw-like" appearance of the glands. Curetting done one day before menstruation.

At the height of the menstrual flow the mucous membrane diminishes in thickness and the glands pour out their secretion, becoming narrow and straight. The surface epithelium is frequently lost, but this is not an invariable rule. After the period there takes place a very rapid cell growth in both the epithelium and connective tissue. The glands become larger and wider, although still quite narrow and straight. The epithelium is low and in a condition of rest. By about the fifteenth day the cell growth of the epithelium has progressed to such an extent that the glands become somewhat tortuous, and often assume a spiral or corkscrew-like appearance. Finally, six or seven days before the beginning of menstruation, the glands rapidly enlarge and become tortuous, the cells bulge into the lumen, the epithelium becomes higher and broader, and the lumen is filled with a mucous secretion. These gland changes are much more marked in the deeper portion of the mucosa than in the superficial, so that there is produced a well-marked differentiation into a superficial compact and a deep spongy layer. In this respect there is a marked similarity to the appearance of the young decidua, the resemblance being increased by the fact that the interglandular stromal cells in many cases assume an appearance very similar to or approaching that of decidual cells.

The important work of Hitschmann and Adler has attracted a great deal of attention, and already a number of articles, mostly confirmatory, have been published on the subject. From our own study of the fifty cases selected for this purpose we have been able to convince ourselves of the correctness, in the main, of the conclusions arrived at by Hitschmann and Adler. In our series of 50 cases we found that from a histologic standpoint 13 were to be classified as belonging to the premenstrual group. All of these 13 showed a marked increase in the size and tortuousness of the glands, some exhibiting a high degree of "papillary" formation, others presenting the less advanced saw-like appearance. In 10 of these cases the mucous membrane had been removed at short periods before the beginning of menstruation. In 5 cases the interval was one day (Figs. 1 and 2), and in the other 5 cases it was three, four (Fig. 3) six, seven and nine days respectively. The remaining 3 of the group of 13 cases which exhibited the so-called premenstrual glandular changes are especially interesting in that in all of them operation had been done at a period quite remote from the menstrual period. In one specimen (Gyn. Path. No. 262) the curetting had been performed eight days after menstruation and yet there were many hypertrophic glands throughout the section. As a whole the specimen was not absolutely typical of the premenstrual period, but in certain fields the appearance was quite characteristic. The other two specimens (Gyn. Path. No. 611 and Gyn. Path. No. 717, Figs. 4 and 5) were obtained eleven and ten days respectively after menstruation, and in both the glands presented very decided hypertrophic changes, Gyn. Path. No. 611 especially being typical in every

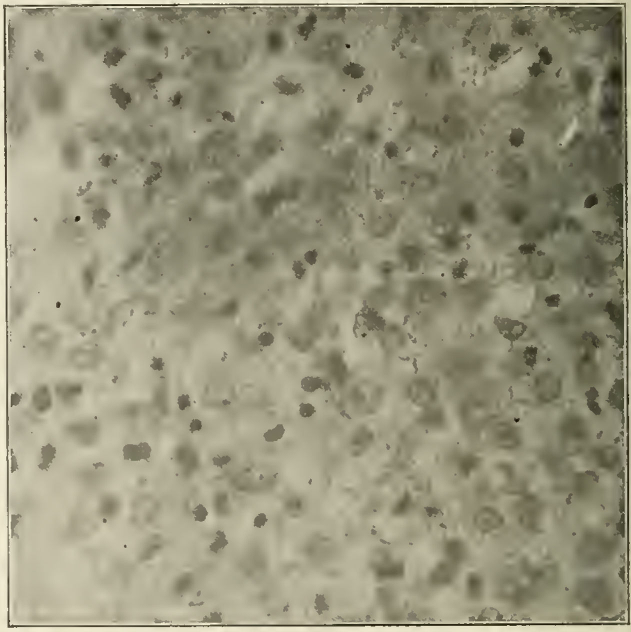

Fig. 2.—No. 57 (high power). Showing decidual transformation of the stromal cells. Curetting done one day before menstruation.

way. Of these three typical cases Gyn. Path. No. 262 was complicated by laceration and hypertrophy of the cervix, a moderate prolapse of the uterus and a small myoma. Gyn. Path. No. 611 was associated with a unilateral salpingitis and Gyn. Path. No. 717 with a laceration of both cervix and perineum.

The fact that premenstrual changes are found at a period so remote from the menstrual epoch, as in these cases, might perhaps be explained on the assumption of an individual peculiarity—as perhaps indicating an unusually early appearance of the glandular changes of the premenstrual period. This seems to us, however, as little more than an evasion of the question, and we feel that a simpler and more plausible explanation can be invoked. In view of the fact that the menstrual process, whatever its underlying cause may be, has as its most striking phenomenon the vascular changes in the reproductive organs, it is not unreasonable to assume that the constantly changing histologic picture in the endometrium is only a result of the influence of the increased blood suply on a very susceptible and readily-reacting tissue. The interesting experiments of Federn[6] and others have shown that the blood pressure of a woman reaches its maximum at the premenstrual period, the onset of menstruation being characterized by a rapid fall, after which the pressure rises gradually again to its high point at the next premenstrual period. The blood-pressure curve is therefore parallel with the histologic changes, and it is only natural to suppose that the latter may be largely influenced by the variations in the blood supply of the pelvic organs at different phases of the menstrual cycle. It seems logical to believe, however, that while the normal physiologic stimulus for the hypertrophy of the uterine glands is supplied by the hyperemia of the menstrual process, the artificial stimulus furnished by a pathologic hyperemia may also produce a greater or less degree of such change. The finding of marked hypertrophy of the uterine glands at other than the premenstrual period may thus be explained, although the factor of individual susceptibility must after all play an important part, for the occurrence of hypertrophied glands even in cases characterized by prolonged pelvic congestion is by no means constant.

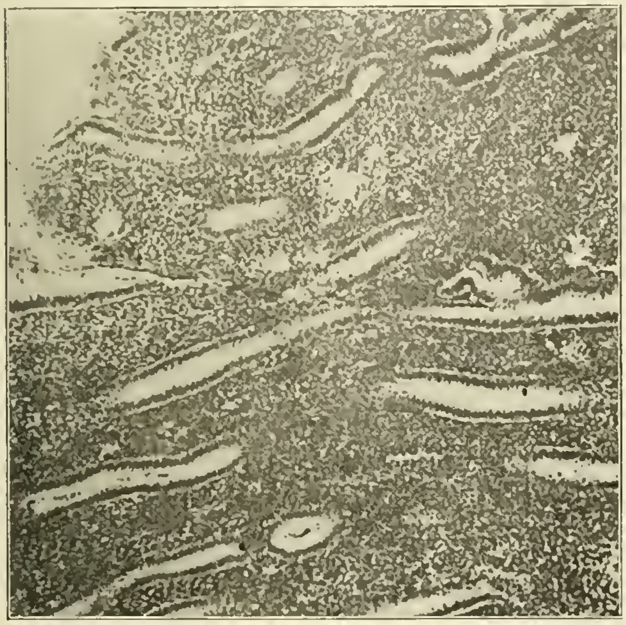

Fig. 3.—No. 647b (low power). Showing the straight collapsed glands of the post-menstrual period. Curetting done four days after menstruation.

Hartje[7] has recently employed the term "*subinvolutio mucosæ menstrualis*" to indicate the persistence of premenstrual glands for the first few days of the regeneration period. This, he suggests, may be due to a deficiency of the retrogressive changes normally occurring in endometrium after the onset of menstruation. We believe that he is correct in his opinion that the occurrence of the premenstrual picture in the period of from nine to fourteen days after menstruation is to be regarded as certainly pathologic.

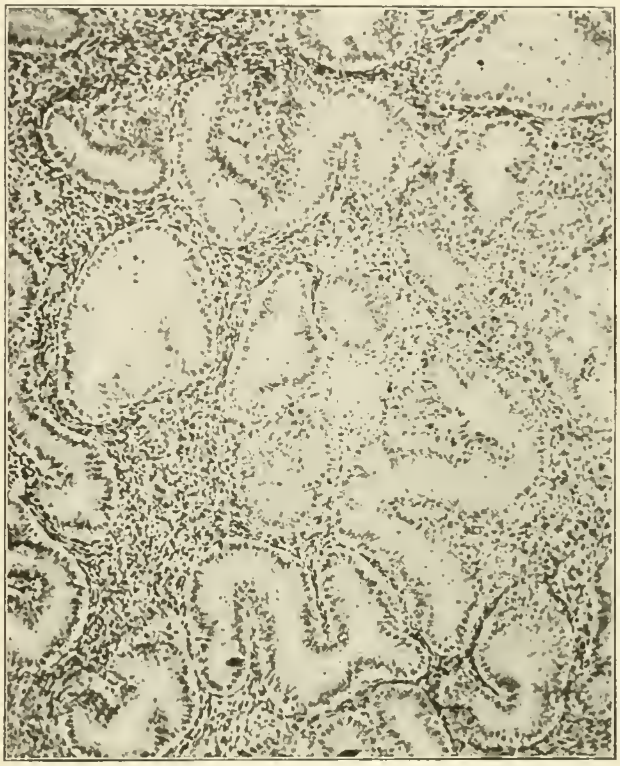

Fig. 4.—No. 611 (low power). Showing so-called premenstrual gland changes at a period eleven days after menstruation. Clinical condition, unilateral salpingitis.

Shickele,[8] in a recent article, also asserts that marked gland changes may occur without any relation to the menstrual process, as a result of uterine disease, adnexal affections, and displacements. In a rather large series of cases characterized clinically by bleeding (menorrhagia or metrorrhagia) in which it was difficult or impossible to determine the menstrual dates, we found marked glandular changes in a considerable number. Concerning this series we hope to report more fully at a later date. Kubo[9] likewise found gland hypertrophy, often very marked, in twelve of the ninety-nine cases of menorrhagia and metrorrhagia.

Whatever the explanation of the occurrence of gland changes under such circumstances may be, therefore, there seems to be no doubt that they may occur, and whether we characterize such changes as glandular hyperplasia or glandular endometritis, their pathologic nature should be recognized. The old rule of Gebhard, that the glands should be considered abnormally numerous if the distance between them is less than four or five times the diameter of the glands, is a very misleading one, for there are marked normal differences in different mucosæ in this respect. Moreover, in the examination of curettings, the microscopic appearance as to this point varies in different portions of the endometrium, and even more at different depths of the mucosa.

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[6] Blutdruck und Darmatonie, Vienna, 1894; quoted by Hitschmann and Adler.

[7] Monatsh. f. Geburtsh. u Gynäk., 1907, xxvi, 15; Zentralbl. f. Gynäk., 1907, xxxi, 1465.

[8] Beitr. z. Geburtsh. u. Gynäk., 1909, xiii, 358.

[9] Am. Jour. Obst., 1908, lvii, 675.

When one considers the individual variations in different women, with regard to the duration and amount of the menstrual flow, it is only natural that there should also be rather wide variations in the degree of gland change, exhibited at the premenstrual period.

As Hartje has pointed out, there is a gradual progression from the straight collapsed gland of the premenstrual period to the gland type of maximum differentiation—the gland with papillary outgrowths and secondary alveoli. In the most marked cases the glands of the deeper layer are markedly widened, the stroma is diminished so that the glands are almost in contact, and the epithelium is swollen with secretion. Many of the glands show well-marked papillary projections into the lumen, or in the less marked cases take on merely a saw-like appearance *(sägeförmige Drüsen)*. Such glands as these were at one time considered pathognomonic of pregnancy (Opitz[10]), although the recent investigations of Hitschmann, Leitz,[11] Schwab[12] and others have shown clearly that this is not the case. The last named observer, for example, in an examination of a series of 41 curettings, found Opitz's "pregnancy" glands in 5 women, and, of these 5, only 1 was pregnant, the other 4, however, having a definite relation to the menstrual process—3 premenstrual and 1 menstrual. We have repeatedly seen such glands in the premenstrual mucous membranes of non-pregnant women. According to Hartje, the maximum gland changes, with papillary formation, etc., are seen in about one-third of the cases, the remainder showing merely the tooth-like or saw-like appearance characteristic of less advanced stages.

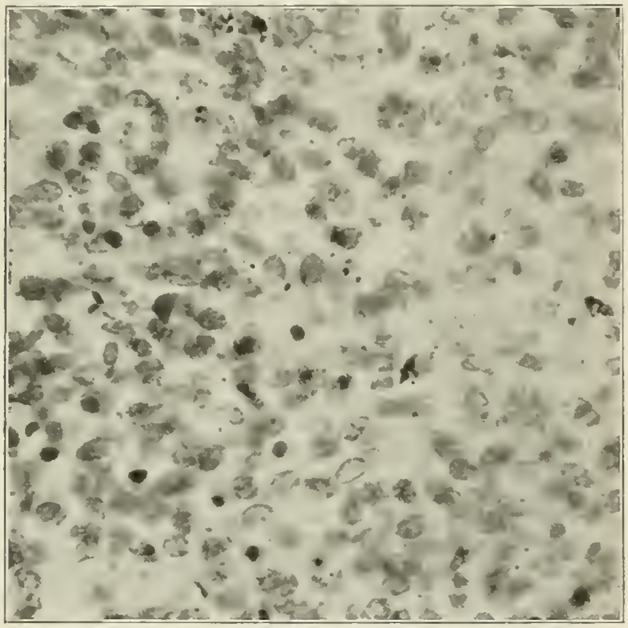

Fig. 5.—No. 717 (high power). Showing decidual transformation of cells at a period ten days after the menstrual period. Clinical condition, laceration of the cervix and subinvolution.

No less interesting than the gland changes of the menstrual cycle are those which take place in the interglandular substance or stroma. As already mentioned, Hitschmann and Adler found that in many cases the stromal cells assume an appearance so like that of decidual cells that there is no possibility of distinguishing them. When one considers that the decidual cell of pregnancy, according to the generally accepted opinion of the present day, is merely the overgrown stromal cell of the endometrium, such findings can scarcely be wondered at. It was Ruge (1880) who first stated that decidual cells may occur entirely independently of pregnancy, but it was not until recent years that the full significance of this view has come to be recognized.

In our series of 50 cases there were 4 in which the decidual modification of the stroma cells was sufficiently marked to be conspicuous. All of these occurred among the group of 13 cases in which the glands exhibited premenstrual changes. Among them, however, was one (Gyn. Path. No. 717), already alluded to, in which operation was done only ten days after menstruation, so that from this it would seem that other influences than normal menstruation may perhaps be capable of producing a decidual modification of the stromal cells.

A number of observers, notably Löfquist,[13] have found decidual cells present to a more or less marked degree independently of pregnancy, in association with such conditions as adnexal disease, tumors, displacements, etc. In most cases, unfortunately, the value of such observations is lessened by the failure of the authors to recognize the possible influence of menstruation in producing a decidual modification of the stromal cells. In a few of the recent reports, such as that of Goodall, however, this possibility seems to have been borne in mind, and it is quite probable that the stromal changes, as well as the gland changes, may be brought about by various conditions other than normal menstruation, such as inflammatory disease, displacements, tumors and tuberculosis. This would seem to be in keeping with the biologic law that the natural result of over-nutrition of tissue is overgrowth.

As in the decidua of pregnancy, the stromal changes of menstruation are seen most conspicuously in the superficial compact layer of the endometrium, these changes being just as characteristic of the premenstrual period as are the glandular phenomena already described. Like the latter, they reach their highest development just before the beginning of the menstrual period. According to Hartje, the decidual-like cells (*decidua-ähnliche Zellen*) are seen in about one-third of the premenstrual cases. All stages of development are seen, from the normal stroma cell, which contains practically no protoplasm, to the typical decidual cell with its large oval nucleus surrounded by a well-marked protoplasmic area.

Even those who maintain that there is an essential difference between the decidua-like cells of menstruation and the true decidual cells of pregnancy have not been able to define wherein the difference lies. The conclusion is forced on us that the modified stroma cells of menstruation (*Uebergangzellen*) are simply different stages in a series in which the true decidual cell represents the maximum development. As Löfquist says, all the commonly observed changes in the endometrium may be regarded as the response of tissue to stimulation —as varying degrees of what has been called the "decidual reaction."

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[10] Ztschr. f. Gynäk., xlviii.
[11] Ztschr. f. Gynäk., l.
[12] Ztschr. f. Gynäk., 1904, p. 1425.
[13] Zentralbl. f. Gynäk., 1901, xxi, 552.

Such observations as these throw a new light on the question of membranous dysmenorrhea. We have in our work observed two cases in which the membrane expelled from the uterus on microscopic examination showed the presence of characteristic decidual cells, even though, in the light of the clinical history, there was little or no possibility of pregnancy. Many similar cases have been recorded, and, with our knowledge of the extent of the menstrual phenomena in the endometrium, they are not so difficult to explain. Such cases are no doubt due to a throwing off of the superficial layers of the endometrium at the menstrual period, in a manner analogous to the expulsion of a true decidua. The exact cause and the mechanism of the process are still uncertain. The fact that dysmenorrhea membranacea is associated with an extensive shedding of the endometrium would not, however, seem to be a justification for the generalizing assertion advanced by some that such a loss of tissue is the rule in normal menstruation. The early writers, especially Kundrat,[14] believed that menstruation is attended with such extensive or even complete loss of mucosa, but the investigations of Gebhard and others seemed to demonstrate that, as a rule, there is very little loss of tissue during the process. More recently Hitschmann and Adler,[15] Ehrenfest,[16] and others have asserted that the views of Gebhard are not correct, and that there is often a considerable loss of substance during menstruation. The question, however, is still far from being definitely settled, and it is probable that there are marked individual variations in different cases.

The important bearing of this knowledge of the histologic changes corresponding to the various phases of the menstrual cycle can scarcely be overestimated. It at once places an interrogation mark after such terms as endometritis glandularis hypertrophica and endometritis glandularis hyperplastica, and deals a final blow to the early belief in the pathognomonic importance of the decidual cell in the diagnosis of pregnancy. While we are convinced of the correctness of the observations of Hitschmann and Adler on the changes which take place in connection with the menstrual cycle, we feel that their division of the cycle into phases is too schematic for ordinary use, and we do not believe that, as these writers assert, the changes characteristic of the various phases are so sharply defined that the time relation of the endometrium to the menstrual process can be determined from the microscopic picture "with accuracy and often to the day."

Finally, from the study of our own cases and from the reports of other authors, we believe that Hitschmann and Adler have taken an extreme view in practically asserting that glandular changes do not occur except in connection with the menstrual process. Both animal experimentation and clinical observation indicate that the actual underlying cause of menstruation is the secretory activity of the ovary, which produces an internal secretion or hormone essential for its occurrence. The principal effect of this substance seems to be of a vasomotor nature, and is exerted especially on the pelvic blood vessels. It is only natural to suppose that the endometrium plays a purely passive rôle in this phenomenon, and that the histologic changes observed in connection with menstruation represent merely the reaction of the endometrium to the process—a reaction which may, however, be elicited by other influences than that of normal menstruation.

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ABSTRACT OF DISCUSSION

Dr. Henry O. Marcy, Boston: Twenty years ago I translated the works of Prof. G. B. Ercolain of Bologna, Italy, who commences his studies in the lower animals, showing that nature during the whole reproductive life is making ready for the continuation of the species. His work shows clearly from his standpoint that there is a process in every menstruation leaving a new mucous membrane with a new possibility of a reproduction of a new material for the development of the species, and that only in this way is impregnation possible. The placenta, in all animals, including the human species, consists of two distinct, fundamental parts, the fetal portion being vascular and absorbent, the maternal, glandular and secretory. In no case do the vessels of the mother anastomose with the vessels of the fetus. The transformation which the uterine mucous membrane undergoes during pregnancy produces the neoformation of a transitory glandular organ of secretion, constituting the material part of the placenta.

Dr. John G. Clark, Philadelphia: It is gratifying to know that laboratory workers in America have taken up the interesting studies of Adler and Hitchens for verification or elaboration. Three years ago this section appointed a committee whose duty it was to offer a simplified nomenclature for endometritis. Great difficulty was encountered in arriving at conclusions, either from the clinical or histologic standpoint, for each writer was inclined to base his nomenclature on personal observations rather than on a uniform conception of this subject by the clinician and histologist. In the light of present investigations it is apparent that this failure in unanimity of opinion is due to the fact that the cyclic changes of the endometrium incident to the menstrual epoch were not then recognized. According to the investigations of Adler and Hitchens, which apparently Drs. Gardner and Novak have largely sustained, the tiny uterine glands, which are collapsed and almost straight immediately after menstruation, go through a definite evolutionary process, during which they increase in size, capacity, and histologic hypertrophy. In view of these cyclic changes it is evident that many of the discrepancies which have been noted by various histologists may be ascribed to the difference in the size and constituence of the glands during the twenty-eight day epoch. Many clinicians have looked askance at a histologic diagnosis, particularly when their clinical sense has been opposed to malignancy. I have always taken the ground that a careful clinical diagnosis is worth more than an inefficient histologic study, especially if the microscopist is not particularly skilled in this special line of pathology. I am sure that many uteri have been removed under the suspicion of malignancy in cases in which what was taken for hypertrophy of the glands or early malignancy was merely due to physiologic changes.

Clinically, therefore, I am sure that this most interesting study, which has been so well presented by Drs. Gardner and Novak, will have a very beneficial effect in the further histologic simplification of the changes in the endometrium. If the microscopist takes into account these changes, and if we, as clinicians, are careful to indicate to him the date of the operation as related to the last menstrual period, we will not lay him open to the error of sending back word to us that the glands are hypertrophied or suspicious of malignancy, when they are merely undergoing physiologic changes. The classification of endometritis will also be greatly simplified and placed on a more scientific basis by these careful studies.

No Medicine Ads in Street Cars.—The New York City Car Advertising Company, which has control of advertising space in the New York City surface cars, has announced that no "patent medicine" or cure advertising will be accepted. This item is respectfully referred to those newspapers which continue to carry in their columns the advertisements of the "master specialists" and others of like ilk, which are manifestly calculated to deceive and defraud their readers.—*Bulletin of Illinois State Board of Health.*

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[14] Med. Jahrb., Vienna, 1873.
[15] Monatschr f. Geburtsh. u. Gynäk., 1908, xxvii, 200.
[16] Am. Jour. Obst., 1908, lxlii, 412.

MYIASIS INTESTINALIS DUE TO INFECTION WITH THREE SPECIES OF DIPTEROUS LARVÆ*

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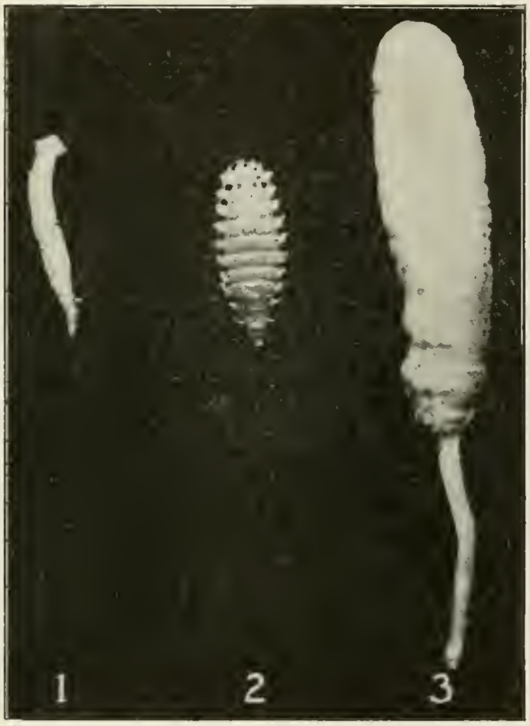
Infections of man by the larvæ of dipterous insects (myiasis) are very infrequent, although such infections have been known to occur since the early history of medicine. Gilbert[1] reviews the history of infections of this kind in a recent article and calls attention to some of the earlier observations.

Myiasis occurs both within the body and on its external surfaces. Thus we have myiasis interna and myiasis externa. In the former should be included those cases in which the fly larvæ invade the dermis and subcutaneous tissues (myiasis hypodermatis) and those in which they invade the intestines (myiasis intestinalis). In the latter should be included those cases in which the larvæ invade wounds and open abrasions of the epidermis and dermis (myiasis dermatosis).



Larvæ isolated from case of myiasis intestinalis; (1) *Musca domestica;* (2) *Anthomyia canicularis;* (3) *Eristalis tenax.*

REPORT OF CASE

The case which we report is one of myiasis intestinalis from which three separate and distinct species of larvæ were isolated and is the only one in medical history, as far as we can determine, in which a mixed infection has occurred.[2]

History.—Mrs. McL., native of Ohio, resides on a farm, widow, mother of ten children. With the exception of two, all her children are deceased, some dying of infantile infections and two in later life of tuberculosis. The patient was in good health until the age of 57 (fifteen years ago), when she developed an acute catarrhal gastritis. The gastric trouble has since persisted. The patient has been under medical treatment almost continually since. At the age of 65 she began to pass "millions" of small green larvæ and a smaller number of white jointed larvæ which, the patient states, are similar to those recently passed. This attack of myiasis lasted about one year and the patient noticed nothing more of the larvæ until the age of 70 (two years ago), although there was no improvement in her health. She became very much emaciated during this period of five years. The larvæ have been intermittently passed in large numbers during the last two years and still persist. The patient noticed that during the last two years much larger organisms were passed in addition to those noted five years previous. She describes these organisms accurately and states that they are frequently twice the size of those which we have recently obtained. The patient states that she has had a continual feeling of distress in the abdomen since the attack of gastric trouble at the age of 65. The abdomen frequently becomes distended and colicky pains in the epigastrium have occurred at irregular periods. The larvæ, she states, are usually passed in a watery discharge and few, if any, have ever passed in the ordinary stools. Attacks of nausea and vomiting have occurred at irregular intervals since the gastric disturbances at the age of 65. She has never observed any of the larvæ in the vomit. The patient states that at the age of 65 her weight was 180 pounds. She does not associate the infection with the eating of any food and states that she always eats thoroughly cooked and fresh food. She states that the water which she has used has always been pure well-water. The surroundings of the home of the patient show nothing more insanitary than is usually noted about the average farm. Manure piles and flies are abundant.

Present Condition.—The patient, aged 72, weight 90 pounds, is distinctly neurotic, anemic and much emaciated. The abdomen is slightly distended and tender on deep pressure. The patient states that there is a constant ache throughout the abdomen. The pain seems to be partially localized in the epigastrium. Occasional colicky pains occur. The patient is constipated and does not have intestinal passages unless induced by cathartics. For this purpose she has used Epsom salts almost exclusively. At irregular intervals she passes large numbers of larvæ (250 to 500 c.c. fluid containing as many larvæ as possible). The larvæ are not passed in the usual stools but in a watery discharge. The patient states that a great amount of abdominal pain precedes the passage of the larvæ. Cathartics and aperients have failed to eliminate the larvæ from the intestines. Examination of the circulatory system shows a well-marked mitral lesion and rather advanced arteriosclerosis. The respiratory system is negative except for a slight nervous dyspnea; respirations, 25; pulse, 90. Genito-urinary system and urine are negative. The patient is easily nauseated and frequently vomits. She is confined to her bed the greater part of the time and is quite weak. The appetite is absent and the diet almost entirely liquid. Well-marked mental abberrations in regard to the activity of the larvæ within the intestines are noted.

Parasites.—The larvæ which we have examined, some of which were still alive, were passed three days previous to the time we obtained them. They proved to be those of the following species of dipteræ: *Anthomyia canicularis,* the small black flower- or house-fly; *Musca domestica,* the common house-fly; *Eristalis tenax,* the drone or flower-fly.

As myiasis has been noted due to each of these species they will be briefly considered.

THE INFECTING ORGANISMS

Anthomyia canicularis.—This is the common small black house-fly or flower-fly. The family of flies to which this species belongs *(Anthomiidæ)* is composed of a large number of species and the larvæ feed almost universally on decomposing vegetable matter, growing plants, and some few species on the eggs of the grasshopper and locust. In Europe *Anthomyia canicularis* has been noted frequenting vaults and is often spoken of as the "privy-fly." The larvæ are elongated in shape, composed of ten segments and measure 1 to 1.5 cm. in length. They are rounded posteriorly and narrow

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* From the Pathological Laboratory of the University of Chicago.

[1] Gilbert, N. C.: Infection of Man with Dipterous Larvæ, Arch. Int. Med., October, 1908, ii, 226.

[2] For the opportunity of study and subsequent diagnosis of this case we are indebted to Drs. V. B. Weller and W. F. White.

toward the anterior end. Each segment possesses a pair of lateral branchiæ, which are used for respiration while the larvæ are in fluid media. Each segment possesses also a pair of prolegs. This species of larvæ were the most prevalent of any passed in the case which we report.

The larvæ of *Anthomyia canicularis* have been reported as parasitic in man probably more often than any other of the dipterous insects. They have been noted to occur in the intestines, ear, vagina, and female urethra. A review of the literature shows about thirty cases of infection with anthomiide larvæ. In about twenty-five cases of these the intestines were infected. Of the total number of cases reported five were in the United States. It is impossible to state just how many of the cases were due to *Anthomyia canicularis*, as frequently the exact species was not determined. It seems that there are about twenty authentic cases of myiasis due to this particular species.

Musca domestica.—This is the common house-fly. The eggs (120 to 150) are deposited in horse-manure almost exclusively, but also occasionally on other excreta and decomposing vegetable matter. After the hatching of the eggs, which occurs in from six to eight hours, the larvæ feed on the decomposing animal and vegetable material. The larvæ are white pointed maggots 1 to 2 cm. in length and composed of nine or ten well-defined segments. Around each segment are a number of short branchiæ, which serve as respiratory organs. The larvæ grow rapidly, molt twice, and reach full size in from four to five days. The pupæ which follow persist for four or five days and from these the adult fly emerges, making a total of eight to ten days for the entire cycle. These flies are thought to pass the winter in the pupal stage.

Comparatively few larvæ of this species have been passed in the case reported. Cases of myiasis with the larvæ of this species are rare, there being only five or six authentic cases in the literature. Some of the other members of the family *Muscidæ* frequently infect wounds, ulcers, the nasal sinuses, ear and occasionally the intestine.

Eristalis tenax.—This is the so-called drone-fly. It is somewhat larger than the honey-bee and shows a marked protective mimicry for this last-named insect. It is a flower-fly and very active. It belongs to the family *Syrphidæ*, of which there are 2,500 species, 300 having been described in the United States. This fly is occasionally observed within doors in the late autumn. The larvæ are famous for their "rat-tailed" appearance. They are found on decomposing animal and vegetable matter and in soft mud. The larvæ measure 2.5 to 3 cm. in length and consist of seven segments, each bearing a pair of tubercles or prolegs. A well-defined head and mouth parts are absent. The anterior end possesses two pairs of hooklets. A long slender projection 2 to 3 cm. in length extends from the posterior portion of the body and this contains a small, contractile tube with breathing pores at the end. This appendage is projected up and is used by the larvæ to obtain air when buried or in fluid media. At times the larvæ are quite active and crawl about.

Cases of myiasis with *Eristalis tenax* larvæ are extremely rare. No cases are recorded in which accurate data are given. It is the rarest of the three species considered in this report.

GENERAL CONSIDERATIONS

The source of the infection in this case of myiasis intestinalis can not be definitely determined. The patient possibly ate the eggs or newly hatched larvæ with food materials. It is not probable that adult larvæ were ingested without the patient's knowledge and we do not think from the examination of the patient that the larvæ or eggs were purposely ingested. Finlaysen's[3] suggestion that the eggs which may be deposited around the anus and the larvæ, after the hatching of the eggs in from six to eight hours, invade the intestine from this source, is credible. We are of the opinion that there has been only one, with a possibility of two, infections in this case. We think that the primary infection occurred seven years ago when the larvæ were first observed. If there was a second infection it must have occurred two years ago at the time the occurrence of the large number of the larvæ was noted. We do not know but that larvæ may have been passed during the interval. At the time the larvæ were first noted and since there has been gastric trouble. This is a common observation in cases of myiasis. The cases are too rare to assume that the patient has been continually reinfected.

In reviewing the literature from an entomological standpoint we were surprised to note that comparatively nothing has been done in the study of the metamorphosis of the various insects. The bluebottle fly (*Calliphora erythrocephala*) is practically the only species which has been studied.

The following facts may be noted in regard to flies: Some lay no eggs, living larvæ issuing from the female (viviparous). It has also been noted that when certain of the dipteræ become parasitic no wings are developed. Nothing seems to be known as to whether the larvæ may reproduce, as has been noted in the embryonic types of some other low forms of animal life. The sexual organs in the larvæ, according to most entomologists, are not completely developed until after the adult fly stage is reached. The larva is entirely different from the adult fly and during the pupal stage which intervenes all the organs of the larva, except the reproductive, undergo degeneration and are regenerated. Such an arrangement suggests a very high specialization of these organs and it may be possible that when these larvæ become parasitic within the body reproduction may take place. It seems positive that the eggs can hatch and the larvæ grow to full size in the intestine of man. It has also been observed that larvæ may exist for very long periods of time within the body.

There seems to be four possible explanations for the continued presence of the larvæ within the body.

1. Persistence of the larval state for two to seven years. It must be assumed that very large numbers of eggs or very young larvæ were ingested, bearing in mind the number which have been passed. There is one case in the literature of twelve years standing.

2. The reproduction of the larvæ within the intestine. This would most easily account for the large numbers passed for a series of years.

3. The completion of the cycle by the hatching of the larvæ into the adult parasitic fly (wingless) and the laying of eggs by these flies in the intestines. We have observed no adult flies or remnants in the excrement.

4. The continued reinfection by the eating of eggs or larvæ or the deposition of eggs around the anus and their subsequent invasion of the intestine. There is the possibility that this patient was infected twice, once seven years ago and again two years ago. There is also the possibility in this case that the patient purposely ingests the larvæ. We think that this possibility has been excluded.

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[3] Finlaysen: Brit. Med. Journal, 1889, i, 1285.

Of the four possibilities we are inclined to believe that the first, with possibly the second, furnish the most logical explanation for this interesting case of myiasis.

Experiments will be made and reported on later as to the effect of the various digestive enzymes on the larvæ and their activity.

PREVENTION OF MALARIA *

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MOBILE, ALA.

Statistics show that malaria prevails in every state in the union except Wyoming; but because of climatic, meteoric and geologic conditions favorable to the growth of the anopheles mosquitoes, the southern states and the states adjacent to the Mississippi, Missouri and Ohio rivers show the greatest mortality from the disease.

Statistics compiled from the last census[1] show that there died, from malaria, in the United States in the year 1900, 14,909 persons, distributed by states as follows:

Alabama	1,055	Montana	5
Arizona	17	Nebraska	32
Arkansas	1,730	Nevada	10
California	119	New Hampshire	18
Colorado	21	New Jersey	110
Connecticut	110	New Mexico	89
Delaware	19	New York	308
Dist. of Columbia	63	North Carolina	527
Florida	366	North Dakota	4
Georgia	1.011	Ohio	156
Idaho	4	Oklahoma	134
Illinois	497	Oregon	23
Indiana	340	Pennsylvania	140
Iowa	84	Rhode Island	24
Kansas	261	South Carolina	749
Kentucky	344	Tennessee	987
Louisiana	1,030	Texas	1.331
Maine	16	Utah	6
Maryland	131	Vermont	9
Massachusetts	70	Virginia	409
Michigan	168	Washington	13
Minnesota	9	West Virginia	34
Mississippi	983	Wisconsin	5
Missouri	965	Wyoming	0

Of those who died from malaria in 1900, 9,320 were white and 5,589 colored. In the last census the colored population was approximately one-ninth of the whole, while more than one-third of the deaths from malaria were among the negroes. This high death rate from malaria among the negroes, who were formerly supposed to be more or less immune to the disease, may be accounted for by the fact that the negro population, in the states showing a high death rate from malaria, is large, and the negroes, representing the laboring and poorer classes, live in insanitary surroundings and, either from poverty or neglect, do not take treatment for the disease.

I have seen anopheles mosquitoes breeding in Central Park in New York; I have seen the plasmodium of malaria in blood obtained from the child of a millionaire residing on Fifth Avenue, and it is the same variety of mosquitoes, and the same type of protozöon, that I have seen in the swamps of the rural districts of the far south.

The problem of malaria, since it affects all sections of our country and all races and classes of our citizens, is a national one, and I shall discuss it from that point of view, though I admit that the section of country which I represent is vitally interested in this subject. In this connection I submit a few paragraphs from my address[2] as chairman of the section on medicine of the Southern Medical Association, delivered in Atlanta last November.

> Perhaps the most important health problem which affects the prosperity of the south is malaria. One has but to travel in the eastern, northern and western states to find that in those sections the south is regarded as a hotbed for malaria. No doubt thousands of settlers have sought homes in the west and elsewhere in preference to the south, because they feared to take their families to a section which they considered so unhealthful. Many travellers avoid the south, and capitalists have been deterred from making investments in our section because of the fear of malaria. I realize that such impressions are largely due to prejudice and to ignorance of the health conditions of the south, but it is also true that we have more malaria than we should have because, with our present knowledge of the disease, it should soon be stamped out of our towns and cities and made a rare disease in the country. . . .
>
> I have not statistics to show how much malaria has decreased in the south in the past two or three decades, except in the state of Maryland,[3] but its prevalence has been wonderfully lessened and it has become a much milder disease, so that to-day the severe types are rarely seen.
>
> The south is enjoying splendid prosperity in all lines, and she should erase from her fair name the blot of malaria, because it is a disease which can be prevented, and which interferes very materially with her industrial development.

Malaria destroys more lives every year than have all the epidemics of yellow fever in the past half-century, and there are several millions of our citizens in the United States to-day whose wage-earning capacity is limited because of the mild and chronic forms of the disease; yet malaria is preventable, and quinin is a specific for the disease.

In my opinion, malaria is a much more serious disease than yellow fever for the reason that one attack does not confer immunity, as in yellow fever, but predisposes to subsequent attacks; and because malaria is considered such a mild disease it is not properly treated and often assumes a chronic form which saps the vitality of the individual, thereby rendering him more susceptible to all other diseases, which are made more serious by the complication of malaria. The effects of yellow fever are soon over, while the victim of malaria may have the disease for years. I believe that the high death rate from nephritis in the southern states may be largely accounted for by chronic malaria.[4]

The existence of a few cases of yellow fever in a city causes a panic which destroys its commerce; there is an exodus of a large portion of its population, and cities, states and the nation will spend thousands of dollars in quarantines and in stamping out the disease; yet in the same city there may be thousands of cases of malaria —nothing is thought of that—and there has never been any organized effort to stamp out malaria because its ravages are "seen so oft" and we are so "familiar with the monster's face" that we endure it as if conditions could not be remedied.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Twelfth Census of the United States, 1900, Vital Statistics, Vols. 1 and 2.

[2] Harris, Seale: Some Problems in Medicine which Affect the Prosperity of the South, Jour. South. Med. Assn., April, 1909.

[3] Thayer, W. S., and Hewetson, J.: The Malarial Fevers of Baltimore, Johns Hopkins Press, 1895, Baltimore. The Present Decline of Malaria in Maryland, Maryland Med. Jour., 1905, xlviii, 289.

[4] Marchiafava and Bignami: In Twentieth Century Practice of Medicine, New York, 1900, William Wood and Company.

Both malaria and yellow fever are transmitted by mosquitoes, the only difference being that they are carried by different varieties of mosquitoes which breed under different conditions: the anopheles breeding in puddles, undrained ditches, swamps, and in the scum on the surface of stagnant and slowly moving water along the banks of rivers and small streams, while the *Stegomyia calopus* has its habitat in the standing water of old cans, bottles, gutters of houses, badly drained sewers and other water-containers in and around human habitations. The anopheles must be infected by biting a malarial subject just as the stegomyia must get the infection from man. Since the above facts regarding the transmission of yellow fever and malaria are true, it would seem that the same measures should be employed in stamping out malaria as were used so effectively in stamping out yellow fever in Havana and in the Canal Zone. According to Colonel Gorgas,[5] the mosquito crusade in Havana not only freed that city from yellow fever for the first time in more than a century, but practically eradicated malaria at the same time. The number of deaths per year from malaria, in the city of Havana, before American occupation, averaged 350; after three years of sanitation by Colonel Gorgas and his assistants the deaths were reduced to 40 per annum.

That malaria may affect the welfare and destiny of nations is shown by the fact that students of history believe the decadence and downfall of ancient Greece and Rome was, to a great extent, due to the life-and-energy-sapping disease—malaria.[6] They believe that malaria is largely responsible for the transformation of the most learned, cultured and physically the strongest race of people in the history of the world into the ignorant and morally and physically degenerate people who to-day live among the ruins of Greece, which is now regarded as a "death hole for malaria."[7] The writings of nearly all the Roman authors contain many references to severe and destructive epidemics of malaria, and the efforts to drain the deadly Campagna date back before the time of the Cæsars. The prevalence of malaria in Italy no doubt had much to do with breaking the spirit of the ancient lordly Roman, "who was greater than a king," and thus helped to bring about the decline and downfall of the Roman empire.[8]

In the earliest years of this republic, and even in the first few decades of the last century, malaria was prevalent in the southern states to an extent which greatly interfered with their development. At that time quinin was such a rare and expensive drug that it could not be obtained, particularly in the rural districts, and nothing was known as to the nature and cause of the disease, so that thousands died from the malignant types of malaria.

The first capital of Alabama, St. Stephens, which, at one time, in 1810, was a thriving town of several thousand people, was literally wiped off the earth because malaria was so prevalent and of such severe type that its inhabitants either died or abandoned their homes. With our present knowledge of malaria, the inhabitants of old St. Stephens could live in perfect health, without one of them having a symptom of the disease which a century ago destroyed their prosperous little city.

Malaria was the principal obstacle to the completion of the Panama Canal by the French; and I may add that it has been the cause of the failure of many smaller enterprises in our own land.

Now let us consider the question of how malaria affects the prosperity and happiness of our nation to-day. I will first discuss the question of what malaria costs the United States, of how much money is spent each year because of the ravages of this now mild and easily preventable disease.

According to the census for 1900, there died from malaria in the United States 14,909 persons, and, estimating the value of a human life at $3,000 (the legal estimate is $5,000), malaria costs our nation from loss of life alone $54,727,000 each year. The death rate from malaria is very low; probably not one out of 500 people affected dies from the disease, and, adding to the death losses the loss of time and decreased earning capacity of the millions in the United States who are afflicted with the chronic and mild types of the disease, and the money paid out by the people in quinin and other medicines, to say nothing of the doctors' bills, on account of malaria, the cost of malaria to our country is enormous and astounding.

Dr. Albert Woldert, of Tyler, Texas, in a paper[9] read before the Texas State Medical Association, gives statistics from the hospitals of the United States Army posts in Texas in the year 1901, showing that one person in seven residing in those posts had malaria at some time during the year; and, according to his statistics from the railway hospitals, located in all sections of Texas, one railroad employé out of every four had malaria. Dr. Woldert states that about 3,000 people die annually from malaria in Texas, and he estimates that the financial loss from malaria to the people of the State of Texas during the year 1901 amounted to the enormous sum of $5,333,320. If it cost Texas that sum, the loss to the United States is at least $50,000,000 to $100,000,000 per annum. These figures give what malaria costs in cold cash, and do not take into account the sorrow and suffering of the millions who are afflicted with this preventable disease.

Is it worth while to combat, and to hope to exterminate, a disease so widely prevalent in the United States?

In answer to this, I would point to what has been accomplished by the Italians in the last five years. Though Italy has suffered more from malaria than any other nation, it should be said to the credit of her physicians that they have studied the disease most carefully and have contributed more than those of any other nation to our present scientific and practical knowledge of malaria. The Italian Society for the Study of Malaria has made most valuable contributions to the science and literature of the disease. The Italians have also made practical use of their knowledge of malaria by aiding the physicians in their campaign against the disease, and even though in financial difficulties Italy has spent millions of dollars to prevent the disease. She not only enacted and enforced laws to stamp out malaria, but went into the manufacture of quinin, selling it to her citizens at the cost of production and giving it free to her poor. That this expenditure of money and the campaign against malaria as made by the Italian government and its physicians was wise is shown by the result. The mortality rate from malaria in Italy for the past five years has been reduced two-thirds (Thayer). Think of the saving of lives and suffering to the people of our country if our mortality and morbidity rates from malaria can be reduced even two-thirds!

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[5] Gorgas, W. C.: Malaria in the Tropics, The Journal A. M. A., 1906, xlvi, 1416.

[6] Jones, Ross and Ellett: Malaria: A Neglected Factor in the History of Greece and Rome, 1907, Cambridge.

[7] Ross, R.: Malaria in Greece, Jour. Trop. Med., 1906, ix, 341, 351.

[8] Jones, W. H. S.: Malaria and History. Ann. Trop. Med. and Parasit., 1907, i, 529-546.

[9] Woldert, A.: Malarial Fever, Its Expense to the People of Texas, Transactions of the Medical Association of Texas, 1904, pp. 37-61.

The results in the mosquito crusades in Havana and in the Canal Zone should encourage us. As I have said, malaria was practically exterminated in Havana, and the following extract from Gorgas' last report[10] shows how malaria is being conquered in the Canal Zone under the most favorable circumstances:

> In 1906 we had from malaria 233 deaths; in 1907, 154 deaths; and in 1908, 73 deaths. That is, with a force more than one-third larger in 1908 we had from malaria less than one-third the deaths that we had in 1906. I consider malaria the best measure of the sanitary work done. In 1906, out of every 1.000 employés we admitted to our hospital, from malaria, 821; in 1907, 424; and in 1902, 282. That is, we now have only about one-third the amount of malaria among our employés as we had three years ago.

President Taft, in a recent address, said: "The sanitation of the Canal Zone has made possible the completion of the Panama Canal, the greatest enterprise in the history of the world."

Colonel Gorgas, in an address before the Academy of Medicine in New York, said: "With the removal of yellow fever, malaria and other tropical diseases, the tropics will become the centers of civilization of the world." If it is possible to eradicate those diseases from the tropics—and medical science has practically eliminated yellow fever from the diseases to be considered—how much simpler and easier will the problem be in the United States! It seems almost as feasible to stamp out malaria as yellow fever, and I believe that, with our present knowledge of the disease, it will soon become one of our rare diseases and that it will not be many years before our public health authorities will quarantine against malaria as we do now against yellow fever.

In discussing methods for the prevention of malaria, it may be well first to state the precautions to be used with an infected individual, which are largely the same as with a case of yellow fever, i. e., he should be (a) isolated (placed under a mosquito-net or in a screened room) to prevent his infecting anopheles mosquitoes; (b) the mosquitoes in the house should be destroyed by burning sulphur or pyrethrum; (c) the persons in the house or others exposed to the bites of infected mosquitoes should have preventive doses of quinin (3 grains, morning and night); (d) after the patient has been relieved of all symptoms he should take six grains of quinin a day for a period of at least three months. to be certain that he can not infect the anopheles mosquitoes in his community (Thayer).

Malaria should be classed as a reportable disease. Physicians should be required to report to the city and county health officers the name and location of each patient suffering from malaria, just as is now done with yellow fever and typhoid; and, as in those diseases, the source of infection should be searched for and removed if possible.

To protect the inhabitants of a community, whether in the city or in the country, efforts should be made to destroy all anopheles mosquitoes. Every accumulation of stagnant water, whether large or small, which can become a breeding-place for mosquitoes, should be drained or filled in, or oiled, when those measures are not practicable. The débris, green moss, and decaying vegetable matter on the surface of the water along the banks of slowly running streams should be removed because that is a favorite place for the breeding of anopheles mosquitoes.

When it is not possible to destroy all mosquitoes in any community, every person should sleep in screened rooms, or under mosquito-nets, from early spring until the mosquitoes are destroyed by the frosts of winter.

In badly infected communities (malarial localities) every person should take prophylactic doses of quinin during the summer and autumn months.

A physician in performing his daily duties can do great good by treating each malarial patient as if he had any other infectious or contagious disease, and by instructing his patrons as to the mosquito origin of malaria. He should inform his patients that malaria is infectious and of the methods to be employed in preventing its spread.

There should also be carried on a systematic campaign of education among all classes of people, by means of lectures and by widely distributed tracts, written in popular style, regarding the mosquito transmission of malaria and of how the disease may be prevented, because without the cooperation of the public a crusade against any disease can accomplish but little.

There should be organized a national association for the study and prevention of malaria, just as was done in Italy, with auxiliary state and county societies in the sections most infected.

The medical societies and boards of health in each town, city, county and state affected should take up the work of stamping out malaria. The American Medical Association, and particularly the Section on Preventive Medicine and Public Health, should aid in this great work, at least, by lending its influence toward a practical solution of this problem.

The United States Public Health and Marine-Hospital Service should also be called on to assist in stamping out a disease which causes so many deaths and so much suffering. Malaria is of more importance to the welfare of our country than yellow fever, and the scope of the United States Public Health and Marine-Hospital Service should be enlarged and its force increased so that a trained body of sanitarians can be employed in the fight against malaria just as has been done in epidemics of yellow fever. Malaria may be at times an interstate disease and already the health officer of Mobile is protesting against the introduction into that city of severe cases of malaria from the tropics.

Congress should be urged to create a special commission for the study and prevention of malaria, and to provide an appropriation sufficient to carry on the work. It seems to me that, at this time, a separate commission could accomplish more than by placing the work in the hands of any of the departments of the government now existing, because such a commission could be composed of physicians of wide influence in the localities most affected, men who would be especially interested in getting results and men who could enlist the active cooperation of the various county and state boards of health. The physicians composing such a commission should have hospital facilities for the study of the disease, because there are many problems connected with malaria which have not been worked out.

Congress has appropriated money for the study and prevention of yellow fever. Malaria is a similar disease, and, in my opinion, is of greater importance, certainly, at this time, to the welfare of the entire nation, than yellow fever ever will be again. Congress appropriated $50,000 for the study and prevention of the boll weevil and also considerable money for destroying parasites in wheat and corn; it has given large sums for stamping out diseases in cattle; why should it not be called on to aid in stamping out a distinctly preventable disease, which destroys thousands of human lives and decreases the earning capacity of many hundreds of thousands of American citizens?

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[10] Gorgas, W. C.: Annual Report of the Department of Sanitation of the Isthmian Canal Commission for the Year 1908. Government Printing Office, Washington.

The problem of the prevention of malaria means much to the southern states and, therefore, much to the nation. If our section can be freed from malaria, the poor whites and negroes will be stronger physically and, therefore, better laborers; our naturally fertile lands will become more productive; the cotton mills will come to our cotton fields because of our cheap and efficient labor; our iron and other mineral resources will be developed to an extent hitherto not dreamed of, and our Gulf and Atlantic cities will become shipping and manufacturing centers of great importance. If we can prove to the world that malaria, like yellow fever, can be forever stamped out of the south, our prosperity will amaze the world.

ABSTRACT OF DISCUSSION

Dr. Marshall Langton Price, Baltimore: There is one subject on which I think I ought to dwell, especially because of its importance; that is, the actual value of the statistics of malarial fever. I doubt very much, under present conditions, that 80 per cent. of the deaths which are actually recorded from malaria in the United States are due to any infection from the malarial parasite; I believe this, from my experience in Maryland, in which state there are probably recorded annually from 8 to 10 deaths from malaria. This makes an impressive showing in figures; but when the original certificates are examined one finds about as follows: returned as the primary cause of deaths, malaria, 2 weeks; intestinal perforation and peritonitis, 10 days. Analyze the death statistics of any state and similar conditions will be found. Outside of the extreme southern states there are not more than 100 deaths from malaria during the year, in the states north of Tennessee. Of over 400 deaths reported in Illinois, I doubt very much if 20 were due to malaria. During the Spanish-American War some observer made a tour of the military camps. He found from 50 to 100 men in each camp laid up with malaria and being dosed with quinin. He was told: "They have malaria." He reached some regimental surgeon, who, I am sorry to say, for the sake of Americans, had a very strong German accent. The observer asked: "How many cases of malaria have you?" He said: "Not one, sir!" His patients were not being dosed with quinin; they were being treated on rational grounds for typhoid fever. In Maryland one of the best studies of typhoid fever was that made by Thayer and Hewittson in 1893. At that time malaria was endemic around the suburban portions of Baltimore. Those cases were not founded on conjecture, but the actual parasite was found in the blood. Since then malaria has almost disappeared from Maryland and in every 1,500 to 2,000 cases of supposed malaria the malarial parasite is found in about 5, as determined by the examination of fresh blood or smears. I have no doubt that in the South, as Dr. Harris states, malaria is a very common disease; but I do not think we ought to accept the usual diagnosis by the physician as an actual basis for malarial figures. I think we ought to reject all such cases and base statistics entirely on those cases in which the parasite is demonstrated in the blood either by staining or by an examination of the fresh specimens.

Dr. Henry B. Hemenway, Evanston, Ill.: Illinois is exceedingly defective in vital statistics, the state administration having paid very little attention thereto. It is estimated by the Illinois State Board of Health that 80 per cent. of the deaths that occur in Illinois are reported. Of course, that would increase the 400 deaths from malaria quite materially—put it up to 500; but it has been my observation, as Dr. Price has said, that a large majority of the diagnoses that we get as malarial fever would, with the blood test, prove to be typhoid. So far as I know, in Cook county there have not been more than five cases that have shown the peculiar organism of malaria, within perhaps a couple of years. Some were found along the Desplaines River some time ago. Most of the cases that are recorded as malaria—as fatal cases of malaria, particularly—are really typhoid; and that is one reason why the study of malaria can hardly be separated from the study of typhoid, and the study and prevention of yellow fever. I am glad that attention has been called to the necessity of including among the reportable diseases malaria as much as smallpox or scarlet fever.

Dr. W. Forrest Dutton, Walker's Mills, Pa.: Dr. Price brought up a point that I would like to hear explained, not at any length, but satisfactorily enough for those present, namely: mixed infection. I would ask Dr. Harris to give us, if he can, the frequency of typhomalarial infection, the percentage of cases in which it occurs. I do not think there is any reason why we should be at loss to differentiate typhoid from malaria except when there is a mixed infection. I think that by means of microscopic examination of the blood smears we ought to be able to make our diagnosis very readily.

Dr. Juan Guiteras, Havana, Cuba: I do not think that in the tropics a mistake in diagnosis is frequently made between typhoid and malaria. I understand the mistake may be made with filaria, hookworm and tuberculosis, but not with typhoid fever. The cases reported as malaria in the tropics—in Cuba at least—would seldom be found to be cases of typhoid fever. Of course, the mistake is possible, but it is exceptional. The unfortunate term of typhomalaria that was invented some time ago was in vogue at that time, because we had no definite means of diagnosing typhoid fever. Malaria in Cuba has fallen from the third and fourth place on the mortuary records to the tenth place. Malaria was originally placed by us on the list of reportable diseases because of the yellow fever campaign. Another important factor in bringing about this reduction of the malarial fevers in Cuba is the isolation of the sick at the port of entry. We are detaining a very large proportion of the patients with malaria who formerly went into the country and, of course, became propagators of the disease. The majority of patients with malarial infection coming from Central America, Mexico, the Mississippi delta, etc., are found with fever on the inspection made by the quarantine officer and are sent to Las Animas Hospital; once there, they are not discharged until they are cured.

Dr. J. N. Hurty, Indianapolis: I believe thoroughly in education as the best, perhaps the only way to get these subjects before the people. Sometimes, however, I become discouraged. I went before the county board of health of a certain county in Indiana where malaria was reported as existing to a considerable degree, and from which county several deaths had been reported, and presented the reason of malaria. This county board of health was composed of the county board of commissioners. So I presented the whole matter as carried by mosquitoes and I thought I had made a very excellent impression on the board—that it would take action, print circulars, and perhaps go to draining, and encouraging drainage in the county there and get rid of stagnant water; and I was very confident that I had educated these "practical business men," as they called themselves. One of them turned around and with his hand combed a couple of handfuls of manure out of his beard, saying: "Young fellow, you don't believe all of that stuff, do you?" So sometimes education does not educate, and especially with the man who considers himself highly practical, and—worse yet—with the man who has made a semifinancial success. I think that those men are so consumed with conceit that one cannot get at them. We had a legislator who had cunning enough to amass a hundred thousand dollars. He has decided to be a practical man in his neighborhood; and so practical and so eminent was he in the state that the governor appointed him on a very important examination committee; and when he heard one of our lecturers say that consumption was rarely, if ever, hereditary, he said he did not care if "a thousand doctors and thousand doctor books said that it was not hereditary" he knew that it was. Now, you see, we have a certain class of people (I suppose they exist in other states), who cannot be educated.

Dr. Seneca Egbert, Philadelphia: I remember distinctly that somewhat more than fifteen years ago the secretary of one of the southern states, speaking of the importance of artesian water as replacing that from shallow wells, declared in one of the bulletins that because of the improvement in the well-water supply in certain parts of his state the reduction in malaria had been over 50 per cent. We all know now that the malaria of which he wrote was not malaria, but must have been something else. My experience was that a great many of the people in a locality where I was working used water from very shallow wells; and I remember in one case water that was undoubtedly contaminated, in this village, was taken from wells located a very short distance from a stream, and everybody believed that the wells filled from the stream. On the higher ground above the wells there were twenty-three privy vaults and pig-sties draining directly toward these wells en route to the stream. These people were persistently ill every season, with so-called typhomalarial fever. I doubt very much if any one in the neighborhood had a true case of typhoid fever, but I am convinced that they were suffering from filth infection, and that their general health was depressed by that absorption of human and pig filth. So it seems to me that possibly we may explain much of the reported typhoid fever or malaria if we dubbed it simply filth infection, and occasionally, paratyphoid.

Lieut.-Col. Jefferson R. Kean, U. S. Army: With reference to the statement of Dr. Guiteras that there were about 40 deaths from malaria in the City of Havana during the past year. I think that the showing is even better than that, my recollection being that it was only 8. Although the difference between 40 and a lower figure is not great for a city of 300,000 inhabitants in the tropics, I wish to call attention to it as an evidence of the thoroughness of the work being done in Cuba. It means the practical extermination of the pathogenic varieties of mosquitoes in and about Havana. The last year that I was in charge of sanitary affairs in Cuba we had to send away from Havana to get anopheles larvæ to show to our inspectors as a part of their course of instruction. I regard Havana at present as not capable of infection with yellow fever and if any one visits the city, unless he stays much longer than most American visitors, he will probably not see a single stegomyia mosquito. In so excellent a paper it seems ungracious to criticize small points, but there is one which I would like to see corrected. I do not want to detract at all from the excellent public work for the extinction of malaria that is being done by the Italians and which we would do well to imitate; and this notwithstanding the fact (as Dr. Price will probably bear me out) that many of the local epidemics which appear in the northern states are initiated by Italian laborers who bring in the infection. While giving the Italians all due credit for their work I do not like to hear them credited with that of men of other nationalities. Laveran, who discovered the malarial organism, was a French army surgeon, and it was a British army surgeon, Ronald Ross, who first demonstrated the agency of the anopheles mosquito in conveying malaria.

Dr. Liston H. Montgomery, Chicago: I do not think very much of the term typhomalarial fever. Has the Italian government succeeded in reducing the number of deaths by two-thirds?

Dr. Seale Harris, Mobile, Ala.: Yes.

Dr. Montgomery: It shows that in Italy governmental control is paramount; furthermore, Cuba has succeeded in stamping out yellow fever, and practically malaria also. Cuba has a national department of health; and those two examples would, it seems to me, go to show that our government should have a national department of health, with its physician in the cabinet, as has been done in Cuba. Not only this, but such government commission should have supervision over other contagious diseases, such as tuberculosis and bubonic plague, the latter of which is liable to come from South America, particularly Venezuela, and get into New Orleans almost any day.

Dr. J. H. White, New Orleans: The national government is standing guard at this present moment.

Dr. Marshall Langton Price, Baltimore: Those of us who have been in New Orleans are familiar with the magnitude of Dr. White's work in the last yellow fever epidemic. I think the problems that he tackled were among the most difficult undertaken in this country; and the brilliant results all of you know.

Dr. J. H. White, New Orleans, La.: When I undertook the work of sanitation against yellow fever in 1905 we were confronted with 196 square miles of territory in the City of New Orleans, whereof 44 square miles are built up rather closely; 660 cases of yellow fever; control more or less lost; and nothing but the indomitable pluck of that magnificent people could have enabled success. It was a question of extermination of all mosquitoes in the City of New Orleans or failure. We put 3,000,000 pounds of salt in the gutters in order to make sure that there were no mosquitoes breeding there. Six weeks afterward the water in the bayous through which the gutters reach the lake showed 5 per cent. saline. We cleaned the whole town from end to end; we oiled 68,000 cisterns, and every rain barrel that we could get our hands on; we left nothing to breed on in that 44 square miles of territory; and in the latter end of September, 1905, a new-born baby could have been placed in the streets of New Orleans to sleep. The extinction of yellow fever was not the only result. A result as truly gratifying was that estivoautumnal malaria which had been common in New Orleans, was distinctly cut down. Having a hospital under my supervision, it is only in the past six months that we have begun again to get estivoautumnal malaria by the river front, by reimportation both of the mosquito and infection from the tropics, proof of this being as follows: At certain points on the river we have lying in close contact steamers from Tampico, Coatzacoalcos, and London and other British ports. These Englishmen occasionally develop estivoautumnalis when they have not been in the tropics for a year or two, and after lying for two weeks in the port alongside the wharf close to the Tampico or Coatzacoalcos ship, and to the collection of water caused by the railroads digging out dirt to fill up their embankments: thus proving the reinfecting of our mosquitoes which have come back only in the last two or three years to that point.

Now, as to governmental control, New Orleans has done her duty very well indeed, in the matter of malarial fever. As I recollect it, the annual death rate in New Orleans back as far as the '70's from fever supposed to be malarial, and probably malarial (because typhoid infection was very uncommon), was close to 335 as the average; and to-day, I think it will not go to 25; and that is municipal work; it has nothing to do with the nation. As a national representative, I say that I think this a pretty good showing in New Orleans, which, if you paralleled with Havana, Dr. Guiteras and Dr. Kean will admit, is a far harder proposition; New Orleans is extended on a mud-flat, below the level of the Mississippi half the year round, the water so sluggish in its flow that it has to be pumped out mechanically, and there is every possible inducement to the mosquito to make its habitat in and around New Orleans. Gradually, slowly but surely, they are eliminating the mosquito. A little more persistence, a little more care, possibly another scare, will be needed to bring them up to it; but I feel sure—as sure as a man can of anything that he has not seen done before him—that New Orleans will, in the next few years, be immune to yellow fever.

Dr. Seale Harris: What is the difference in death rate?

Dr. J. H. White: As I remember it, the general, as compared with the previous death rate, has been reduced about 2; among the white population, say from 19 to 17; among the negro population, a slight reduction, not so much.

Dr. G. Farrar Patton, New Orleans: Dr. White, with characteristic modesty, has not mentioned what was really the greatest victory that he won there; that is, overcoming the prejudice of the people. I think it is safe to say that at the outset ninety-nine out of every hundred people in New Orleans believed that the mosquito doctrine was all nonsense, and before the campaign was half over the people of the city, down to the street arabs, were convinced of its absolute truth. That was accomplished mainly by a "hammer and tongs" campaign of education, attended with positive proof in the way of results. As Dr. White jokingly says, he preached in every church in New Orleans, and it is true: he preached a gospel that saved the lives of the people more effectively, perhaps, than the preachers who ordinarily occupied those pulpits save the souls of their people and I consider that this victory—the moral and intellectual victory—transcended in magnitude the wonderful success achieved in banishing the disease proper before the coming of frost.

Dr. R. A. Neale, Chicago: About thirty years ago I was physician to the poor of Washington, D. C.; I had assigned to my territory a section of the city that was nearly surrounded by water, and it was called "Foggy Bottom;" the three thousand odd people living there for ten or twelve years had been suffering intensely from ague: the little huts that they built were nearly all covered with shrubbery and vines. Foggy Bottom was a piece of land that was marshy: in a number of years it became filled in and houses were built there. My predecessor showed me an average every summer of over 600 cases of typical malaria in that Foggy Bottom. I did not know anything about Italy's great progress in preventing malaria, but I was fearfully annoyed every night by the numerous mosquitoes flying about my head, and I decided that I must get rid of them. I made all of those people get rid of all vines and shrubbery, cut down every tree, and put screens in all the windows and burn sulphur in their rooms. I had them makes hundreds of bonfires at night, hundreds of them: because the breezes would come at night and blow the mosquitoes away down the river; in the morning it would come the other way and blow them back again. The next year of my term, instead of having 600 cases of malaria I had only 50: the third year there were only 25, and nearly all of the patients had recently come to reside in Foggy Bottom.

Dr. Seale Harris, Mobile, Ala.: I expected my statistics to be questioned, but those obtained from the United States Census Reports are the only ones available. I am willing to admit that many deaths reported as malaria are due to typhoid fever, tuberculosis, sepsis, hookworm and other diseases, but it is a remarkable fact that along the Mississippi Valley, along the valleys adjacent to the Missouri and Ohio rivers, and in the South, where conditions are favorable to the development of anopheles mosquitoes, there are so many "ignorant" physicians who report these cases of malaria. The United States Army surgeons, I believe, represent as good a class of physicians as we have, and the statistics from the United States Army posts, which are located in all sections of Texas, show that one person out of every seven residing in those posts had malaria in 1901. Not only that, other statistics compiled by Dr. Waldren show that in the railroad hospitals in Texas, which are located in cities in different parts of the state, where it is certainly probable that there are competent physicians in charge, one patient out of every four has malaria. I admit that my statistics may not be correct, but from my own observations in the South I believe that there a large proportion of the population has malaria at some time during the year. The death rate from malaria is low, and is growing less, and it is a very mild disease, yet it does affect the vitality of the individual: it makes him more susceptible to other diseases, and I believe it materially affects the general mortality rate. I am sure that malaria is growing less prevalent in the cities where there is proper sewerage. I believe that will account for much of the decrease of malaria in Maryland. In Havana and the Canal Zone where the sanitation was worked out largely against mosquitoes the general mortality rate was reduced about 50 per cent., and as Dr. White has pointed out, the general death rate has been reduced in New Orleans since the crusade against mosquitoes.

Regarding the amount of typhomalaria in the South, I do not know of any cases in which typhoid and malaria have been found at the same time in the same individual, but it is certainly true that in the convalescence of typhoid fever malaria does occur. In the tropics during the Spanish-American War, when a large number of United States soldiers had yellow fever, they suffered a great deal more from the malaria that followed. I realize the difficulties of educating the public, but the lessened prevalence of malaria in the South is due to the fact that the educated, "well-to-do" people have their homes screened with the idea of preventing malaria by keeping out mosquitoes, and with such people malaria is less prevalent than formerly. Another reason why malaria is less prevalent in the South is the widespread use of quinin. Dr. H. F. Harris, of Atlanta, studied a large number of cases of continued fever and the greater majority of them responded to the Widal test for typhoid.

I desire to thank Dr. White for calling attention to my mistake as to Laveran being an Italian, but the Italians have done a great deal in studying malaria, and the literature published by the Italian Society for the Study of Malaria is greater in volume than that contributed by any other country.

My object in bringing this paper before this Section is this: While malaria is not perhaps so severe an infection as yellow fever, typhoid fever, tuberculosis and many other diseases, it is one of the more prevalent diseases in the United States. There is a great opportunity for sanitarians in the South to make records by decreasing the death rate from malaria, and in doing that it would be one of the greatest things for our country, particularly for the South, because we have the reputation of being unhealthful. Eliminate malaria and you will certainly decrease the general death rate.

SOME MINOR GYNECOLOGIC MATTERS OFTEN OVERLOOKED *

I. S. STONE, M.D.
WASHINGTON, D. C.

In routine practice we may fail to appreciate certain rare or obscure diseases which are very annoying to our patients, although not dangerous to life. We find a number of cervical erosions, classified as infectious, which are due to other causes. There are numerous infections of glands of the genital tract which are not understood, and which are not successfully treated because the seat of the infection is not exposed and thoroughly sterilized. Many patients have numerous deep vulvar glands, especially about the vestibule, which may become veritable nests for gonococci or other microbes and will perpetuate an infectious discharge indefinitely unless opened widely and sterilized by iodin or some equally good application. Skene's glands in the urethra are known to harbor infectious organisms and to cause a persistent urethritis. This disease requires surgical treatment if a cure is obtained. The glands must be opened up, thoroughly exposed and treated. My purpose at present is to direct attention to certain nerve changes about the genital tract.

NEURITIS AND HYPERESTHESIA OF THE VULVA AND VAGINA

This is a frequent and often unsuspected cause of annoying symptoms. One of the commonest mistakes made by physicians who treat gynecologic patients is to call every sensitive surface an inflammation. Careful discrimination will enable one to detect certain nerve alterations and to see the difference between them and vaginitis or vulvitis, due to infection or persistent irritation of any kind.

These nerve changes are often seen in a consulting practice. The patient has had fairly good, and perhaps rather active, treatment for infectious disease and has not obtained relief. In fact, nearly every patient coming under observation has been subjected to much local treatment, all of which has probably done harm unless such treatment finally results in a diagnosis.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

SYMPTOMS

The patient is usually a neurasthenic or a neurotic. She is usually suffering from associated disease, which is often due to impaired function rather than to organic mischief. She has a leucorrhea due to more or less endocervicitis. and believes that the discharge causes the painful condition of the vagina. The parts are extremely tender, are often red, and occasionally swollen. Micturition is generally painful in those cases with red and swollen mucosa. The disease is not confined to any special class. We encounter it in virgins relatively as often as in married women. The patient is often told by some physician that she has "ulceration" of some portion of the vaginal mucosa. A slight erosion of the cervix becomes the *point de résistance* of much medical treatment, and in a recent case the patient told me that she had "three different ulcers of the cervix cured by treatment, only to have them return as before."

It is a common practice of many physicians to rely strictly on local treatment for a cure of this disease, because they fail to see the real cause back of the local manifestation. Obviously, all applications of tampons, iodin, ichthyol, boric acid, and glycerin fail unless they benefit by entertaining the patient while time and improved general health bring about a cure. It is in this class that we see the evil result of suggestion. Many of these patients are acutely sensitive to wrong impressions and they are easily and often inadvertently led to think that a slight displacement of the uterus or an enlarged ovary, or possibly some slight intestinal irritation, if treated perhaps surgically, can be cured. It is well known that the uterus has often been removed because the supposed irritating discharge could not be otherwise cured. Of course, in certain cases the neuritis may not easily be relieved or the symptoms even palliated. I have seen several cases associated with urethral caruncle, and I am inclined to believe the pain of a caruncle is always due to an associated neuritis. We have all seen caruncles removed without relief to the patient, and unless they are associated with cystitis the failure is generally due to nerve changes.

DIAGNOSIS

If methods of examination were more exact we would find fewer cases of acute infectious disease of the vulva and vagina and relatively numerous cases of neuritis or hyperesthesia. Naturally, we resort to well-known methods of treatment rather than make the effort to establish a correct diagnosis based on careful investigation. Such empirical practice will perhaps long retain a hold on our favorable consideration, although we always have at hand perfectly satisfactory, even if slower, methods of reaching a diagnosis and consequently a proper indication of treatment. We fail to see any improvement in the teaching or treatment of the minor gynecologic cases since the days of Sims, Emmet and Thomas, and hence surgery has become far more prominent in this specialty than before, and I am confident more than is desirable or necessary.

It is impossible for every one at first to distinguish between cases of hyperesthesia and those of neuritis, but it is comparatively easy for those accustomed to make such distinctions in other portions of the body. Without resort to electrical or other scientific measures, the usual observation and care which is exercised by any physician who is on the alert for these cases will enable him to detect the condition under discussion. In any event, a diagnosis between hyperesthesia and neuritis is not absolutely necessary. The precise portion of the vulva or vagina which may be the seat of the disease is altogether uncertain. I find that the sensitive area in by far the greater number of cases is about the vestibule and introitus. Recently a case of neuritis was seen with dark discoloration of labia around the glands of Bartholin, due to repeated cauterizations, probably with silver nitrate. Occasionally I find a sensitive spot or area on or near the cervix, as in a case recently seen in a pregnant woman. This latter was, however, associated with marked neurotic symptoms which closely resembled inflammatory mischief.

ILLUSTRATIVE CASES

Case 1.—Patient referred by Dr. C.

Miss X., aged 35, had been treated for infectious endometritis by curettement and intrauterine cauterization, without relief. She had swelling and edema of the vulva with each menstruation, causing great distress. When first seen there was redness; slight swelling and some erosion of the vulva with painful micturition and occasional itching. The urine was nearly normal and contained no sugar. She had been examined for eczema by a competent dermatologist who recognized the unusual features of the case. This patient had associated neuritis and endometritis. I made the diagnosis and treatment was carried on by her family physician, who reports a gradual improvement and nearly perfect restoration to health.

Case 2.—Patient referred by Dr. W.

Miss Z., a thin, nervous virgin, aged 27, with hymen intact, had been told that she had "ulcers" on the vulva. She had a very slight leucorrhea, but I failed to discover the ulcers or even redness about the vulva or vagina. The uterus was small and retroverted, otherwise all the organs were normal. Her complaint of painful and sensitive vulva and vagina led me to go slowly in reaching a diagnosis. Examination of the discharge was negative, there being no possible infection of the vagina. She passed out of my hands and an abdominal operation was performed for a slight displacement of the small uterus, with the result that she believes herself benefited, although the time has been too short for definite results. Of course, the lesions found at the operation did not explain the symptoms and the girl will finally recover when her nervous disease disappears either by good fortune or by proper treatment.

TREATMENT

The suggestions already made indicate the line of treatment to be adopted. The diagnosis made, the treatment becomes a matter of simple attention to the general health of the patient. In irritable and sensitive vaginæ we should avoid all irritating applications and should use either drying powders or emollients. It should be remembered that any fluid may cause burning and smarting if a neuritis be present. The indication is to protect the tender surfaces so far as lies in our power.

Stoneleigh Court.

ABSTRACT OF DISCUSSION

Dr. Robert Morris, New York City: The colon bacillus is not infrequently an infecting agent in the vagina and uterus. At present I am having some investigations made in a number of cases in which the discharge from the endometrium is secretional in character. This discharge forms a culture medium for the colon bacillus, and the colon bacillus may extend its field from the vagina to even the peritoneum. Another point which I wish to make is in connection with a minor gynecological disturbance that is commonly overlooked, and to which I have given a good deal of attention during the past two or three years—the effect, the remote effect, of eyestrain, particularly in school girls. Recently I had two cases: one patient had an acute anteflexion; one had retrodisplacement. In both cases there was obstinate obstruction of the bowel to such a degree that both patients were in great distress, and there was a question whether or not they would be obliged to give up their school work. In both cases I was able to eliminate all factors except the eyestrain. The patients were sent to an ophthalmologist and both were well in thirty days. I am having a great deal to say on the subject of eyestrain, but not so much as the men who are throwing the subject into disrepute. A great many ophthalmologists have seen the horizon of this subject enlarged so enormously that they are speaking from imagination rather than facts. Let us speak from facts. In a certain proportion of minor gynecologic cases, particularly in young people, eyestrain is the cause and can be discovered by the proper ophthalmologist—who is not easily found. The ophthalmologist usually makes an examination with reference to an ordinary refraction and his report relates to the sight. That has nothing to do with the case. Remote disturbances are to be sought by men competent to do this. I said to an ophthalmologist recently, who had examined the eyes of a patient in which eyestrain was, in my opinion, the cause of the disturbance: "Now, have you examined with reference to muscle imbalance?" "No," he said, "I have just examined with reference to sight; I will take this matter up." There was a case that had slipped past an absolutely competent man who had not taken up this subject with reference to gynecologic features. It is a matter which has been overlooked by most of us, but let us send cases in which eyestrain is possibly the cause to the proper ophthalmologists, and let him give us either negative or positive testimony.

Dr. Mary E. Dunning, Newburg, N. Y.: I believe that nerve strain has much to do with many local conditions seen in our patients. A case worthy of note is that of a woman of 38, whose menstrual function had always been accompanied with terrific headaches and vomiting. Examination showed nothing abnormal in the pelvis excepting extreme tenderness of the adnexa, and there was a spur which blocked completely the left nares. Two pelvic hydroelectric treatments were given and the spur removed. She has had no nerve disturbances, menstruation has been normal and she has been perfectly well since.

Dr. Angeline Martine, Utica, N. Y.: Dr. Morris' mention of the colon bacillus being a cause of irritation in certain cases, reminds me of a case in a young unmarried woman of undoubted good reputation who had an irritation resembling grossly a gonorrheal infection. I had the discharge carefully examined under the microscope, and found that it was due to an infection by the *Proteus vulgaris*. I have had a series of seven or eight such cases which I have reported. The infection is very intense. One of the cases seems to have been contracted by the use of the public toilet. The source of the other cases could not be traced. The infection so closely resembles gonorrhea that much care should be observed in the examination.

Advantages and Disadvantages of Pasteurization.—One of the chief objections to pasteurization is that it promotes carelessness and discourages the efforts to produce clean milk. It is believed that the general adoption of pasteurization will set back improvements at the source of supply and encourage dirty habits. It will cause the farmers and those who handle the milk to believe that it is unnecessary to be quite so particular, as the dirt that gets into the milk is going to be cooked and made harmless. It is not proposed that pasteurization shall take the place of inspection and improvements in dairy methods. To insure the public a pure and safe milk supply should be regarded as one of the most important duties of the health officer. Whether pasteurization is adopted by a city for its general milk supply or not, no milk should be accepted that does not comply with certain reasonable chemical and bacteriological standards. This would aid the inspectors in enforcing good dairy methods. Pasteurization then must not be used as an excuse to bolster up milk unfit for home consumption. To insure this end, the health officer should have authority to condemn and destroy bad milk, whether or not pasteurization is practised.—M. J. Rosenau, in *Annals of Medical Practice*.

THE SANITARY REGENERATION OF SAN FRANCISCO

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Early in the morning of April 18, 1906, San Francisco was awakened by a severe shock of earthquake which, breaking the electric wires, set fires in many parts of the city. The same shock which set the fires destroyed the means of defense by breaking the watermains, and the city was unprotected against the fury of the flames which raged uncontrolled for three days and nights. Few, if any, of the great fires of the world have equaled it in extent of property damage. Picture a city, rich, substantial, with a beauty and grandeur peculiar to itself, covering hills and valleys, with vast mercantile and manufacturing industries, changed in three days to a pile of broken brick and twisted girders, 2,560 acres of ruins, 28,188 houses destroyed, 275,000 people homeless, $350,000,000 property values wiped out of existence!

It was a time that tried men's souls; and never was American pluck put more fully to the test and never its superior quality more fully proved. There was hardly a person in the city who was not stricken to a greater or less degree; and thousands on thousands had not only the savings of a lifetime wiped out, but all immediate chance to work for a living destroyed. There was hardly food enough left in the city for a full meal for the inhabitants, most of whom were sleeping in the parks and vacant lots. The supply of water was very limited, and no fires were allowed in houses, so all cooking had to be done in the open air. The sewers were broken and clogged, the means of collecting garbage destroyed, and conditions were favorable for the spread of zymotic disease.

The conditions confronting the health authorities were serious but were fully appreciated, and long before the fire was out a complete organization was installed, composed of the medical service of the United States Army, the State Board of Health, and the City Health Department. The city was divided into districts, and over each was placed a local physician who was skilled as a leader as well as in his chosen work. He selected his own assistants from among the medical men of the city. Here let me give a word of tribute to the doctors of San Francisco. No class or profession was hurt so badly. Libraries, instruments, accounts and practice were all swept away and many of those fortunate enough to own their homes lost them also. Without price or any consideration they gave their time and skill not only to aid the sick and injured, but to save the city from a fate which seemed almost inevitable. The work they did was not spectacular, but its value to the city was none the less great and can never be properly appreciated. They went from house to house and camp to camp, inspecting, regulating, instructing, and, where it was necessary, backed by the strong arm of popular consent, enforcing sanitary measures. Connections with broken sewers were closed, water was boiled, body discharge buried, waste brought to sidewalks, and pollution of the surface of the ground forbidden. As a result of these measures there was practically no sickness in the city during the few weeks immediately succeeding the fire.

The people were largely living in the open air, eating simple, plain and wholesome food, and the waste matter was reasonably well destroyed. Business activities were at a standstill and personal attention was given to sanitary conditions. When, however, the reconstruction began and the sanitary inspection, which had been strict, was relaxed, typhoid and other zymotic diseases became prevalent and for several months the mortality and morbidity rates were above the normal, although at no time sufficient to cause alarm. Conditions, however, were favorable to the spread of disease and especially one like plague, which is carried by vermin. The sewers were broken and afforded an excellent means of communication for the rats from one part of the city to another. The ruins of the city gave ample hiding-place and the remains of lunches from thousands of workingmen gave sufficient food and excellent means for propagation.

The plague epidemic of 1900-1904 had been wiped out and for three years no case had developed, so when in May, 1907, one year after the fire, a case was found on the tug *Wizard* it was thought to be a fresh importation, and there is yet no certainty that it was not. No great uneasiness was felt until August, when it broke out with fury and soon appeared in many parts of the city. The exact source of this infection will never be known, but, no matter whether it was a lingering infection from the former outbreak or a fresh infection, the conditions were excellent for the spread. Thousands of refugees were living in tents and shacks built of any material that would give the slight protection needed from the weather. These habitations were without sanitary conveniences and were built close to the ground. The city was full of stables where the accumulated refuse gave a splendid home for vermin. Old board walks on streets and in back yards and rubbish in basements of undestroyed parts of the city was as common as in other cities. Slaughter-houses in the suburbs were pestilential holes. The sewers were broken and the garbage poorly collected. Rats were plentiful, and a widespread epidemic prevailed among them with nothing to keep them from a close contact with the people. With these conditions it is no wonder that those who had had to deal with the former epidemic of plague stood aghast at the prospect and trembled for the future, especially as plague cases were multiplying rapidly, for in September there were fifty-five cases in the city. It looked gloomy for San Francisco. The loss by the fire and the tremendous expense following it had almost broken the city treasury; and the losses in public buildings had left the state in little better condition; so that there was not the money necessary at the command of the health authorities to conduct the campaign the conditions demanded.

More than anything else was needed a man skilled in combating great epidemics and backed by a power that could make itself felt. Aid was asked of the United States Public Health and Marine-Hospital Service, and Dr. Rupert Blue of that service was assigned to the work. His experience with the former epidemic, when he had carefully studied the rat and its connection with the disease made him the logical man for the place, and his natural qualities as a leader and diplomat added materially to his qualifications. He began at once to arrange for a sanitary battle such as probably had never before been fought. For his executive officer he chose Past Assistant-Surgeon W. Colby Rucker of the same service, a man in every sense of the word capable, honest, enthusiastic, loyal and a thorough organizer. Together they constituted a force which inspired confidence in all with whom they came in contact and proved themselves a credit to their service. Both state and city authorities recognized Dr. Blue as the leader, gave him their hearty support and looked to him for results; and their confidence was not misplaced.

A campaign of general sanitation was laid out, the city divided into districts, each under an able leader, and daily reports made to headquarters. The work to be done was to make the city sanitary. To do this rats must be destroyed, their breeding-places broken up, their food-supply stopped; to use the expression of Dr. Blue it was necessary to "build them out." Ordinances were passed by the supervisors supporting this policy and orders were issued by the State Board of Health whenever it was possible to strengthen the hands of the department. The city was spending $30,000 per month besides the aid given by state and nation, but little progress seemed to be made. The cooperation of the people was needed: and it is to the credit of the organized medical profession of California that this was secured. In January a meeting was called by the Council of the State Medical Society, to which were invited a large number of business men. A few responded and became so impressed with the danger that a resolution was passed asking the mayor to appoint a Citizens' Health Committee of twenty-five. This he did and their work was of the greatest aid in saving the city. The whole city was awakened and soon every man employing help was calling his employés together and having them addressed on the subject of sanitation; and every one was made a committee to see that his own and neighbors' premises were clean. The women and women's clubs became active and efficient agents in the work; and in a short time the whole community was more deeply stirred in a move for better sanitary surroundings than any other large community had ever been.

While the enthusiasm among the people for better sanitary conditions was doing wonders in the way of cleaning up which could not have been accomplished by the organized health authorities for several hundred thousand dollars, it was evident that more systematic work must be done to restroy rats, and the Citizens' Health Committee promptly raised over $175,000, which was expended largely in the warfare on rats. Each household was required by law to have a closely covered metallic garbage-can, and the law was strictly enforced. Stables were made rat-proof, and only such persons acceptable to the officer in charge were allowed to move the manure out of the city—this to prevent the spread of infected rats and to force the rat-proofing of the stable, it being cheaper to do this than to dispose of the waste by other means. Old wooden sidewalks were torn up, shacks destroyed, piles of rubbish in basements and yards cleaned out, openings to broken sewers closed, and lumber piled so that cats could get beneath. In fact, all hiding-places and runways of the rodent were disturbed and his life made miserable and short with trap and poison. In fifteen months 350,837 of the rats were caught, besides the vast number dying of poison and never found.

In a few short months conditions had entirely changed and San Francisco stood forth the cleanest large city in the country; 1,025,977 premises had been inspected; 11,342 houses disinfected and 1,713 destroyed; 4,291,000 square feet of concrete basement and area floor had been laid, and 1,190,000 in stables; 3,967 stables had been concreted and 903 otherwise made rat-proof; 5,000 chicken-yards had been made rat-proof and 11,000 vacated; and it is estimated that 2,000,000 rats were slaughtered.

There were still many sores and scars from the recent burn, but as a rule they were well cared for and clean. The streets were littered with building material and in many places broken, but that is no measure of a city's sanitary condition. The streets and front yards may be clean, the houses bright with fresh paint, but the back yards and basements filthy. The front is no more a criterion of a city's cleanliness than is the outer garment of a person's. The condition of basements, stables and backyards, the use of garbage cans and proper collection of garbage, the absence of rubbish and the rat-proofing of buildings are the true measures of its cleanliness.

The plague has been a costly lesson to California, but she has smilingly paid the price and is profiting by it in a low death and morbidity rate. The spirit for better sanitation was not confined to San Francisco, but spread to other cities, and hardly one but bettered its condition; and the extent of betterment can be read by comparing the death rate of the year following with that of the year before. A campaign, the outgrowth of the one in the city, is still going on throughout the state in a way never before tried. A car with models illustrative of sanitary conditions, showing causes of disease and methods of avoiding, eradicating and curing, has been fitted up by the State Board of Health. The car was furnished free by the Southern Pacific Railroad Company and with its lecturers and attendants is being hauled free of charge by all the railroads of the state. This could hardly have been possible before the plague, but now it is gladly—yes, enthusiastically—done and the resulting good is beyond measure. We may have other cases of plague; situated, as we are, at the gateway through which so much immigration and business with the far East must come. It would be strange if we did not; but we know it, its cause and its means of spread and are on guard. We have fought the first great battle for the country and have won. The second may be on us, but it is just as likely to be on some of you on the Atlantic coast. It has spread with steady strides in a few short years to almost every country on earth and you are not far removed by water from some of its strongholds; it behooves you to take heed and learn from our experience and begin the fight before it is manifest. Dream not that you will catch the first case and check it then. Before you find human cases you will have a thoroughly infected rat population. Your only safety is in the extermination of that enemy of mankind.

This is not such a hopeless task as it may seem. If each householder will but look after his own premises and destroy breeding-places and feeding-ground the work is done. The value of a popular sentiment that requires that each person keep his holdings clean was strongly impressed on us. This sentiment needs, however, in the case of stress to be properly directed and in this a national department with its officers outside political machinations, trained to lead, educated for the work, with no other business interests to distract, is preeminently the best.

Paraplegia in the Aged.—Lhermitte discusses the cerebral, spinal cord or muscular origin of paraplegia in the aged and the disturbances in gait which result from mere functional incapacity. The latter depend mainly on the emotional reactions, the dread of the infirmities of age and the tendency to stay in bed on the slightest pretext. The idea of its being impossible to walk becomes more and more settled in the old man's mind, especially as his will power is growing constantly weaker. In bed he can move his muscles, but when standing seems to be unable to take a step. He can be encouraged to walk, leaning on a cane or attendant, and may cover miles with this aid, but gives up at once if deprived of this support. This form of paraplegia may be curable as the patient is reeducated to walk, and it should be eliminated before considering the organic forms. His article was published in the *Bull. de l'Internat, December*, 1908.

THE FRENCH GOVERNMENT TOBACCO FACTORY AT ISSY, NEAR PARIS

HYGIENIC NOTES [*]

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CINCINNATI

While in Paris, France, during the summer of 1908, for the purpose of making some investigations in the department of hygiene, I received permission to visit the government tobacco factory at Issy les Moulineaux, near Paris.

I wanted to make some investigations in regard to the effects of tobacco on the eyes of the employés of the factory, along the line of similar investigation which I have made in the tobacco factories of America, but this permission was not granted; I was permitted, however, to examine into the sanitary condition of the establishment, and was afforded every opportunity in this direction by the courteous director of the factory. The following are some of my findings:

The large tobacco factory, situated at Issy les Moulineaux, a short distance beyond the fortifications of Paris, covers several acres of ground, and is about the largest factory of its kind in France. It employs 1,200 persons, of whom 1,000 are women and 200 are men. The structure is an immense one, built of stone and brick, and was finished in 1904, when the old establishment in Paris was removed to this location. It is up to date in all its appointments, has the latest modern machinery, and turns out only cigars, cigarettes, and tobacco for pipes. In the first division the machinery is all of French make. It turns out cigars and tobacco for pipes. There are some very ingenious machines there for compressing and packing tobacco into forty-gram packages (a little over an ounce). A machine will turn out 1,300 of these packages in an hour.

All the floors contain cuspidors with a disinfectant substance, and the rooms are kept scrupulously clean. In one room there is some American machinery that is made in London and Dresden. All the tobacco dust from the machines is conducted through pipes to a flue and escapes through a chimney in the roof, and in this way very little dust is to be found in the work-rooms, and there is comparatively little smell of tobacco. There are twelve large work-rooms in the establishment, each 40 meters long and 14 meters (about 130 by 45 feet) wide, with immense high ceilings. Besides these there are smaller work-rooms. The men are employed largely to do the heavy work, while most of the skilled work in turning out cigars and cigarettes is done by the women. The superintendent informed me that the women are more dextrous in the use of their fingers than the men, and hence are given the preference in this kind of work. I found some Cincinnati machinery in one of the rooms for turning out cigarettes. This room was called the American room.

Besides the rooms for French tobacco there is a large room devoted to American tobacco, labeled "Ohio," "Maryland," "Kentucky," etc. The colors of these grades of tobacco are about twelve in number. Each woman employed in packing the cigars in boxes has her number on the box, so that in case the boxes are not packed properly the superintendent can tell who is at fault. Most of the employés go home for dinner at noon; for those who remain there is a pantry and kitchen for warming their food. There is a library in the establishment, baths, an emergency hospital for those who may be injured, and a dispensary with a full supply of drugs for the factory doctor who visits the establishment daily. All the water used for drinking purposes is sterilized by machinery. There is a good-sized nursery (crèche) for the babies that the working women may bring with them, with a kitchen for preparing food, bath-tubs, closets for toilet, etc.

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[*] Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The majority of the women here were much more mature-looking in appearance than those I saw in the factories in America. I saw no very young girls, and, of course, no boys. Smoking is against the rules in the establishment. The women did not present the anemic appearance that one notices among those employed in our American tobacco factories. The men showed no symptoms of tobacco infection that I could discern; and the medical director says that tobacco amblyopia rarely occurs among them. They do not smoke to the extent that our American workmen do, and, then, the cigars are lighter, and a good many cigarettes are used instead of the heavy cigars that our people smoke.

The sanitary condition of this factory is as good as that of any that I have ever visited. There was no crowding in the rooms; there was plenty of breathing space, and the employés all looked healthy.

All the tobacco factories are government property, and they yield an enormous revenue. For the year 1907 the total number of employés in the tobacco manufactories of France was 15,171; of this number, 13,239 were females and 1,932 were males. There are twenty of these manufactories in France situated in the following cities: Bordeaux, Châteauroux, Dieppe, Havre, Le-Mans, Lille, Limoges, Lyons, Marseilles, Morlaix, Nancy, Nantes, Nice, Orleans, Pantin, Issy les Moulineaux, Reuilly, Riom, Tonneins and Toulouse. All the employés, both men and women, are eligible for retirement at the age of sixty-five, when they are pensioned by the government. By a law of March 22, 1905, the male employés are appointed from the soldiers who have served for at least four years under the French flag; consequently they are at least twenty-five years of age before they are employed in the factories. Foreigners are not employed in these factories; occasionally, however, exceptions are made, and foreigners are appointed; especially in the case of French women who marry foreigners, for the women thence by virtue of such marriages become foreigners, according to the French law. If they are employed before such marriages, they are retained in the factories under the classification of foreign employés. These marriages occur mostly at Nice, Toulouse, etc., the seaport towns of France. Women are not employed if they are beyond twenty-eight years of age, and practically the minimum age is eighteen years. That disgusting practice of chewing tobacco, too prevalent among our Americans, does not exist among Frenchmen.

A medical director who resides in Paris is at the head of the medical department of these tobacco factories, as well as the other factories of the state. There are local physicians attached to the various factories, whose duty it is to look after the hygienic condition of the institution, as well as to care for any of the employés who may be injured while on duty. These physicians are all under the supervision of the medical director at Paris.

As will be seen, there are no minors employed in these French tobacco factories. This is as it should be. They should also be excluded from our tobacco factories in America, and for this purpose we should have government supervision of our tobacco factories so as to have uniform laws enacted forbidding their employment. As it is now, each state makes its own laws governing the matter, and they are not uniform and very often they are not enforced. I know that in my city there are a large number of boys and girls employed in these factories, and I suppose it is the same in the tobacco factories of other cities. They are employed on the score of cheapness, as they command less wages than the adult. In my investigations made in our factories I found that nearly all of the boys employed there smoked to a greater or less extent. The environment of the factory seemed to stimulate this habit.

In the minor the use of tobacco in any form is highly injurious, interfering with the normal development of the mental powers, producing various nervous disturbances, especially nervous disturbances of the heart, as manifested by palpitation, weakness, irregular action, irritability and anginal pains.

The action of tobacco on the heart is well set forth in the Lettsomian Lecture by J. Mitchell Bruce:[1]

> In young men whose circulation is still structurally sound, the uncomplicated effects of tobacco, as presented clinically are palpitation in every instance; a sense of irregular action, poststernal oppression and pain in half the cases; and in one out of every eight either angina or uncomfortable sensations in the left arm; faintness or actual faints in one-third of the cases; giddiness and a feeling of impending death in a smaller proportion. As to physical signs, the heart proves of ordinary size in 50 per cent. of the cases, in a few slightly enlarged; the precordial impulse is very weak, but occasionally increased in force and frequently, and likely as not to be irregular; the pulse tension, with insignificant exceptions, is low. Of twenty patients, not one presented a cardiac murmur beyond a weak mitral systolic bruit, variable with posture and cubitus.

That the habitual use of the tobacco by the young causes stunting of the physical and mental growth is set forth in the observations of Seavers, of Yale University, who has for years studied the growth of students during their four years' time at the university. He observed that those who do not use tobacco increase in weight, height, chest girth and lung capacity more than those who do use it. He states that Hitchcock, of Amherst, has made like observations.

On those who are more advanced in life, from forty upward, tobacco seems to spend its force more particularly on the eyes, producing a gradual but progressive reduction of the visual power, together with a confounding of colors for central vision. Out of something like 3,000 cases examined by me, during a period of ten years, in the tobacco factories of Cincinnati, more or less disturbance was noticed in about 5 per cent. of the cases among the male employés who used tobacco to excess. The females were exempt.

The deleterious effects of tobacco on the system in general, or on the eyes, is due, as we all know, to the presence of a poisonous ingredient called nicotine. This oily, colorless fluid diffuses itself into the blood with as much rapidity as prussic acid, and a poisonous dose has been known to kill an adult in three minutes. Nicotine when heated to 250 degrees becomes volatilized and decomposed, but if watery vapor is present volatilization takes place without decomposition. When dry tobacco is smoked, the greater part of the nicotine is decomposed by the heat and passes off with the smoke. The more moist the tobacco—and the cheaper grades are usually damp—the more this is retarded. The cheaper grades of tobacco contain more nicotine than the more

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1. Bruce, J. M.: Brit. Med. Jour., March 23, 1901.

expensive ones, and consequently are more injurious to the consumers. The tobacco used for chewing purposes is usually very rich in nicotine. The action of nicotine on the blood is an interesting one; it first produces a temporary increase in the blood pressure; this is followed by a more prolonged reduction of the pressure, and this again is followed by an increase in the blood pressure (Tschirwinsky).

On the blood corpuscles themselves nicotine exerts a marked influence. The red corpuscles become serrated in appearance, and when the drug is administered in large doses partial disintegration of the corpuscles takes place. In the experiment of Hare they are shown to arrange themselves in columns, instead of in rouleaux, in such a way that the edge of one corpuscle touches the edge of its neighbor. If the poison is added to the specimen under the microscope, the red corpuscles appear to disintegrate, and their diameter becomes smaller, whereby for the most part their concavity is diminished and they become colorless and transparent. Vas has shown that in chronic tobacco-poisoning the number of red corpuscles is reduced, whereas the number of white corpuscles is increased. The action of the poison is particularly marked on the white corpuscles. Their motion, which on the artificially warmed slide continues, is, as the Hare experiments show, immediately retarded by the addition of nicotine; the blood corpuscle, on its part, breaks up into eight or more divisions, which from time to time separate and swim in the fluid independently of each other. These divisions are round in appearance and bear a strong resemblance to the red corpuscles. The globular shape which the white corpuscles often assume does not appear after the addition of nicotine, but the protoplasm remains without change in the condition in which it appeared when motion was suspended.

Nicotine exerts a direct action on the oxyhemoglobin, and it is probable that it is in the reduction of the latter that nicotine acts as a causative agent in the production of asphyxia. The disintegration of the red corpuscles described above points to the correctness of this conclusion; therefore, death following nicotine poisoning is not simply in consequence of the usual asphyxia from depression of the respiratory center *per se*, but is due to the fact that the hemoglobin fails to carry oxygen to the various parts of the body.

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ABSTRACT OF DISCUSSION

Dr. W. Forrest Dutton, Walker's Mills, Pa.: I have used the Riva Rocci instrument a good deal in recording these cases. I have not examined a large number, but I have examined enough to know that smoking, as a rule, raises blood-pressure and keeps it high for a considerable time. It would seem to me that the men and women working in a tobacco factory side by side would be affected in the same way; but this paper states that the men were affected by this particular eye affection and the women were not affected. I should like to have some explanation of that phenomenon for my own edification.

Dr. Francis Dowling, Cincinnati: I found, in my examinations in the tobacco factories, that the air of the factories does not produce either a toxic infection of the eyes or of the system in general of the employés. It was only in those who used tobacco in smoking or chewing that toxic symptoms were manifested. The reason the women are exempt is that they do not usually smoke or chew tobacco. I found that some of the men, on the other hand, smoked as many as 18 or 20 cigars a day, and the degree of tobacco infection, especially of the eyes, was usually proportionate to the amount of tobacco consumed.

FACTORS WHICH CONTRIBUTE TO A REDUCTION IN MORTALITY IN ABDOMINAL SURGERY *

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In submitting this subject for discussion, I do not hope to offer anything new, but desire merely to present an outline, an approach to which has served to reduce my mortality and to improve my results in other respects.

In offering surgical relief in an individual instance, we should be prepared to give the following reasonable and adequate assurance:

First.—That the risk to life, as this particular operation is to be done, is not out of proportion to the gravity of the disease. What chiefly concerns a patient undergoing operation is the risk to which she is subjected by the given surgeon with the facilities at his command, and not the death rate from this particular operation as done by the masters of surgery. In surgery, as in every other sphere of human endeavor, the element of personal equation largely determines results—one operator will habitually have a low mortality, another will achieve an occasional brilliant result, while the work of still another will always be mediocre. The patient who submits to an abdominal operation stakes her life on the ability of the operator to command proper facilities and to do consistently high-grade work.

Second.—That if the patient recovers from operation, there should be no essential reason why she should not have the desired relief—i. e., that the patient should not be subjected to the risk of a grave operation if she can not be cured of the disease, as is the case in advanced cancer. It would be unwise, also, to remove a uterus for fibroid tumor, if coincident and grave cardiac, pulmonary or renal disease would almost certainly cause permanent invalidism, and if the depression incident to operation might easily prove fatal.

Third.—That the conditions under which operation is to be done should be such that no other combination of circumstances could offer less risk to life, or a greater degree of security against postoperative complications.

Fourth.—That in removing one type of pathology we may be able to avoid substituting another type which might readily entail greater discomfort and danger than that removed. A patient who exchanges a retroverted uterus for an incisional hernia or serious intestinal adhesions can scarcely be said to have profited by the exchange. Such unfortunate results will undoubtedly be encountered occasionally by the most careful, skilful, earnest and successful surgeons. If such occurrences are rare, it may be wise for a patient to take the slight risk—but if in individual hands they occur with marked regularity the risk under such conditions is manifestly out of proportion to the benefit which may be reasonably expected.

Fifth.—That no other less onorous kind of treatment could effect the desired result in a more satisfactory way. For example, salpingitis and pelvic peritonitis often may be completely cured by a relatively short period of rest and medical treatment. Precipitate removal of diseased organs under such conditions would be manifestly unwise. It often happens that a well-fitting pessary completely relieves the discomfort due to uterine displacements; on the other hand, one often finds the perineum so badly damaged that no type of pessary can be retained. Under these conditions safe surgical correction is desirable.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Sixth.—That the benefit to be derived from operation should reasonably be expected to compensate the patient fully for the risk to life, discomfort, loss of time, inconvenience, degree and duration of disability, and the cost of operation and still leave a decided balance of benefit to the patient's credit. The simplicity of the procedure and the success of the operator in the surroundings and under the conditions which exist should be such as to afford adequate warrant for the belief that a high degree of success will attend this particular operation on this particular patient.

Just in proportion as a surgeon is accurate in these estimates will his judgment be good, his counsel wise, and his results satisfactory.

I am fully aware that such restrictions imply a degree of skill and judgment that it is difficult to acquire. Yet the moral law and statutes confer on us broad privileges in handling human lives provided we recognize and respect the sacred trust such privileges entail. If we respect those laws we must realize that many factors contribute to a high percentage of recovery with ideal convalescence. Chief among them are a due appreciation of the functional value of anatomic structures, a comprehensive knowledge of the principles of pathology, the recognition and correct interpretation of gross pathologic lesions in the living subject, an intimate knowledge of the habits and accidents common to the structures with which we come in contact, a correct estimate of the patient's reserve strength, a wise choice of time and type of operation, a rigid aseptic technic, a considerable degree of manipulative dexterity and such *esprit de corps* among one's group of coworkers as will permit of operative speed and precision.

It is clear that to accomplish these aims necessitates a fortunate combination of time, adequate facilities, proper training, special aptitude, and assiduous application. Yet they are the requisites of uniform success and as such constitute the most important factors in the prophylaxis of postoperative morbidity and in the reduction of mortalty.

A comprehensive knowledge of the fundamental principles of pathology is essential to a correct interpretation of a given morbid process; to a forecast of its further course; and to a fair estimate of its present and future effect on the patient in question.

ACCURATE KNOWLEDGE OF THE NATURE, EXTENT AND TREND OF DISEASE

While it is practically impossible to make an exact diagnosis in every case before opening the abdomen, the careful and well-trained surgeon should be sure of the intra-abdominal condition in from 90 to 95 per cent. of cases. In estimating the needs of the individual patient it is not sufficient merely to know the nature of the disease for which relief is sought. One should know as well the influence it is having on the host, and also the extent to which it is modified by other pathologic processes affecting the individual. Should there be no other associated disease, it is still necessary to have exact knowledge regarding the lesion under consideration. The several stages through which the pathologic process passes, and the varying influence it exerts, make such knowledge essential to a wise handling of the disease.

Every type of pathologic process affecting the pelvic organs affords striking and frequent examples of the foregoing propositions. For instance, one's conception of early carcinoma of the fundus of the uterus which has scarcely invaded the muscular wall is entirely different from that of advanced adenocarcinoma of the cervix which quickly invades the parametrium and gives distant metastatic involvement. The treatment based on this conception differs quite as widely. Immediate hysterectomy in the first instance may be accomplished with little risk and is exceedingly likely to yield a radical cure. In our present state of knowledge one could hardly excuse a hysterectomy for advanced adenocarcinoma of the cervix and surrounding structures which would be attended by great risk to life and scarcely a possibility of even temporary relief.

One familiar with the progress and clinical aspect of varying types of uterine fibroids should reasonably expect to forecast the future course of events in an individual instance with the same degree of precision that the astute clinician anticipates complications in the course of pneumonia, diabetes, nephritis, arteriosclerosis, etc. For instance, if a patient of 37 or over has a growing interstitial or submucous fibroid, and for a year or more has lost an increasing quantity of blood, it is not necessary to permit the development of marked anemia with cardiac and vascular changes, nephritis, etc., before realizing that she represents a clinical type, tending inevitably to that end. On the other hand, a woman of like age or younger, with a small inoffensive subserous fibroid need not, at some risk, forfeit her chance of becoming a mother, by unnecessary haste in operation. A mere reference to such contrast of cases might seem out of place in this presence, and yet in my experience fully 40 per cent. of fibroids that have come to operation have shown some form of degeneration of the tumor, or serious cardiac, vascular or nephritic changes. Manifestly the time of election for operation comes before there is such debility as to retard convalescence.

The need for precise and comprehensive diagnosis is especially great in dealing with inflammatory affections of the genital tract—thus the outcome and hence the treatment may differ widely in such pathologic processes as true cellulitis with dense inflammatory exudate, on the one hand, and salpingitis, on the other. In each of these affections the best course to pursue may vary materially with the duration, extent and trend of the disease.

Equally wide differences in clinical aspects and treatment may arise in the course of such affections as ovarian cysts and tubal pregnancy.

EXACT DETERMINATION OF THE PATIENT'S RESERVE STRENGTH

The most frequent, the most perplexing and at the same time the most important decision the surgeon is called on to make relates to the margin of reserve strength possessed by the individual patient and the extent to which that margin will be encroached on by the method of obtaining relief. He must recognize the fact that a definite percentage of reserve strength is essential to the absolute needs of existence. It is evident that the energy that may with safety be dissipated by operation must come from this margin of reserve strength above the absolute needs of existence. The risk of operation increases just in proportion as this margin is encroached on. It is important that surgeons should analyze the composite picture of reserve strength and strive diligently to reduce it to an exact analysis. It is clear that this margin depends on the functional value of all the vital organs, including the musculature.

It is usually possible to determine the functional value of each of these several structures by well-known clinical methods. To eliminate the element of chance it is essential that such clinical methods should be habitually and systematically employed. There would seem to be, however, a small percentage of cases in which the available tests are inadequate, notably those in which sudden death occurs in the course of what appears to be a perfectly normal convalescence, with or without evident fatal embolism; postoperative nephritis occurring in what appeared to be previously healthy kidneys; and rare evidences of death due to acidosis, the urine having previously been free from sugar, diacetic acid, and other abnormal constituents.

JUDICIOUS ADAPTATION OF TIME AND TYPE OF OPERATION TO INDIVIDUAL NEEDS

The wise adaptation of the time and type of operation to individual needs is essential to uniform success. It demands prompt decision and constitutes the severest test to which a surgeon's judgment is put.

It is not always easy to refrain from surgical intervention when a patient lies critically ill and is apparently growing worse from an intra-abdominal affection which will clearly demand operation at some stage of its existence. Yet if we except accidents and injuries to hollow viscera—strangulated hernia, perforation, etc.—it seems clear to me that an increasing percentage of so-called emergency work can be reduced to the safer planes of incomplete and elective surgery. In all surgery there is scarcely a more hazardous procedure than the removal of a large universally adherent, infected ovarian cyst at the height of an acute and exhausting illness. It often happens, however, that evacuation renders subsequent removal simple and safe. At times such an emergency as torsion of the pedicle of an ovarian cyst is rendered more serious by a severe complicating nephritis. To withhold surgical relief may seem a hazardous procedure and yet it is often surprising to see the marked improvement which follows delay and restored renal activity. It occasionally happens that the completion of an operation would probably prove fatal, whereas temporary failure may later be followed by safe operation.

When pronounced anemia and cardiac and renal complications accompany uterine fibroids the most gratifying results are often attendant on a few weeks of preliminary treatment. A number of patients who had for some months been going progressively down until they were almost exhausted have improved sufficiently to permit of safe hysterectomy and speedy convalescence, whereas more precipitate operation might readily have proved fatal.

My conviction daily grows more firm that by converting acute inflammatory affections of pelvic structures into aseptic lesions the need for operation and the postoperative morbidity and mortality may be greatly reduced. This conviction is based on an increasing number of complete recoveries without operation and a series of 475 consecutive abdominal sections for inflammatory lesions of tubal origin with only four deaths.

When operation is done while inflammatory exudate still infiltrates intestinal walls, injury with subsequent fecal fistula, adhesions and intestinal obstruction, are far more common than when internal sterilization of pus (tubes) is practiced. In the series of cases just referred to (475 sections for quiescent inflammatory products) there have been only two cases of partial intestinal obstruction. One of these was subsequently relieved by operation. The other did not require it. These four complications occurred in cases in which operation was done relatively soon after the acute attack had subsided—that is, just as the last of the exudate was being absorbed. During the period in which these sections were being done for inflammatory lesions something more than a thousand sections were done for other types of pathology without a single fecal fistula, and, so far as I know, with only one case of partial intestinal obstruction, which occurred two years later.

A GROUP OF COMPETENT COWORKERS

I consider the proper organization of a surgical service an important factor in the reduction of mortality. The method which seems entirely satisfactory in my service at the Allegheny General Hospital consists in dividing the work into several departments and having a corps of competent and continuous workers in each. The corps of workers consists of:

1. A thoroughly reliable and efficient first assistant is, I believe, essential to quick, precise work and uniform success. Dr. S. A. Chalfant, who was anesthetist for a considerable period of time, has occupied the position of first assistant for a number of years.

2. A skilled anesthetist, on salary, who, in addition to giving all anesthetics, is responsible for a typewritten record, embodying all details regarding diagnosis, operation, pathologic lesions found at operation and a description of specimens removed. It is his further duty to keep tabulated records of postoperative facts in any way due to the administration of the anesthetic.

3. A pathologic department consisting of an expert pathologist cooperating with the pathologist of the institution and having a competent salaried assistant. Among other things, it is customary to have routine examinations of blood at stated intervals before and after operation, and at other times if occasion arises: to examine the urine before operation and each 24 hours thereafter for two or three days, or as long as any abnormal constituents are found. The routine urinalysis embraces among other things a quantitative estimate of the acetone bodies both before and after operation; systematic bacteriologic investigations and histologic examinations of specimens and discharges are made.

4. The Nursing Corps.—Much depends on the proper organization of one's corps of nurses. A group of intelligent, earnest, systematic, diligent nurses, who take a deep personal interest in promoting the comfort, security and welfare of each patient, contributes much to the efficiency of one's work. The arrangement we have had at the Allegheny General Hospital has proved satisfactory in method and personnel. (a) There are efficient graduate head nurses in charge of the private and ward floors. They have the usual group of undergraduates. (b) An unusually competent graduate nurse has for a number of years been in charge of the operating room and of the preparation of all dressings used therein. She also prepares the field of operation in clean cases. She has two undergraduate assistants. (3) A plan which I can not commend too highly is the employment of a continuous group of postoperative nurses chosen because of especial aptitude and fitness for this particular type of work. Each patient subjected to abdominal section should be under the care of such a competent graduate day and night nurse for the first 48 hours, or as much longer as the patient's condition may demand. They add much to the comfort, and, by being

skilled and alert, to the safety of patients. Private patients gladly pay for this service—the hospital supplies it to charity patients.

MINIMUM AMOUNT OF ANESTHETIC

Undoubtedly one of the most important advances in major surgery during the last century was the introduction of anesthetics. During the last decade one of the most important advances has been the uniform and progressive tendency to reduce the quantity of anesthetic. This has resulted from a better understanding of the frequency, nature and extent of the deleterious effects they cause. It has been accomplished by the employment of skilled anesthetists, by the adoption of better methods of administration and by such improvement of team work in operative technic as reduces the duration of operation.

While fully recognizing the extent of our indebtedness for anesthetics, and to those who introduced them, we must not lose sight of the fact that, while doing immense good, anesthetics usually cause distinctly harmful results. These results are expressed in a definite clinical picture which is always present but in varying degrees. One almost invariably sees marked muscular depression and interference with glandular secretion as evidenced by parched lips, intense thirst, usually nausea and vomiting, and a reduced quantity of urine.

When this disturbance is more marked the air passages may become affected, the circulatory system depressed, metabolic disturbances occur, and hepatic and renal functions may be markedly or even seriously vitiated.

The more thoroughly one investigates these subjects by careful observation of symptoms and systematic preoperative and postoperative analysis of secretions, the more fully does one realize that the anesthetic is perhaps the most important factor in determining operative mortality. The truth of this proposition has repeatedly been demonstrated to my entire satisfaction by contrasting the postoperative condition of two classes of patients: The one class embraces such operations as appendectomy, cholelithiasis, hysterectomy for fibroid, etc., on good subjects under ether anesthesia. The other class includes a number of patients operated on for gallstones, large adherent ovarian cysts, appendicitis, etc., who were also the subjects of such grave cardiac, renal or pulmonary disease as positively contraindicated the use of a general anesthetic. The observation has been so common as to be almost universal, that in the grave cases without anesthesia the patients were some hours later, in much better condition than the patients in the simpler cases to whom ether was given, and that convalescence was almost uniformly more smooth and satisfactory. I would emphasize the fact that this striking difference was in favor of the patients who would almost certainly have died had a general anesthetic been administered.

The method we have found most satisfactory has been the continuous services of a skilled and salaried anesthetist who uses the open or drop method, with the coincident administration of oxygen, using a soft catheter introduced through the nose. The use of oxygen in this way has, among other things, almost done away with nausea and vomiting.

I believe that a full appreciation of the possible harm that might result from the administration of anesthetics, and a careful study of the circulatory, respiratory and urinary tracts before operation, has contributed no little to the maintenance of a low operative mortality in my service. It has also done much to reduce the frequency and severity of such postoperative complications as are attributable to this cause. Pneumonia and bronchitis are exceedingly rare; shock and other circulatory disturbances are almost never seen, and urinary complications are much less frequent and serious than formerly. There have been only 13 deaths (1.86 per cent. mortality) in the last 700 consecutive laparotomies.

RIGID ASEPTIC TECHNIC

A rigid aseptic technic is unquestionably the foundation on which all modern surgery rests. Without it there can be no uniform success. Without it the certainty, nature and extent of postoperative complications is such as to render elective surgery rarely, if ever, justifiable. The development of a rigid aseptic technic demands that the surgeon, his assistants and all others who come in contact with the field of operation during the period of preparation, operation or postoperative care, shall absolutely avoid contact with any wound, dressing, receptacle, or other structure or article which is not surgically clean. This implies the use of sterile rubber gloves in all physical examinations of patients, presumably free from open foci of infection. It implies even more rigid care in examinations made in the presence of discharges from open wounds. Uniform aseptic success demands that such precautions be taken every day in the year: so that the most important instruments concerned in operation, the hands and their covering, shall remain as nearly aseptic as possible. The hands having been kept continuously clean, the risk of infection is further reduced by the use of well-fitting rubber gloves of good fiber. These principles apply with equal force to the operator, his assistants, the nurses in the operating room and those who have the care of the field of operation. Such a rigid aseptic technic forces on us recognition of the undoubted fact that hospitals are clearing houses for all types of infection. With rigid technic, proper segregation of patients, and such division of labor as precludes the intermingling of caretakers of septic and clean patients, it is easily possible to do elective work with uniform aseptic results. We should never lose sight of the fact, however, that when the least relaxation occurs the conditions are analogous to those which exist when a powder mill and a match factory are operating under a single roof.

SPEED WITH PRECISION

If a surgeon is called on to operate at a distance, in a definite and considerable percentage of cases, he will lack essential facts which should guide him in deciding for or against operation, the type of procedure to be employed, and the time of election and the conditions under which it should be done. If he operates under such conditions, the death rate will be unnecessarily high. If he declines to operate, an embarrassing situation arises.

I can not too strongly commend the wisdom of operating habitually in one's accustomed surroundings. By doing so and exercising constant effort to develop systematic methods, it becomes possible to have the duties of one's coworkers proceed with clockwork precision.

With such a well-organized corps of workers, the division of labor may reach such a degree of efficiency that the operator may concentrate his entire attention on his individual work—arriving with unnecessary interruption at prompt decision regarding the fate and function of structures, the type of operation best suited to individual needs, and essential methods of technic.

By such an arrangement, one will more uniformly do the operation best suited to individual needs; good team work, celerity and precision reduce the time required for operation, the quantity of anesthetic employed and the possibility of such accidents as slipping ligatures, losing pads, peritonitis, infected pedicles, stitch abscesses, etc. In one's accustomed surroundings, where a definite, systematic and careful technic is employed, it is rarely necessary to improvise. He is a poor surgeon who can not improvise if an emergency demands it. He is a poorer one who habitually or frequently allows himself to be placed in such a position that he must improvise. The act of improvising is evidence that an operator is substituting an inferior method of procedure for one he would prefer to employ in the individual case. While untoward results may rarely follow, ample room exists for the element of chance to enter.

The evolution of systematic methods and technic employed in operating rooms will necessarily vary according to individual requirements. The simple technic which has proved satisfactory in my operating room at the Allegheny General Hospital is briefly as follows:

In order to reduce the chance of transmitting infection to a minimum only three persons are supposed to have clean hands—the operator, the first assistant, and interne; they scrub their hands with soap and running water for twenty minutes, and then use such chemical antiseptics as will not injure the skin. Solutions of potassium permanganate, oxalic acid, bichlorid of mercury and, finally, alcohol being the sequence preferred, but if either of these solutions is irritating to the skin it is omitted.

All instruments and dressings used during operation are taken directly from the sterilizer by the first assistant. The arrangement of dressings and of instruments in trays and on tables is always exactly the same, thus enabling any one connected with the operation to find a desired article without a moment of hesitation.

In order to avoid unnecessary handling and consequently arousing of patients, they are anesthetized on the operating table, which is then rolled into the operating room.

While the first assistant is arranging instruments and dressings, the head nurse has the patient placed in proper position so that the interne proceeds at once to cleanse the field of operation. While the operator adjusts protecting sterile cloths, the first assistant verifies the count of abdominal pads and the head nurse places the instrument and dressing tables in their respective places.

The instrument table is placed within reach of the operator; as the instruments always occupy exactly the same position in the several trays it is easy to pick up any desired instrument without even turning the head. The first assistant having verified the number of pads available for use, must account at the end of operation for the number, which must always be a multiple of five. In order to avoid error, as soiled pads are discarded, the head nurse has one of her assistants collect these pads and pin them together in sets of five. These sets are then arranged in definite order so that with the greatest economy of time the head nurse may at any moment give the correct count of discarded pads. To this number the first assistant adds those in his keeping. If the aggregate is not a multiple of five, one or more pads must be found within the abdomen or elsewhere. So far as we know, a pad has never been left within the abdominal cavity, though without such a definite system I am confident such an accident would probably have happened.

The instruments, needles and suture materials are in the hands of the interne. It is our desire to simplify methods so far as possible, so only four types of needles are used. Each needle has its definite purpose. It always carries its definite kind of sutures—the suture material employed is limited to silkworm gut, celluloid linen No. 1, and the finest catgut, that will give a fair degree of tensile strength. We usually employ commercial catgut which is contained in hermetic glass tubes and is supposed to be sterile. Before using, however, the tubes are boiled for half an hour on two successive days.

It is my belief that the head nurse can accomplish most by being free to adjust the patient, to arrange instrument and dressing tables, irrigating stands, solutions, intravenous sets, hypodermics, if needed, supervise the counting of pads, send specimens to the laboratory for immediate frozen section, etc. We accordingly prefer that she should not have sterile hands.

The head nurse and her two assistants make all dressings used in the operating room—and see that a supply of all appliances used is constantly at hand.

It is our desire to make the postoperative treatment of patients as simple as possible, especially to minimize, so far as possible, the petty annoyances which disturb patients unnecessarily, etc. They are kept as quiet as possible, they are rarely catheterized—ice is usually applied to the abdomen—continuous enteroclysis, normal salt solution, Murphy method often serves a valuable purpose. The patient's position may be about what she wishes, unless there is some especial reason to avoid moving, such, for instance, as the use of drainage.

CONCLUSIONS

In conclusion, I believe that an accurate knowledge of the nature, extent and trend of disease, and exact determination of the patient's margin of reserve strength; a judicious adaptation of the time and type of operation to individual needs; a group of competent operative coworkers; a minimum amount of anesthetic; a rigid aseptic technic; and speed with precision, are factors which will yield a low mortality and highly satisfactory operative results.

ABSTRACT OF DISCUSSION

Dr. C. A. L. Reed, Cincinnati: Operative celerity consistent with the safety and precision of operation, with reference not only to minimizing the time but the amount of the anesthesia, is a matter that cannot be emphasized too strongly. I was invited for three o'clock one afternoon some time ago to witness an operation that was done in the patient's house, where it ought not to have been done. I arrived nearly half an hour late, expecting that the hysterectomy would have been concluded. I not only was not too late, but I had the opportunity of holding a coal oil lamp for over an hour after nightfall until the operator got through with his work. It is needless to say that the patient died. Recently a patient was kept under anesthesia for a simple perineorrhaphy for 2½ hours. Operations of that kind are being done with a frequency that is alarming, and the sooner this Association states its disapproval of this slovenly method the better. I have been in operating theaters, with good operators in charge, in which I have seen the surgeon, instead of paying strict attention to his business, engage in conversation with those about him, while the patient was being kept under an anesthetic, thus unnecessarily and dangerously prolonging the period of operation. I recall with pleasure that celerity was one of the great points constantly emphasized and exemplified by the late

Lawson Tait, than whom no more successful operator ever lived. Those who had the privilege of seeing him operate will recall with what promptness he did his operations, with what general precision they were done, and all will testify to the high grade of his results. The point to which he constantly called attention was the importance of minimizing the anesthesia with reference to sparing the patients from metabolic difficulties due to taking too much anesthetic. The time has arrived to proclaim, and I think the protest should go forward in no uncertain terms, that that surgeon who consumes an unnecessary amount of time in the performance of the operation subjects his patient to an unnecessary danger. Therefore, when a surgeon begins an operation, let him begin and pay attention to his business and keep at it until the work is safely done. And this reminds me that there are other phases of the question, either actually raised or suggested by Dr. Simpson's paper—and that is as to the question of surgical competency. This is an issue that we have been dodging in one way or another for a long time. It is one that nobody likes to take up. But we all know that a lot of surgery is being done by a lot of operators who are not qualified for the work. I shudder when I think of the possible unnecessary mortality due to this cause. In one of the states, Colorado, I believe, a bill was introduced last year that was intended to put a curb on this abuse by establishing a supplementary state license on surgery. I don't know what came of the bill, but I do know that the mere fact that such a bill was framed shows that the public is taking cognizance of the fact that general medical qualification does not always imply special surgical qualification. The fact is that surgical work is being cheapened by average amphitheater exhibitions. There is too much of this thing of going for a day or a week "to see the Mayos" or "to see Murphy," or "to see Richardson," or "to see Matas," and then coming back a full-fledged surgeon. The postgraduate schools with their semi-diploma certificates are far from being without responsibility for this situation. The fact is that the "smatter-courses" ought to be suppressed. Let us get to the point of thoroughness, to the point of apprenticeship, to the point of broad fundamental culture, to the point of careful manual training, and away from the irresponsible promiscuity that now too much characterizes the surgery of this country.

Dr. J. H. Carstens, Detroit: The patient should be carried into the operating room and anesthetized without having time to think of the operation. The shock and dread kill many patients. Another point that I wish to make is that slow operating is bad practice. No one can operate with gloves so quickly as without, so I operate with my bare hands. I see men do all kinds of operations with gloves on. These often tear during the operation and naturally will infect the patient. In order to do good rapid surgery one must have asepsis and absolutely clean hands all the time, and that means that the surgeon must not at any time put his fingers into a dirty place. If he ever gets his hands contaminated it will take many weeks to get them clean, no matter what the antiseptic or what amount of scrubbing he employs. If I make a mistake in diagnosis and find that I have a pus case I quickly put on gloves.

Dr. H. J. Boldt, New York City: Dr. Simpson said that operators should be careful to make an exact diagnosis in cases in which they intend to operate. That is very nice and while an exact diagnosis should be made in 95 per cent. we must not put the burden on the operator so much as the teachers who are connected with schools sending out men who are in time to be operators. A great many men who enter the field of surgery take a postgraduate course of six weeks or two months and go out, considering themselves specialists in certain lines of work. It is not possible that any one can learn a proper technic in so short a time. Pupils in their senior year should be taught how to make diagnoses. The method of treatment will come of its own accord if a correct diagnosis is made.

Dr. C. S. Bacon, Chicago: It seems to me pertinent to call attention to the proposition that a special license be required for surgical operators. Last year such a measure was presented to the legislature of Colorado, but it was not endorsed by the profession. It, however, shows the trend of the times and undoubtedly there will be a great deal more proposals of the same kind in the future. The importance of proper training in diagnosis and especially in surgical technic is admitted by all. Does every one who receives a license to practice possess such training? We all know that he does not and it is manifestly not right that every one should have the license to perform all sorts of operations.

Dr. F. F. Lawrence, Columbus: One contributory factor in shock which has not been mentioned is unnecessary traumatism. I care not whether it be by stuffing the abdomen full of gauze or by bruising the tissues with retractors. Every surgeon should teach that such unnecessary trauma is unsurgical. What useful purpose can a lot of gauze stuffed into the abdomen serve? None. There is seldom any necessity for putting a metal retractor in the wound. If there is a bleeding vessel down in the wound or in the pelvis or back in the mesentery it may be necessary for a moment only. When we teach that we must prevent every unnecessary trauma we will save our patients shock and forestall one of the elements of infection. There can not be infection in normal tissue.

Another thing: Operations should be done in a dry field. Sterilizing should be done the night before, a double sterilization; germs grow only in a moist soil. Ligatures should not be tied too tight. Strangulated tissue is dangerous and no matter how slight the strangulation may be it causes shock.

Dr. Robert T. Morris, New York City: We are now on the verge of a fourth era of surgery. The first era was heroic. The next, anatomic. The third, now prevailing over the world, is the pathologic, in which we expect by mechanical measures to remove the causes and products of infection. The fourth era, on which we are just now entering, is the physiologic, which includes the idea of conserving all the natural resistance of the patient and allowing him to do what we have tried to do in a crude way mechanically. If we are to allow the patient to do this by conserving his self-resistance, we are to accomplish it by avoiding all the causes which shock the machine which is making phagocytes and opsonins. The patient has no other business. His business immediately after operation is manufacturing and if we interfere with the work of this machinery by long-continued operation, by long and unnecessary technic, by performing taxidermy on a patient with gauze, we prevent that patient from manufacturing his phagocytes and opsonins. An important point among those brought out by Dr. Simpson is asepsis. If I were anchoring a floating spleen I would wear a mouth mask, cap, and rubber gloves. If I were operating on a case of appendicitis with abscess, I would not wear a mouth mask, or a cap, or rubber gloves, and it would make no difference whether I washed my hands after the operation or before. If pus were spread on the normal peritoneum in the course of the operation I would leave it there. I would get in and get out. I would leave the patient with a normal resistance which would care for that pus so much better than I could care for it that his chances for recovery would be very much increased. In anchoring the spleen we might take twenty minutes for the operation; but for the pus case with appendicitis, we should not make the operation longer than five minutes if possible.

Dr. Horace G. Wetherill, Denver: The established immunity which occurs in certain acute cases is important and frequently such patients should be tided over the acute stage. The general tendency of the last few years has been to do this with certain peritoneal infections, notably with those from appendicitis. Far too many operations have been done for acute pelvic infections and often with extremely bad results. The bill which Dr. Bacon referred to for the control of surgical operations was presented in the legislature of the state of Colorado. It was not approved by the local medical profession. As president of the Colorado State Medical Society I presented a plan which, for us, seems much better. In the west the hospital situation is different from that of the east. We have a hospital staff; but the work in the hospital is not limited to the staff. Any physician may take his patients into the hospital and do as he pleases. My proposal was that each of the hospitals in our cities appoint a representative, these representatives to form a body to be known as a sort of hospital clearing house association representing all the hospitals in the community. Among other duties of this body every one wishing to take patients to the hospital must make application to this clearing house association. He must present his credentials, tell with whom he has worked, what his work has been, and in a broad way what his qualifications are. On such application made to this board his practice in the hospitals must depend. In many communities that is a plan which would meet this difficulty.

Dr. John A. McGlinn, Philadelphia: I want to emphasize Dr. Boldt's statement in reference to diagnosis, and to urge the necessity of teaching and training students to be diagnosticians rather than operators. I feel that clinics made up of major operations are useless. The students can see but little of the technic, yet it gives them confidence to attempt work for which they are not trained. The time could be much better devoted to practical work in diagnosis. While I do not minimize the necessity of speed in operations I feel that completeness is a far more important factor. Recently I operated on a patient with double pyosalpinx several weeks after a general surgeon had removed the appendix. Within the past year a colleague operated on a patient with ruptured tubal pregnancy ten days after a very able surgeon had removed the appendix. These two cases are sufficient I think to prove the necessity of sacrificing speed to thoroughness in our work. The matter of anesthesia is important. I do not believe that it is advisable to allow the resident physician or an untrained man to give an anesthetic. I have always looked on the giving of an anesthetic as important as the operation itself. For this reason I have always employed a trained anesthetist. With reference to asepsis, I feel that the fewer assistants one has the better will be his results in an aseptic field. I use but one assistant for all operations and he has very little to do. He is simply used as an extra pair of hands to hold some instrument such as a retractor. One can train himself to work rapidly with few assistants, depending on himself for almost everything.

Dr. F. F. Simpson, Pittsburg, Pa.: My object in bringing this subject before the Section was to get just what we have had, a definite expression of opinion by operators. Relative to some of the factors concerned in the reduction of mortality I would say that the synopsis that I have read is merely an abstract of my paper which will be published in full and a good many of the points brought out by the discussion have been more fully dealt with than the abstract indicates.

In regard to the reduction of mortality as related to the anesthetic, the opinion I wished to convey was that a study of the deaths during the last four or five years would show that probably one-third of the deaths could be attributed directly to the anesthetic, that is, to the effect of the anesthesia in disturbing metabolism, and its influence on the kidneys and on the liver. The more fully we study the subject of acetone bodies and the effects of metabolic disturbance the more do I believe that the anesthetic and its effect on metabolism will probably be found to be the cause of a high percentage of the deaths that actually occur.

VACCINE AND SERUM THERAPY IN CHILDREN*

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Vaccine therapy for prevention or cure of infection has for its object the production of an active immunity to the specific bacteria concerned, while serum therapy produces a passive immunity only.

Immunity, which is resistance or lack of susceptibility to a given disease or micro-organism, may be natural or acquired. Artificial or acquired immunity may be the result of an attack of the disease itself or it may follow inoculation with living cultures of micro-organisms in sublethal doses or in an attenuated state, with dead cultures or with those products of the growth and metabolism of bacteria known as toxins. Immunity so acquired is active or direct, comparatively slow in appearance, and of comparatively long though variable duration. It is brought about by the development in the blood serum of substances antagonistic to the vital activity of the bacteria or to the toxins. Such substances are known as antibodies. The serum of an animal which has been actively immunized and which is rich in antibodies may be inoculated into another animal for the purpose of combating infection. The immunity thus produced in the second animal is indirect or passive and of comparatively short duration.

The antibodies are of several kinds: agglutinins, opsonins, precipitins and lysins. They are formed by the tissue cells under the stimulus of the infecting bacteria, at first locally, then generally, and are present in the serum and to a lesser extent in the other body fluids. They manifest themselves in certain definite ways demonstrable and measurable by laboratory methods: agglutination reaction, opsonic index, bactericidal reaction, and the complement deviation test. Clinically their increase is accompanied by amelioration of the symptoms of infection. The aim of both vaccine and serum therapy then is to aid the production of antibodies in order to effect a destruction of the invading bacteria and the neutralization of their toxins. Metchnikoff asserted that the destruction of micro-organisms was brought about by their ingestion by phagocytes, especially polymorphonuclear leucocytes. Denys and Leclef have proved that there is a substance in the blood serum which prepares the bacteria for phagocytosis. This sensitizing substance was named "opsonin" by Wright and Douglas, who elaborated methods for its study in the laboratory and for its practical application to the treatment of infections by means of vaccines made of suspensions of dead bacteria.

It has been found in general that the opsonins are below normal at the onset of an infection and during the height of the acute stage, and that, as improvement occurs, the amount of opsonin in the blood serum increases. The administration of dead cultures of the bacteria causing the infection stimulates the production of opsonins, as proved by improvement in the symptoms and rise in the opsonic index.

TECHNIC

In order to estimate the opsonic index it is necessary to prepare serum from the patient, serum from a normal person, leucocytes from a normal person, and a culture of the bacteria from the patient's lesion.

Serum is readily obtained by pricking the finger and catching the blood in a small curved glass tube, as recommended by Wright. The blood is allowed to clot in the tube, and the resulting clear serum is removed by means of a capillary pipette, which is then sealed at its narrow end. The test should be made as soon as possible after drawing the blood, preferably within twenty-four hours.

Leucocytes are obtained from ten drops of normal blood caught in a tube containing 10 c.c. of 1.5 per cent sodium citrate in normal salt solution. The mixture is centrifuged and the fluid carefully drawn off and replaced by normal salt solution in order to wash the blood cells free from serum. After centrifuging again the supernatant fluid is removed and the upper layer of white blood cells taken up into a capillary pipette, whose lower end is then sealed in the flame. This is known as the "leucocytic cream."

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The suspension of bacteria is made in normal salt solution from an agar culture not over twenty-four hours old. It must not be too thick and should be free from clumps.

Capillary pipettes of similar caliber having been selected, equal quantities of patient's serum, leucocytes, and bacteria are drawn up and thoroughly mixed in one, while normal serum, leucocytes and bacteria are drawn into another. A control, using normal salt solution instead of serum, should also be made. The pipettes are sealed below and incubated for fifteen minutes at 37 C. The mixture is then expelled on a glass slide, thoroughly mixed again, and spread on clean slides. After fixing in methyl alcohol and staining in methylene blue the slides are placed under the microscope and the number of bacteria contained within fifty leucocytes is counted. This gives the phagocytic index and the quotient of the patient's and the normal phagocytic indices equals the opsonic index of the patient. More satisfactory results have recently been obtained by making the tests with diluted serum, according to Neufeld. The opsonins in the normal blood serum used for control are found to disappear in a lower dilution than do the immune opsonins in the blood of the patient who has been immunized by the disease or by the administration of vaccines.

The vaccine is made by suspending agar-cultures less than twenty-four hours old in normal salt solution. Equal quantities of bacterial suspension and of blood from a normal person are drawn into a capillary pipette, mixed, and thinly spread on a slide. The red cells and the bacteria are then counted in a number of fields. Since the normal blood contains 5,000,000 red cells to the cubic millimeter, the number of bacteria in proportion to the red cells can be estimated per cubic millimeter, and the actual count per cubic centimeter readily calculated. The tube containing the bacterial suspension is sealed and heated for two hours at 60 F. Control cultures are then made to test the sterility of the undiluted suspension. This having been properly accomplished, the vaccine is diluted in bottles of sterile normal salt solution, sealed with a rubber cap and paraffin, according to the dose desired per cubic centimeter. Thus, if the actual count showed that 5,000,000,000 bacteria were present in 1 c.c., diluting the vaccine fifty times by adding 1 c.c. of undiluted vaccine to 49 c.c. of sterile salt solution, would make a vaccine containing 100,000,000 bacteria in 1 c.c. Injections of 1 c.c. or less are made into the shoulder, back or thigh under strictest aseptic precautions.

Diphtheritic serum and the Flexner serum are both well known and require no comment.

RESULTS IN VARIOUS INFECTIONS

Staphylococcus Infections.—It is in these cases that the vaccine treatment has given the best results. While it is always wise to use a vaccine prepared from the patient's own strain of staphylococcus, it is not absolutely essential that this be done. Any stock vaccine which has given good results in a similar case may be used, provided that it has been proved by a culture made from the pus of the patient's lesion that staphylococci are the causative factors. It is essential also to know whether the *Staphylococcus aureus* or *albus* be present, in order that the appropriate vaccine may be employed. The dose in infants under one year should vary from 7,000,000 to 15,000,000 of dead cocci, and in infants between one and two years 15,000,000 to 20,000,000 may be given. In children over three years of age 20,000,000 to 50,000,000 may be used. The inoculations are repeated on the sixth to the tenth day if necessary. When the opsonic index is estimated throughout the vaccine treatment of such a case it is observed that a slight fall in the index follows the injection and that it may be accompanied clinically by a slight feeling of malaise, but no rise of temperature should occur. This constitutes Wright's negative phase of the reaction of immunity, and is followed in one to several hours by a rise in the index and improvement in the clinical symptoms. As soon as the opsonic index begins to fall below the normal on the fifth to the tenth day another injection is indicated. As a matter of fact, the test for the opsonic index has been found to be too uncertain to make it practical and worth while to follow systematically, the clinical symptoms being sufficient indication of the value of the vaccines. Too rapid or too large dosage must be avoided, because there is danger of exhausting the responding power of the human organism by overstimulation. The temperature should be taken before the vaccine is injected, and every three hours during the following twenty-four.

Furunculosis: In young infants this has proved readily amenable to treatment by staphylococcus vaccines. Improvement is shown by a much more rapid healing of the furuncles already incised and by the nonappearance of new ones. After the second inoculation improvement is the rule. The amount of pus is lessened and fewer dressings are required in cases so treated. No bad effects from the injections have been noted. It is best to begin with a small dose and increase if necessary.

Acne: Excellent results have been obtained by some observers; others report negative results. Larger doses are usually necessary.

Otitis media of staphylococcus origin: In this disease vaccines are reported, evidently by enthusiasts, as having proved of value, as also in suppuration in the antrum, in styes, in osteomyelitis, and in empyema. It is asserted that in the latter disease operation may, in rare and favorable cases, be obviated by the vaccine injections. After operation the vaccine is said to be of service in aiding the more rapid disappearance of pus from the pleural cavity and hastening the healing of the wound.

Any local suppuration due to staphylococci is benefited rapidly by vaccine administration. In general septicemia the results have been encouraging (Wright).

Streptococcus Infections.—In all cases of streptococcus inflammations the results of vaccine therapy have been far less brilliant than in staphylococcus cases, but still encouraging enough to warrant their further use. It seems to be essential also, far more than in the staphylococcus injections, that the vaccine be prepared from the strain of streptococcus isolated from the patient. The dose is about one-third that of the staphylococcus, 2,000,000 to 3,500,000 in babies under one year of age, 5,000,000 to 7,000,000 between one and two years, 10,000,000 to 30,000,000 in older children.

A boy, two months of age, developed an abscess on the chin. This healed after incision, but was rapidly followed by a suppurative epiphysitis and periostitis of the right tibia and of the sternoclavicular articulation on the left side, together with two areas of subperiosteal involvement of the occipital bone. The right tibia separated from the remainder of the limb at the epiphysis and was removed, a new bone forming in its place. The bone abscesses healed and others continued to form at intervals during the next ten months. It was decided to employ vaccine made from the pus to control the infection. The infecting bacteria were found to be the streptococci. The vaccine was made by Dr. Hastings and seven injections were given of 9,000,000 to 20,000,000 bacteria of four days apart, 90,000,000 in all.

No improvement whatever was made on the infection. The abscesses continued to form and new bone areas became involved under the treatment.

I am sure that in this case the vaccine was used in too small dosage.

Erysipelas: In erysipelas Shorer finds that the course of the disease is apparently shortened by the inoculation of dead streptococci, but that neither migration nor recurrence seems to be prevented.

Scarlet Fever: In scarlet fever the opsonic index to streptococci has been studied by Tunnicliff, who finds that it is below the normal at the onset of the disease, but rises when the acute symptoms subside. As local streptococcus complications appear the index falls once more. Favorable results following the injections of dead streptococci in cases of scarlet fever have not thus far been reported. On the other hand, in local streptococcus inflammations—adenitis, otitis media, and osteomyelitis—the treatment has given most encouraging results.

Gonococcus.—In vulvovaginitis due to the gonococcus in young infants under one year of age, the injections of dead gonococci have had no effect in shortening the course of the disease, in lessening the amount of discharge nor in causing the cocci to disappear from the vagina. In older children Hamilton and Cooke have found that the effect of the dead gonococcus injections is more marked in chronic than in acute cases, the disease being very decidedly shortened in its course. The later stages of the acute cases were also shortened, while no result was noted in the first weeks of the attack. Hamilton and Cooke observed no advantage from the use of a vaccine made from the patient's own organism. The initial dose of 5,000,000 was gradually increased to 40,000,000 or 50,000,000, according to the needs of the case. Injections at eight-day or nine-day intervals proved best.

Pneumococcus.—The few cases of pneumonia in which dead pneumococci have been injected showed no marked advantages over untreated cases. In empyema of pneumococcus origin healing has been hastened by inoculations of dead pneumococci (Ross).

Meningococcus.—In cerebrospinal meningitis, due to the meningococcus of Weichselbaum, vaccine therapy has been tried, but it has become superfluous in view of the brilliant results obtained by means of the antimeningococcus serum of Flexner and Jobling.

Bacillus Coli Communis.—Inoculations of dead colon bacilli in doses of 10,000,000 to 50,000,000 are reported to have given excellent results in cases of cystitis due to that micro-organism. The symptoms subside rapidly and the bacilli disappear from the urine in a comparatively short time.

Typhoid Bacillus.—Injections of dead typhoid bacilli have been employed as a prophylactic measure in the English army with fair results. As a curative therapy in children they have not, thus far, been used.

Pseudodiphtheria Bacillus.—In otitis media due to this organism Dr. Tunnicliff obtained apparent benefit in some cases by injecting the dead bacilli. The attack of otitis was post-scarlatinal and acute.

Tubercle Bacillus.—Local tuberculous lesions have been treated by injections of tuberculin in very small doses with good effect. This is true of chronic local tuberculosis without constitutional symptoms, especially in bone, joint, gland, skin and eye affections. In pulmonary tuberculosis of a chronic type, running a nearly apyretic course, tuberculin is also of value. In all acute tuberculous lesions with marked fever and general symptoms tuberculin therapy has proved useless and it may be attended by grave danger. The dose of crude tuberculin administered for purposes of immunization in a chronic tuberculous lesion should be very small, 1/5000 of a milligram, gradually increased to 1 2000, 1/1000 or more. The inoculations should be repeated not oftener than once in ten days, at first, and the temperature carefully measured every two hours. If a rise occurs the dose has been too large, and must be reduced at the next injection. In selected cases of bone and joint disease and also in adenitis, good results have followed six or eight months of continued treatment, the dose being gradually increased in amount and the intervals shortened to three days. Wright maintains that the opsonic index is an essential guide to the regulation of the dosage. Other observers are satisfied that the clinical reaction is a sufficiently accurate guide. The opsonic index to the tubercle bacillus is low in cases of tuberculosis, unless it fluctuates, owing to auto-inoculation from an active lesion. It is the office of the treatment to raise the index permanently.

In an unpublished paper Dr. Raymond Hoobler of New York presents nine cases of different diseases in children treated with vaccines. Dr. Hoobler's work in many respects shows better results than hitherto published. Very large doses of vaccine were used at comparatively frequent intervals. Dr. Hoobler's paper will be published in the August number of the *Archives of Pediatrics.*

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ABSTRACT OF DISCUSSION

Dr. H. I. Bowditch, Boston: We ought to regret that Dr. Kerley's paper did not come earlier. I feel very strongly on the subject of the treatment with vaccines. I have had little personal experience, but in the clinics in Boston it is being used widely. In the Children's Hospital it is used in much smaller doses than Dr. Kerley mentions. There we are using Wright's method, from 1 50,000 of a milligram of "1.0" up to 1/20,000 of a milligram. This change in dose possibly is due to a different form of tuberculin that we use. It has been thought unwise to use it in local forms of tuberculosis. In glandular tuberculosis, so far as I have seen it used, it has given excellent results. The length of time required for the treatment is not determined. In six months one may hope to have some effect, but how much longer it must be employed to keep the process under control I do not know. Another point we are divided on is where surgical intervention comes in. Large glands which soften must be opened, but whether they should be curetted out and when the proper time for tuberculin arises, is not a settled question. Emptying the abscess with Wright's trocar seems to me the best method. The colon vaccine has been employed in pyelitis with varying success. Other vaccines, e. g., the staphylococcus, are not employed so often as they should be.

Dr. J. P. Sedgwick, Minneapolis: In my hospital service a few cases of typhoid were treated by vaccine therapy, and the results were so remarkable in one case that I intend to try it again this summer. There was a drop in the temperature curve, and I should like to know whether or not there is any connection between the result obtained and the treatment.

Dr. W. J. Butler, Chicago: Dr. Kerley's paper presents additional evidence of the advantages to be derived from vaccine and serum therapy in various infections. Staphylococcus and gonococcus infections have proved, in children, particularly amenable to vaccine therapy. I believe that I and my assistant, Dr. Long, were the first to demonstrate this for gonorrheal vulvovaginitis. While, in general, smaller doses of vaccine are employed in children, they tolerate large doses of the above vaccines without any marked general reaction. A local reaction at the site of injection, consisting of a slight induration that is somewhat tender, is usually observed, but is of no consequence. It is important, however, in an individual case to select a proper dose, and while there are in all probability other protective substances than opsonins produced following inoculations, an estimation of the latter forms the best guide at present in determining such dosage. There is probably no vaccine used in which an adherence to the latter is more important than in the use of tuberculin. I think that we owe a debt of gratitude to Dr. Flexner for placing in the hands of physicians throughout the country a specific serum for the treatment of epidemic cerebrospinal meningitis. I have used it in four cases, all of which, however, came under observation late in the disease, at a time when little could be hoped for from serotherapy, and all terminated fatally. In the experience of others, brilliant results have followed its early employment. I am not altogether convinced, however, that we have arrived at final conclusions as to how frequently it should be employed in a given case, especially in fulminating cases. The majority of statements on this point would seem to come from the clinical side and naturally are empirical.

A fuller knowledge of the active substances contained in the serum, the period of time in which such substances are exhausted when in contact with infected tissues, etc., might give us closer information of the frequency with which it should be used. A serum can possess, for instance, a definite antibody content, which, when brought in contact with the appropriate antigen, will be rapidly neutralized, become inactive, and consequently could not be of any further service. Kolle and Wassermann investigated the complement-binding amboceptor of antimeningococcus serum, which was, of course, first produced by Joachmann of Breslau. Joachmann must be recognized as its discoverer, in the same manner that we accord Bierring the credit for diphtheria antitoxin.

Kolle and Wassermann concluded that it contained a complement-binding antibody. It undoubtedly contains other protective substances.

MASSAGE IN GENERAL MEDICINE

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Massage is a systematic manipulation of the body for definite therapeutic ends. This manipulation depends for its success on the precise performance of certain clearly described and well-understood movements of the hands in the process. While these movements are in a general way always of the same sort, each of them is capable of modification to meet varying indications as one would vary the dose, the frequency of administration, or the strength of a drug. It is absolutely necessary for the operator to keep in mind when applying the treatment the particular end to be sought in the individual patient. The skilful manipulator scarcely ever rubs two persons alike.

The several movements used consist of various applications of rubbing, kneading, stretching and pinching of the muscles and other tissues.

You will see that this simple definition of what massage is tells by implication what massage is not. It is not magnetism, or personal electricity, or magic, or bone-setting, nor is it a panacea or cure-all for disease. It is applied, not by a flow of mysterious influence from one person to another, but by two hands directed by intelligence and applied with knowledge. It is a method of treatment aiming to produce certain definite ends, which should be prescribed by a physician as a medicine is; in fact, it is a medicine in any wide sense of that word which would not limit it to indicate something which comes out of a bottle in drops or teaspoonsful. There are indications for its use exactly as there are indications for the prescription of a laxative or a heart tonic. To get the best results the physician should know why he is ordering it, and the operator should know, too. The main thing, the thing to be always held in mind in prescribing or applying any remedy, is that we are seeking to produce certain particular effects in the individual case under treatment.

What effects can we produce with massage? Now, in the main, the mechanical results of massage are those of active exercise. We can by its direct influence alter the circulation of the blood and lymph as may be desirable, either slowing or hurrying their currents, can improve the tone and in some degree the bulk of muscles; affect the whole digestive system according to the method of application so that the activity of the peristaltic movements may be increased, the secretions aided, or, if need be, quieting and soothing effects produced. The superficial nerves can be directly reached, and the deeper-lying nerves and excretory organs also, somewhat less immediately. The chief difference between massage and active exercise is that we can not expect by any passive manipulation to add greatly to the quantity or power of the muscular system, while with active exercise properly directed this is almost indefinitely possible. The second and more important difference is that massage makes no demand on the voluntary nervous system, so that patients in whom for any reason it is desirable to avoid drawing on weak or irritable nervous centers may thus be exercised, in this way conserving nervous energy and economizing the expenditure of will-power.

The greatest value of the treatment is in diseases which are due to altered metabolism, and in which the powers of digestion, absorption or assimilation are at fault. It is this effect on nutritive processes which has made massage so successful in the treatment of certain nervous disorders, especially those bugbears of the general practitioner, hysteria and neurasthenia, in their infinite multiplicity of forms and symptoms. These troubles are caused in large part, so far as our present knowledge can tell us, by defects of assimilation or other disturbances of nutrition, and, as I have said, nutrition may be profoundly influenced by regular and continued massage. It is, indeed, an integral part of rest treatment, the only unalterable requirement. Without it rest treatment is scarcely possible, and we should be in constant difficulties in attempting the use of rest in this form were it not for the possibility of improving the appetite, the digestion, and the general metabolic conditions by means of massage.

The special forms of massage, light superficial rubbing, surface stimulation by vibratory movements and tapping, slightly deeper friction by finger-tip and open-hand pressure, and, more important, the manipulation by deep kneading, all have their influences, but the combination of these four basic movements, which make up what we call "general massage," have more effect than any of the individual movements used separately. This is obvious clinically from what one sees in the patient, and subjectively is to be learned from the patient's feelings, while physiologic experiment has proved very satisfactorily in a measured and precise fashion the immense influence of this "combined manipulation" on circulation and secretion.

Some of the movements and systems of massage in use are, in my opinion, either useless or deleterious. Certain operators perform a number of fantastic and airy movements which may influence the surrounding atmosphere, but can not much affect the patient. Indeed, these light tappings and slappings are excessively irritating to some sensitive and nervous patients and should, therefore, be restricted to those cases in which an effect of stimulation of a passing kind is desirable. The vital, useful, alterative movements are the deep ones.

When a patient is rubbed for an hour, which is about the average time that should be taken for the careful manipulation of an ordinary sized person in ordinary flesh, certain very obvious effects are produced. In the first place (if we take a patient, let us say, at the end of a week's manipulation when the early strangeness and possible disagreeableness of being handled and pulled about has passed), in a successful case we shall hear from the patient that the operation leaves him with a slight and not at all disagreeable sense of lassitude, scarcely to be called fatigue, usually with a moderate degree of drowsiness and a sense of pleasant well-being. If, like most neurasthenic subjects, he has "that tired feeling," this should be lessened by each treatment, a gentle warmth should be felt over the whole surface, a distinct sense of stimulation of the circulation, an increase of appetite, an improvement of digestion, both gastric and intestinal, and sounder and longer sleep. Physiologically speaking, there is a temporary slight increase of temperature in almost all cases, from half a degree to a degree Fahrenheit, usually. If the manipulation has been a slow and deep one, not unduly prolonged, the pulse will be slower and stronger afterward. Too long-continued manipulation, while at first followed by this improvement in the force and slowing of the speed of the pulse, may show a reaction of a less favorable kind afterward.

Superficial rubbing, especially if both superficial and rapid, will usually result in the pulse becoming quicker and weaker, so that if patients say that they can not stand massage because it leaves them irritated and with a discomforting sense of rapid heart action afterward, some inquiry should be made as to the method in which treatment is being carried out. Judging by my own very large experience, there must be very few patients who can not be rubbed.

There is an absolute increase, susceptible of measurement, in the flow of blood through any part. There is an enormous addition to the actual number of red blood cells in circulation, as I have proved by blood counts before and after treatment. It is probable that this is the result of the deep manipulation bringing into the circulation from the various tissues producing or storing up red blood a number of partially developed or transition cells and later to an actual stimulation of production of red cells. There is also a distinct addition to the quantity of intestinal and lymphatic secretion and the improved movement of the blood and lymphatic currents and nutrition in every direction throughout the system. One marked effect produced by this change in circulation is an increase in the amount of the urinary secretion, which is not only greater in quantity, but contains more than the normal solids during the hours succeeding treatment. The motor, sensory and trophic nerves are all stimulated in their several functions, the most direct evidence of which is the general improved vasomotor control.

One need not describe the effects on pathologic processes, as they may readily be inferred from these statements of the physiologic effects.

As concrete examples of the kind of cases in which massage will prove valuable, I briefly cite a few instances:

In simple anemia an increase of red blood cells can be demonstrated, amounting to from 15 to 50 per cent. This effect, at first temporary, lasts longer and longer as the massage is continued and with the establishment of improved nutrition becomes permanent.

In a case of extreme anemia in which the red cells were only 2,600,000 and the hemoglobin 56 per cent., the first massage increased the amount of the red cells to 4,600,000, without any increase in the hemoglobin. This first effect of manipulation was not maintained, the count in a few days dropping to 3,200,000 after massage.

In a case of chronic lead-poisoning with 4,000,000 corpuscles and only 30 per cent. of hemoglobin, the red cells were temporarily increased by massage to over 6,000,000. It could, of course, not be expected that so great an increase would be maintained and it was, indeed, abnormal, but this first effect greatly increased the comfort of the patient, and, although the increase was not kept up to this height, it did go on steadily. In a case of anemia so severe as to resemble the pernicious variety, but in which ultimate recovery ensued, the red cells went from 1,500,000, the percentage of hemoglobin being 18, to 1,650,000, with the first treatment. In a week the count was over 3,000,000 before massage and the percentage of hemoglobin was doubled, and after massage the cells rose temporarily to over 5,000,000.

Whether such results as these can be attained will depend altogether on the character and duration of the massage applications. Light rubbing, slapping and tickling will not produce the desired effects, but deep slow manipulations for fifty or sixty minutes will, and if these results do not follow massage it may be at once concluded that the massage is either not the right sort or not rightly used.

In chronic constipation, with careful, continued and frequently repeated massage of the intestines, the accumulations of the bowel may be emptied, the weakened intestinal muscles stimulated, the secretions—nearly always deficient in this disease—brought back in normal quantity, and, when patients have begun to improve, a careful and punctual habit of defecation may be inculcated and a permanent cure thus result. Before attempting to use massage for chronic constipation it is necessary to empty the bowels thoroughly by high enemas, lest there should be some retention of feces in the colon, which sometimes happens, even when the bowels are being moved reasonably well daily by means of purgatives. If abdominal massage is applied while these matted masses are present in the bowel, inflammatory disturbances might result.

In nervous diseases, to take a common example, chorea will be treated more successfully, so far as duration is concerned, and much more satisfactorily, so far as the permanence of the results go, by a short time in bed with very slow, quiet, deep kneading of the muscles than by any combination of drugs yet evolved.

In another disease of unknown pathology, but with its effects chiefly perceived in the muscles, paralysis agitans, results are attained which enormously increase the ease and comfort of the patient; the ache resulting from the constant overuse of the flexor muscles can be relieved and a degree of relaxation brought about attainable in no other way, and in favorable cases something really approaching a cure may be expected. Training in relaxation, extension movements, slow, full and sweeping, are added after a short course of massage, and the characteristic gait and carriage may also be improved by proper exercises.

In sprains, to select another disorder of a very different sort for an example, no treatment is so successful as early and frequently repeated massage. Sprains of the knee, ankle, elbow or wrist, may thus be treated from the very first day of their course, and, indeed, the earlier the treatment can be begun the briefer will the time of disablement be and the more completely successful the result.

The results of peritonitis, however caused, are excessively difficult and unsatisfactory to handle; if adhesions form, the impairment of the efficiency of the intestines and other abdominal organs may be very great. In one striking example of this we had the advantage of ocular demonstration. The late Professor Goodell attempted operation to relieve what seemed to be adhesions in the intestine. He opened the abdomen and found the whole abdominal contents so matted in one mass by old inflammations that no surgical interference was possible at all. Dr. Goodell closed the wound and in due time returned the patient to me for general treatment. Persistent massage during six months relieved the difficulty to such an extent that a woman who before had not had a stool without mechanical assistance in some years recovered excellent functional activity of the intestines and remained well for a number of years afterward, when I lost sight of her.

One might go on with a number of examples of possible uses of this form of treatment, but, not to elaborate them needlessly, I will add only one or two others.

In the first incompetence of a failing heart massage may be used successfully as an aid to circulation, thus lessening the work and consequent strain on the heart, as well as maintaining the condition of the patient.

In convalescence from acute disease, especially those of length and severity enough to cause considerable enfeeblement, this long-drawn period of invalidism may be greatly shortened and the patient much sooner placed on his feet by the use of massage in its general form.

It would perhaps be trespassing on the province of the surgeon if I called attention to the use of massage in hastening the healing in fracture cases.

Before closing, having thus in a very brief and hasty way outlined the value and importance of massage properly understood and legitimately applied, it may be worth while for me as a student for many years of the therapeutics of bodily exercises and of mechanical means of treatment to say something as to some illegitimate methods of use of a perfectly proper means. Odds and ends of physiologic and anatomic information, misty notions trickling through strata of ignorance as to the uses of manipulation, have resulted in the putting forward of some imperfect, half-understood and ill-applied forms of massage as cure-alls. For a time there was quite a run on a system called neurotherapy, which has now disappeared into the limbo of lost quackeries. This was massage badly done, and so for a year or two we heard of a good many serious injuries as a result of application in unsuitable cases. At the present moment the chief folly of the kind is osteopathy; the vehemence wherewith its advocates deny that it is massage causes the suspicion which is always natural when people "protest too much." I have read their books and seen their practice, and so far as can be gathered from the very nebulous statements of the inventor and of his followers there are two chief causes of disease. All those which affect the head, neck, chest, especially the pulmonary diseases, but including various serious diseases of the brain, croup and diphtheria (which Dr. Still considers one disease), bronchitis, and consumption are due to defects in the secretion, if you please, of cerumen in the ear! Nearly all other bodily troubles of any kind are due to dislocations or to fractures undiscoverable by the touch of a mere surgeon and invisible to the *x*-ray. If a patient is constipated, it is because some bones are pressing somewhere on the nerves or vessels supplying the intestines. Whooping-cough is due to the pressure of the hyoid bone on the pneumogastric nerve, together with deficiency in the quantity and quality of ear-wax.

Theoretically, besides the ear-wax difficulty (which is treated by the use of glycerin in the ear), these diseases are all to be cured by replacing the bones in their proper relations; practically, they are treated by severe, yes, ferocious, massage. The feelings of the osteopath are, as I have said, hurt when one calls his manipulations massage; it *is* rather hard on massage.

If it were not for that extraordinary affection with which the American citizen at large regards a quack, one would scarcely have to give so much time and consideration to a system which finds the same causes bring about whooping-cough, apoplexy, smallpox, dyspepsia and heart disease.

The real fact is that if massage were properly understood and properly appreciated as an invaluable medical aid the osteopaths would never had the success which has attended them. If there is any one thing certain from a study of their methods, it is that they have found out and made use of the immense value of massage and manipulation, and, as a result, are teaching, without perhaps intending to do so, the important lesson to the public of the value and necessity of bodily exercise, but that they do so in such a manner as to cause frequent damage and almost constant danger is another matter. The most serious accusation against them is that they claim to do impossible things, and in attempting them do dangerous things.

1730 Spruce Street.

INTESTINAL AUTOINTOXICATION AS A FACTOR IN THE CAUSATION OF PATHOLOGIC CONDITIONS OF THE EAR, NOSE AND THROAT *

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Further observations, confirmed by clinical and laboratory data since publication of my papers on this and kindred topics in 1902, 1904 and 1906, serve only to establish more firmly the views then expressed. The question of intestinal autointoxication, toxemia and lithemia, has at last come to the front where it belongs, and has gained wide attention from the medical profession both in Europe and America, and the results and treatment of putrefaction and toxemia originating in the intestinal canal have become matters of great importance not only to the general practician, but to the otorhinologist. Unsatisfactory results obtained after months of surgical and local treatment of some diseases of the ear, nose and throat have stimulated a more careful search for reasons why permanent relief was so rarely obtained from usual accepted and time-honored methods of treatment.

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* Read at the Meeting of the American Rhinological, Laryngological and Otological Society, Atlantic City, June 2-3, 1909.

The question of normal and abnormal nasal respiration has been settled long ago—but the correction of these did not relieve or restore many to the normal condition, and careful investigation reveals the fact that the systemic conditions has as much to do with a large percentage of cases as does the local condition, or more.

We know that when the middle ear and nasal accessory sinuses suffer from "air hunger" as a result of imperfect or obstructed drainage and ventilation they do not functionate normally, and discomfort and pathologic conditions follow. Retained secretions become purulent and lead to sepsis and various functional disturbances, gastric, neurotic, circulatory and mental.

"Evidences from histology, comparative anatomy, experiments on animals and clinical observation show that the nose is the organ through which the current of air should pass in normal breathing; also that lowered vitality, accompanied by a variety of general symptoms, is often due to nasal obstruction." It is no less true that these conditions are caused by the systemic disturbance, a frequently overlooked factor.

For instance, there are more causes for deafness than (1) interference with the passage of sound to the terminal filaments of the auditory nerve, and (2) interference with the transmission of sound from the terminal filaments to the brain. We may have fatigue—a state of weakness, suspension of or inability to transmit its special stimulus or to interpret that stimulus correctly. As, in the eye, we may have an asthenopia or weakness of vision, so we may have a similar condition in the ear. We may have a functional disturbance due neither to internal or middle-ear disease. Occasionally we meet cases, the symptoms of which would indicate middle-ear disease; in another group the symptoms indicate disease of the internal ear, yet careful examination reveals that neither disease exists; hence we must look elsewhere for the cause. There is a middle class due to systemic disturbances. Since in the eye we may have diminished or obliteration of function from toxemia, why may we not for the same reason have a similar condition in the ear? That we do meet toxemia of the auditory apparatus I have frequently demonstrated. In this class of cases we find some disorder of the nervous, digestive, excretory or circulatory system which has intensified a comparatively trivial irregularity of the ear into troublesome deafness.

Richard Lake says: The great diagnostic feature of this class of cases is an excessive loss of bone conduction (C mastoid) compared with the high degree of hearing power, as tested by the conversational voice, acoumeter and whisper. There is also in most instances a marked loss of ærial conduction, as tested by a wide range of tuning-forks, and frequently musical tones and sounds are less adversely affected than noises.

Labyrinthine hyperemia is often caused by alcohol, overeating, gout, rheumatism and certain drugs, as quinin, ether and salicin. A large causative influence is also exerted in this condition by hyperplasia of the labyrinthine capsule and certain systemic conditions (i. e., lithemia and gout), due to a toxemia which I have demonstrated to be of intestinal origin.

In cases of interference with motion and fixation of the sound-conducting chain, if the real seat of the pathologic condition is the bony capsule of the labyrinth, what is the cause of this condition? Also if lithemia, gout and rheumatism may produce ankylosis or interference with functions of one part of the body, why not in another part?

Undoubtedly as the result of many years of disturbed function organic changes may take place in the intratympanic structures which are incapable of resolution, and many persons would escape the annoyance of tinnitus and humiliation of deafness, if preventive surgery had been used and proper living practiced.

I am fully in accord with views of Bezold, Siebenmann, Tweedie, Lake and many of our American otologists, that there can be no doubt that the general constitution of the patient furnishes the main basis for the etiology of otosclerosis, and that it can not be attributed to a local harmful influence affecting the ear exclusively.

In several hundreds of cases of diseases of the nasal accessory sinuses, middle and internal ear in which surgical interference was not indicated, and in all in which it was indicated and operative procedure resorted to, I have found unmistakable and marked evidence of toxemia of intestinal origin as evidenced by excessive quantity of indican in the urine, and when the condition causing this was removed there was marked amelioration or entire relief of the disease.

I do not believe that every functional disease has a structural derangement to account for it. No mechanism is sufficient for function simply because it is a mechanism. Each must have its special power for successful operation, and the source of power is in the blood. That the blood is poisoned through absorption of toxic material from the intestinal canal more frequently than from any other source I think will not be questioned. Food and drugs, once in the circulation, select the nervous function which they specifically arrange or derange, and some functional changes produce organic changes due to possession of chemical affinities, alcohol producing structural changes in the kidney and sclerotic changes in nerve and liver tissue. Functional diseases are usually intermittent; a broken or destroyed nerve fiber stays broken. Gouty poisons must accumulate in the blood a long while before the attack of gout. There may be a sudden explosion of uremia, but the blood has been uremic for some time before. I have seen gastrointestinal disorders severe enough to destroy life, which yet left no evidence of inflammatory elements. The neurologists tell of severe cases of melancholia due to fecal accumulation. The general law of nervous organization is that a repeated excitation of the nerve center will, in time, anatomically modify that center. If this law be true in one instance, why not true in another? We know that contraction of the circulation, resulting in hyperemia or ischemia with venous stasis, is sometimes brought about by the condition known as lithemia. (This term was first used by the late Dr. J. M. DaCosta, who described it as American gout, analogous to the uric acid diathesis, there being, however, no uric acid present, the irritation being some other chemical substance, perhaps alkaline instead of acid.) Quinin and salicylates cause the tinnitus, probably, by producing hyperemia of the labyrinth, as they increase the blood tension until actual toxic effects are manifested, when the tension is reduced. I have frequently seen the same conditions, the result of imperfect nutrition or overnutrition and defective elimination. Toxins, owing to disturbed body chemistry, are manufactured daily in the intestinal canal and remain in the system; the result is a protest from the irritated nerves and poisoned cells, manifested in rheumatic pains, asthmatic attacks, vertigo, obscure neuroses of eye, ear, nose and throat, neuralgias and periodic headaches; all these being evidence of systemic poisoning. This poison I have almost invariably found to be indican in the urine.

Greene M. Hammond, writing on neuritis from autointoxication, says that, while the presence of indican in the urine is significant of this condition, he does not consider indol alone a very toxic agent, but looks on skatol and butyric acid as much more powerful toxins.

Metchnikoff[1] concludes that in the putrefactive bacilli in our digestive canal we have a source of autointoxication against which the organization has to fight with all the means at its command. The intestinal putrefaction corresponds simply to the first appearance of putrefaction outside of the living organism.

Fermentation of carbohydrates occurs in the lower ileum and colon; putrefaction of proteids takes place in the large intestines. Putrefaction, except in the pathologic condition, never occurs above the iliocecal valve.

Herter found that administration of indol to healthy individuals caused frontal headaches, irritability, insomnia, and confusion; a long continuance of absorption of indol caused a strong reaction for indican in the urine sufficient to cause neurasthenic symptoms. Gases and other products of fermentation are mostly absorbed by the intestinal wall.

Ortiveiler and Muller say that the amount of indican in urine varies with the length of time the feces remain in the colon, with the activity of peristalsis, and with the site of putrefaction of proteins; when putrefaction extends up into the small intestine, urine indican is much increased.

Hammond's remarks as to the influence of diet are so important that I quote:

> It is commonly believed that proteid foods are the ones concerned in the formation of putrefactive toxins; that is in the main, true, but it is quite clear to me that all forms of food, when eaten in greater quantities than the digestive fluids can digest, are capable of forming putrefactive poisons, which are deleterious to the human organisms. I have, therefore, insisted that all my patients should eat small meals in which the proteid foods should form a very small proportion. To my mind it is not so much what the patient eats, as how he eats. I have found the best results follow when general food was given, but the quantity of food of any kind was limited to a very small amount. Most people habitually eat, at least once a day and frequently at all meals, not only much more food than they need, but much more than they can digest. In the latter case putrefactive decomposition naturally follows. This may be obviated by giving only as much food as can be digested, and it is even better to give, for a time at least, even less than this amount. When this plan was followed every day for a number of days, the putrefactive products in the urine were invariably decreased and in some cases entirely disappeared.

In this paper I have attempted to emphasize briefly, as suggested by the title, the importance of intestinal autointoxication as a factor in the causation of pathologic conditions of the ear, nose and throat. In a subsequent paper I shall mention somewhat in detail the specific manifestations of these pathologic conditions; the treatment employed and results obtained.

Forest Highlands for Sanatoriums.—The Committee of One Hundred on National Health suggests that some of the great lumber companies could allow some of their large tracts of forest lands situated high in the mountains to be used for tuberculosis sanatoriums. As a reciprocal arrangement it is suggested that the state could remit taxes on the lands which lumber companies lease for sanatorium purposes. The tenure would be temporary and under conditions agreeable to all concerned. A further suggestion is made that life-insurance companies could undertake the management and that railroads could aid greatly by making reduced rates at appropriate intervals for the transportation of tuberculosis sufferers.

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[1] Metchnikoff: Méd orient., 1909, p. 134.

Clinical Notes

A NEW METHOD FOR DETACHING THE CATARACT IN ITS CAPSULE

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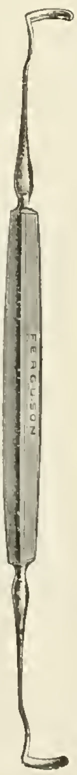
I wish to say a word—probably not the last word—on the extraction of cataract in its capsule. Of the Smith operation, which in recent years has attracted the attention of the world, all that need be said has been told by Greene[1] in The Journal. In the same issue Würdemann advocates the operation, but gives credit to Pagenstecher. Major Smith,[2] in The Journal of September 11, shows clearly that Pagenstecher himself makes no such claim, but, on the contrary, gives credit to Smith. Smith quotes Pagenstecher as calling Smith's "the best operation in the world; I will do nothing else."

While Greene was reading his paper I saw more clearly than ever the amount of trauma necessary in the Smith operation, and became more convinced that this particular operation could never become universal. He had not finished his paper until I had drawn, on the margin of my copy of the program, an instrument for detaching the cataract in its capsule. I later found that my first conception of this instrument was perfect. On my arrival in Philadelphia, from Atlantic City, I arranged for the making of a model. This I brought home with me for trial on pigs' eyes. It proved so satisfactory on these eyes, also on a human eye which had been enucleated, that I returned it to the manufacturer with the request that he make me three detachers just like the original model, differing only in the length of the curves. The following description will be more easily understood in the light of the accompanying illustration:



The cataract-in-capsule detacher.

> The instrument terminates at each end in a double curve, the one in line with the handle and the other at right angles to this line. The point of bending is the point of union of the two curves. The two curves are to have the same radius as has the anterior surface of the lens, and the curves are to be 5, 6 and 7 mm. long, for the reason that eyes vary in size. The name will be the "cataract-in-capsule detacher." It is a right- and left-handed instrument, as the cut shows.

The model was made on June 12, 1909, and was used on animal eyes for the first time two days later, June 14.

The means described above makes necessary a new method of operation—new in essential particulars. The following is the method to be pursued:

A. Patient, instruments, operator and assistant are to be thoroughly prepared.

B. Complete local anesthesia is to be used.

C. Lids are to be separated by a stop-speculum, or the upper lid held up by the assistant, with lid elevator, while the lower lid is pulled down by the other hand of the assistant.

D. The operator fixes the eyeball by *grasping the tendon of the internus;* then with the other hand he makes the corneal incision of the usual size (5/11 of the circumference), associating with it a good conjunctival flap.

E. If an iridectomy is to be done, the one hand continues to fix the globe, while with his other hand the operator seizes the iris with iris forceps and gently draws it out through the incision just far enough to enable an assistant to make a vertical snip of the iris with iris scissors, close to the tip of the forceps. The ideal operation, however, is without iridectomy.

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[1] Greene, D. W.: Experience in Expression of Cataract in Capsule by Smith Method, The Journal A. M. A., Sept. 4, 1909, liii, 777.

[2] Smith, Henry: The Smith Operation for Cataract, The Journal A. M. A., Sept. 11, 1909, liii, 882.

F. The iridectomy having been done—or if the iridectomy is not to be done—the operator, still continuing to fix the eye with his grasp of the tendon, takes in his other hand the cataract-in-capsule detacher and, passing it into the anterior chamber, he directs the free point of the horizontal curve between the iris and anterior capsule, pressing it gently downward until both the horizontal and vertical curves are behind the iris, or between the iris and the cataract; and now the detacher is to be so held that the horizontal curve shall rest on the lens below, but parallel with, the horizontal meridian of the lens, while the vertical curve shall rest on the lens to the outer side of, but parallel with, the vertical meridian of the lens, half way between the center and the margin. This is the primary position of the detacher.

On two movements of the detacher depends the success of the operation:

1. The vertical curve is made to press against the lens in such a way as to rotate it on its vertical axis, causing the outer margin of the cataract to move backward while the inner margin is made to advance to the same extent. The effect of this movement of the detacher is to tear loose the ligament laterally, the tear including much more than two quadrants, leaving untorn, probably, only a few fibers directly above and below. Now the instrument must be returned to the primary position, thus replacing the cataract in its normal position.

2. The horizontal curve of the detacher must now be made to rotate the cataract on its transverse axis by advancing the free end of the instrument while making *gentle* pressure against the cataract below its center. The effect is to make the lower margin of the cataract recede while the upper margin advances accordingly. This motion tears loose the few remaining fibers of the ligament, above and below, making easy the next step.

3. The cataract in its capsule having been torn loose by the two movements of the detacher outlined in 1 and 2 above, this instrument should be withdrawn from the eye, and the cataract in the capsule should be delivered by external pressure, in the old-time way, often without any counter-pressure, the globe still being held by means of the tendon-grasp. Occasionally light external pressure will show that some of the ligaments remain intact, as in one of my eight cases. In such a case the fixation forceps should be laid aside that the left hand may make counter-pressure with the shank of the cystotome until the cataract in the capsule presents in the corneal incision. At this moment the counter-pressure should cease and the presenting cataract should be transfixed from behind with the point of the cystotome, by means of which the cataract may be lifted out, thus minimizing the amount of further external pressure on the lower part of the cornea.

By this method of continued fixation, detaching and delivering, the operation is simple, easy and safe, and the trauma is very slight. Subsequent irritation was practically nil in all of my eight cases.

This operation has been done twice by Dr. M. M. Cullum, one of my local confreres. After his first operation he turned to me and said: "Why, this operation is as easy as the old-time operation." After his second operation he telephoned me as follows: "Your operation beats the Smith operation a long way."

The after-treatment is the simplest, varying from the usual in that I leave the eye open behind a gauze flap after the second day.

What is new in this operation can be recognized easily by the reader, but I will summarize the points: (1) Method of fixation; (2) the detacher and the method of using it; (3) the transfixing of the lens from behind in cases requiring much external pressure.

The free use of pigs' eyes will give courage and confidence to the one about to adopt my operation.

137 Eighth Avenue North.

COMPLEMENT FIXATION WITH LECITHIN AS ANTIGEN IN PELLAGRA

A PRELIMINARY NOTE

C. C. BASS, M.D.
NEW ORLEANS

The original Wassermann reaction and its many modifications, though at first thought to be specific for syphilis, has been found in a number of other diseases that are all known, or thought, to be of protozoan origin. The reaction seems, then, to be limited to protozoan diseases with the exception of a few cases of advanced tuberculosis and leprosy.

The generally accepted theory of the etiology of pellagra the world over is that it is poisoning from eating improperly cured or diseased corn products. Lombroso extracted from spoiled corn an oil and other extractives with which he produced experimentally in animals a disease very similar to, or identical with, pellagra. In Italy, where there is much pellagra, the authorities have reduced the amount of the disease to less than one-fourth of what it was when the regulation against the use of diseased corn was begun. The work has been based on the maize theory. It should be remarked incidentally, however, that many of the cases have been isolated by providing a number of hospitals for the treatment of pellagra.

There are a few students, however, among whom may be mentioned Sir Patrick Manson, who dispute the maize theory, and believe the disease to be due to protozoa and cite as evidence the similarity of course, symptoms and pathology of the disease to syphilis and sleeping sickness.

In the research laboratory of Tulane Medical College we have so far tested the serum in six cases and all gave positive reactions. The technic followed was the original Wassermann, except that lecithin was used for antigen instead of syphilitic liver extract. The hemolytic system used was sheep corpuscles; serum of sensitized rabbits inactivated at 56° C for 30 minutes; and guinea-pig serum for complement. The patient's serum was inactivated before being tested. All six cases gave strong positive reactions. All the patients gave negative histories for syphilis; three were the mothers and one was the father of healthy children. One of the tests was made on blood taken twenty-four hours after death and is, therefore, not very reliable. One patient denied eating corn meal, though the diagnosis of pellagra appeared fully justified.

I fully recognize that these few positive Wassermann reactions in pellagra may be merely a coincidence and do not justify any conclusions, but if the observation is confirmed in a larger series it would tend to strengthen the idea that the disease may be of protozoan origin. It might also be of service in the diagnosis of the very many early or mild cases.

Still further, it would add another disease to the list for consideration in interpreting a positive Wassermann reaction.

741 Carondelet Street.

Mental and Physical Education.—The whole conception of the purpose and curriculum of a college education needs revision and into it must come a better relation of the physical with the mental life of the undergraduates. This characteristic feature of our educational system should furnish quiet years for thought and visions but it should, and that was the purpose of many of those who endowed them, make distinctly for efficient citizenship.—P. C. Phillips, in *Hygiene and Physical Education.*

COLIC IN AN INFANT DUE TO ADENOID HYPERTROPHY

C. C. WALLIN, M.D.

LEWISTOWN, MONT.

On reading Dr. Freeman's article entitled "Adenoid Hypertrophy During the First Year of Life and Its Treatment," I am constrained to report the following case. I well recall Dr. Morse's paper of two years ago, but neither in it nor in any other discussions of conditions induced by the hypertrophied adenoid have I seen attention called to the symptoms herein reported.

The case is that of a child about six weeks old, perfectly healthy and nursed by its mother, who was also in good condition. I was called one evening to see the infant—which I had delivered—on account of an attack of "wind colic." An enema brought relief, but the condition recurred the next day. The child was plainly a mouth breather, and according to the mother had difficulty in nursing as well as frequent attacks of colic. Examination with the little finger revealed a nasopharynx pretty well filled with adenoid growth. The child was placed on a small table, the father steadied the head while with an ordinary tongue depressor, the lower jaw was depressed and the smallest Beckman curette inserted. It was but the work of a moment to clean out the growth, and from that time on the child has had no colic.

In this instance the colic was due simply to the fact that, in its efforts to nurse, the child swallowed quantities of air. This is shown by the utter absence of any other symptoms of digestive disturbance and by the result of the operation.

As to the prevalence of hypertrophied adenoids in infants, I am convinced that it is far greater than usually recognized. An infant with normal air passages will keep its mouth closed, and "snuffles" and "catarrh" are more often due to adenoid hypertrophy than to syphilis or to any other condition. Neither "snuffles" nor "catarrh" invariably accompany even a decided overgrowth of the adenoid.

I am further convinced that it is rarely necessary to administer an anesthetic for the removal of adenoids in a child under a year old; indeed, I believe such a course is rarely justifiable.

Reconstruction of Bile Ducts.—Dr. Alfred H. Movius, Jamestown, N. D., writes that Dr. Arthur G. Sullivan's article on this subject in The Journal, Sept. 4, 1909, p. 774, suggests to him that a recent case, in which he did a partial reconstruction of the common duct, might be worth reporting. It is as follows: Patient: A Norwegian woman, aged 82, who had suffered with gall-stone colic for twenty years, came under observation in June, 1908. The skin over the entire body was decidedly jaundiced; more or less jaundice had been present for the past three months. The stools were clay-colored; the urine loaded with bile. A diagnosis of cholelithiasis with stone in common duct was made. Operation: The usual incision was made in the right hypochondrium. The gall-bladder was found to be atrophied and full of stones. After loosening the extensive adhesions, the gall-bladder was removed. The common duct was next opened and the stone removed. The lumen of the common duct, below the location of the stone, was very much contracted. Fearing occlusion of this portion of the duct and consequent poor drainage, Dr. Movius inserted a piece of rubber tubing 3/16 inch in diameter. The tube extended from ¼ inch above the incision in the common duct to ⅓ inch into the duodenum. The duct was then sutured with No. 1 chromicized catgut, one stitch passing through the rubber tube to hold it in place. The abdominal wound was closed in the usual way. Postoperative History: Drainage was left in for four days, after which time it was removed and wound allowed to heal. Healing was complete in eight days. The bowels showed active bile drainage within the first thirty-six hours and the urine contained very little bile. The rubber tube passed on the fourteenth day following operation. The patient left the hospital at the end of the fourth week.

Therapeutics

CARE OF THE MOUTH

Dr. S. Blair Luckie, of Chester, Pa. (*Dietetic and Hygienic Gazette*, June, 1909), says so many pertinent things in regard to the proper care of the mouth preventing disease that it is well to review his article. The mouth seems to be splendidly arranged for the propagation and even protection of bacteria. There are cavities, caverns, and crypts, not easily cleansed, which are moist and warm, and more or less food is deposited near or in these spaces, which forms suitable pabulum for the growth of bacteria. A disturbance of the general health may change the mucous and salivary secretions and may impair the health of the mucous membrane of the mouth. Digestive disturbances not only coat the tongue, but interfere with the health of the rest of the mouth. Decayed teeth or painful roots of the teeth cause the patient to avoid that side of the mouth in masticating. One or all of these conditions may be present and allow the growth and propagation of pathologic bacteria in the mouth. In fact, there is hardly a general disturbance that does not interfere with the normal health of the mouth, which means good teeth; clean, pink mucous membranes; normal saliva; good digestion; and sweet breath. When one remembers how generally the breath of an individual is not sweet; how generally the tongue is not clean; how generally there is some tooth or teeth abnormality in a patient; and how incompletely most patients cleanse their mouths and teeth, we should not be astonished to learn that not only are harmless bacteria more or less constantly present in the mouth, but that pathologic bacteria occurring in the mouth are the cause of many serious diseases.

Unfortunately, an individual does not always realize that his mouth is dirty. Before he notices it there has to be considerable inflammation, considerable disturbance of secretions, and a bad taste in his mouth. Luckie quotes Miller as stating that one unclean mouth harbors 1,140,000,000 bacteria that may be cultivated, many of which are pathogenic. It has been shown that some of these pathogenic bacteria may cause not only intestinal indigestion and putrefaction, but may even be a source of pernicious anemia. A healthy gastric juice kills most of these germs that are swallowed, but anything that interferes with the normal amount of hydrochloric acid in the stomach may allow these germs to be carried into the intestines unharmed, where they can continue to grow. Besides the septic bacteria, the pneumococcus, the bacillus of diphtheria, and the bacillus of tuberculosis are sometimes found in the mouth.

The frequency of alveolitis and gingivitis after forty, even in otherwise normal individuals, shows neglect in the care of the mouth.

These bacteria, harmless or harmful, which are present in the mouth, may be inhaled, may be swallowed, may be chewed into the food, may be sprayed during sneezing or coughing, and may be offered gratuitously to friends who are kissed.

The object of this article is to cause the physician, whenever he is consulted by any patient, to examine the mouth carefully, and to give careful advice for daily continued cleanliness; the character of the solutions he deems advisable to order, depending on the condition in which he finds the mouth. He should also urge the patient to consult his dentist immediately if there is any cleaning or filling of the teeth needed. He should also instruct mothers in the care of their children's mouths.

Medical inspectors and teachers in schools should not only see that the eyes and ears of the children are normal, and that acute infection is not in evidence, but should also examine the mouths and teeth of the children.

The normal bilateral chewing of food of normal toughness is one of Nature's best methods of cleansing all parts of the teeth, developing the muscles, and causing normal mucous and salivary secretions. The softer the food the less all these normal functions are in evidence. It is a positive necessity that artificial means should be used to keep the mouth and teeth clean. Morning and night at least the teeth should be scrubbed with a good tooth brush carrying a proper combination of soapy and powdery cleanser. Every surface of each tooth should be brushed, and Luckie says that cheeks and gums should also be carefully brushed, and the mouth then properly flushed with some alkaline cleansing water, and there is none better than the Liquor Antisepticus Alkalinus (N. F.), diluted with one or two parts of warm water.

After each meal the individual should retire to his room or other suitable place, and with thin wooden toothpicks, or with a sharp-pointed quill used gently, and with dental floss, cleanse the cavities between the teeth and then briskly brush the teeth. It would be impossible to estimate the amount of infection that could be prevented should people adopt such a method of caring for their mouths. Also, a dirty mouth may be one of the causes not only of the diseases that have been positively traced to the mouth, such as some instances of pernicious anemia, but of the gradually developing arteriosclerosis and renal disease.

A patient who is actually sick comes under the care of a nurse, and not a small part of her duty is to see that the mouth is kept clean, and frequently cleansed. Patients with chronic disease should be taught, or assistance should be offered them, to use every means to keep the mouth from, by its infected or pathogenic condition, increasing the disturbances that are present.

When purulent conditions or pyorrhea are actually present, active antiseptics should be used as well as alkaline washes. The treatment of chronic inflammation around the teeth, termed Riggs disease, or, better, interstitial gingivitis, is well described by Dr. E. C. Briggs in THE JOURNAL, Aug. 1, 1908.

COLD IN THE HEAD

Although this simple affair has already been several times discussed in this department, as it is constantly with us, it is worth while to review what Dr. C. P. Grayson, of Philadelphia (*Therapeutic Gazette*, May, 1909), has to say on this subject. He tells the general practitioners that they have advanced little beyond their professional grandfathers in the prevention or treatment of this inflammation. He wishes to call the attention of the profession to the fact that purulent inflammation of the middle ear, inflammation of the optic nerve, inflammation of the cerebral tissue of the orbit, and even cerebral abscess can all be caused by improper management or neglect of a simple coryza, and this to say nothing of the frequency with which frontal sinusitis and inflammation of the antrum occurs as sequels to the "cold." While the different nasal infections vary in the virulency of the microbal cause, still simple infections can cause serious distant trouble.

Patients who frequently have acute coryza, and especially patients who have more or less chronic coryza, are sure to have some underlying cause. In children this cause is often adenoids. In adults it is often due to hypertrophied and congested nasal mucous membrane, but Grayson says that he has often found such patients, both adults and children, to have an intestinal toxemia.

An acute rhinitis is, therefore, likely to be founded on a tripod of causes, a chronic rhinitis, chronic intestinal toxemia, and exposure to cold (chilling), or to an irritant (dust, germ or other).

Grayson's treatment of acute coryza is as follows:

1. A cathartic, and best one of the ordinary saline cathartics, or a cathartic mineral water. This may be repeated on the following morning, if deemed advisable.

2. The patient should fast for twenty-four hours, and "during this period he should several times, for fifteen or twenty minutes, indulge in the most active exercise of which he is safely capable." Even women and children may be made to take simple active exercise that will bring about the condition desired, viz., "quickened and invigorated heart action, which will cause the skin, bowels and kidneys to become active eliminating organs, and the congestion of the nasal mucous membrane will rapidly subside and its effects be quickly obliterated."

3. If drugs are to be used at all, Grayson advises the salicylates, also a few drops of aromatic spirits of ammonia, or tincture of nux vomica. These drugs will tend to promote excretion. He does not believe in using combinations of opium, belladonna, aconite and acetanilid, all of which more or less inhibit normal secretion and excretion.

If the patient is old or too weak to carry out the exercise suggested, Grayson advises that gentle means of producing diaphoresis be inaugurated, such as a cabinet bath.

Many patients need no local treatment, but if there is much congestion and the patient needs local treatment by the physician, Grayson first uses a preliminary spray of a 2 per cent. solution of cocain, not more than two or three drops into each nostril. This soon shrinks the lower turbinates. Then with a small tuft of cotton on a slender applicator moistened with the 2 per cent. cocain solution he swabs the middle turbinates. The mucous membrane thus being entirely anesthetized and contracted, the nasal chambers are generously flushed with a mild alkaline wash, such as one part of the Liquor Antisepticus Alkalinus of the National Formulary to three parts of warm water. The patient snuffs this solution back into the nasopharynx, and thus the whole nasal cavity is cleansed. The mucous membrane is next soothed by the insufflation of some bland powder, as zinc stearate. Lastly, some bland, non-irritant, thin oil, containing a few drops of a suprarenal solution, may be sprayed into the nostrils, and the sedative effect of the treatment is prolonged.

Medical Missionary Work in China.—The province of Shansi, China, with a population of over 12,000,000, offers an inviting field to the Christian physician. Dr. W. A. Hemingway, a medical missionary of the American Board, has a small hospital at Tai-ku, where he treated 2,177 cases last year, besides a large number of dispensary patients. He is not troubled with rivals, the nearest hospital on the north being 35 miles distant, on the east and south 150 miles, while on the west there is none nearer than Persia. With only two Chinese assistants and two native men nurses, Dr. Hemingway has accomplished wonders since he went out in 1903. Shansi men are famous all over China for their business ability, especially as bankers. But the entire province, once wealthy, is cursed with the opium habit, and many of its victims come to this hospital for treatment. The price of the drug has doubled lately, thus forcing the poor to abandon its use, and the law is rigidly enforced that the poppy shall not be planted nor opium brought into the province from the outside.

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THE RELATION OF THE LIVER TO FAT METABOLISM

It is but a half-dozen years since Hofmeister aroused some attention by adding up the number of different enzymes which each liver cell must contain to accomplish the various chemical functions known to occur in these cells, the total number being something like ten. The worthy German scholar, however, missed some enzymes, for which there was good evidence even at that time, and if he were to rewrite his address now he would show that newer investigations have brought to light several more enzymes that should go on the list. Even with the respectable total of this revised catalogue of hepatic activities before us, we still must feel that as yet we have secured but a most superficial glance at the obvious industries of that busy little workshop, the liver cell, for new investigations into the metabolic activities of the liver continue to unfold new functions hitherto unsuspected, or at least unidentified. As to the enzymes that must be present within each individual microscopic liver cell, their number is augmented with especial rapidity as we learn that to produce any given chemical change several distinct enzymes may be required. As an illustration take the production of uric acid from nuclear material, a property of liver cells which has been known for some time. Closer investigation shows that to bring about this change the following distinct enzymes are required: first, a proteolytic enzyme to free the nucleic acid from the protein; second, an enzyme which frees the purins of the nucleic acid from the rest of the complex; third, two disamidizing enzymes to convert the purins, adenin and guanin, into the oxypurins xanthin and hypoxanthin; fourth, an oxidizing enzyme to convert the oxypurins into uric acid; and in some animals still another oxidizing enzyme may be present which destroys the uric acid.

One of the most recent disclosures of a hitherto unappreciated activity of the liver cell is set forth by Professor Leathes[1] in his substantial lecture before the Harvey Society last winter, and it concerns the rôle of the liver in fat metabolism. That the liver has much to do with the utilization of fat has long been recognized, while physiologists as well as pathologists have struggled with the knotty problems presented by the fatty changes of the liver in health and disease, only recently reaching something like agreement on the fundamental question of the source of the excessive fat in the degenerated organ. This fat, the work of Lebedeff, Rosenfeld and others seems to establish, is not formed from the protoplasm of the liver cell, as the dictum of Virchow maintained, but comes from the fats of the body and the food, and the studies of Leathes and his associates are emphatically in support of this conclusion. But even in health the amount of fat in the liver varies greatly, although practically constant in the other active organs, and this in spite of the fact that in the process of absorption the fats are kept out of the portal blood and turned into the general circulation by the thoracic duct so that the liver does not receive more in proportion than the rest of the body. Analysis of the fats normally present in the liver shows them, however, to be considerably different from the ordinary fats of the adipose tissue and the food in at least one important respect, namely, their chemical activity. We may recall that of the body fats some, such as stearin and palmitin, are relatively inert chemically, while others, notably olein, are much more active chemically because in them are certain carbon atoms whose chemical affinities are not all saturated. The presence of such unsaturated carbon atoms greatly increases the susceptibility of organic compounds to chemical change, and we see evidence of this in the familiar osmic acid reaction for fats, for osmic acid stains black only oleic acid and not the saturated palmitic and stearic acids.

Study of the fatty acids present in the liver under various conditions has led Leathes to suspect that an important function of the liver consists in transforming the relatively inactive, saturated or nearly saturated fatty acids of the fat depots and food into the more active unsaturated fatty acids. To describe this property figuratively, he says: "It looks as if the work of the liver consisted in an operation which may be compared to the drying of gunpowder. The fats we take in our food are remarkably unreactive substances, and it has always been one of the most astonishing chemical achievements of animal cells that they should be able to burn up completely and cleanly, as they do, so stable a structure as saturated fatty acids like palmitic or stearic acids. They are wet gunpowder, and the body stores its gunpowder wet, and safely removed from the inflammatory operations of busily working cells. When the orders for mobilization are issued, this wet powder is conveyed to the drying chambers in the liver, and from there distributed to the fighting line in a proper condition for use. There are times when the stress of this work is manifestly too great. Too active a mobilization of stored fat, or too little activity in dealing with it on the part of the liver, will result in an accumulation of the unfinished product in that organ. A fatty liver is then the result."

This increased accumulation of fat in the liver may take place in starvation, because of the demand of the body for food supplies, which results in the fat being taken to the liver to be so altered that it can be utilized in the production of energy by the active tissues of the body, such as the heart and skeletal muscles. The alteration accomplished by the liver seems to consist in desaturating certain of the carbon atoms in the long chain of the fatty acid, and perhaps also in shifting the location of the unsaturated atoms in the molecule, in order to render these molecules available for chemical changes. According to this interesting hypothesis, therefore, the chief function of the liver in fat metabolism consists in preparing the fats for utilization by other tissues, and not in disintegrating the fats, for such disintegration of the fats in the liver through oxidation would cause the great amount of energy provided by the fats to be liberated in a place where it is not so immediately available as it is in the muscles.

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[1] Lancet, London, Feb. 27, 1909; abstracted in The Journal, March 27, 1909, lii, 1061.

NEW DEVELOPMENTS CONCERNING URIC ACID METABOLISM

In the discussion of gout in his book on metabolism, von Noorden says: "It is not to-day very alluring to write anything regarding the theory of gout, especially in a book which is essentially devoted to the presentation of facts. All the theories advanced up to the present time have fared badly. The positive material is much too insufficient and too ambiguous." While the theory of gout has not been made less hazardous, yet in the few years since v. Noorden wrote this statement the positive material has been considerably increased, and this at the expense of one theory in particular, namely, that gout depends on a loss or decreased power of the body to destroy uric acid. The recent advances have been made particularly through study of the enzymatic actions by which purin metabolism is accomplished, in which work Schittenhelm and Wiechowski have been particularly prominent, although several other investigators have made substantial contributions. The former, with his colleagues, has developed our knowledge of the several steps by which nucleoproteins are converted into free purins, and these, in turn, are changed into uric acid by loss of nitrogen and addition of oxygen. Wiechowski has particularly studied the enzyme concerned in the destruction of uric acid by the tissues, and the fate of free uric acid in the body. This uricolytic enzyme, which has been appropriately called uricase by Battelli and Stern, is an oxidizing enzyme, acting best in experimental digestions when a lively current of air is running through the digestion mixture, and which seems not to be present in the blood plasma and tissue fluids, but only in the cells. It acts rapidly and with striking effect, for active organ extracts are sometimes able to destroy quite considerable quantities of uric acid in a few hours; for example, one gram of powdered tissue, dry weight, can often destroy totally 0.1 gram of uric acid in four hours.[1] Unlike the enzymes of autolytic disintegration of tissues, uricase is not inhibited by the presence of an excess of serum. Another interesting feature is that this enzyme acts reversibly, or at least tissue extracts which destroy uric acid with a current of air running through soon build up the uric acid again when the air is shut off.[2]

Not all tissues contain this enzyme, its distribution, according to the investigations yet made, being as follows:[3] In bovines it is found in the kidney, muscle and liver, but not in the spleen, lungs or intestines; in dogs in the liver, but not in the kidneys, spleen or bone marrow; in the liver of pigs, rabbits and guinea-pigs; in the kidneys and many other organs in the horse, but not at all in the tissues of turtles and geese.

Of particular significance, however, is the observation that, so far as the means at hand disclose, no human tissue whatever possesses any appreciable power to destroy uric acid. There are, to be sure, various early observations which seemed to show at least a moderate uricolytic activity on the part of human tissues, but in view of the more recent work these results must be considered erroneous, perhaps because of faulty technic. The failure of human tissues to destroy uric acid under conditions which permitted complete destruction of uric acid by organ extracts from other mammals was observed by Künzel and Schittenhelm,[4] and later but independently by Wiechowski[5] and Wells and Corper. Using a different method from the above investigators, Battelli and Stern[6] find that, with the solitary exception of man, every mammal which they have investigated—and the number is considerable—possesses uricase in either the liver or kidney. In view of the fact that the human tissues, or at least the human liver, possess the necessary enzymes to manufacture uric acid from nucleoproteins, it is remarkable that man is not able to destroy the product as can all the other mammals. It seems impossible to doubt that this defect is responsible for the tendency of mankind to gout with uric acid deposits, a condition which affects no other mammals, but does occur in birds, which are, like man, devoid of uricolytic enzymes. As corroborative evidence is the fact that swine suffer from a form of gout in which a purin, guanin, is deposited in the tissues rather than uric acid, and swine are peculiar in that their livers do not possess the enzymes which act on guanin (Jones, Mendel).

It might be suggested that these experiments which show the absence of uricolysis in human tissues, having been made *in vitro*, do not prove positively that the living organs within the body are equally devoid of uricolytic activity. This objection may be met, however, by the experiments of Wiechowski, which seem to show that practically all the uric acid which is injected subcutaneously in man reappears unchanged in the urine. The chief product of uricolysis by uricase is allantoin, which has been found more or less abundantly in the urine of every mammal investigated, except man, whose urine contains but traces.[7] This exception in the case of man furnishes good corroborative evidence of the absence or scantiness of active uricolytic enzymes in his body. To be sure, there are to be found statements in the older literature to the effect that pregnant women and new-born infants excrete allantoin in the urine, but Wiechowski finds that the methods then used were entirely unreliable, and Wells and Corper found that human placenta and fetal tissues at all ages were as devoid of uricase as adult human tissues. If man possessed the same uricolytic enzymes as the other mammals it is to be presumed that his urine would contain considerable allantoin, since experiments show that allantoin injected subcutaneously into man all reappears in the urine: the small amount of allantoin that is found in human urine, therefore, is good corroborative evidence that the human body is defective in uricolytic enzymes, a fact of fundamental importance in all considerations of gout and purin metabolism.

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[1] Wiechowski and Wiener: Beitr. z. chem. Physiol. u. Path. (Hofmeister's), 1907, ix, 247.

[2] Ascoli and Izar: Ztschr. physiol. Chem., 1909, lviii, 529.

[3] Wells and Corper: Jour. Biol. Chem., 1909, vi, 324.

[4] Zentralbl. f. Physiol. u. Pathol. d. Stoffwechsels, 1908, iii, 721.

[5] Arch. f. exper. Path. u. Pharm., 1909, ix, 185.

[6] Biochem. Ztschr., 1909, xix, 219.

SPOROTRICHOSIS

Blastomycetic infection of the skin is now, thanks largely to the investigations of American observers, a well-recognized morbid condition. A considerable amount of literature has recently accumulated dealing with infections, not only of the skin, but of other tissues, by a fungus related to the *Blastomycetes,* the so-called *Sporotrichum.*

Schenck,[1] in 1898, observed a case of multiple, small, very refractory ulcerations of the skin of the right forearm which had formed along the course of the lymphatics leading from an ulcer of the index finger. The ulcers had resulted from the breaking down of small, circumscribed subcutaneous indurations. Cultures were made from the ulcers and indurated nodules, and Schenck's subsequent studies showed that the causative organism was a *Sporotrichum,* a fungus of the order *Hyphomycetes,* which grows readily on all the usual culture media. Schenck was able to reproduce the skin lesions in a dog by subcutaneous injections of the fungus, and, what is most important in the light of recent work, produced a general infection in mice with especial involvement of the lymphatic glands.

Schenck's observations have been verified and augmented by several American and French writers.[2] Sporotrichal lesions of the skin, mucous membranes, lymph glands and muscles have been described. De Beurmann, Gougerot and Vaucher[3] have directed attention recently to the occurrence of sporotrichal infections of the bones, a clinical manifestation which they were led to anticipate from the occurrence of similar lesions in their experimental researches on rats. According to these writers, the periosteum alone may be affected, causing nodular thickenings, or the bone substance itself may be involved, producing a sporotrichal osteomyelitis. Such lesions are said to be easily confused with similar changes of tuberculous or syphilitic origin, and the diagnostic difficulty is increased by the fact that the tibia seems to be the site of predilection for sporotrichal infections. In the cases of bone infection so far recorded, however, characteristic lesions in other structures permitted the detection of the sporotrichum by cultural methods. These observers have also produced joint lesions in rats by subcutaneous injections of the sporotrichum, and they urge a more careful differential study of chronic bone and joint infections with the aid of cultures.

Diagnosis is easy if cultures are made from the lesions, for the organism grows well on all the ordinary culture media in from four to five days at room temperature. It can be demonstrated in the lesions microscopically only with great difficulty. Widal and Weil[4] have shown that the spores of the fungus agglutinate when mixed with the patient's serum at dilutions of from 1-200 to 1-1500, and they describe a complement-deviation phenomenon similar to the Wassermann reaction in syphilis.

Sporotrichal infections show very little tendency to spontaneous healing. Fortunately, potassium iodid in doses up to 90 grains, supplemented by the local application of a solution consisting of water, 500 c.c., potassium iodid, grams 10, iodin, gram 1, is very efficacious, the lesion healing, it is said, in from four to six weeks.

THE VITALITY OF SUPERSTITIONS

Professor Sumner[1] recently conjectured that the civilized world might some day drift back to demonism. The date need not have been left indefinite, so far as at least some portion of civilization is concerned. In the present day there are aberrations quite as peculiar as those which surprise us in reading the history of the middle ages. We may well agree with Lecky that one generation differs from another less in the amount of credulity it evinces than in the direction such credulity takes. Belief in marvelous cures, faith in magic—these things are not dead to-day; at best they but slumber, to be aroused to lusty and malignant activity by the next unscrupulous or fanatical leader. Nor is it any more difficult in this twentieth century, it would seem, to excite emotional epidemics than it was in witchcraft days, or when there were processions of flagellants and dancing manias.

To assure himself of the truth of these gloomy observations, one need but glance through any daily newspaper. Consider, for example, the faith-cure craze but recently revealed in a western state. A bill was introduced before the legislature providing that, in connection with elementary hygiene, public school pupils be taught how to avoid contagion and the commoner ailments. Immediately protests began to pour in from all sorts of radical mind-healers, who held that it would be sinful to give children the impression that disease was real; according to newspaper statements, this was the message in hundreds of letters and long petitions. The assembly committee on public health, despite its three physician members, was overawed at the first hearing on the measure, and killed it. Thus has superstition become the match of medical science in shaping the educational policy of public schools.

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[7] Wiechowski: Biochem. Ztschr., 1909, xix, 368.

[1] Bull. Johns Hopkins Hosp., 1898, ix, 286.

[2] The Journal A. M. A., Aug. 8, 1909, li, 500.

[3] Rev. de chir., 1909, xxxix, 662; abstr. in The Journal, May 29, 1909, lii, 1799.

[4] Quoted by Beurmann, Gougerot and Vaucher.

[1] Sumner, W. G.: Witchcraft, Forum, May, 1909.

All this is depressing enough. Through many painful generations science has been evolving order out of philosophic chaos. This is especially true of medical science, which has accomplished far more than any other factor for the welfare and happiness of mankind; it has come, indeed, to deserve such tribute as was recently paid by an eminent clergyman: "You will find to-day the largest body of disinterested, laborious, self-sacrificing men, looking for no reward and getting no reward except that which comes from faithful service to mankind, in the profession of medicine." A century and more ago Jenner demonstrated how a dreadful pestilence need never again afflict our fellows; yet to this day would the mind-healer have us revert to its medieval horror. Von Behring has shown how deaths from diphtheria can be avoided for little children; to this very day would the faith-curist stand over children suffering from this disease, trusting to prayer only, and withholding the sure relief, while they expire from suffocation. Pasteur and Koch have shown how tuberculosis can be eliminated from human experience: the Eddyites would press the conviction (and, amazing to state, do convince some) that this disease is non-existent. Better than this it were, indeed, to revert to voodooism; for the latter has, at any rate, the sense to believe in tuberculosis and to seek a material remedy.

SANATORIUMS AND PROPERTY VALUES

The National Association for the Study and Prevention of Tuberculosis has collected evidence showing that well-conducted sanatoriums, dispensaries and camps for sufferers from tuberculosis are not detrimental to any community; that, on the contrary, their presence tends rather to enhance than to depreciate its property values. Recently, the subject has been studied, continuing an investigation conducted four years ago by William H. Baldwin,[1] of Washington, D. C., and for a summary of this study we are indebted to the *Survey*. Thirty-seven institutions were considered, and these were located in twenty-two states, as diverse in situation as Maine and California, as Oregon and Georgia. According to sanatorium authorities, real estate agents, as well as various disinterested people, more than 67 per cent. of these sanatoriums have favorably influenced the property surrounding them, and have otherwise benefited their respective communities. Twenty-three (62.2 per cent.) of these institutions helped definitely to increase assessed valuations. In only one instance was there a decrease in value, and this is considered to have been due to ignorance of the facts. In twenty-two cases among the thirty-seven the sanatorium facilitated the sale of land; in only four cases was any detrimental effect on sales shown. In more than half the cases, residents were attracted by the sanatorium, and in only three localities were they repelled. In the vicinity of a sanatorium in Portland, Oregon, land has more than doubled in value in three years, being in demand close to the institution; at Aiken, S. C., property in the neighborhood of the local sanatorium has increased fourfold since its erection; at Asheville, N. C., vacant lots near one of the sanatoriums sell at four times their price in 1900, and others farther from the institution but nearer the city are less valuable; at Hebron, Me., surrounding property has increased 20 per cent. as a direct result of the presence of a tuberculosis sanatorium. Similar effect on land values is reported from Luzerne, Pa., Liberty and Saranac Lake, N. Y., Pittsford, Vt., Mount Vernon, Mo., and Silver City, N. M. In St. Louis, Philadelphia, New York, Brooklyn, Boston, Pittsburg and other large cities, property surrounding tuberculosis institutions has increased in price; not a single instance was reported in which the presence of a camp, dispensary or sanatorium in a large city has had a detrimental effect on contiguous property. It is noted that the courts of Massachusetts, North Carolina and Virginia have decided that a tuberculosis sanatorium is not a menace to the health of a community, or to the property in its vicinity.

Much of the lay opposition to the sanatorium in the past has been due to misconception of the nature of infection in tuberculosis. Nor is it yet universally understood that in this disease the virus is not air-borne; that practically all infection from consumptives to their fellows is through the medium of the sputum, and that when this is properly disposed of there is no danger. The fight against tuberculosis sanatoriums has frequently been bitter, and sometimes virulent: it has nearly always been occasionless and based on ignorance. Poor Bodington, who in 1840 established the first institution on our modern principles of phthisiotherapy, had to succumb to it; on which, with much relevance, he turned his institution into an asylum for the insane. Next came Brehmer, who, fortunately for humanity, weathered superbly the cyclonic storms which beset him. Since 1854, when he began his work at Goerbersdorf, that village, fortunate in its defeats at his hands, has trebled its population; it has become vastly prosperous; it is now ready to accommodate any number of sanatoriums, and there are to-day within its hospitable limits at least five such institutions.

This is fast becoming the universal experience. There is no place so safe from tuberculosis infection as a well-ordered sanatorium; in nineteen years no nurse or other attendant or any servant contracted tuberculosis in the institution the destinies of which are directed by Trudeau; would any one dare say as much of any city home in which there has been a consumptive? The sanatorium has always had a commercial value, the nature of which was soon grasped by the astute agriculturist: it needs every day enormous quantities of butter, eggs, milk, cream, meats—and why should not these staples, as well as the labor required, be furnished by its neighbors? In cities, also, merchants have found these institutions a stimulus to trade. The sanatorium, moreover, raises local health standards; it becomes a school in which the vicinity learns the principles of hygiene and prophylaxis. Besides, the very fact of a given locality being selected for a sanatorium site is a surety and a gratuitous advertisement that it is a salubrious region, and this tends to make the place a profitable "health resort," and helps real estate agents to get "cottages" and other similar buildings erected.

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[1] Property Benefited by Tuberculosis Sanatoriums, Survey, June 19, 1909, xxii, 422.

THE PREVENTION OF MALARIA

Malarial disease is so familiar to us in its milder forms that few, even of experienced practitioners, have an adequate conception of what its actual cost in human life and human health is in the aggregate in our country. Figures which may be assumed to be reliable, as quoted by Dr. Seale Harris in his article in this issue, give us a mortality, as he says, greater than that of any or all the epidemics of yellow fever in the last half century. Taking into account that mortality is a very poor index of the actual damage done by this disease, since Dr. Harris says that probably not one in five hundred of those affected dies, these figures are sufficiently formidable. It is the morbidity caused by malaria, however, that is the factor mainly to be considered, and the importance of this can hardly be overestimated. Without going into the usual calculations of the value of human life and health from a financial standpoint, there is sufficient evidence of the evil to be found all over the world in deserted regions which were formerly centers of active and thriving populations. In spite of this, malaria is a preventable disease and this waste of human life and health can, to a very large extent at least, if not entirely, be avoided. Even in the tropics, where the conditions are most unfavorable, as in the Malay States and Panama, it has been shown that it can be permanently stamped out. These facts show that the problem is not so difficult as it appears, and we have had sufficient object lessons of the ease with which it may be accomplished in some parts of the Middle West where chills and fever, once very prevalent, have almost entirely disappeared, from the ordinary methods of opening up the country with cultivation and drainage. Dr. Harris' recommendations that malaria should be made a reportable disease and the patients isolated, may be difficult to carry out in some communities, but they are not impracticable and with the proper education of the people the difficulty would probably soon disappear. This can be accomplished, as he says, by means of lectures and tracts, etc., and, still better, by the individual efforts of those who are already enlightened on the subject. The benefit of a national association for the study and prevention of malaria is well illustrated by the experience of Italy, in which country the mortality and morbidity have been very largely reduced. Malaria prevention may sometimes raise interstate questions and the necessary measures cannot be always efficiently carried out by local legislation. Still, any community can protect itself against indigenous infection, unless very exceptional and extraordinary conditions exist. It is not ordinarily essential that the aid of the national government be invoked, but, in order to carry out the larger drainage enterprises that may be advisable, its help will be exceeding useful if not absolutely necessary.

Medical News

FLORIDA

Personal.—Dr. Henry C. Dozier, Ocala, has been appointed local surgeon for the Atlantic Coast Line, vice Dr. William H. Powers, deceased.——Dr. Gaston Day has been appointed city physician of Jacksonville.

Bacteriologic Laboratory.—Tampa has donated a site for a branch laboratory of the State Board of Health, and the board has decided to locate in that city. The state will erect a building to cost about $30,000. Dr. Howard S. Holloway, who has been in charge of the Jacksonville office, will take charge of the temporary laboratory to be used until the completion of the new building.

Tuberculosis Sanatorium Donated to State.—Dr. John E. Ennis, who has conducted for several years a private tuberculosis farm sanatorium near Kissimmee, has offered to donate the property to the state on condition that it is to be thoroughly equipped and so conducted as to prove of benefit to the greatest possible number of tuberculosis patients. The proposition has been accepted by the State Board of Health, and the board has acquired by donation sufficient land to make a total of 100 acres, located in Hendon Park, with a frontage along Hendon Lake. About $87,000 is at present available for the establishment and maintenance of the farm.

ILLINOIS

Hospital Opened.—It is announced that Graham Hospital, Canton, was opened about October 5.

Personal.—Dr. Ora L. Pelton, Jr., Elgin, has started for Europe.——Dr. Otto R. Scott, Chrisman, who has been critically ill, is reported to be improving.——Dr. and Mrs. Bernard Fantus, Chicago, have returned from Europe.

Antispitting Crusade.—The Board of Health of Rock Island has inaugurated a crusade against expectoration, and has posted placards calling attention to the fact that persons spitting on sidewalks will be subject to a fine of $5.

Free Health Advice to Working Men.—The Occupational Disease Commission announces that a publicity campaign will be inaugurated with the cooperation of state officials and medical experts. The scope of this work will include hints for workers and employers on every occupation of injurious nature, extending to household occupations.

Investigate Pellagra.—Following an investigation by the president of the State Board of Charities, and others, into the pellagra conditions at the Peoria State Hospital, South Bartonville, Secretary W. C. Graves is to submit a report to the governor recommending that a committee of physicians and biologists be authorized and appointed to make a complete investigation into the disease.

State Conference of Charities.—The fourteenth annual meeting of the Illinois State Conference of Charities and Correction will be held in Peoria October 9-12, under the presidency of William C. Graves, secretary of the State Board of Charities, Springfield. Among the more important features of the convention are addresses on "Occupations for the Blind," by Charles F. F. Campbell, Cambridge, Mass., superintendent of the Industrial department of the Massachusetts Commission for the Blind, and vice-president of the National Society for Workers Among the Blind; "Clinical Organization of State Hospitals," by Dr. William L. Russell, state inspector of state hospital service for the New York Commission in Lunacy; "Adult Probation," by Warren F. Spalding, secretary of the Massachusetts Prison Association; "Care of Needy Families in their Homes," by Marcus C. Fogg, district superintendent of the Pittsburg Associated Charities; "Medical Supervision of Public Schools," by Dr. James Stewart, medical supervisor of the St. Louis public schools. The president will respond for the conference and will speak briefly on "The Relation of the New State Charities' Administration Law to the State Conference of Charities and Correction, and to the City and County Governments."

INDIANA

To Aid the Work Against Tuberculosis.—Responding to the appeals of the Evansville Antituberculosis Society, the Vanderburg county council, at its annual meeting, September 7, appropriated $1,000 for the work against tuberculosis.

Personal.—Dr. Mary E. Jackson, Hammond, while making a professional call, September 22, fell through a rotten porch and suffered a fracture of the left patella and severe contusions.——Dr. John I. Metts, Ossian, is reported to be critically ill with cerebral hemorrhage.——Dr. Charles R. Dancer, Fort Wayne, has been appointed city medical inspector of schools.

MASSACHUSETTS

Test Pupils for Typhoid.—In order to prevent further spread of typhoid fever among school children of the Brighton district, the chairman of the Board of Health has had cultures taken from each of the 4,500 school children of that district.

Inauguration of Harvard's President.—The program for the inauguration exercises of the new president of Harvard University, Abbott Lawrence Lowell, October 5-7, contains the following items of interest to medical men: At 2:30 p. m., October 6, the Harvard Alumni Association will meet in Memorial Hall; and on Thursday afternoon the Faculty of Medicine and the Harvard Alumni Association will be hosts at an afternoon tea at the medical school, Longwood avenue.

Personal.—Dr. James V. W. Boyd, Springfield, has been named to succeed Dr. Herbert C. Emerson, resigned, as health inspector and physician of the Fourteenth district.——Dr. Clarence I. Sparks, Easthampton, has been named medical examiner for the Hampshire district, vice Dr. William G. Kimball, Huntington, resigned.——Dr. Henry A. Christian, dean of Harvard Medical School, delivered an address at the dedication of the new medical building of Leland Stanford, Jr., University, and was entertained at luncheon by the medical faculty of Epworth Medical University and Oakland County Medical Society, September 17.——Dr. J. W. Crawford has agreed to take charge of the tuberculosis camp established by the Young Men's Christian Association of North Adams.

MINNESOTA

Zone of Quiet.—Alderman Bow, a member of the Minneapolis council committee on health and hospitals, will introduce an ordinance for the establishment of a zone of quiet to be maintained in the vicinity of all hospitals in the city.

Personal.—Dr. S. Scott Blacklock, Hibbing, was recently operated on for appendicitis and is making a good recovery.——Dr. Hannibal H. Kimball, Minneapolis, has returned from Europe.——Dr. William C. McCarty, Rochester, had his right hip dislocated in an automobile accident at Ogden, Utah, September 21.

Experiment with School Medical Inspection.—The Board of Education of Duluth has decided to establish temporary medical inspection in four schools of the city as an experiment, and if this prove satisfactory, the inspection will be adopted by the board for all schools, and the cooperation of the parochial schools will be asked. Dr. Samuel H. Boyer is the medical member of the committee on schools and teachers which formulated this plan.

State Medical Society Meeting.—The annual meeting of the Minnesota State Medical Association will be held in Winona October 12-14, under the presidency of Dr. Cornelius Williams, St. Paul. The oration in medicine, on "Administration Problems in Relation to the Public Health," will be given by Dr. Walter Wyman, Surgeon-General U. S. P. H. and M.-H. Service, Washington, D. C., and symposia on the following subjects, "Epidemic Anterior Poliomyelitis," "Cooperation of State Forces in Minnesota Medicine," "Ophthalmia Neonatorum," and "Typhoid Fever, a Medical and Economic Problem as Illustrated by the Classical Mankato Epidemic of 1908."

MISSOURI

Quarantine Time Extended.—The St. Louis Board of Health has increased the quarantine period for scarlatina from four weeks to six weeks.

County Society Purchases Stereopticons.—The St. Joseph-Buchanan County Medical Society has purchased two large stereopticons for use in the course of postgraduate study, suggested by the American Medical Association, which the society has commenced.

Hospital Staff Appointed.—The winter staff for the new Kansas City General Hospital has been appointed as follows: Attending staff surgeons—Drs. Jabez N. Jackson, Albert H. Cordier, Jefferson D. Griffith, John F. Binnie, Herman E. Pearse, B. Clark Hyde, Howard Hill, John M. Frankenburger and Ernest F. Robinson; assistant surgeons—Drs. James P. Henderson, A. Comings Griffith and Ottokar Hofman, Jr.; physicians—Drs. John L. Robinson, Samuel C. James, Robert T. Sloan, Charles C. Conover, Otho L. McKillip, Franklin E. Murphy, Hugh D. Hamilton, and J. M. Lowe. Consulting staff: Obstetrics—Drs. Caleb A. Ritter and George C. Mosher; pediatrics—Drs. Clay S. Merriman, Harry L. Heller and Jesse E. Hunt; gynecology—Drs. George B. Norberg and C. Lester Hall; otology and laryngology Dr. James E. Logan and David L. Shumate; ophthalmology—Drs. Flavel B. Tiffany and Andrew W. McAlester, Jr.; dermatology—Drs. Halsey M. Lyle and William Frick; genitourinary—Drs. George W. Davis, Jacob Block and Ernest G. Mark; neurology—Drs. John Punton, Henry O. Hanawalt and Rush E. Castelaw; skiagraphy.—Drs. Edward H. Skinner and Oliver H. McCandless; and pathology—Drs. Frank J. Hall and Otto L. Castle.

NEW MEXICO

New Mexico Red Cross.—The New Mexico branch of the National Red Cross elected the following officers at the annual meeting, September 17: President, Dr. George W. Harrison, Albuquerque; vice-president, Dr. James W. Laws, Lincoln, and secretary-treasurer, Dr. John W. Colbert, Albuquerque.

Antituberculosis Society Organized.—At the meeting of the New Mexico Medical Society, a New Mexico branch of the National Society for the Study and Prevention of Tuberculosis was organized with the following officers: President, Dr. Francis T. B. Fest, East Las Vegas; vice-president, Dr. John W. Colbert, Albuquerque; and secretary-treasurer, Dr. Leroy S. Peters, Silver City.

NEW YORK

New York City

Personal.—Dr. Smith Ely Jelliffe has just returned to New York to his practice after a year spent in study in Germany and France.

Sea Breeze Home Closed.—The Sea Breeze Fresh Air Home maintained by the New York Association for Improving the Condition of the Poor was closed on September 30. During the summer 22,687 women and children have been taken to this home for one-day stays and 4,171 for stays averaging between eight and ten days.

Good Service by Field Hospitals.—Occurrences along the line of march of the parades during the Hudson-Fulton celebration showed that the field hospitals were well organized and entirely efficient for the service they had undertaken. All were busy at one time or another. The majority of cases were those of persons who had fainted, though there were several instances of epileptic fits and a number of heat prostrations. The number of injured was not great.

Another Milk Depot.—Nathan Straus, whose work of supplying pasteurized milk for babies has entered on its eighteenth year, has added another milk station to those already maintained by him. This makes the eighth permanent depot which he maintains all the year around. In the year just ended the Straus stations have supplied 3,410,105 bottles of pasteurized milk and during the past summer at the stations in the parks and on the piers 1,523,251 glasses of pasteurized milk were served.

Buffalo

Medical College Opens.—The University of Buffalo began its sixty-fourth regular session Monday evening, September 27. Dr. Peter W. Van Peyma, professor of obstetrics, delivered the opening address.

Personal.—Dr. Herbert H. Glosser is taking a three months' post-graduate course at Vienna. Dr. Herbert D. Pease has resigned as director of the state hygienic laboratory, New York State Department of Health.

NORTH CAROLINA

Gunshot Wounds.—Dr. P. L. Hagler, Birmingham, was shot and seriously wounded by William McIntyre recently.——Dr. J. Lewis Hanes, Winston-Salem, Pine Hill, while hunting, shot himself in the thumb, which was afterward amputated.

Warning Against Lithia Water.—The *Bulletin of the North Carolina State Board of Health* for August officially announces that "the water sold by the Buffalo Lithia Springs Water Company of Buffalo Lithia Springs, Va., and by Smith's Lithia Water Company of Oxford, N. C., has been found by three successive analyses made by the State Laboratory of Hygiene, to be dangerous to public health."

OHIO

Take Patients on Probation.—The State Tuberculosis Hospital, Mount Vernon, will be ready to receive patients October 15. All patients will be received on four weeks' probation.

Antituberculosis.—At the meeting of the Antituberculosis and Health League of Allen County, held at Lima, September 17, Drs. William E. Hover, Albert S. Rudy, William H. Parent and James B. Poling, Lima; George S. Weger and James R. Tillotson, Delphos, were elected trustees, Dr. James B. Poling, Lima, was elected secretary, and George E. Johnson, Auglaize, and Richard E. Jones, Gomer, were elected township vice-presidents. The trustees, by unanimous vote, indorsed Dr. William E. Hover, Lima, for president of the league.

Personal.—Dr. Estell H. Rorick, formerly superintendent of the Athens State Hospital and the State Institution for the Feeble-Minded, is reported to be seriously ill with lung disease at The Dalles, Ore.——Dr. William L. Jackson, Newark, is convalescent after a severe attack of ptomain poisoning.——Dr. Ernest S. Brooks has been appointed physician in charge of the Cleveland Tuberculosis Sanatorium, Warrensville, vice Dr. Joseph C. Placak, resigned.——Drs. John D. O'Brien and Henry C. Eyman, Massillon, have sailed for Europe.——Dr. Judson A. Hulse has been made school inspector of Akron, vice Dr. Dan M. McDonald, resigned.——Dr. Mason O. Wert, Poplar, sails for Europe October 12.

Cincinnati

Flag Day.—Superintendent Withrow of the Antituberculosis League announces that Flag Day will be held October 16, when it is expected to dispose of 100,000 large and small American flags, the proceeds to be used in carrying on the work of the league against tuberculosis in Cincinnati, and the establishment of a large tuberculosis pavilion at the branch hospital.

Personal.—It is announced that President Dabney of the Ohio-Miami Medical College will assume the duties of dean for the time being.——Dr. Frazier X. Monroe has received a government appointment and has been detailed for duty in the Canal Zone.——Dr. Oliver P. Holt was operated on recently for appendicitis at Rochester, Minn.——Dr. John L. Waffenschmidt is reported to be critically ill.

PENNSYLVANIA

State Society Election.—At the fifty-ninth annual meeting of the Medical Society of the State of Pennsylvania, held in Philadelphia, September 27-30, the following officers were elected: President, Dr. Theodore B. Appel, Lancaster; vice-presidents, Drs. Charles A. E. Codman, Philadelphia, Henry H. Riegel, Catasauqua, Joseph W. Albright, Muncy, and Charles W. Bachman, Reading; secretary, Dr. Cyrus L. Stevens, Athens; treasurer, Dr. George W. Wagoner, Johnstown; trustees, Drs. William A. Nason, Roaring Spring, John B. Donaldson, Cannonsburg, and David H. Strickland, Erie; and delegates to the American Medical Association, Drs. George W. Guthrie, Wilkes-Barre, Alexander R. Craig, Philadelphia, John B. Lowman, Johnstown, Horace G. McCormick, Williamsport, and Americus R. Allen, Carlisle. The next annual meeting will be held in Pittsburg.

Philadelphia

Personal.—Dr. J. William White has been elected a member of the Fairmount Park Commission.——Dr. Harry Lowenburg has been made instructor in pediatrics in Jefferson Medical College.

Reception to Dr. Cook.—At the conclusion of his lecture in Philadelphia, on September 29, Dr. Frederick A. Cook, the Arctic explorer, was entertained at a banquet by the Medical Society of Pennsylvania, then in convention.

Criticize City's Institutions.—The grand jury for the September term visited the city's penal and charitable institutions and found them generally in fair condition. They reported light and ventilation lacking to a considerable degree in some of the older buildings. They criticized the over-crowded condition at the Philadelphia General Hospital.

Health Report.—The total number of deaths reported for the week ended October 2, reached 390. This is a decrease of 50 from the number reported in the previous week and a decrease of 62 from the number reported in the corresponding week of last year. There were 134 cases of contagious disease reported with 18 deaths as compared with 128 cases and 9 deaths reported in the preceding seven days.

Abnormal Pupils to Receive Proper Care.—It is reported that there are 442 mentally deficient and physically abnormal children in the city's public schools and the authorities have planned to have these children committed to institutions where they can receive proper attention and treatment. This movement is the first step toward the abolition of special schools and the establishment of classes for backward and deficient pupils of the elementary grades. A committee of five psychologists has been appointed to look after this work by the superintendent of public schools, Dr. Simon S. Brumbaugh. Those who show the slightest traces of normality, or who can, by scientific methods, be put on a plane with the average child, will be treated at the psychologic clinic of the University of Pennsylvania.

SOUTH CAROLINA

Physician Enjoined.—In the case of J. W. Crawford, charged with the practice of medicine at Donalds, Abbeville county, without license, and under a temporary restraining order obtained from Judge J. W. Klugh, August 31, the court on September 4 held the medical practice act constitutional, and made the injunction permanent.

Personal.—Dr. Francis A. Coward has been placed in charge of the laboratory recently opened at Columbia by the State board of health.——Dr. J. R. Wilkinson, Charleston, medical missionary to China, of the Southern Presbyterian Church, sailed from Vancouver September 6.——Dr. J. William Folk, in charge of the Georgetown quarantine station, South Island, has resigned.——Dr. Louis C. Barbot, Charleston, received severe injuries in a runaway accident September 3.

TENNESSEE

To Care for Tuberculous Poor.—Dr. Henry P. Colle, president of the Knoxville Association for the Prevention and Relief of Tuberculosis, reports that the association will soon build an institution for the isolation and treatment of the tuberculous poor of that city.

Colleges Open.—At the opening of the medical department of the University of Chattanooga, September 22, the matriculation address was delivered by Major Charles R. Evans, dean of the law department.——The medical department of Lincoln Memorial University, Knoxville, formerly known as Tennessee Medical College, opened for the year, October 1.

TEXAS

New Cottages.—Managers of the state insane hospital have awarded the contract for two cottages for tuberculosis patients, to cost $35,000.

New Sanitary Code Adopted.—At the meeting of the state board of health, in Austin, September 14, the sanitary code was adopted and transmitted to the governor for his approval. The board decided to spend $15,000 on the state quarantine station.

Personal.—At the regular quarterly meeting of the Seventh Councilor District Medical Society, held in Austin, September 23, Dr. Washington A. Harper was elected president, vice Dr. Matthew A. Taylor, deceased.——Dr. Frederick W. Kirkham, formerly of Cuero, has moved to Brownsville, and has been appointed health officer of Cameron county.

Ruling on New Medical Statute.—The attorney-general's department has ruled that a physician licensed to practice in 1901, but who has no recent verification license, as prescribed by the act of 1907, cannot legally practice medicine by virtue of the license originally issued, but that it will be necessary for him to go before the present medical board, be examined, and obtain a license from the board.

VERMONT

New Sanitarium.—Dr. Grace W. Sherwood has purchased the Herbert Brainerd House, St. Albans, and will open a private sanitarium to accommodate 10 patients.

State Medical Society Meeting.—The ninety-sixth annual meeting of the Vermont State Medical Society will be held at White River Junction, October 14 and 15.

Medical Society Elections.—The Rutland Medical Reporting Club was organized September 9, with the following officers: President, Dr. Mark R. Crain; vice-president, Dr. William W. Townsend, and secretary-treasurer, Dr. Ray E. Smith.——At the annual meeting of Washington County Medical Association, held in Montpelier, September 21, Dr. Orlando G. Stickney, Barre, was elected president; Dr. Lester W. Burbank, Cabot, vice-president; Dr. Edwin A. Colton, Montpelier, secretary, and Dr. Louis A. Russlow, Randolph, treasurer.

Medical Staff Election.—At the annual meeting of the medical staff of St. Albans Hospital, September 22, Dr. John Gibson was elected president and Dr. George C. Berkley secretary. Drs. Edwin A. Hyatt and William B. Arnold, St. Albans, and Fred S. Hutchinson, Enosburg Falls, were appointed to arrange terms of service for the medical staff, to make weekly visits to the hospital, personally to inspect the sanitary condition of the building and grounds and examine the foods and medicine. Dr. Waldo J. Upton was elected a member of the staff of lecturers of the training school for nurses.

VIRGINIA

Colleges Open.—The annual session of the Medical College of Virginia, Richmond, opened September 14, Dr. Christopher Tompkins, the dean, delivering the address of welcome.——The annual session of the University College of Medicine, Richmond, opened September 14.

Personal.—Dr. Stanley H. Graves, Norfolk, has been appointed a member of the State Board of Health, vice Dr. Charles R. Grandy, Norfolk, resigned.——Dr. W. H. O. McGehee, dean of the dental department of the University College of Medicine, Richmond, has resigned and will remove to Cincinnati, where he has been elected professor of operative and clinical dentistry, and superintendent of clinics in the Ohio College of Dental Surgery.——Dr. William R. C. Booker, Bristol, was seriously injured, September 1, by being thrown from his horse.

Medical Societies Meet.—At the annual meeting of the Tidewater Medical Society, held in Urbanna, the following officers were elected: President, Dr. William P. Jones, Urbanna; vice-presidents, Drs. J. W. Dorsey Haynes, Cobb's Creek; John N. DeShazo, Center Cross; Alfred C. Palmer, Richmond; and Claybrook Fauntleroy, Dragonville; and secretary-treasurer, Dr. George W. Brown, Saluda.——At the annual meeting of Elizabeth City County Medical Society, held in Hampton, Dr. J. Wilton Hope was elected president; Dr. William H. Howard, vice-president, and Dr. Harry D. Howe, secretary-treasurer.

Coroners' Association Meets.—At the meeting for organization of the Virginia Coroners' Association, September 21 and 22, the following officers were elected: President, Dr. Lucien Lofton, Emporia; vice-presidents, Drs. John W. Brodnax, Manchester, and H. Gilbert Leigh, Petersburg; secretary, Dr. McCandlish M. Moran, Pinners Point; treasurer, Dr. Joel Crawford, Yale, and executive committee, Drs. H. Gilbert Leigh, Petersburg; Edmund H. Lewis, Culpeper, and William H. Taylor, Richmond. The association recommended that a state law be enacted requiring the appointment of coroners for the 66 counties of the state in which there is at present no such officer for the protection of the people and investigation of suspicious cases, and that a law be enacted requiring all embalmers to use the same embalming fluid, which should be free from chemical poisons.

GENERAL NEWS AND COMMENT

Hospital Association Election.—At the annual meeting of the American Hospital Association, held in Washington, D. C., September 23 and 24, the following officers were elected: President, Dr. Herbert B. Howard, Boston; vice-presidents, Drs. John N. E. Brown, Toronto, Ont., and Dr. Wayne Smith, St. Louis, and Miss Mary L. Keith, Rochester, N. Y.; secretary, Dr. Warren L. Babcock, Detroit, and treasurer, Mr. Asa Bacon, Chicago. St. Louis was selected as the place for the 1910 meeting.

Society Meeting.—At the annual meeting of the American Electro-Therapeutic Association, held in New York City, September 28-30, the following officers were elected: President, Dr. Thomas D. Crothers, Hartford, Conn.; vice-presidents, Drs. Thomas H. Cannon, Baltimore, Md., and Frank E. Peckham, Providence, R. I.; secretary, Dr. J. Willard Travell, New York City; treasurer, Dr. Richard J. Nunn, Savannah, Ga., and board of trustees, Drs. Charles R. Dickson, Toronto, Ont.; Morris W. Brinkmann, New York City; Herbert F. Pitcher, Haverhill, Mass.; Francis B. Bishop, Washington, D. C.; Edward C. Titus, New York City; Fred H. Morse, Boston, Mass. The next annual meeting will be held in Saratoga in September, 1910.

Conference on Pellagra.—The National Conference on Pellagra will be held in Columbia, S. C., November 3 and 4, under the auspices of the State Board of Health of South Carolina. Physicians and sanitarians are cordially invited to unite with the local profession in the study of the disease. Although the malady is of comparative recent recognition in this country, it already has been reported from seventeen states and is assuming the proportions of a national public health problem. The conference will include not only addresses, papers and discussions, but a number of clinical cases will be presented, thus affording the profession an opportunity for study of the disease. More detailed information may be obtained on application to Dr. Charles F. Williams, Charleston, secretary of the board, and state health officer.

Vital Statistics of Cuba.—Dr. Matias Duque, Havana, Secretary of Sanitation and Charities of Cuba, in his report for August, gives the following report of vital statistics of Cuba for May: The number of deaths registered was 2,398, equivalent to an annual rate of 12.95 per 1,000. An increase was observed in the following diseases: Infantile diarrhea, circulatory diseases, meningitis, cerebral congestion and hemorrhage, tetanus, influenza and cirrhosis of the liver. A decrease was noted in tuberculosis, acute bronchitis, bronchopneumonia, and pneumonia, cancer, nephritis and typhoid fever. Of the decedents 740 were under 1 year of age, 275 from 1 to 5 years of age, and 1,383 from 5 to 8 years of age; 1,617 were white and 781 colored. During the month 6,732 births were reported.

Health of the Philippines.—In the report of the Bureau of Health for the Philippine Islands for the quarter ended June 30, Dr. Victor G. Heiser, director of health, notes the completion of the first collection of lepers from every province of the island, excepting Moro Province. During the quarter, 685 lepers were collected and transferred to Culion. The conditions at Culion have undergone a change for the better, due to improvement in environment and the experiment that has been made on some patients by the Chaulmoogra oil treatment. The investigation into the typical town with special reference to the presence of intestinal parasites, shows that about 10 per cent. of the deaths were from uncinariasis and about 95 per cent. from some intestinal parasite. The death rate for Manila for the quarter was at the annual rate of 29.55 per 1,000, the lowest rate recorded, with one exception, since American occupation. A number of buildings of the Philippine General Hospital, for which appropriation was made last year, are now actually under roof. The legislature has decided that the institution shall be a division of the bureau of health, and it will be managed and known as the Philippine General Hospital Division of that bureau.

Mississippi Valley Medical Association.—Extensive preparations are being made by the St. Louis Medical Society of Missouri and the physicians of St. Louis for the entertainment of the members of the Mississippi Valley Medical Association which meets in that city October 12-14. The municipal boat has been offered by the health officer and mayor for a visit to the city water works and a trip along the water front of the city. Several hundred seats have been secured at vaudeville theaters for one evening. An automobile ride has been arranged for the ladies accompanying the members, and many other functions are in process of arrangement. The subject of the symposium is to be "Exophthalmic Goiter," which will be participated in by Drs. S. P. Beebe, New York City; George W. Crile, Cleveland, Julius H. Jacobson, Toledo; Allen B. Kanavel, Lewis J. Pollock, Albert J. Ochsner and Arthur R. Elliott, Chicago, and Herman Tuholske, St. Louis. Among other important and interesting topics for discussion are "Pellagra," on which papers will be read by Passed Assistant Surgeon Claude H. Lavinder, U. S. P. H. and M.-H. Service, and Dr. Joseph J. Watson, Columbia, S. C., with exhibition of patients and "Uncinariasis," on which a paper will be presented by Dr. Charles Wardell Stiles, Washington, D. C., chief of the hygienic laboratory, U. S. P. H. and M.-H. Service.

LONDON LETTER

(From Our Regular Correspondent)

London, Sept. 25, 1909.

Precautions Against the Importation of Cholera from Holland

Elaborate precautions have been taken against the importation of cholera from the continent. All vessels coming from Rotterdam are medically inspected at Gravesend and no passengers are allowed to land until their addresses of destination have been given. The vessels which convey large numbers of passengers are fitted with wireless telegraphy apparatus and messages will be sent to the health officer of the port of London should any illness of the nature of cholera arise during the voyage. While in port the vessels are inspected daily and all their refuse is burnt. No drinking water will be taken on board at Hamburg and no water will be carried in the ballast tanks. While the vessels are in port at Rotterdam their decks are not to be washed with river water. If the outbreak extends to other parts of Holland from Rotterdam all the Dutch ports may be declared infected; arrangements have already been made for dealing with vessels ariving from Flushing. Vessels arriving from St. Petersburg are subjected to special supervision and many passengers arriving with insufficient addresses have been detained on board for inquiries. A Russian captain who allowed some detained passengers to land has been fined. Quarantine has been abolished in this country and a system of medical inspection and supervision of persons arriving from infected ports has been substituted.

Socialization of the Medical Profession

In Great Britain, as in all civilized communities, great development is taking place in the control of the state over public health and the medical profession is becoming much concerned as to the effect of the rapid changes on its interests. Recently the government appointed a commission to inquire into the working of the poor-laws, which has resulted in a most important report foreshadowing revolutionary changes in the poor-law system. As a large part of poor-law relief consists in medical treatment and a majority of the physicians in rural districts hold poor-law appointments and clubs, the profession is deeply concerned. The clubs are a form of contract practice; the members principally belong to the working class and make a small annual payment—about $1—which insures them medical advice and medicine during illness. Most physicians are glad to get these appointments, as they bring in a fixed income, unlike the income derived from private practice, which depends on a varying amount of illness and varying ability and willingness to pay. When the physician also holds a poor-law appointment, for which he always receives a fixed stipend, he is only too glad that the agricultural laborers should join his club, for otherwise they would probably go on the parish during illness and he would have to attend them without any additional payment. Now the report of the poor-law commission foreshadows great changes—a more extensive system of free medical relief by the state, a vast system of contract practice, an unprecedented restriction of private practice, constituting indeed a veritable socialization of the medical profession. Curiously, though, the medical profession is in politics very conservative, it has for many years been unconsciously a force driving in the socialistic direction. Public health legislation has been created and extended largely as a consequence of its advice and demands. The system of free and compulsory public education, adopted in its complete form only in recent years, has involved another socialistic consequence for which the profession is largely responsible. The folly of compelling the diseased or underfed child of the artisan to attend school for instruction which his physical condition renders him unfit to receive soon became apparent. The very conservative London county council, which came into power entirely on the anti-socialistic cry, has been driven to provide free meals for necessitous children. Now the problem is how to deal with the various ailments, such as ear disease, adenoids, defective vision, etc., which interfere with education. Two propositions have been discussed—to establish school clinics under paid medical officers for the treatment of the children, or by making a grant to arrange with the hospitals for treatment of the children. As the cost of the former would be enormous, the council has decided on the latter course and has already made arrangements with some of the hospitals. But the British Medical Association, which may be taken to represent the views of the medical profession as a whole, has condemned this proposal after a discussion at the recent annual meeting. The association characterized the proposal as an abuse of the voluntary charity of hospitals which were never intended for the purpose of assisting the state to do its duty, and also as very inadequate, for the work to be done is much greater than the hospitals could undertake in addition to their present duties. It might be said in reply, however, that most of the children belong to the very class which it is the duty of hospitals to assist. If the school clinics be established this will be another great step in the socialization of the profession, for the children who attend the government schools comprise the classes ranging from the very poor to those of the skilled artisan and the small shopkeeper—classes on which most of the profession depend. Further, it is only a short step from the free treatment of these children to the free treatment of their parents.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Sept. 22, 1909.

Mr. Harriman's Death and the Vienna Medical School

The news of the death of the American railroad magnate, who for some time was under the care of one of our best-esteemed professors in Vienna, has caused some unpleasant discussions in the papers. The charges of wrong diagnosis hurled at the Vienna physicians by some transatlantic journals have prompted the physician who was treating Mr. Harriman here to answer publicly. He asserted that the diagnosis (inoperable cancer of the stomach) was indubitable when he saw the millionaire the first time. It was important to keep the knowledge of the true state of things from the unhappy man; but the American physicians accompanying Mr. Harriman were fully instructed here, if they needed any instruction at all. Mr. Harriman was sent, on the advice of the Vienna physician, to a diagnostic sanatorium near Munich. This again was complained of by the Austrian papers as being unfair to the Austrian sanatoriums, which could solve the question "cancer or no cancer" equally well. The reason was given that the physician, coming from Germany, still adhered to German places. Anyhow, the entire discussion was disgusting and proved once more the truth of the old principle: "The less one speaks of his patients to laymen, the better."

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Sept. 16, 1909.

Overcrowding of the Medical Profession in Germany

The unfavorable economic situation of the medical profession in Germany is emphasized by new statistics in which the disproportionately greater growth of the medical profession as compared with the population since the year 1885 is exhibited. While the population of the German Empire from 1885 to 1907 increased somewhat more than 32 per cent., the number of licensed German physicians increased more than 102 per cent. (in 1885, 15,764; in 1907, 31,864). In 1885 there was one physician for 2,963 inhabitants; in 1907 one to only 1,973—a proportionate increase three times as great as that of the population. To this must be added the fact that through the social legislation the number of patients available for private practice has been extraordinarily limited. In 1885, 4,294,173 persons were insured against illness; in 1907, on the other hand, the number was 11,721,796.

Personal

Prof. H. Kossel, director of the hygienic institute at Giessen, has received a call to Heidelberg in the same capacity, and will move thither in April, 1910. As is well known, his elder brother, the distinguished physiologist, Prof. A. Kossel, is employed at the same university.

September 2, Prof. V. Hensen, the well-known physiologist at Kiel, celebrated the semicentennial of his doctorate.

As a result of a fall, Professor Jaffé, chief surgeon of the city hospital at Posen, died September 2.

September 5, Dr. Agnes Hacker, one of the oldest and most noted women physicians, died here in Berlin. Among other positions, she held the presidency of the association for establishing a woman's hospital in Berlin.

Schools for the Deaf

At the Budapest congress, Professor Hartmann, the head of a department of the Berlin Rudolf Virchow Hospital, gave an address on schools for the deaf. Hartmann learned by investigation that there is a not inconsiderable number of children in the public schools who remained for years in the lowest classes on account of a pronounced difficulty of hearing, are regarded as feeble-minded, and are retarded in their intellectual development, and he succeeded seven years ago in having established by the support of the city authorities of Berlin a special course of instruction for children with marked difficulty of hearing. At present there are in Berlin 17 classes for the partially deaf. Experienced instructors of the dumb, each of whom has charge of only ten children, act as teachers. The principals of the schools send the children who, on account of deafness, are not making progress, for investigation, accompanied by the teacher. In the presence of the director of the school for the deaf, the children are individually examined. In many cases it is ascertained that the deafness depends on a disease of the ear that may be improved or cured. Among the children received 28 per cent. were still affected with suppuration of the middle ear and 52 per cent. with growths in the nasopharynx. By determining the children's power of hearing it has been shown that many, in spite of a high grade of dulness of hearing, were still capable of profiting by the ordinary instruction. The degree of the power of hearing, therefore, is not alone sufficient to decide as to admission into the schools for the deaf. A very important factor is the ability of the child to learn. A great injustice would be done to those hard of hearing if they were classed with the feeble-minded. Furthermore, the deaf must be completely separated from the dumb. The observations made at the examination for admission and at later examinations, showing that a considerable number of the affections of the ear are amenable to treatment, indicate that there is an urgent demand for the examination of the deaf by a specialist on their admission into the school.

The Campaign Against Tuberculosis

The city of Charlottenburg has acquired a large tract of woodland in the neighborhood of Berlin as a site for a hospital for the treatment of patients with advanced tuberculosis. In this institution pulmonary invalids are to be received, whose removal from their homes is necessary in the interest of the public health. If possible, the patients are to remain in the hospital as long as they live. In addition, mild cases of lung diseases are to be received, especially such as are fit for the sanatoriums but cannot be admitted for lack of room, and also such as have been discharged from the sanatoriums but still need supervision. Two hundred beds are provided with the possibility of expansion to 300 beds. After the erection of this new tuberculosis hospital only such cases of consumption are to be received in the Charlottenburg city hospital as must be taken in on account of sudden severe illness or those that are temporarily or permanently unfit to be moved. By this plan the city of Charlottenburg is carrying out the suggestion of Koch and other authors to render harmless by permanent confinement in a hospital such advanced cases as cannot be isolated in their homes so as not to endanger their healthy neighbors. The success of the campaign against tuberculosis in Germany in late years is shown by the following recently published statistics on deaths from tuberculosis in 350 cities of the German empire with 15,000 and more inhabitants:

Deaths from pulmonary tuberculosis:
In 1899, 22.6 per 10,000 inhabitants living.
In 1904, 19.3 per 10,000 inhabitants living.
Deaths from tuberculosis in general:
In 1905, 22.3 per 10,000 living.
In 1908, 19.2 per 10,000 living.

The question of institutions for the care of pulmonary invalids was taken up at the annual meeting of the German Public Health Association *(Deutsches Verein für öffentliche Gesundheitspflege)* a few weeks ago. No new points were made in this discussion, as, in general, the whole tuberculosis question has temporarily fallen into a rut.

The Significance of the Trachoma Corpuscles

The etiologic signficance of the trachoma corpuscles, like that of the *Spirochæta pallida*, was considerably shaken at the Budapest congress. As is well known, Greeff and von Prowazek-Halberstädter have found peculiar corpuscles in the conjunctivas of trachoma patients, to which they attribute an etiologic as well as diagnostic importance. Prof. B. Heymann reported investigations which he had made in the Breslau Hygienic Laboratory, under the direction of Professor Pfeiffer, in which he found these corpuscles in a considerable number of other conjunctival diseases. Of 9 cases 5 were fresh trachoma lesions and 4 were cases of gonorrheal ophthalmia neonatorum. Heymann, in his article recently published in the *Deutsche medizinische Wochenschrift*, comes to the conclusion that it is not practicable to assert that the corpuscles of Prowazek are specific for trachoma, so long as we have no means of differentiation between them and the corpuscles found in gonorrhea, and that the Prowazek corpuscles are of diagnostic value only when all suspicion of gonorrhea is excluded. But even if these structures are specific for trachoma, no conclusion as to their etiologic relation to that disease should be drawn.

Epidemics of Poliomyelitis

Epidemics of poliomyelitis like those in Sweden in 1905 and last year in Austria have broken out in several places in Germany within a few weeks. Such an epidemic was first reported from Hamburg and Schleswig-Holstein. Lately cases have occurred in the Rhine country and Westphalia. Now an epidemic is prevalent also in the province of Brandenburg and in Hesse. It affects young children almost exclusively, in whom paraplegias, hemiplegias and monoplegias are observed. In one case a superior polioencephalitis also occurred. By an order of the ministry of education (*Kultusministerium*) Professor Krause, director of the policlinic at Bonn, was sent to Westphalia to investigate the cause and extent of the disease.

Sale of Medical Practice

By a decision of our highest court, the German Imperial Court (*Deutsches Reichsgericht*), a contract for the sale of a physician's practice is opposed to good morals and therefore invalid. A short time ago the Swiss Federal Court (*Schweizer Bundesgericht*) reached an opposite decision. The Swiss decision is to the effect that the disposal of a physician's practice cannot be regarded as illegal, but a physician who has paid a definite price for a practice cannot later dispute the contract on the ground that it is an unethical transaction. To be sure, the physician has ideal duties to perform toward his clientele, but, on the other hand, the calling of the physician has its material side, and these material interests, like those of other trades, may become the subject of a contract. Just as no one has a right to complain of the physician because he charges a fee for his services, so no objection ought to be made if he accepts a price from his successor for his introduction and delivery of his practice.

BUDAPEST LETTER

(From Our Special Correspondent)

BUDAPEST, Sept. 10, 1909.

[An account of the scientific proceedings of the Congress will be found in the Department of Society Proceedings.]

The Political Incubus

Looking back over a number of international scientific congresses I can hardly remember a congress at which, as to-day at Budapest, the atmosphere was so heavily charged with political considerations. There was a good deal of politics at Washington last year at the Tuberculosis Congress, and, strange to say, the fight was much the same. Of course I am fully aware that 90, I hope 99 out of every 100 medical men who read these lines will exclaim that science knows no frontier, that science is not political, that science in the service of humanity seeks only for truth. In 1889, the Paris Universal Exhibition and some of the scientific international congresses were partly boycotted because these were held in celebration of the centenary of the great French revolution. Nevertheless, in the great hall of the Paris Sorbonne, before some three thousand representatives of the science and art of healing, Pasteur and Lister met face to face on the platform and then, with one common accord, embraced. That one thrilling moment was worth all the politics that have ever been spoken or written; the governments had sought to boycott the French nation and its government, but the greatest benefactors of the human race embraced.

Are Government Delegates Impartial?

It is unfortunately an actual fact that it is impossible to keep politics completely out of these congresses. There are, however, two sorts of politics; one which has a legitimate right of entry and the other about which not so much as a whisper should be heard. Of the former, I spoke at some length in my last letter. It is the politics of social reform. Nothing will prevent medical men, hygienists and chemists from declaring that we must have pure air, pure water and unadulterated food. Yet how many political fights have taken place to secure such legislation as we possess, which purports to provide these fundamental necessities of existence! Indirectly all scientific congresses must deal with politics of this description. Indeed, what would be the use of proclaiming the basic principles on which health is to be preserved if nothing practical is to be done to ensure their application?

War and the Americans at the Madrid Congress

There are also acute political situations that arise at the great international congresses of medicine and the allied sciences that cannot possibly be avoided, at least so far as the members of the congress themselves are concerned. One of the most exciting which I have witnessed was at Madrid where the International Congress of Hygiene and Demography met just at the very moment when the Cuban war broke out between the United States and Spain. In the very heart of Madrid, close to the *Puerto del Sol*, an American insurance company possessed a very fine building which it had thought fit to decorate with American eagles carved in stone. One of these spread its wings in a particularly aggressive manner, so some excited Spanish patriots went up and hacked at the sculpture till it fell down with a crash into the street below. But it so happened that, in its fall, the American eagle struck the wooden staff of a Spanish flag and down came the flag as well as the bird. For so superstitious a people as the Spaniards this was an evil omen. What, however, was my concern to observe immediately after this incident, a group of American army and navy surgeons strolling through this very neighborhood in full uniform. To the honor of the Spanish populace be it said, not a stone was thrown, not a threat or an insult was proffered, a dignified silence was maintained, thus showing once more that the poorest classes in Spain can set the world an example in matters of dignity and courtesy. This incident, I trust, will be remembered; and, when this self-same congress meets next year in the United States the Spanish delegates will be made to feel that their American hosts can appreciate how the American delegates were treated in Madrid under very difficult, trying and painful circumstances. Though war was declared before the congress was over not a single American met with any rudeness at the hands of the Spanish.

War Dangers and the Budapest Congress

At the Budapest congress, if we have not had war we have had such menacing rumors of war that, at one moment it was very doubtful indeed whether the congress would be held. Undoubtedly, if the present political situation could have been foretold three years ago at Lisbon, no one with any sense of prudence would have accepted the Budapest invitation. But really we who voted for Budapest at Lisbon in 1906 never dreamed that by 1909 Austria-Hungary would have torn up the treaty of Berlin and taken forcible possession of Bosnia and Herzegovina. For a long time it seemed as if war were inevitable, and though peace has been maintained, what to many would have seemed the most interesting after event of the congress has been spoiled. Just as many medical men went to the Madrid congress because they hoped to visit Andalusia afterward and contemplated the beauties of Seville, the Alcazar and Granada, so others were tempted to Budapest by the hope that, after the Congress, there would be an excursion through the Balkan Peninsula to Constantinople, coming home via Athens. This is exactly what happened in 1894, and well I remember the magnificent receptions we had and the wonders we saw. But nothing of the sort is possible to-day. The result of this trying political situation is that there have been no official excursions. As individuals, of course, members of the Congress could go wherever they liked, paying the ordinary price and guided by the ordinary excursion agencies. But the governments of the countries concerned made no offer, proposed no sort of reception or entertainment. Thus the political situation weighed heavily on the congress and this through no fault or blunder of the congress itself.

Racial Conflicts Within the Congress

The Roumanians, as is well known, for they sent out a circular to all the medical press, boycotted the congress, because Mme. Vlad, the wife of a Roumanian deputy in the Hungarian parliament, was sent to prison for urging Roumanian children to persevere in the study of their mother tongue. It would take much time to discuss this question of languages which is somewhat wide of the mark. There is a great deal to be said on both sides. By order of the emperor, Mme. Vlad was released, and versions differ as to the extent of her offense, if offense there was. But what concerned the congress even more than this incident, though it deprived us of the presence of the medical practitioners from the neighboring state of Roumania, was the circular addressed to all the German physicians attending. It was posted from Vienna and issued by the society for the maintenance of the German nationality in Hungary. The circular commenced by stating that it understood the German delegates to the congress had been invited to a banquet at which the principal host is to be the minister of public worship and public education, Count Apponyi. The circular then abused, in violent language, the minister for practically excluding the German language from the elementary schools and accused him of making liberal speeches abroad while carrying out the most illiberal policy at home. The circular concluded: "We anticipate that we shall appeal with success to the national sense of honor of all Germans when we ask you, one and all, to refuse as one man, this man's invitation. Nevertheless, we are fully convinced that the scientific side of the congress will suffer no injury through such a manly action on your part." Now the awkward thing is that, instead of throwing aside this extravagant manifesto, a large number of German medical men who had accepted the invitation to dinner, swore off at the last moment. Only a few sent lame excuses, several did not even do that much. On the other hand, I would hasten to add that the Germans, after twenty-four hours' reflection, sobered down considerably and many were present the next day at the Park Club where Count Apponyi gave a brilliant reception and supper. This incident shows how largely political questions intrude on scientific congresses. Then we have the Poles. A terrible blow has been struck at them, and this was the doing of the congress itself. In voting for the creation of a permanent commission for the organization of these congresses, the word "nation" was struck out and "state" substituted. Thus the little state of Luxenburg has a member on the commission, but the Polish delegate, who claimed to speak on behalf of 24,000,000 Poles, was ruled out; because, if there is a Polish nationality there is no Polish state. This vote will not fail to encourage the Hungarians who are endeavoring to prevent the separate existence of the Germans, Slovaks, Roumanians, Ruthenians, Croatians and Servians, though together they equal about half the population of Hungary. In this war of races, religions, languages and, at the back of it all, of economic interests, what has the medical profession and what have international medical congresses to say? "Nothing at all," is, of course, the most obvious and certainly the easiest answer. But is it the true answer?

Where a Congress Cannot Be Neutral

The language question does not concern us, but all the week we have been shown institutions connected with education and the medical relief of the poor. Surely the language question is at the foundation of the education question; and if medical men are not to be interested in the general education of the peoples and nations they visit, I am sorry for medical men. Everything that interferes with the mental and physical evolution of man, interests the medical profession. Wherever children are overcrowded and starved in school, whether these schools be religious or secular, there the medical profession is concerned; and how appalling, how deplorable is the state of elementary education in Hungary! Where economic conditions are such that there is not even a sufficient subsistence wage to be earned, there the medical profession is concerned; and in America, something is known of the starvation which has driven so many Hungarians over the Atlantic. The agrarian party, the great landed aristocracy which holds Hungary in its grip, presented to the congress a glowing picture of the progress that has undoubtedly been accomplished. But the true student will look below the surface. A model operating theater at Budapest with an extravagant display of modern and expensive surgical instruments does not mean that throughout the country similar perfection prevails. Nor must a congress allow itself to be utilized as a means of fostering the belief among other nations that the country where its meetings are held is the home of all the virtues and all progress. This, I trust, will not be the aim of the organizers of the next congress of hygiene when it meets in Washington, or the next congress of medicine when it meets in London.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Sept. 16, 1909.

The White Cross Society and Food Adulterations

Two years ago a society called the Universal White Cross Society of Geneva (*Société Universelle de la Croix-Blanche de Genève*) was founded to unify efforts against tuberculosis, cancer, syphilis, epidemic, infectious and parasitic diseases, alcoholism and morphinism, food poisonings, diseases of poverty, etc., made by national and international institutions throughout the entire world, thus affording a permanent bond of union, while leaving each one in absolute internal and local independence. For the purpose of securing international agreements for the repression of adulterations in drinks, foodstuffs and agricultural products, the society organized last year the first International White Cross Congress at Geneva and this year it is organizing a congress which will be held at Paris, October 17-24.

The Geneva congress took up the problem of adulterations from a new point of view. It endeavored to define, not adulterations, but the normal type of each form of foodstuff. In all countries striving to suppress food adulterations legislation has been passed and chemical analysis called on to establish adulteration, regardless of the fact that often an analysis of an adulterated food has no practical value unless compared with an analysis of the clearly defined normal type. The Geneva congress having defined these types, the Paris congress will consider the operations necessary to the manufacture of commercially pure foodstuffs.

The congress will meet under the patronage of the heads of several of the departments of government and will be divided into three sections. The first, presided over by M. Müntz, member of the Academy of Sciences, will be concerned with the technology of food. The second, presided over by Dr. Landouzy, dean of the Paris medical school, will examine from the point of view of hygiene the questions discussed by the first section. The third, presided over by M. Guignard, director of the Superior School of Pharmacy and member of the Academy of Sciences, will be concerned with adulterations of drugs, chemical products and mineral waters.

Night Medical Service at Paris

Apropos of the fact that recently the father of a child who fell sick during the night was unable to find a physician soon enough, some political journals have criticized our night medical service severely. In a general way, however, it may be said that this service is very satisfactory and its workings are sufficiently ingenious to merit description.

This service begins at 10 p. m. and ends, during winter, at 7 a. m., during summer at 6 a. m. Every physician who desires to be placed on this service has himself inscribed on the list of "night physicians." Any one wishing to call a night physician has to address himself to the nearest police station. A police agent then accompanies this person to the residence of the physician, follows the latter to the patient's home, and, the visit being concluded, takes him home again. The service is not free. For each visit the physician receives $2 (10 francs), paid out of the municipal funds. According to the means of the patient, as discovered after inquiry, the administration requires from the patient reimbursement of the physician's fees, or assumes the cost itself.

Obstetric cases are taken care of by midwives, whose fees are $4 (20 francs) for each delivery.

The night medical service has been organized in this way since 1876. Ten years after its organization a night pharmaceutic service was also created. The pharmacists, enrolled at their request, receive 30 cents (1 franc 50 centimes) as a fixed return for each order they fill in addition to reimbursement for the cost of the drugs.

The number of physicians participating in the night medical service at present is about 596; of midwives, about 477; and of pharmacists, about 468. Last year there were 14,000 night medical visits, for which the doctors received $28,000 (140,000 francs). Out of this sum the administration received from the private individuals who required physician's services, only $6,000 (30,000 francs).

New Treatment for Obesity

All the methods of treatment of obesity rest on the double rule of diminishing food and increasing elimination; but chiefly on the former, since most obese persons have depleted nervous systems and are incapable of accomplishing the necessary effort to increase their organic outlay by muscular work. Dr. Bergonié, professor of biologic physics and medical electricity at the Bordeaux medical school, has met the difficulty, obtaining artificially intense muscular activity by causing an alternating electrical current of 8 to 12 volts and of an intensity of 50 milliamperes to pass through the body of the patient with a frequency of 40 to 100 per second. The patient reclines over a large electrode, the other electrode covering the greater portion of the anterior surface of the body. Under these conditions, the passing of the current is absolutely painless. Under the influence of the current all the important muscular masses (thighs, calves, buttocks, back, shoulders) are animated with muscular contractions sufficiently energetic to elevate the body, even when weighted down at the level of the thighs by a weight of 88 pounds (40 kilos) or more.

According to Dr. Bergonié's recent communication to the Academy of Sciences (*Académie des sciences*), and to the French Association for the Advancement of Sciences (*Association française pour l'avancement des sciences*), this treatment will cause a very rapid diminution of the weight of fat, if the patient is careful to maintain his diet at a ratio inferior to that which corresponds to his muscular outlay; it will, moreover, increase strength and resistance to fatigue.

Pharmacology

WATERBURY'S METABOLIZED COD-LIVER OIL COMPOUND

Report of the Council on Pharmacy and Chemistry and Laboratory Contribution on Which It Is Based

The following report has been adopted by the Council and its publication directed.

W. A. Puckner, Secretary.

To the Council:—Your committee on pharmacology has read with interest the contribution from the Association's laboratory on Waterbury's Metabolized Cod-Liver Oil Compound. The report shows that misleading and false statements are made in regard to the composition of the product and also that exaggerated and unwarranted claims are made for its therapeutic value. In view of the attempt of the Waterbury Chemical Co. to create a false impression in regard to the therapeutic value of the composition of its product, it is recommended that the following report be adopted and published:

The Council believes that there is a preponderance of evidence to indicate that whatever therapeutic value cod-liver oil has, that value depends chiefly, if not entirely, on its fat (oil). In the opinion of the Council, the word cod-liver oil should not be used in connection with any preparation unless it consists to a large extent (25 per cent. or more) of cod-liver oil. Since Waterbury's Metabolized Cod-Liver Oil Compound contains no appreciable quantity of cod-liver oil, the name is incorrect and misleading, and as a cod-liver oil preparation it is believed to be wholly valueless. The Council has previously voted that Waterbury's Cod-Liver Oil Compound be refused recognition because of conflict with Rules 1 and 6.

[Contribution from the Chemical Laboratory of the American Medical Association]

Waterbury's Metabolized Cod-Liver Oil Compound

W. A. Puckner and L. E. Warren

A full page advertisement of Waterbury's Metabolized Cod-Liver Oil Compound appeared in the *Iowa Medical Journal*, March 15, 1909, in the form of a letter purporting to give the results of an analysis of the product made for the firm by a Chicago chemist. In this letter-advertisement the chemist states at the outset that the results of his examination "are somewhat at variance with the statements made in The Journal." These statements he quotes as follows:

> 1. It is a clear liquid and no globules of oil are seen under the microscope. It is therefore not an emulsion.
>
> 2. It is of acid reaction when mixed with water and remains clear when strongly acidified. Hence it does not contain a soap, and is not a saponification of fat.
>
> 3. It mixes with water without precipitation, hence, it can not contain more than traces of a fatty acid.

The chemist admits in his letter to the firm that his analyses verify statements 1 and 3, but regarding statement 2 he says: "I find that your preparation is acid in reaction, but when strongly acidified gives a distinct turbidity within 10 minutes and a voluminous precipitate within 1 hour. This precipitate is shown to consist of fatty acids of cod-liver oil, which are thrown down by the splitting of the soaps, on acidifying either with sulphuric or hydrochloric acid." From these results he states that to him it seems that the "preparation does not deserve the statement that it contains no soap, as there is no question whatever of the presence of cod-liver oil."

While in the letter published in this advertisement the chemist claims to have demonstrated the presence in the product of "saponified cod-liver oil" he *omits to mention the quantities* of the soap present. In the article that originally appeared in The Journal (Oct. 13, 1906), in addition to the three paragraphs quoted by the chemist, the following statements were made:

> "By these simple tests a physician is easily able to demonstrate that the preparation does not contain cod-liver oil. It is therefore valueless for the purpose of nutrition for which we give the oil. More careful analysis confirms the results of these tests and shows that it contains no fat or fatty acids (except the merest traces) . . ."

At the time these statements were published in The Journal, the *St. Paul Medical Journal*, October, 1906, contained an advertisement for Waterbury's Metabolized Cod-Liver Oil Compound, which contained this statement:

> "The only tasteless preparation on the market which contains Cod-Liver Oil in its entirety. The metabolized product is obtained by the action of digestive ferments on pure Cod-Liver Oil."

In the *Ohio Medical Journal* of Feb. 15, 1907, there appeared in the form of an advertisement what purported to be an analysis of Waterbury's Metabolized Cod-Liver Oil Compound by Prof. C. N. Kinney of Drake University. While Professor Kinney made a quantitative analysis of the preparation the quantities were omitted from the analysis as published. A footnote added by the Waterbury Chemical Company called attention to this fact and closed as follows:

"Any physician who is not satisfied with the analysis we will be only too glad to furnish the complete analysis by our representatives."

If this weirdly constructed sentence meant anything, it meant that the complete analysis would be furnished on request. Such requests to the company, however, from various sources failed to elicit the information required nor was the "complete analysis" forthcoming. The inference to be drawn is fairly plain.

In a circular accompanying the product as sold at present, this statement occurs:

WATERBURY'S
METABOLIZED COD LIVER OIL COMPOUND
WITH CREOSOTE AND GUAIACOL OR PLAIN

DOES CONTAIN COD LIVER OIL
DOES ALLAY FERMENTATION
DOES AID DIGESTION
DOES ASSIST ASSIMILATION
BUT DOES NOT DISTURB THE STOMACH

As previous examinations disclosed only the merest traces of cod-liver oil in the product while claims were made that it "represents cod-liver oil in its entirety," and in view of the fact, too, that present advertisements emphatically declare that cod-liver oil is present in the preparation as now sold, it was thought best to examine some of the preparation with especial reference to the quantities of fatty acids from cod-liver oil.

The results of the examination, the details of which are given below,[1] are briefly as follows: The total quantity of acids isolated amounted to about 0.3 per cent., and of this amount about two-thirds was *salicylic acid.* Thus it appears from the examination of the specimens bought on the open market that the preparation contains at most but 0.1 per cent. of the fatty acids from cod-liver oil, a totally insignificant quantity.

Notwithstanding the protestations by the manufacturers, in the form of published analyses and circulars, it is seen that the statements published in THE JOURNAL, Oct. 13, 1906, p. 1207, are essentially substantiated; it is further evident that the product does not deserve to be designated as a cod-liver oil preparation. To obtain a medicinal dose of cod-liver oil the patient would be compelled to swallow the contents of a bottle of this mixture, and as, the product contains 11 per cent. alcohol the patient who did so would probably experience a degree of exhilaration not referable to cod-liver oil.

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[1] A trade package of Waterbury's Metabolized Cod-Liver Oil Compound was purchased in the open market and examined in the Association laboratory. The product was a pale brownish-yellow, very slightly turbid liquid having an acid reaction and a malt-like odor. The odor was in no way suggestive of cod-liver oil or of cod-liver oil preparations. When strongly acidified with hydrochloric acid no precipitation or increase in turbidity was observable at once as would be the case were soaps present in appreciable amounts. On standing over night the acidified solution gave a flocculent precipitate. On shaking the acidified solution with ether-chloroform mixture and evaporating the solvent, a brownish, partially crystalline residue was obtained, the greater proportion of which appeared by qualitative tests to consist of *salicylic acid.*

ETHER-CHLOROFORM-SOLUBLE MATTER: A portion was strongly acidified with hydrochloric acid and extracted with an ether-chloroform mixture. The solvent was washed with water, evaporated, the residue dried at 98 C. and weighed; 500 c.c. of the product gave 1.5222 gm. or 0.3044 gm. per 100 c.c. Attempts to separate the salicylic acid quantitatively from the fatty acids by crystallizing the former from hot water were not entirely successful.

FREE FATTY ACIDS—SALICYLIC ACID: The ether-chloroform-soluble residue was treated with hot water and filtered. The residue on the filter was dissolved in warm alcohol, the solvent evaporated to dryness, the residue treated with hot water to remove salicylic acid, and filtered. The undissolved residue on the filter was dissolved in warm alcohol, filtered and the filtrate evaporated to dryness, the residue dried and weighed as free fatty acid; 500 c.c. gave 0.0362 gm. in the first separation. The first crop of salicylic acid crystals, which separated from the hot water filtrate on cooling, was filtered out, the filtrate evaporated to small bulk and allowed to crystallize a second time. The first and second crops of salicylic acid were united, dried at 60 C., and weighed; 500 c.c. gave a total of 0.8421 gm. salicylic acid, or 0.1684 gm. per 100 c.c. A second yield of fatty acids was obtained from the filtrate from the salicylic acid separation by the process employed for the first, 0.0204 gm. being obtained. Total fatty acids isolated amounted to 0.0566 gm., or 0.011 gm. per 100 c.c. This residue gave the Pettenkoffer test for bile products thus indicating the probable presence in the preparation of traces of products derived from cod-liver oil.

The filtrate, from which the fatty acids and salicylic acid had been separated so far as possible, was evaporated to dryness, the residue dried at 98 C. and weighed. A residue of 0.2595 gm. was obtained. This residue did not give Pettenkoffer's reaction for bile salts. It consisted of salicylic acid, free fatty acids and undetermined substances. Since 0.8421 gm. salicylic acid was separated from the residue or 55.3 per cent. of the total, it follows that not more than 0.6801 gm. or 44.7 per cent. of the initial residue can possibly be free fatty acids, or 0.13 per cent, as calculated on the entire sample. This value is evidently much too high as it includes everything in the initial residue not obtained as crystallized salicylic acid. It was noticed during the examination that whenever a fatty acid residue was dissolved in alcohol a noticeable residue remained which was also insoluble in water. Adding the several residues obtained, 0.8421 gm., 0.0566 gm. and 0.2595 gm., the sum of 1.1582 gm., is obtained. Subtracting the sum from 1.5222 gm., the initial residue, a loss of 0.3640 gm., is noted. As a check on the above the total acids were determined in a sample of 100 c.c. An ether-chloroform soluble residue of 0.330 gm. was obtained.

DR. CURRY CANCER CURE COMPANY

The Exploiters of a Cruel Fraud Put Out of Business by the Postal Authorities

In one of the chapters in *Collier's* "Great American Fraud" series by Mr. Adams, the "cancer cure" quack was shown up.[1] Among the numerous humbugs in this line of business, Dr. G. M. Curry, of Lebanon, Ohio, was apostrophized under the caption, "An Ananias of Quackdom," as follows:

"I don't want to overrate Dr. Curry in his own department of human activity, but he seems to me, on the whole, one of the most eminent all-around liars I have encountered anywhere in Quackdom. According to his own statements, Dr. Curry has discovered not only the germ of cancer, but also a sure cure for it."

This and much more did Mr. Adams have to say about Dr. Curry. Attention was called to the fact that in his enterprise Curry had the support of Lebanon's "best citizens"—the county treasurer, the sheriff, the recorder, the auditor, a judge, two attorneys, and two bankers, to say nothing of several other prominent inhabitants.

Said the élite: "Dr. Curry is no quack. His remedy is no fake. Both are entitled to the fullest confidence of cancer sufferers and Lebanon is proud of his success." Later in the series Mr. Adams told how valiantly the Lebanon newspapers came to the defense of Curry and his cruel fake. Nevertheless, even as long ago as July, 1906, Mr. Adams ventured this opinion: "Dr. Curry *is* a quack. His remedy *is* a fake. And the highly respectable citizens who bolster it are, giving them the benefit of the doubt, the dupes of an arrant swindler." Now, three years later, comes the United State Government in the person of Assistant Attorney-General Goodwin, and says some equally unkind things about the business which Dr. Curry built up. From the report which Mr. Goodwin transmitted to the Postmaster General, we abstract the following:

THE CURRY CANCER CURE COMPANY

This company was engaged in treating, through the mails, patients afflicted with cancer. E. W. Ramsey was its secretary and manager and the advertisements informed prospective patients that their letters might be sent to him if they preferred, in order to insure secrecy. What the company claims for its cure is indicated by the following quotations:

"Cancer cured in 10 days—a discovery that has startled the medical world. I have discovered what the medical world has been looking for, for years. A sure cure for cancer, so sure that it can be absolutely guaranteed. This I do and I can prove. I have cured hundreds of the most horrified cases in from 10 to 20 days after celebrated physicians and surgeons had given up all hope of saving them."

When a victim answered an advertisement, pamphlets and testimonials were sent to him, together with a question blank, on which he was to indicate the symptoms of his disease. In a circular letter the statements were made:

"It certainly gives us pleasure to be able to say to you that we have a positive cure for this, one of the most dreadful diseases that afflicts the human race. We are sending you free the necessary information that will show you how to cure yourself at home in from 10 to 20 days without the aid of a physician or surgeon and at little expense.

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[1] See pages 77 and 116, "Great American Fraud" pamphlet.

"The disease of cancer baffled the skill and science of the medical profession for centuries and was always considered an incurable malady. Now the discovery of the Curry method of curing and removing cancer, root and branch, is considered by many medical men to be one of the most important advancements in medical science of this age. By means of this treatment no trace of the disease is left to propagate any further growths or again endanger the life of the sufferer. We have cured hundreds and hundreds of cases of the most malignant and aggravated form where hope had been all but permanently abandoned by the sufferer and the case about to be pronounced incurable.

"If you faithfully follow our directions this treatment should absolutely cure you, remove all traces of the cancer poison from the blood, and prevent you from either suffering further yourself or transmitting the horrible malady to your descendants and causing untold suffering in future generations."

Attention was called to the fact that it was not necessary to come to the "sanitarium" in order to be cured. The company has "perfected a home treatment, so that you can cure yourself of your cancer just as well right in your own home." As a sample of some of the claims made, we may quote:

LYING CLAIMS

"The most desperate cases successfully treated by the Curry cure."

"The percentage of deaths from cancers which have been treated with the Curry cure is absolutely down to nothing."

"The Curry Cancer Cure has stood the test. The anti-toxin for diphtheria was an immediate success because it could stand the test."

"If you have a cancer or a suspicious growth on any part of your body act now before it is too late. If your cancer is far advanced you may die from it in a month or in a week. You can not tell what moment will be your last. After you have used the treatment for a day or two and you find that your pains are gradually leaving you, that the cancer is diminishing in size and that the soreness and bleeding is fast disappearing then you will know that death has been cheated and instead of the grave there awaits you more years of health, sunshine and happiness. Then, too, you will realize why the Curry Cure stands foremost among the world's great discoveries."

FOLLOW-UP LETTERS

The victim was fully informed that by answering the questions on the blanks sent him the company would be able to study his case "from the standpoint of successful specialists." If no reply was received to this letter, the company again wrote the prospective patient, urging him to send in the question blank properly filled out, immediately, and impressing him on the danger of delay. If this brought no answer another letter was sent to him telling him that the company had taken a deep-seated interest in his case and felt certain that it could cure him. If a reply was still not forthcoming, another letter was sent, asking the patient to explain the delay and telling him that he probably would have been cured months ago if he had but cast aside prejudice and answered the questions submitted to him.

In those cases in which the question blank was filled out, the company sent the victim a letter in which it stated that it could cure him permanently by its treatment in from ten to twenty days at a cost of $25. If the money was not forthcoming, a series of follow-up letters was sent to the patient, in which it was represented that within twenty days' time from the commencement of treatment, the cancer would be cured absolutely, never to return; that "every fiber, filament and tendril" would be rooted out and that the place where the cancer was would be healed over with healthy skin and all signs and danger of cancer would have disappeared forever.

At its hearing the company submitted samples of the "remedies" by which these marvelous results were purported to be brought about. They were analyzed in the Department of Agriculture and the findings of the department, which were transmitted to the postmaster general, were in part as follows:

THE GOVERNMENT'S LABORATORY REPORT

"The value of the above remedies in the treatment of cancer is summarized as follows:

"Nos. 7, 8, 9, 10 and 18 are simply antiseptic substances useful only in rendering surfaces to which they are applied cleanly and free from outside infection.

"Nos. 19, 21, 24 and 20, 22 and 23 are all also antiseptic and the latter three, in addition, contain opium, which to some extent allays pain of the part to which applied in these cases, the rectal or vaginal passages.

"Nos. 25 and 26 are simply tonic medicines.

"No. 17 is a preparation of opium which deadens the system to the sensibility of pain.

"No. 16, a cocain preparation which relieves pain temporarily by its local paralyzant action on the tissues to which it is applied.

"No. 15, an astringent which may be used in stopping the flow of blood or secretions.

"No. 14, a laxative pill of value in relieving constipation, which is quite likely to be produced by the administration of the opium included in the list of medicines.

"Nos. 12 and 13, merely coverings for holding medicines in place, inactive medicinally.

"Nos. 6 and 10 are simple ointments.

"No. 7, hydrogen peroxid; a cleansing agent.

"No. 5. This preparation was originally thought to be a mild caustic, but has since been found and is now believed to be a non-irritant iodin preparation and cannot be used to destroy any kind of tissue.

"No. 2. Crystallized carbolic acid is a dangerous and pernicious substance in the hands of the layman. It is a corrosive poison and while decidedly a tissue destroyer it acts destructibly both on diseased and healthy tissue and, moreover, is liable to produce gangrene when applied to ulcerated sufaces.

"No. 3. Chromic acid in concentrated solution is well-known as a caustic and is used to some extent as such, but in the weak solution represented it is very doubtful if this result can be accomplished.

"No. 4. Concentrated acetic acid in the strength here represented is a strong escharotic and does destroy tissue, both diseased and healthy, and much care must be exercised in its use.

"No. 1. From the representations made at the hearing it appears that the company depends very largely for results on the preparations known as 'Red Ointment.'

"The analysis suggested that but little caustic effect could be expected and experiments were instituted with a view of confirming or refuting the claims made. The remedy was applied both moist and dry to normal tissues, with the result that after twenty-four hours' application little, if any caustic effect was noticeable. These experiments, therefore, show that this preparation, for which such remarkable claims were made, possesses but little virtue as an agent for the destruction of cancerous growth or tissue.

"In conclusion, this office is of the opinion that the nature of these remedies is such that they can not possibly effect a cure except by the merest chance. They are absolutely worthless for internal cancer. The claims, representations and promises employed in promoting this treatment are false and deceptive."

The Department of Agriculture also made an investigation of its own, and the chief inspector of the Bureau of Chemistry made the following statement regarding the "treatment":

"This treatment is sold as a cure for cancer. The words 'Cancer Cure' in the name of the company itself implies an ability to cure what is generally recognized as an incurable disease. The labels, correspondence, testimonials and other advertising literature of the concern are saturated with the idea that the treatment above described will cure cancer. As a matter of fact there is no drug or combination of drugs known at the present time which can be relied on with any degree of certainty whatever to effect a cure for cancer. The therapeutic effects of the ingredients of the remedies comprising this treatment have long been known to the medical profession, but notwithstanding this fact the best authorities make no claim to the ability to cure cancer by means of drugs."

CONCLUSIONS OF THE GOVERNMENT

The Assistant Attorney-General, in summing up his opinion of the whole matter, says: "The weight of medical authority is to the effect that cancer is a disease, the existence and character of which can only be reliably ascertained by a careful personal examination, and that a positive diagnosis always requires a competent microscopic examination. The Dr. Curry Cancer Cure Company's pretense that they can properly diagnose cases of cancer and prescribe remedies for them without personal examination merely by this correspondence scheme, is without any scientific or proven foundation, and they must well know that it is mere pretense. What is undoubtedly the fact that out of the many cases submitted to them and diagnosed by them as cancer there are some which are not cancer at all, but simply non-malignant sores which in some instances yield to treatment is what affords them a basis on the recovery of such cases to claim that they have cured cancer.

"According to the evidence submitted the medical profession knows of no drug or combination of drugs which can be relied on to cure cancer. That the Dr. Curry Cancer Cure Company has not succeeded where the profession has failed and that they are not honestly endeavoring to cure patients but that their pretensions to have discovered a cure for this disease are false and fraudulent and asserted merely to deceive and defraud suffering humanity, is revealed by the analysis of their medicines and the finding that they are merely ordinary antiseptics, narcotics and caustics.

"I find that this is a scheme for obtaining money through the mails by false and fraudulent pretenses, representations and promises, in violation of Sections 3929 and 4041 of the Revised Statutes, as amended, and recommend that a fraud order be issued against the Dr. Curry Cancer Cure Company and E. W. Ramsey, at Lebanon, Ohio."

The fraud order was issued.

Curious Pharmacologic Action of May-Pop (Passiflora Incarnata)

In perusing the "literature" of some of the fearfully and wonderfully made proprietary mixtures on the market one is uncertain whether the attitude of their manufacturers is "We aim to please" or one of "Heads we win, tails you lose." The uncanny elasticity of pharmacologic action in proprietaries of the type referred to is the cause of this uncertainty. For instance we find that both amenorrhea and menorrhagia are amenable to the same remedy and it is nothing unusual for a nostrum to be both a stimulant and a sedative.

We are reminded of this fact in perusing the "literature" of Daniel's Concentrated Tincture of Passiflora Incarnata, a proprietary marketed by J. B. Daniel, Atlanta, Ga. According to the booklet this remedy is to be employed in both convulsions and paralysis. Unlike many nostrums the proprietor claims to base his recommendations on exact pharmacologic investigations of which he produces two brands; the doubting physician pays his money and takes his choice. If he has a case of convulsion let him consult the laboratory report of Dr. Isaac Ott, who tells us that "in Passiflora Incarnata we have a drug of considerable power producing a depressant action on the reflex activity of the spinal cord." If, on the other hand, the physician has a case of paralysis to deal with he should turn over the page and take the authority of the certificate of the "Iamatological Bureau" which states, "it notably exalts the reflex function of the spinal cord."

Let the doctor in search of a hypnotic that is not a hypnotic and a powerful remedy that "does not endanger the heart" take his choice between these two contradictory actions. It is all the same to the nostrum maker so long as the doctor uses his "only reliable preparation of May-Pop" for all cases, every time and all the time.

But, seriously, isn't it about time that such opera bouffe methods of presenting medicinal agents to physicians should be resented by the medical profession? Disease itself is a serious thing and the treatment of disease is no trifling matter. The attempt to induce physicians to use a preparation by investing it with incongruously contradictory virtues neither flatters the intelligence of the medical profession nor invests pharmacy with any degree of dignity.

Correspondence

Notes on a Trip to South Africa

To the Editor:—Not the least of the many discussions relating to a better and more highly developed physique in man, has been one which has universally created a feeling of horror—I allude to the prevention of the continuation of life in a child deformed mentally or physically after its birth. It is not uncommon knowledge that the perfect development of the Zulus of Natal, and their superior mental capacity have far overtopped that of other native tribes of South Africa. Years before the advent of the white man in Natal it was a tribal dictate that infants with deformity or malformation of head or body should be destroyed immediately after birth. Students of heredity and of men will see the reason for the physical and mental development of the Zulu. A child born of healthy parents, with a perfect physical development, cannot but gain the mastery over the child born in tribes which do not observe any of the laws of the Zulus. With a healthy body and an equally healthy mind, it is natural that the Zulu should have sought healthy surroundings and follow Hygeia as he has done. Compare the Zulus of sixty and more years ago with those of to-day since the laws of Great Britain have suppressed the laws of the Zulus themselves. From a sober, moral and industrious race, they are hardly superior to-day to the other tribes. Their spirit of independence and consciousness of superiority is rapidly waning.

The question I have referred to I have not mentioned with a view to discussion, but simply because its significance struck me forcibly on a recent visit to South Africa. As native or tribal laws differ, so also do their customs. The contrast between Zulu and Bushman is indeed great, and contrary to the ill opinion we hold of the virtues of the Bushman, we cannot but wonder at the original meaning of the so-called Hottentot apron, really occurring in the Bushman and not in the Hottentots. The Hottentot, in civilization, is midway between a Kaffir and a Bushman. In a remarkable collection in the Cape Town Museum of life-size casts of several tribes of South Africa, there is a beautiful specimen of a Bushman woman in which the apron appears to the length of 2 inches or slightly more. The apron is the elongation of the labia minora. Just what means were employed to elongate it, so as to form a protection against any forcible entrance to the vagina, is not agreed on by authorities. Very little about it is known to-day, but it has been suggested to me by Mr. Lightfoot of the Cape Town Museum that weights of some kind were constantly worn in the younger years of Bushman maidens, instead of the stretching by pulling on the labia during the life of the woman.

Medical men who are leaning toward "healing by suggestion" may be interested in knowing that the art was practised in South Africa among the natives long before Bartholomew Diaz and Vasco da Gama discovered Southern Africa. Some years ago I had the opportunity of witnessing a native "doctor" endeavoring, apparently much against the will and consciousness of the patient, to suggest or persuade him that the ill and pain present were really misconceived and outside the body, and that he was well. The constant repetition by the "doctor" of the argument must through its monotony of sound put the patient to sleep and perhaps temporarily improve him.

Among the thousands of Kaffirs employed in the mines, the prevalence of syphilis is surprising. An institution of the government, similar to a quarantine smallpox station, was established to deal, apparently, with nothing else than syphilis. Not so very many years ago, syphilis was practically unknown among the natives of South Africa. Miners' phthisis is also increasing, and among the white miners it can almost be called a common disease. By far the majority of the inmates of that remarkable asylum for leprosy, near Pretoria, and also of that at Robbens Island, Cape Colony, are Kaffirs. Insanity is likewise common among the Kaffirs, especially those who are near large cities.

Ills which assail the Kaffir mentally and physically are numerous, and the old question of the moral and ethical value of civilization is again brought to mind.

A not uncommon curiosity among the natives is an affection in which the skin has a piebald appearance. The areas in which no pigment occurs change, so that the native presents a skin that is constantly adding or losing its pigment.

Blackwater fever, miners' anemia (ankylostomiasis), dysentery, malaria, smallpox and inflammatory affections of the eyes due to the pollen of blackthorn trees during the spring are among some of the diseases which have a medical interest.

In conclusion, let me attempt to interest medical men in South Africa. Instead of hunting expeditions, have scientific expeditions for the study of these numerous tropical diseases which are rare in other parts of the world. South Africa contains more material than can be found anywhere else, and which will prove of undoubted value to the profession here.

James A. Honey, M.D., Cambridge, Mass.

Method of Increasing the Efficiency and Life of the Dry-Cell Battery

To the Editor:—Some years ago I began to seek for some method of increasing the life and efficiency of dry cells. I at first employed the usual methods (potassium permanganate and sal ammoniac solutions, etc.). These proving unsatisfactory, I at last hit on the following simple but cheap and satisfactory method:

When my dry battery has become exhausted, I take an ordinary ⅜-inch drill-bit of sufficient length and drill a hole as near as possible to the carbon and between the carbon and the outside zinc covering. This hole should reach to within 1 inch of the bottom of the cell, beginning, of course, at the top or sealed part of the battery. I shake out of the cell all loose dust and particles, and place in this hole a 1½-ounce glass funnel, having a stem not less than 1½ inches in length, and of sufficient thickness to fit snugly, especially at the upper part of hole already prepared. This will prevent regurgitation of liquids to outside top of cell. Having secured the funnel firmly in the cell, I pour into it until three-fourths full (about an ounce) of chemically pure hydrochloric acid. This will start an immediate reaction and hydrogen and air bubbles containing particles of contents of the cell will regurgitate through the funnel and contents. It will require from eight to twenty-four hours for this reaction to be completed and the hydrochloric acid absorbed. Owing to a tendency for the small funnel to become clogged, it is necessary from time to time to pass a slender wire down through the funnel neck and hole in the cell. After absorption of the acid, I pour water in the funnel just as long as the cell will take it. When the cell has become thoroughly saturated inside, I seal it carefully with ordinary sealing-wax, set aside for twenty-four to forty-eight hours or longer, and test the cell for battery power. If the work has been carefully done, the results will not be disappointing.

I have in use in my office a battery of dry cells whose first efficiency was a life of three months, after which I treated them as above, and they have been in more or less constant use for a little over ten months. At present there is no sign of weakening or deterioration, and their regenerating ability is remarkable. How long they will last I am not prepared to say. They have exceeded my most ardent expectations. I have ceased discarding my old dry cells, and consider them more valuable after a renewal of this kind than when fresh from the hands of the manufacturer.

Edward M. Hanson, Keokuk, Iowa.

A Convenient Source of Carbon Dioxid Snow

To the Editor:—The treatment of certain dermatoses by carbon dioxid snow—a substitute originally suggested by Dr. Pusey for the less easily obtainable and less easily managed "liquid air"—has now an established place in the armamentarium of the dermatologist. Its common source is from the large cylinder of carbon dioxid furnished to soda-water fountains. This cylinder, although probably the cheapest source, is large, bulky, cumbersome and unsightly for office use, besides being somewhat clumsy for handling. I have recently found a convenient substitute for this; it is the small cylinder containing liquefied carbon dioxid sold for the inflation of a single automobile tire. It contains sufficient liquefied gas for a large tire—a sufficient quantity, as I have found, to produce enough "snow" for one average dermatologic application. This cylinder is about one inch in diameter and twelve inches in length; it costs $1, and when empty is returnable, being credited to the amount of 20 cents toward a new tube. Its manipulation, for either tire inflation or "snow"-making, requires a handle with valve and small hose attachment, which costs $2; this can, of course, be used indefinitely.

Henry W. Stelwagon, Philadelphia.

An Envelope Powder Shaker

To the Editor:—Many physicians and surgeons find it difficult to apply antiseptic powders to wounds properly. A powder blower that will apply the powder evenly, lightly and not wastefully, over the edges of wounds has not yet been offered to the public. Some surgeons use a pledget of cotton with dressing forceps, but this is unsatisfactory as it requires that the powder be poured out on a paper. I have used an envelope for a number of years with much satisfaction and a great saving of powder. It is used as follows: Place 15 or 20 grains of any powder, the finer the better, in an ordinary druggists' prescription envelope, which should then be sealed tightly and the tip of one of the corners torn off. Now take up the envelope between the thumb and fingers, gently press the sides so as to make a little air space and tap on the center of it with the tip of the index finger. This operation will blow out a very fine cloud of the powder and by holding it close to the wound it will take but a few taps with the finger to cover the wound with the finest coating possible. When a corner has been thus used it may, by using the handle of a knife, be turned down tight, and the next time another corner may be torn off, as the crimped corner interferes with the ejection of the powder. I have dressed many large wounds several times without using more than 15 grains of powder and one envelope.

S. A. Newman, M.D., Cassville, Mo.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

HISTORY OF SEROTHERAPY

To the Editor:—I desire to obtain a history of serotherapy. Can you direct me to such a publication?

W. S. Devine, Marshalltown, Iowa.

Answer.—Dr. Ludvig Hopf's "Immunität und Immunisirung: Eine medicinisch-historische Studie," 95 pages, Tübingen, Franz Pietzcker, 1902, gives an excellent historical account of the theories of infection and immunity, including the development of serotherapy up to that date. The more recent developments are scattered through the literature. Wright's "Studies on Immunization," Constable, London, includes the main papers published by Wright on the opsonins, and contains about 500 pages. Sauerbeck's "Neue Tatsachen und Theorien in der Immunitätsforschung," published in 1907 in the Lubarsch-Ostertag Ergebnisse, and also as a separate monograph, by J. F. Bergmann, Wiesbaden, gives a thorough review particularly of the opsonins and aggressins (over 300 pages).

INJECTION TREATMENT FOR HEMORRHOIDS

To the Editor:—Kindly give list of works on the injection treatment for hemorrhoids. L. A. W.

Answer.—We know of no special book on the injection treatment of hemorrhoids, but it is described in the standard works on rectal diseases, among which may be mentioned:

Agnew: Rectal Diseases, L. S. Matthews & Co., 2623 Olive St., St. Louis, Mo.

Allingham: Diseases of the Rectum, William Wood & Co., 51 Fifth Ave., New York.

Andrews: Rectal and Anal Surgery, Chicago Medical Book Co., Honoré and Congress Sts., Chicago, Ill.

Ball: Diseases of Rectum and Anus, W. T. Keener & Co., 90 Wabash Ave., Chicago, Ill. (This firm has gone out of business.)

Gant: Diseases of the Rectum and Anus, E. A. Davis Co., 1914 Cherry St., Philadelphia, Pa.

Goodsall and Miles: Diseases of the Anus and Rectum, Longmans, Greene & Co., 91-93 Fifth Ave., New York.

Kelsey: Surgery of the Rectum, William Wood & Co., 51 Fifth Ave., New York.

Mason: Office Treatment of Rectal Diseases, L. S. Matthews & Co., 2623 Olive St., St. Louis, Mo.

Mathews: Diseases of the Rectum, Etc., D. Appleton & Co., 436 Fifth Ave., New York.

Tuttle: Diseases of the Rectum, D. Appleton & Co., 436 Fifth Ave., New York.

Wallis: Surgery of Rectum, William Wood & Co., 51 Fifth Ave., New York.

These books can be obtained through medical booksellers generally.

Miscellany

SIMPLE REFRACTION FOR FAMILY PHYSICIANS

Its Promotion During 1908-09*

LEARTUS CONNOR, A.B., M.D.
DETROIT, MICH.

At its 1908 meeting the Michigan State Medical Society publicly initiated a movement "to qualify family physicians for the refractive work now in the hands of opticians." This paper aims to sketch briefly our progress.

By some oversight our medical colleges have rarely taught their students practical refraction, while they inoculated them with the idea that good refractive work was possible only to a specialist. Meantime, the science and art of refraction reached a high standard of perfection in the hands of specialists, working outside the colleges. Naturally, this standard was impossible to the average student or family physician, and a course adapted to their needs has not found its way into college curriculums. The course must be such that the student can master it without interfering with his other courses, and the family doctor practice it while caring for the other disorders of his patients. It will certainly include simple refraction, as then, by the aid of the specialist, in complicated cases, the refractive needs of all the people will be fully met.

Opticians began the practice of refraction, because ophthalmologists were too widely scattered and too high-priced: the family doctors were ignorant of simple refractive work and afraid to attempt its mastery. By organization and business push opticians so impressed the people to whom they prescribed and sold spectacles that sixteeen state legislatures have granted them special rights, stolen from the medical acts, to practice that ophthalmology which family physicians should be practicing. They showed the legislatures that our system of medical education failed to provide physicians able to determine the refraction of the people's eyes. Our movement aims to promote such training of the family physician that he with the ophthalmologist will be adequate to care for the refractive needs of the people, and so to obviate the present necessity for optometrists.

The great obstacle to this movement is the wide-spread conviction that family physicians cannot master, much less practice, simple refraction. Yet it is in evidence that laymen have learned and do successfully practice this part of medicine; surely the physician's training should enable him to outstrip the layman in this competitive race, and it would if he made equal effort. Further, the evidence is overwhelming that family physicians have mastered simple refraction and are now successfully practicing it in connection with their other work. In my possession are many letters establishing this fact. Time admits the reading of but two, and these only in abstract.

The first letter is from Dr. Gerald Edmunds of Honor, Mich., and is dated May 2, 1909. He says:

"I think it may interest you to know that for some time I have tried to fit myself for 'general practice.' I graduated from the Chicago College of Physicians and Surgeons in 1892, and practiced in Chicago about eight years, when I located in this thriving little town. I used to have dreams of special practice as an 'unlimited practitioner,' but when I located in a small place, I found my time so occupied that it was all I could do to make a better practitioner of myself. After reading your article on the 'neglected patches' in the field of medical practice, I came to the conclusion that I had long neglected to fill the wants of my families, because I was not equipped to correct common defects of vision; besides, my son was troubled with a simple refractive error which I was incompetent to correct. So I bought Theobald on the Eye and Parker on Refraction (I already had Noyes), and spent my spare time in studying. I then bought from the Johnson Optical Company a small trial case and some fitting frames and went to work. I fitted my first patient the latter part of November, 1908, and since have determined the refraction in about thirty-five moderately simple cases, without any effort to push this as a specialty—simply having the paraphernalia for refraction about the office brought this work. I had formerly referred such cases to persons at a distance, much to the inconvenience of my patients. After this experience I am satisfied that any physician, with a reasonable amount of push, can add to his income, in a legitimate way, quite a few dollars during the year and benefit the public a great deal.

"I think that most physicians dislike the idea of being general practitioners, and feel that unless they at least claim a specialty the public will not think they amount to much. I am proud of being a general practitioner, and think that there is a great field for 'specializing' along the line of 'general practice.' The profession of medicine is too vast to be grasped in all branches, in all details, by one mind."

The second letter is from Dr. W. C. Garvin, of Millington, Mich., dated June 20, 1909. He says:

"I am enclosing herewith the program of the last meeting of the Tuscola County Medical Society, at which Dr. Hays told his personal experience in refraction, and the paper was very generally discussed. There are six physicians in Tuscola county now doing something along this line, and I think that the traveling optometrists will find poor picking in this section in the future.

Since Oct. 17, 1908, I have fitted eighteen people with glasses, and think that they have all been satisfied, even if I have not done every case to my own satisfaction. I learn something from each case in which I determine the refraction, and unless I can improve the vision do not order glasses. Thus far I have found no case in which I thought glasses were really needed, that I have been unable to relieve, but should I find such a case I will refer it to the nearest specialist."

The family physician refractive work reported in these letters and much more told in letters which time forbids reading, was stimulated by the unanimous passage by this society last year of the following preamble and resolutions offered by Leartus Connor and seconded by F. W. Robbins:

"Whereas, Michigan now has three classes of medical practitioners; viz.: (1) The family physician, (2) specialist, (3) and remnants, as opticians, osteopaths, Christian scientists, etc. (all persons devoid of adequate training for the duties of the physician):

"Whereas, Among those remnants are the optometrists, who live on the cases of refractive defects neglected by the family doctor, and without the specialists' field;

"Whereas, It is discreditable to the medical profession and harmful to the people that any part of medical practice fall into the hands of unqualified persons;

"Whereas, It being a physical impossibility for the fully trained ophthalmologist to care for all the neglected class, it remains for the family doctor to qualify himself to recognize and treat the simple cases, seeking expert aid as emergency demands, if the medical profession is to occupy its entire field. Therefore, be it

"*Resolved*, That the councilors of the Michigan State Medical Society be directed to take this matter up with their several county societies and so educate their constituents that between the family physician and ophthalmologist the needs of the people be fairly and fully met.

"*Resolved*, That the council request the Michigan State Board of Registration, (1) to place among its requirements for a license to practice medicine, a practical demonstration by the applicant of his ability to recognize and treat simple presbyopia, simple myopia and simple hyperopia; to recognize and treat the infectious diseases of the eye and the uveal tract; and (2) that it cooperate with our legislative and public policy committee in all practical efforts to prevent the enactment by the Michigan legislature of a law giving opticians the legal right to practice ophthalmology in Michigan."

These resolutions were the outcome of a comprehensive study of the entire subject during the preparation of a paper on "Ophthalmology for General Practitioners" read before the American Academy of Ophthalmology and Oto-Laryngology and published in The Journal (Nov. 28, 1908, li, 1833). The facts of the paper were granted by the academy, the action advised approved, but regarded as impracticable. It was hoped that the resolutions would awaken the profession to study the situation, and induce some to qualify themselves to practice simple refraction; our letters show that these hopes were in some degree realized.

Further, the subject was taken up with individual members of the Michigan State Board of Registration and on Feb. 12, 1909, the secretary, Dr. B. D. Harison, sent the following letter to medical colleges:

"I am directed by the chairman of the examination committee, who has full charge of the matter, under resolution of the board, that in the future, beginning with the next spring examination, all applicants for license will be required to demonstrate their fitness to do practical refraction work, in addition to the usual written paper on diseases of the eye, ear, nose and throat. The examination on this subject will be conducted by a specialist and will constitute an integral part of the examination, and failure to obtain 50 per cent. of possible standing will subject the applicant to refusal of license."

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* Read before the Michigan State Medical Society, September, 1909

It is reported that on receipt of this notice many colleges, for the first time, began to teach their students simple refraction. Efforts are being made to have other state registration boards follow Michigan's example, and it is confidently expected that in the near future all who enter the practice of medicine will be able to do simple refraction. This requirement is definite, fair to the applicant, helpful to the profession, and beneficial to the people.

Besides the paper already mentioned, others were read before the Wayne and Tuscola county medical societies and the American Academy of Medicine. I also published in The Journal (April 10, 1909, lii, 1195) a letter giving in some detail reasons why family doctors should be able to do simple refraction.

Dr. Alvin A. Hubbell, of Buffalo, N. Y., in his address as chairman of the Section on Ophthalmology of the American Medical Association, June, 1909, discussed the "Ophthalmic Qualifications Which Should Be Demanded of the General Practitioner and of the Specialist Respectively" (The Journal, June 26, 1909, 2089). The committee appointed by the section to report on this address recommended the following:

1. "Every general practitioner should have the training in ophthalmology which will enable him to manage infectious diseases of the eye and its refractive defects. To obtain this qualification, medical colleges should make such training obligatory and state boards of registration demand it as a condition for license.

2. "Every general practitioner who desires to become an ophthalmologist should add to his training a comprehensive study of ophthalmology; do experimental work in the laboratory; and personal clinical experience in hospital or private office. To insure these qualifications, there should be appointed on each state board of registration at least one ophthalmologist, to examine applicants for license to practice ophthalmology.

3. "If these recommendations be approved by the Section, it is urged that a committee of three be appointed by the chair to study the subject and report their findings of the detailed measures necessary to secure trained family physicians, adequate for the needs of all the people, when suffering from ocular disabilities."

These recommendations were unanimously adopted by the Section, and the following committee appointed, viz.: Leartus Connor, Detroit; James Thorington, Philadelphia; and Albert R. Baker, Cleveland. It will be noted that future ophthalmologists will be asked to have the diploma required of the general practitioner, supplemented by a comprehensive study of ophthalmology, including experimental laboratory work and clinical experience in hospital or private office, all to be satisfactorily demonstrated to the satisfaction of the ophthalmological member of the state board of registration. As this Section numbers over eleven hundred members, the significance of its endorsement of these resolutions is apparent.

From evidence thus presented the proposition that "the family physician ought to be able to do simple refraction" has been endorsed by the Michigan State Medical Society; the American Academy of Ophthalmology and Oto-Laryngology; the American Academy of Medicine; the Section on Ophthalmology of the American Medical Association, and is required by the Michigan State Board of Registration as a condition for license to practice medicine.

By private letters, over signatures of their writers, it is shown that some family doctors have learned and are successfully practicing the art of simple refraction. It would be an insult to the other physicians in Michigan to suppose them inferior in this respect. Doubtless most are surfeited with practice and do not care to make the attempt, but if they tried they would surely succeed. Possibly the new men who enter the field will make the older ones take notice, as their patients leave them for the new doctor who can manage simple refraction.

At its meeting, June 14, 1909, the Tuscola County Medical Society listened to a paper by one of its members, a general practitioner, on "Some Points on Refraction," which was generally discussed by his fellow members, many of whom are earnest students of the subject. Similar incidents will occur in other counties, as a considerable number of their members master "simple refraction." Naturally this will lead to the mastery and discussion of other topics in general practice ophthalmology. This new line of society activity will augment the interest in and power of county societies, and so of the state society. As has occurred in Tuscola county, the opticians will lose their ophthalmic practice in the same proportion that family physicians become qualified therefor.

It is much that the largest ophthalmological society in America, the Section on Ophthalmology of the American Medical Association, has endorsed this movement and appointed a committee to encourage state registration boards to require a working knowledge of simple refraction as a condition for granting a license to practice medicine; and medical colleges to introduce it into their curriculums. So far as I am aware, this is the first special society to encourage the family doctor to advance his interests and that of his families by cultivating a neglected field allied to his own.

It counts for much that the Michigan State Board of Registration, in behalf of the people, demands a working knowledge of simple refraction as a condition for granting a license; because medical colleges must prepare their graduates therefor.

With results thus briefly sketched, gained during a single year, surely our council will be encouraged to more active effort in stimulating the members of their county societies (not surfeited with business) to master the technic of simple refraction.

All friends of the movement will be incited to greater activity and larger faith in its early triumph.

91 Lafayette Boulevard.

Symposium on Childhood Pathology

The pathology of childhood is discussed by various authors in the *Proceedings of the Pathological Society of Philadelphia*, September, 1909, xii, 3.

Antenatal Pathology.—B. C. Hirst deals with three problems in this subject, viz., antenatal syphilis, mechanically caused deformities, and the effects of maternal impressions. To prevent the fetus inheriting syphilis from a parent a period of four years under treatment should be insisted on. In a large proportion of cases syphilis acquired during pregnancy is transmitted to the fetus. The diagnosis of fetal or infantile syphilis can often be made without asking embarrassing questions by the discovery of the *Spirochæta pallida*, by Wagner's sign, by enlargement of the liver and spleen, by connective tissue overgrowth, skin eruptions, etc. Trauma or succussion in animals may lead to malformation of the fetus; and malformed or idiotic children may result from attempts to induce abortion. Violent emotion in the mother can affect the mentality of the child and can arrest its physical development or terminate its existence. But the photographic reproduction of some physical defect which the mother has seen is not to be expected, and such belief on the part of the laity should be combated by the physician.

Infections of the New-Born.—These are described by S. McC. Hamill. Mild infections of the umbilical stump are common. Omphalitis may extend along the arteries, usually starting with a periarteritis which spreads through the walls of the vessel, producing thrombi. The clots may break down and be converted into pus. The infection less frequently involves the veins and may extend to the peritoneum or liver, eventuating in sepsis of the new-born. Hamill regards melena as a symptom of septic infection. Septic infections in infancy may be due to streptococci, staphylococci, gonococcus, pneumococci, the colon bacillus, and many others. Contrary to the general supposition, Hamill believes that the new-born possess relatively high resisting power, or else infections would be more frequent, considering the numerous exposures to infecting agents. Infection may occur through the cord, the skin, the alimentary or respiratory tract, etc. The occurrence of a suppurating lesion of the cord does not prove it to be the portal of entry, as this infection occurs frequently without generalization. Infection through the skin may arise through the bath-tub, so that the use of sterilizable bath-tubs becomes a matter of importance. The care of the mouth, nostrils and anus is especially important to ward off infection through these channels. The pathologic changes are, briefly, congestion, hemorrhage and parenchymatous degeneration. Hemorrhages are especially important and may occur in the brain, lungs, pericardium, pleura, mucous membrane, etc. The liver usually shows the most marked changes such as parenchymatous or fatty degeneration, hepatitis and multiple abscesses. The kidneys may be the seat of parenchymatous changes, fatty degeneration, hemorrhages and interstitial inflammation. The pelvis is sometimes involved.

Status Lymphaticus.—This is the subject of a communication by J. Howland. The normal size of the thymus is undetermined, and, although investigation indicates the presence of a condition known as status lymphaticus in which the thymus and the lymphoid tissues are greatly enlarged and in which sudden death from cardiac syncope is very liable to occur, none of the theories so far advanced is sufficient to account for death in these cases. Mechanical pressure may be a factor in a small proportion of cases, but the supposition of a toxic action from the thymus is negatived by Howland's experiments. The theory that the thymus enlarges from a compensatory effort to supply the place of other organs is attractive, but attempts to explain it by lymphoid exhaustion in the spleen or glands are not successful, for the thymus does not exhibit a lymphoid structure, but is rather an epithelial organ. Twenty years after the enunciation of Paltauf's views we find ourselves still without a satisfactory explanation for death in status lymphaticus, but discarding vague theories enables us to get a clearer perception of where we stand.

Tumor Growth in Childhood.—This, according to David Riesman, cannot be determined by exact statistics. Such as are available indicate it to be relatively infrequent. Connective tissue tumors are more common than epithelial. If the tumor is malignant it takes the form of sarcoma rather than carcinoma. Of benign tumors fibroma, lipoma, chondroma, osteoma and myoma are uncommon or rare, while angioma and neuroma are comparatively frequent. Angioma is nearly always congenital or develops during the first year. It has been attributed to trauma, either intrauterine or at birth. Neuroma has its favorite site in the region of the eye. It usually takes the form of the plexiform neuroma, which in look and feel suggests a collection of earthworms under the skin and has a slow but progressive growth. Sarcoma is by far the most common tumor of childhood, all varieties being represented and the sites in the main being the same as in adult life. Sarcoma of the brain, including gliosarcoma, is the most frequent of brain tumors. In the internal organs, aside from the brain, sarcoma is rare, but frequently congenital. Congenital sarcoma of the liver and of the suprarenal gland has been reported by Pepper, who has collected five cases, and has also reported eleven cases of primary sarcoma of the suprarenal gland. A prominent symptom of these tumors is hemorrhage. Tileston and Wolbach have described as a clinical entity a peculiar primary sarcoma of the suprarenal gland which is associated with sarcoma of the cranium. The symptom that usually first attracts attention is the exophthalmus.

Chloroma.—Riesman considers this as a variety of sarcoma. It is a greenish-colored tumor occurring in the temporal and parietal region of the skull, the hard palate, the sternum and ribs, rarely in the skin. It is almost confined to children under the age of 15 years and is vastly more frequent in the male than in the female sex, the proportion being 36 to 10. The course is acute (four to six months) and the most striking symptom is exophthalmus, as it is also in the condition described by Tileston and Wolbach. Histologically, two types of chloroma may be distinguished, one in which the cells are large and lymphocytic, similar to those found in acute lymphatic leukemia; and one in which the cells resemble the myelocytes. These features have led Dock, Warthin and others to the view that chloroma is really a form of leukemia and not a tumor in the strict sense. The nature of the green color from which the tumor takes its name has not been definitely determined, but it is supposed to be due to the compactness of the highly granular cells.

Mixed Tumor.—An important and common new growth in childhood is the so-called mixed tumor, which passes under many names in the literature, such as sarcoma, carcinoma, myxosarcoma, rhabdomyoma, adenosarcoma, etc. The principal seats are the kidney, the ovary and the testicle. The growth of the tumor is rapid in contradistinction to that of hypernephroma, which is slow. Metastasis is not common, occurring in about 30 per cent. of the cases, chiefly to the lungs and liver. A curious feature of the tumors is that they do not directly involve the substance of the organ in which they are found, but press it aside. This is particularly noteworthy in the kidney. The surface of the section may be soft or gelatinous; at times it shows lobulation. Necrosis and hemorrhagic softening are common. The histologic structure is complex; striped and smooth muscle tissue, cartilage, adipose, mucoid, and elastic tissue, as well as glandular elements are found. In a rare case, reported by Muus, epidermal elements in the form of pearly bodies were present. The complexity of the tumors has given rise to a number of opinions as to their origin. Without going deeply into the subject it may be stated that the most acceptable view is that they are derived from a misplaced blastomere.

Retarded Mental Development.—D. J. McCarthy contributes a special study of this subject. The nervous tissues may show gross pathologic lesions or a practically normal nervous system. While alcohol and syphilis figure in the heredity, the important influence appears to be condition of lowered nutrition mainly due to tuberculosis. An additional clinical factor is the effect of prolonged and difficult delivery. The probable influence of the adrenals, pituitary, thyroid, etc., on cerebral development has been shown by modern investigations. In later childhood McCarthy has in two cases noted the connection of a persistent and enlarged thymus with a hallucinatory, delusional condition, lasting over several days with reflex dysphagia. In adult life, a grave neuromuscular condition, myasthenia gravis, is associated with and probably caused by the pathologic changes secondary to a persistent thymus. Instances have been noted in which the ganglion cells, in consequence of the presence of hemosiderin, underwent a change of function by which they became eliminators of the foreign substance and ultimately degenerated and became calcified. Such changes of function may be induced by congestion and edema, which may produce microscopic hemorrhages. In the minor grades of osmotic hemorrhage, due to prolonged passive congestion, perversion of function of the ganglion cell results without gross lesions. McCarthy believes that free blood in the tissues leads to that interference of function and potential which is manifested in later childhood in the failure to advance in mental development beyond a certain stage. Both experimental and clinical evidence show that microscopic blood osmosis with iron infiltration may exist both in the prenatal and postnatal states. That either inherited or acquired weakness or pathologic lesions of the vascular system would necessarily play an important part in the production of the above conditions is evident. The influence of tuberculosis and other dyscrasic states, syphilis, etc., could easily act in this way by leading to obstruction or rupture of capillaries or veins from increased pressure. This cause may not be the only one, but as an important factor in a large group of cases it deserves careful investigation.

Pasteurized Milk in Infant Feeding.—Physicians who have had large experience in the care and feeding of infants have a prejudice against the use of heated milk for prolonged periods. While it is admitted that the use of heated milk greatly diminishes the amount and seriousness of infantile diarrheas, it has been noted that while the children at first do well, later they may become flabby and anemic and the subjects of scurvy. Whether it is the heating or some other factor in the milk that induces scurvy is not determined.—M. J. Rosenau, in *Annals of Medical Practice.*

Association News

NEW MEMBERS

List of new members of the American Medical Association for the month of September, 1909:

ALABAMA

Pettey, F. P., New Decatur.
Winters, J. S., Bessemer.

ARKANSAS

Wall, E. D., Park Place.

CALIFORNIA

Bell, H. D., Oakland.
Blair, J. C., San Jose
Dozier, Earnest, San Francisco.

COLORADO

Horn, W. L., Boulder.

CONNECTICUT

Bill, P. W., Bridgeport.

DISTRICT OF COLUMBIA

Lowe, T. F., Washington.

GEORGIA

Corson, E. R., Savannah.
Gilbert, W. L., Atlanta.
Harrold, C. C., Macon.
Longino, L. P., Milledgeville.
McAfee, J. C., Macon.
Murphey, C. E., Atlanta.
Palmer, S. B., Macon.
Person, W. E., Atlanta.
Sterling, A. W., Atlanta.

ILLINOIS

Allison, C. N., Canton.
Bachmann, A. S., Forest Park.
Baker, G. J., Herrin.
Black, G. C., Table Grove.
Brinckerhoff, C. E., Chicago.
Drake, W. D., Aviston.
Drozdowitz, Theo., Chicago.
Escher, F. H., Chicago.
Grant, Margaret, Waukegan.
Haan, G. W., Aurora.
Pratt, J. A., Aurora.
Walters, William A., Chicago.
Warren, Emma J., Chicago.
Wright, A. O., Waukegan.

INDIANA

Dash, G. E., New Albany.
Ketcham, J. M., Indianapolis.
McCoy, J. N., Vincennes.
Paff, G. E., Rome City.

IOWA

Askey, T. B., Waterloo.
Carlson, F. G., Thornton.
Corcoran, L. L., Rock Rapids.
French, P. P., Rudd.
Hutchison, C. W., Whittemore.
Maynard, J. H., Adair.
Rose, H., Ft. Dodge.
Schmidt, F. E., Muscatine.
Sturdivant, L. J., Exline.
Walker, W. G., Corydon.

KENTUCKY

Haynes, W. L., Calhoun.
Johnson, G. L., Harrodsburg.
Lovell, A. G., Mt. Vernon.

LOUISIANA

DeLaureal, G. R., Broussard.
Lassiter, W., New Orleans.
Lynch, R. C., New Orleans.
Weil, A. I., New Orleans.

MAINE

Moore, R. B., Portland.

MASSACHUSETTS

Bryant, M. D., Lowell.
Miles, C. G., Brockton.
Pond, L. B., Easthampton.
Prenn, Joseph, Boston.

MICHIGAN

Blackman, J. M., Quincy.
Ball, J. H., Bay City.
Holdsworth, Frank, Traverse City.
Lambert, W. C., Wyandotte.
Russell, C. V., Lansing.
Wilson, Harold, Detroit.

MINNESOTA

Stocking, F. F., Rushford.

MISSISSIPPI

Carr, H. R., Water Valley.
Crawford, B. L., Tylertown.

MISSOURI

Bryan, R. S., St. Louis.
Carley, Harry D., St. Louis.
Clendening, Logan, Kansas City.
Hogan, F. E., Bigelow.
Smith, S. D., Cowgill.
Steiner, A. S., St. Louis.

NEBRASKA

Little, T. C., Omaha.
Marvel, G. H., Aurora.
Taylor, H. A., University Place.

NEW YORK

Bruso, C. F., Buffalo.
Caccini, A. M., New York City.
Clinton, Marshall, Buffalo.
Collie, R. M., Schenectady.
Dare, G. D., Morrisonville.
Foster, E. C., Penn Yan.
Halliwell, H. G., Ilion.
Jenkins, T. W., Albany.
Landesman, Max, New York City.
Maddock, G. F., Brooklyn.
Marshall, S. A., Long Island City.
Nehrbas, Jacob, Brooklyn.
Piatt, A. A., Wayland.
Wallace, H. M., Oswego.
Wooton, H. W., New York City.

NORTH CAROLINA

Bowling, E. H., Durham.
Harper, C. T., Wilmington.
Lattimore, E. B., Shelby.
Palmer, B. H., Shelby.
Young, J. W., Charlotte

OHIO

Dickenson, John, Cleveland.
Klans, M. H., Cleveland.
Patton, J. E., Byesville.
Schuster, G. R., Dayton.
Stanley, E. I., Albany.
Woodard, E. B., Chicago Junction.

OKLAHOMA

Chapman, J. J., Pooleville.
Cook, W. H., Chickasha.
Martin, J. T., Oklahoma City.

PENNSYLVANIA

Bates, H. L., Chestnut Hill.
Bertolet, W. M., Reading.
Bushong, Frederic, Pottstown.
Drake, G. R., Plymouth.
Dunlop, F. C., Philadelphia.
Eber, S. I., Pittsburg.
Finkelpearl, Henry, Pittsburg.
Eridy, C. W., Philadelphia.
Hunsicker, C. H., Philadelphia.
Lowa, Walter, Philadelphia.
Mauger, E. B., Pottstown.
O'Drain, T. I., Philadelphia.
Pretz, G. R., Lebanon.

SOUTH CAROLINA

China, Archie, Sumter.
Moorer, M. P., Georgetown.
Wiedhagen, A. C., Charleston.
Workman, J. B., Ware Shoals.

TENNESSEE

Williams, G. V., Chattanooga.

TEXAS

Freels, A. M., Denison.

UTAH

Gemmell, B. A., Salt Lake City.
Sharp, J. F., Salt Lake City.

VERMONT

Butterfield, A. M., North Troy.
Hyatt, E. A., St. Albany.

VIRGINIA

Epperson, P. S., Stovall.
Gorman, E. A., Alexandria.
Lewis, J. M., Manasses.
Harrison, H. W., Roanoke.
Mahood, H. B., No. Emporia.
Patterson, Wm., Waynesboro.

WASHINGTON

Morse, R. C., McMurray.
Peacock, A. H., Seattle.
Redoer, L. R., Dayton.
Twiss, H. I., Seattle.

WEST VIRGINIA

Gardner, M. E., Dunlevie.
Manning, G. W., Dobbin.

WISCONSIN

Hastings, J. F., Kenosha.
Helland, G. M., Albany.
Rath, R. R., Granton.

PHILIPPINE ISLANDS

Welcome, E. H., Paniqui.
Jesus, Vicente, Lucena.

Book Notices

American Illustrated Medical Dictionary. By W. A. Newman Dorland, A.M., M.D., Assistant Obstetrician to the University of Pennsylvania Hospital. Edition 5. Flexible Leather. Pp. 876, with 2000 new terms. Price, $4.50 net. Philadelphia: W. B. Saunders Co., 1909.

The fifth edition of this useful dictionary contains thirty-eight pages more than its predecessor did. According to the preface to the fifth edition, "more than 2,000 new terms have been added. The majority of these words appear for the first time in any dictionary. Moreover, the entire book has been revised, and many of the definitions have been rewritten and improved. A special feature has been made of those words in the realm of biology which occur so frequently in the literature of physiology and pathology." These improvements are indeed commendable; but we must confess that no medical dictionary appears as yet to give adequate attention to this rapidly growing division of the medical vocabulary. We should have been glad, for instance, to have had the names given of the various species of mosquitoes which act as hosts to pathogenic germs. Moreover, we feel that the medical lexicographer who shall attempt to cover thoroughly the field of those apparently indispensable plagues of medical literature, eponymic terms, old and new, especially in pathology, anatomy and biology, will earn the gratitude of all users of medical dictionaries.

We regret that neither editor nor publisher has thought it worth while to make this dictionary a guide to capitalization. We hope they may see fit to remedy this defect in the next edition.

The Malarial Fevers, Hemoglobinuric Fever and the Blood Protozoa of Man. By Charles F. Craig, M.D., Captain, Medical Corps, U. S. Army. Cloth. Pp. 477, with illustrations. Price, $4.50. New York: William Wood & Co., 1909.

In this work Craig endeavors to present the important advances and facts of interest to the student and clinician in regard to the malarial fevers and related subjects. Craig has had a large personal experience in the United States military hospitals in this country, Cuba and the Philippines. He is well-known because of the importance of his investigations in malaria and other protozoan diseases, which, taken in conjunction with his exceptionally large and varied active clinical experience, renders him especially well-qualified to write a book of this kind.

The 360 pages devoted to the consideration of the malarial fevers is divided into five parts: (1) the etiology, (2) the general and special pathology, (3) the symptomatology and clinical varieties, (4) the sequelæ, complications and prognosis, and (5) the diagnosis, prophylaxis and treatment of the malarial fevers. There are three colored plates, drawn by the author himself, illustrating various stages in the development of the different kinds of malarial plasmodia, numerous photomicrographs and clinical charts. In addition to the thorough consideration of the malarial fevers from the clinical as well as the laboratory side, chapters have been added treating on hemoglobinuric fever and the blood protozoa of man. Like Manson, Sambon and others, Craig holds that hemoglobinuric fever is a separate disease caused by a hitherto undiscovered organism, and he advocates with much force and soundness that the disease should be studied so far as possible without bias by preconceived ideas as to its malarial nature. The fact that hemoglobinuric fever occurs in malarial regions and often complicates malarial disease, renders it necessary to include its consideration in a complete work on malaria.

The last four chapters are devoted to the Leishman-Donovan bodies, the cause of tropical splenomegaly; *Trypanosoma gambiense*, the cause of sleeping sickness; the spirochetes causing the relapsing fevers; and *Histoplasma capsulatum* of Darling. This part is illustrated by a plate, the omission of part of the lettering of which may be noted.

At the end of each chapter of the book is a list of the most important papers bearing on the particular subject discussed, with authors' and general index at the end. The book is clearly written; it bears abundant evidence of its author's first-hand knowledge and thorough scientific study of malaria; and it is believed that it will be accepted by English speaking physicians as a standard treatise on the malarial fevers. Craig has rendered a valuable service in placing within reach of physicians needing it—and this is true especially of those in tropical and subtropical countries—this excellent and complete guide to the diagnosis and treatment of malarial and other protozoan diseases. It is a worthy continuation in its sphere of the fine American work in the field of malaria and protozoon diseases in which Dr. Craig has taken a prominent part for several years; and it reflects credit on the Medical Corps of the U. S. Army.

A System of Operative Surgery. By Various Authors. Edited by F. F. Burghard, M.S., F.R.C.S., Teacher of Operative Surgery in King's College, London. In Four Volumes. Vol. 1. Cloth. Pp. 751, with illustrations. Price, $10. New York: Oxford University Press, 1909.

The rapid advances in operative technic made within the last few years have demanded constant revision of operative surgeries which are already on the market, or the publication of new ones. The field has become so vast that it is practically impossible for one man to cover the entire field of operative surgery in all its details satisfactorily. The aim of this work, the first volume of which is under consideration, is to secure the best in each separate line by delegating the subject-matter to men who are recognized as leaders and original workers in the subject assigned to them. The result is noteworthy, as all the chapters are good and there is a symmetry about the entire volume which is usually wanting in a system of either surgery or medicine.

The chapter devoted to disinfection of the hands and patient's skin is good. The simple technic of water, soap, 70 per cent. alcohol, and a mercury preparation is preferred. The technic advised follows very closely that given by Fürbringer. We do not agree that the nails should be cut as short as possible, for a nail of moderate length certainly affords the greatest protection to the thin cuticle beneath, and sterilization is much more easily performed when this cuticle is intact than when it is fissured, as is apt to be the case when the nail is cut as short as possible. The writer in this chapter does not, we believe, insist strongly enough on the use of rubber gloves. The statement that they are undesirable for some operations because they interfere with the sense of touch and because they are so slippery will not be confirmed by many. If gloves are used often, one becomes accustomed to them and certainly the results following their use can not be equaled by any chemical method of hand sterilization, none of which will stand a thorough bacteriologic test.

Chapter 1 of Section 2, dealing with infiltration and regional anesthesia, and embodying most of the excellent and well-known work of Mr. Barker, can be read to advantage by every one using local anesthesia.

In Section 3, devoted to amputations, the indications and contraindications are stated clearly. We think, however, that the value of conservative operations on myeloid sarcomas might have received more attention than it has on page 64. The dangers of shock during amputation and methods of preventing the same are discussed on page 69 in a very satisfactory manner.

The subject matter in this volume is presented very clearly; many useless details emphasized in other text-books of operative surgery are slighted in this for the broad, general principles, so that each page is filled with essentials.

The first volume of this work should presage a large circulation for the entire system. The names appearing in the list of contributors speak for its scientific value and the succeeding volumes will be awaited with great interest.

Symptoms and Their Interpretation. By James Mackenzie, M.D., M.R.C.P., Physician to the West End Hospital for Nervous Diseases, London. Cloth. Pp. 297. Price, 7 shillings 6 pence. London: Shaw & Sons, 8 Fetter Lane, E. C., 1909.

This contribution by McKenzie is designed to assist in placing Medicine in that position in science which ought of right to belong to her, and to make it less possible for skilled surgeons and diagnosticians to give widely divergent opinions as to the nature of a complaint in some single individual. After an introduction in which Mackenzie emphasizes the importance of accuracy of observation and correctness of method—which, of course, must be based on exact knowledge of anatomy and physiology—the bulk of the work is devoted to analyzing symptoms as they are to be found in practice and emphasizing the misleading and reflex character often assumed. Mackenzie closes by calling attention to the necessity of interpreting the symptoms found, in relation to the body as a whole, and to the particular patient in hand. It is only by bearing in mind every source from which a given symptom may arise that the physician can guard against some unfortunate oversight which may mean only a delay in proper diagnosis or perhaps a more serious result.

To a considerable extent, the work is taken up with the subject of pain and an analysis of what it means in its various presentations; pain being, perhaps, the most common symptom for which the medical man is consulted. The work is not a reaction against laboratory methods of diagnosis, but a very timely contribution out of the ripe experience of a master, which will, if studied, certainly aid the practitioner in developing that far-seeing eye that looks through the oft-conflicting evidence of disease to the ultimate cause.

The book has one disadvantage in having been printed on heavy glazed paper, which was not necessary since the pictures do not require it. We recommend a light-weight paper for the next edition, so that the book may be light and more easily handled. The index, we think, could be expanded a little to advantage.

A Text-Book of Materia Medica, Pharmacology and Therapeutics. By George F. Butler, A.M., Ph.G., M.D., Professor and Head of the Department of Therapeutics, Chicago College of Medicine and Surgery. Sixth Edition. Cloth. Pp. 708. Price, $4. Philadelphia: W. B. Saunders Co., 1908.

This, the sixth edition of Dr. Butler's book, contains but few changes from and additions to the previous edition; those that have been made, however, add to its value. In the new edition we find grindelia classed as a "Motor Depressant," balsam of Peru under the "Aromatic Acids," tar and balsam of tolu as "Drugs Acting on the Respiratory Membranes," while buchu, uva ursi, juniper, copaiba, oil of santal, cubeb and sabal are found under "Drugs Acting Particularly on the Kidneys." In the previous edition all of these drugs were lumped together under the "Group of Aromatics Used Particularly to Stimulate the Mucous Membranes of the Genitourinary or Respiratory Tract." The new arrangement is obviously more rational. We also find that opium, which in the fifth edition was classed under "Hypnotics," is now found more correctly under the "Narcotics." A brief but clear-cut exposition on opsonins and vaccine therapy has been added to the chapter on "Organotherapy." In discussing the probability of a serum therapy for syphilis we read: "The most recent work . . . would seem to show that a spiral organism, *Spirochæta pallida*, bears some relationship to the disease." In the light of our present knowledge of the relationship of the pale spirochete to lues this statement is conservative almost to the point of obsolescence. The arrangement of the book is good looked at from the standpoint of either the undergraduate or the practitioner; the idea of giving the name of each drug in English and in both the nominative and genitive (or in some cases accusative) Latin is an excellent one and should prove a valuable help to the prescription-writer. The chapter on prescriptions which deals with the combination of drugs, incompatibility, antagonism, estimation of amounts, grammatical construction of prescriptions and abbreviations of much-used words and phrases, will be of interest to those physicians—and their number is increasing—who take a pride in accurate and scientific prescribing.

A System of Medicine. By many writers. Edited by Sir Clifford Allbutt, K.C.B., M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge, and Humphry Davy Rolleston, M.A., M.D., F.R.C.P., Senior Physician, St. George's Hospital. Cloth. Pp. 969, with illustrations. Volume V. Diseases of the Respiratory System, Disorders of the Blood. Price, $6 net. New York: The Macmillan Co., 1909.

The standard of Volume V of this series is equal to that of the previous volumes. Its contents embrace an article by H. Mackenzie on the "Physical Signs of the Lungs and Heart;" "Artificial Aerotherapeutics," by C. T. Williams; "Asthma and Hay Fever," by Goodhart and E. I. Spriggs; "Bronchitis," by William Ewart; "Pneumonia," by Beddard, Eyre and Fawcett; "Abscess and Gangrene," by J. J. Perkins, and "Pulmonary Tuberculosis," by Kidd, Bulloch and Bardswell. A. E. Wright, Allbutt, Hutchison, Garrod, French, Muir and S. Mackenzie are some of those who take part in the discussion of the disorders of the blood. The affections of the pleura, mediastinum and thymus are also considered. Needless to say, the entire copy of the previous editions has been revised and rewritten with the view to making this system authoritative. We commend particularly the splendid list of references appended to each subject, which can not fail to prove of value to every student of medicine.

Essentials of Laboratory Diagnosis. By Francis Ashley Faught, M.D., Director of the Laboratory of the Department of Clinical Medicine, Medico-Chirurgical College, Philadelphia, Pa. Cloth. Pp. 309, with illustrations. Price, $1.50. Philadelphia: F. A. Davis Co., 1909.

This little manual aims to provide a working outline for clinical laboratory methods, which shall be complete enough for the average student and brief enough for the busy practitioner. In general, this purpose is well achieved, and in spite of Dr. Faught's determination not to "burden the reader with unnecessary detail," he has managed to include a great many helpful practical suggestions, although the clinical interpretation of results must, in a work of this size, be treated very lightly. The chapter on urine is the best in the book, and is especially good, presenting both the theoretical and the practical sides in a complete and available form. The chapter on bacteriology, also, is good, though brief, and gives not only rules for identifying various bacteria, but methods of preparing culture media, sterilization, etc. The chapter on blood is unsatisfactory. The examination of the stained specimen does not receive the attention it merits, and the enumeration of leucocytes is dismissed rather summarily. No plates accompany this part of the work. The chapter on serum reactions and bacterial vaccines shows a lack of practical experience with these methods, and an insufficient appreciation of the difficulties and uncertainties of such procedures. The book is fairly well, but not profusely, illustrated, and contains a valuable appendix giving formulas for stains and other solutions in common use in the laboratory.

Lehrbuch der Magenkrankheiten für Aerzte und Studierende. Von Dr. Hans Elsner, Spezialarzt für Magen und Darmkrankheiten in Berlin. Paper. Pp. 490, with illustrations. Price, 12 marks. Berlin: Verlag von S. Karger, 1909.

The work of Dr. Elsner will be especially welcome to those who have become somewhat acquainted with the results of modern research in the department of diseases of the stomach. Physiologic experimentation has gone far enough to establish facts regarding the functions of the stomach that are of wide-reaching applicability and must materially alter the treatment of these diseases. The developments of the last few years have placed in the hands of the practitioner in the large cities and in many of the smaller towns a means of diagnosis, the *x*-ray, which enables the form, position and motor functions of the stomach to be ascertained with a degree of exactness which leaves little to be desired. The results of the modern diagnostic aids form a special feature of the book. The great importance of functional diseases of the stomach is shown by the fact that they form a majority of the cases presenting themselves to the general practitioner and even to the specialist, and it is of great importance that their nature should be clearly recognized. To Stiller is doubtless due in a very large degree the credit of having demonstrated the constitutional and congenital nature of many of these affections. Elsner has clearly recognized the importance of Stiller's teaching and has presented it in a way that will be appreciated by his readers. The book is constructed on the usual plan, consisting of a general and a special part. Theoretical questions and historical matters have in the main been omitted, the space being given to subjects of more practical importance. The presentation of the subject is clear and methodical. The book is well illustrated. It is to be hoped that an English translation will soon appear.

Eighth Annual Report of the Work of the Cancer Laboratory of the New York State Department of Health. Conducted at the Gratwick Research Laboratory, University of Buffalo. 1907, Paper. Pp. 59.

This report presents several features of interest to all who appreciate the importance of the cancer problem. The director, Dr. Gaylord, has taken the opportunity to review the course and achievements of cancer research in the last decade, which practically covers the existence of the New York Cancer Laboratory, and shows that the advance in this sphere of knowledge, to which his laboratory has made important contributions, has substantially confirmed the theory of the infectivity of cancer to the support of which the early efforts of the laboratory were especially devoted. Several recent observations indicate that this theory will soon bear practical fruit. The discovery of cage infection, and the report of small endemics of animal cancer, as well as the peculiar grouping brought to light by a study of the geography of human cancer, indicate a contagiousness of the disease which makes a certain amount of isolation prudent if not imperative. The discovery of spontaneous cure of mouse tumors and of the power of the blood of normal animals, and especially of convalescents from cancer to destroy the infectivity of cancer cells, give promise of an eventual application to the cure of human cancer.

The article of Gary N. Calkins on "Rhythms of Growth Energy in Mouse Cancer," affords a good insight into the present status of the theory of the pathogenesis of cancer. The cancer cell differs from an embryonic cell in that it shows no power of adaptation, correlation or differentiation and from the ordinary epithelial cell in the possession of an extraordinary vigor of growth and the character of infectivity. These it owes to something within itself. Its parasitic character appears to be inseparable from its cellular existence and must be assumed to be due to the action of some special stimulus. This stimulus is believed to be a micro-organism, perhaps of ultramicroscopic size.

The paper by Dr. Gaylord on spirochetes accompanying cancer indicates a close relationship between these organisms and the growth of cancer. It is suggested that they may act by preparing the soil for the real infecting agent. An interesting fact recorded in the review of the work for 1907 is the discovery of a breeding establishment for mice where cancer is endemic. About 63 tumors have developed in approximately 7,000 mice reared at this place in eighteen months. The introduction of the breeding of white rats has proved that the place is as favorable for the growth of tumors in these animals as in mice. The tumors were mostly cancers of the female breast.

The Public Service

Medical Department of the Army

Changes for the week ended Oct. 2, 1909:

Stephenson, Wm., lieut. col., ordered to Fort Leavenworth, Kan., for duty, on expiration of his present leave of absence.

Davidson, W. T., capt., relieved from duty on the transport *Buford*, and ordered to Columbus Barracks, Ohio, for duty.

De Loffre, S. M., capt., when relieved from duty at Columbus Barracks, Ohio, ordered to Fort Bliss, Tex., for duty.

Manly, C. J., major, when relieved at Fort Bliss, Tex., ordered to Fort Douglas, Utah, for duty.

Bevans, J. L., capt., granted leave of absence for 10 days.

Cowles, C. D., Jr., 1st lieut., relieved from duty in the Philippines Division, and ordered to duty on the transport *Logan*.

Raymond, T. U., major, McLellan, G. H., Mueller, Armin, Frock, C. E., 1st lieuts., relieved from duty at their present stations, and ordered to San Francisco, Cal., to sail December 6, for Philippine service.

Buck, C. D., capt., Rukke, G. V., King, Edgar, 1st lieuts., relieved from duty in the Philippines Division; will sail December 15, for San Francisco, Cal.

Tasker, A. N., 1st lieut., relieved from duty in the Philippines Division, and ordered to duty on the transport *Sheridan*.

Frick, E. B., major, granted leave of absence for 15 days.

Foley, T. M., M. R. C., relieved from duty at Fort Moultrie, S. C., and ordered to Henry Barracks, P. R., for duty.

Drake, P. G., Henry, Z. L., Wiggin, D. C., Bailey, Edward, M. R. C., relieved from duty at their present stations, and ordered to San Francisco, Cal., to sail December 6, for Philippine service.

Bowen, A. G., Crum, W. H., Fletcher, J. P., Holmes, R. W., M. R. C., ordered to active duty; will proceed to Washington, D. C., for a course of instruction at the Army Medical School.

Simpson, J. A., M. R. C., ordered to active duty, will proceed to the Presidio of Monterey, Cal., for duty.

Bundesen, H. N., M. R. C., ordered to active duty, will proceed to Fort D. A. Russell, Wyo., for duty.

Medical Corps of the Navy

Changes for the week ended Oct. 2, 1909:

Von Wedekind, L. L., surgeon, ordered to the Naval Recruiting Station, Chicago, Ill.

Schmidt, L. M., asst.-surgeon, detached from the Naval Recruiting Station, Chicago, Ill., and ordered to the navy yard, Charleston, S. C.

Shippen, L. P., asst.-surgeon, detached from the Navy Yard, Mare Island, Cal., and ordered to Washington, D. C., and report at the Bureau of Medicine and Surgery, Navy Department.

Diehl, O., medical inspector, ordered to duty on board the *Charleston*, as fleet surgeon, 3d squadron, Pacific Fleet.

Davidson, A. B., acting asst.-surgeon, appointed Acting Assistant Surgeon, with rank of Lieutenant (junior grade) from Sept. 27, 1909; ordered to instruction at the Naval Medical School, Washington, D. C.

Minter, J. M., asst.-surgeon, detached from the Naval Recruiting Station, Pittsburg, Pa., and ordered to the Naval Hospital, Norfolk, Va.

Straeten, R. J., asst.-surgeon, detached from the Naval Hospital, Guam, M. I., and ordered to the *Supply*.

Toulon, A. J., asst.-surgeon, detached from the *Supply* and ordered to the Naval Station, Guam, M. I.

Public Health and Marine-Hospital Service

Changes for the seven days ended Sept. 29, 1909:

Bailhache, P. H., surgeon, on leave, detailed for duty on Revenue Cutter *Seminole*, Sept. 25 and 29, and Oct. 1, 1909, in connection with the Hudson-Fulton Celebration.

Wasdin, Eugene, surgeon, granted 1 month's leave of absence from Sept. 22, 1909, on account of sickness.

White, J. H., surgeon, granted 14 days' leave of absence from Sept. 25, 1909.

Sprague, Ezra K., surgeon, granted 16 days' leave of absence from Oct. 8, 1909.

Lavinder, C. H., P. A. surgeon, detailed to represent the Service at the annual meeting of the Mississippi Valley Medical Association, to be held in St. Louis, Mo., Oct. 12-14, 1909.

Moore, Dunlop, P. A. surgeon, Bureau order of Aug. 7, 1909, revoked, directed to proceed to San Francisco, Cal.

Holt, John M., P. A. surgeon, granted 1 month's leave of absence from Aug. 16, 1909.

Wille, C. W., P. A. surgeon, granted 7 days' leave of absence from Sept. 26, 1909.

Warren, B. S., P. A. surgeon, detailed to represent the Service at the annual meeting of the Mississippi Valley Medical Association, to be held in St. Louis, Mo., Oct. 12-14, 1909.

Boggess, J. S., P. A. surgeon, granted 7 days, leave of absence from Sept. 24, 1909, under paragraph 191, Service Regulations.

Collings, G. L., P. A. surgeon, detailed for duty on Revenue Cutter *Androscoggin*, Sept. 25 and 29, and Oct. 1, 1909, in connection with the Hudson-Fulton Celebration.

Herring, R. A., asst.-surgeon, detailed for duty on Revenue Cutter *Mohawk*, Sept. 25 and 29, and Oct. 1, 1909, in connection with the Hudson-Fulton Celebration.

Krulish, E., asst.-surgeon, detailed for duty on Revenue Cutter *Greshom*, Sept. 25 and 29, and Oct. 1, 1909, in connection with the Hudson-Fulton Celebration.

Wood, C. E., asst-surgeon, granted 7 days' leave of absence from Sept. 28, 1909, under paragraph 191, Service Regulations.

Stiles, Charles W., chief, Division Zoology, Hygienic Laboratory, detailed to attend the annual meeting of the Mississippi Valley Medical Association, to be held in St. Louis, Mo., Oct. 12-14, 1909.

Bready, J. E., acting asst.-surgeon, granted 7 days' leave of absence from Oct. 5, 1909.

Gochicoa, A. E., acting asst.-surgeon, granted 30 days' leave of absence from Sept. 12, 1909, 25 days with pay and 5 days without pay.

Goldsborough, B. W., acting asst.-surgeon, granted 1 day's leave of absence, Sept. 30, 1909, without pay.

Horning, Henry, acting asst.-surgeon, granted 15 days' leave of absence from Oct. 4, 1909.

Naulty, C. W., Jr., acting asst.-surgeon, granted 1 day's leave of absence, Sept. 25, 1909.

Terry, M. C., acting asst.-surgeon, granted 21 days' leave of absence from Oct. 1, 1909, with pay, and 9 days from Oct. 22, 1909, without pay.

Underwood, F. R., acting asst.-surgeon, granted 22 days' extension of annual leave from Aug. 23, 1909, on account of sickness.

PROMOTIONS

Assistant Surgeon Hugh de Valin, commissioned a P. A. Surgeon (recess), to rank as such from Sept. 21, 1909.

Assistant Surgeon Marshall C. Guthrie, commissioned a P. A. Surgeon (recess), to rank as such from Sept. 9, 1909.

Health Reports

The following have been reported to the Public Health and Marine-Hospital Service, during the week ended Oct. 1, 1909:

SMALLPOX—UNITED STATES

District of Columbia: Washington, Sept. 11-18, 2 cases.
Illinois: Danville, Sept. 11-18, 1 case.
Massachusetts: Boston, Sept. 11-18, 1 case.
Missouri: St. Louis, Sept. 11-18, 1 case.
Ohio: Columbus, Sept. 11-18, 1 case.
Indiana (8 Counties), July 1-31, 61 cases, 2 deaths.
North Carolina (8 Counties), July 1-31, 50 cases.

SMALLPOX—FOREIGN

Brazil: Bahia, Aug. 6-27, 18 cases, 9 deaths; Rio de Janeiro, Aug. 15-22, 3 cases.
India: Bombay, Aug. 10-17, 2 deaths; Rangoon, Aug. 7-14, 1 death.
Italy, general, Aug. 8-Sept. 5, 18 cases; Naples, Aug. 29-Sept. 5, 9 cases, 5 deaths.
Java: Batavia, Aug. 7-14, 2 cases.
Mexico: Guadalajara, Sept. 3-9, 1 death; Mexico City, Aug. 14-28, 7 deaths.
Portugal: Lisbon, Aug. 28-Sept. 4, 12 cases.
Russia: Moscow, Aug. 21-28, 5 cases, 4 deaths; Odessa, 11 cases; Riga, Aug. 28-Sept. 4, 6 cases.
Spain: Valencia, Aug. 21-28, 1 case; Vigo, Aug. 28-Sept. 4, 1 death.
Tripoli: Tripoli, Aug. 7-28, 26 cases, 5 deaths.

YELLOW FEVER—FOREIGN

Brazil: Bahia, Aug. 6-27, 3 cases, 2 deaths.
Mexico: Merida, Sept. 9-16, 1 case; Veracruz, Sept. 24, 1 case, 1 death, from steamship Mexican.

CHOLERA—FOREIGN

China: Amoy, Aug. 7-14, 12 deaths; Chefoo, Aug. 28, 5 deaths, among Europeans.
India: Bombay, Aug. 10-17, 43 deaths; Rangoon, Aug. 7-14, 2 deaths.
Japan: Amagasaki, Aug. 14-21, 4 cases.
Netherlands: Rotterdam, Sept. 4-11, 1 death.
Russia, general, Aug. 28-Sept. 3, 520 cases, 229 deaths; Moscow, Aug. 21-28, 1 case; Riga, Aug. 28-Sept. 4, 46 cases, 19 deaths; St. Petersburg, 171 cases, 82 deaths.
Sumatra: Djambi, July 15-31, 170 cases, 78 deaths.

PLAGUE—UNITED STATES

California: Alameda County, Sept. 24, 1 case.

PLAGUE—FOREIGN

Brazil: Bahia, Aug. 6-27, 8 cases, 4 deaths.
China: Amoy, Aug. 7-14, 52 deaths; Canton, July 24-Aug. 7, 15 cases, 12 deaths; Hongkong, July 31-Aug. 7, 3 cases, 3 deaths.
Ecuador: Guayaquil, Aug. 21-28, 4 deaths.
Egypt, general, Aug. 19-Sept. 3, 17 cases, 6 deaths; Alexandria, Aug. 21, 1 case, 1 death; Port Said, Aug. 20-24, 1 case, 2 deaths
India, general, Aug. 7-14, 1,659 cases, 1,251 deaths; Bombay, Aug. 10-17, 35 deaths; Rangoon, Aug. 7-14, 27 deaths.
Japan: Kobe, Aug. 14-21, 1 case, 1 death.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, November 9. Sec., Dr. F. T. Murphy, Brinkley.
CONNECTICUT: Homeopathic, New Haven, November 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.
CONNECTICUT: Regular, City Hall, New Haven, November 9-10. Sec., Dr. Charles A. Tuttle, 196 York St.
FLORIDA: Jacksonville, November 10-11. Sec., Dr. J. D. Fernandez.
GEORGIA: Regular, Capitol Bldg., Atlanta, October 12. Sec., Dr. E. R. Anthony, Griffin.
ILLINOIS: Coliseum Annex, Chicago, October 20-22. Sec., Dr. J. A. Egan, Springfield.
KANSAS: Topeka, October 12. Sec., Dr. F. P. Hatfield, Olathe.
LOUISIANA: Homeopathic, New Orleans, November 1. Sec., Dr. Gayle Aiken, 1102 St. Charles Ave.
MAINE: Portland, November 9-10. Sec., Dr. Frank W. Searle, 806 Congress St.
MICHIGAN: Lansing, October 12-14. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.
MISSISSIPPI: Jackson, October 12. Sec., Dr. S. H. McLean.
NEW JERSEY: State House, Trenton, October 19-20. Sec., Dr. E. L. B. Godfrey, Camden.
NEW MEXICO: Santa Fe, October 11-12. Sec., Dr. J. A. Massie.
NEVADA: Carson City, November 1. Sec., Dr. S. L. Lee.
OKLAHOMA: Ione Hotel, Guthrie, October 13. Sec., Dr. Frank P. Davis, Enid.
TEXAS: Levy Bldg., Greenville, November 9-11. Sec., Dr. M. E. Daniel, Honey Grove.
WEST VIRGINIA: Chancellor Hotel, Parkersburg, November 9-11. Sec., Dr. H. A. Barbee, Point Pleasant.
WYOMING: Laramie, October 20-22. Sec., Dr. S. B. Miller.

Higher Entrance Requirements in Boston

Boston University School of Medicine announces that in 1912, besides a four-year high school education, one year of attendance, or its equivalent, at a college or technical school will be required for admission, this year's work to include English, Latin, German or French, mathematics, physics, chemistry and biology.

With twenty-five medical colleges already enforcing this standard and twenty-five others which have pledged themselves to do so, the adoption of thorough courses in these preliminary sciences in the requirements for admission to all our medical colleges in the next few years is practically assured.

Ohio Reciprocity Report

Dr. George H. Matson, secretary of the Ohio State Medical Board, sends us a report of reciprocal licenses issued by that board since Jan. 1, 1909. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
George Washington University	(1906)	Dist. Colum.
Hahnemann Medical Coll. and Hosp. Chicago	(2, 1908)	Illinois
American Medical Missionary College	(1907)	Illinois
Rush Medical College	(1903) (1906)	Illinois
Northwestern University Med. School	(1907) (1908)	Illinois

Bennett Medical College	(1908)	Iowa
Indiana University	(1908)	Indiana
Indiana Medical College	(1907)	Indiana
Johns Hopkins University..(1905) New York;	(1906)	Maryland
Baltimore Medical College	(1902)	New York
Louisville Medical College	(1890)	Illinois
College of Physicians and Surgeons, Baltimore	(1900)	W. Virginia
University of Michigan, Coll. of Med..(1907)	(1908)	Michigan
St. Louis University	(1908)	Illinois
University of Buffalo	(1901)	New York
Starling Medical College	(1893)	W. Virginia
Columbus Medical College	(1887)	W. Virginia
Medical College of Ohio	(1897)	Indiana
Eclectic Medical Institute, Cincinnati	(1891)	Indiana
University of Naples, Italy	(1900)	New York

Ohio June Report

Dr. George H. Matson, secretary of the Ohio State Medical Board, reports the written examination held at Columbus, June 8-10, 1909. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. Aside from the written examination, practical laboratory tests were required. The total number of candidates examined was 183, of whom 170 passed and 13 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1906)	80.8
College of Physicians and Surgeons, Chicago	(1906)	76.8
Rush Medical College	(1909)	87.3
Indiana University	(1909)	80.7, 83.9
Harvard Medical School	(1905) 82.8; (1908) 84.1; (1909)	86, 89.6
University of Michigan, College of Medicine	(1909)	86.2, 87.2
University of Michigan, Homeopathic College	(1909)	86.6 87.6
Starling-Ohio Medical College	(1909)	75.7, 76.2, 76.5, 76.9, 78.4, 78.5, 78.6, 78.8, 79, 79, 80.2, 80.3, 80.4, 80.5, 80.8, 81.1, 81.2, 81.7, 81.9, 82, 82.1, 82.7, 82.9, 83.6, 84.1, 84.4, 84.6, 84.6, 84.8, 85, 85.3, 85.4, 85.5, 85.6, 85.7, 85.9, 86.2, 86.2, 86.5, 86.6, 87.2, 87.2, 88.5, 88.9, 89.8, 90.3,
Medical College of Ohio	(1909)	75, 75.8, 77.5, 77.5, 78.2, 79.4, 80.1, 80.6, 82, 82.4, 82.5, 82.7, 83.2, 83.6, 83.8, 84.3, 85.1, 85.6, 85.8, 86, 86.3, 86.7, 87.1, 87.5, 87.6, 88.1, 89.3, 89.6.
Miami Medical College	(1909)	75.5, 76.1, 77.4, 78.8, 78.9, 82.9, 84.2, 85, 86.1, 87, 87.3.
Western Reserve University	(1908) 82.3; (1909)	79.1, 81.2, 82.3, 82.9, 83.3, 83.7, 84, 84.1, 84.2, 84.5, 84.5, 84.9, 84.9, 85.6, 86.3, 87, 87.1, 88.2, 88.2, 88.5, 89, 90.1, 92.1, 93.7.
Cleveland College of Physicians and Surgeons	(1909)	75.1, 76.1, 78.2, 78.9, 79.8, 80.2, 80.3, 80.8, 81.3, 81.7, 83.5, 83.7, 85.7, 85.9, 86.7, 86.7.
Pulte Medical College	(1909)	80, 86.4, 86.6, 89.9
Cleveland Homeopathic Medical College	(1909)	77.1, 80.8, 81.5, 84.7, 85, 85.6, 86.3.
Eclectic Medical Institute, Cincinnati	(1909)	78.8, 78.9, 79.1, 81.5
Toledo Medical College	(1909)	80.9, 86.9
University of Pennsylvania	(1909)	87.2, 89.4
Medico-Chirurgical College, Philadelphia	(1909)	81.5, 87.3
Jefferson Medical College	(1907) 86.2; (1907) 85.6; (1908)	85.
Hahnemann Medical Coll. and Hosp., Phila.,	(1909)	84.7, 87.3, 88.5
University of Toronto, Canada	(1907)	89.3
McGill University, Montreal, Quebec	(1908)	91.4
Queen's University, Kingston, Ontario	(1908)	86.9
University of Rome, Italy	(1902)	85.5
FAILED		
Illinois Medical College	(1908)	61.
Hering Medical College, Chicago	(1894)	62.1
Starling-Ohio Medical College	(1909)	66.8, 72.4, 72.9
Medical College of Ohio	(1902)	44.2
Miami Medical College	(1909)	63.6, 65.9, 70.6, 73.4
Eclectic Medical Institute, Cincinnati	(1909)	69.6
Toledo Medical College	(1909)	71.2
Meharry Medical College	(1908)	60.7

Arizona July Report

Dr. Ancil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, July 5-6, 1909. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 5, of whom 3 passed and 2 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
University of Louisville	(1909)	86.4
University of Michigan	(1902)	83.6
University of Nashville	(1909)	81.7
FAILED		
Hospital College of Medicine, Louisville	(1903)	74.9
University of Michigan	(1909)	72.

Colorado July Report

Dr. S. D. VanMeter, secretary of the Colorado State Board of Medical Examiners, reports the written and oral examination held at Denver, July 6, 1909. The total number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. Nineteen applicants were examined, of whom 14 passed and 5 failed. Thirty candidates were registered on presentation of satisfactory credentials, including state licenses. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Denver and Gross College of Medicine,	(1909)	76.1, 76.6, 77.5, 77.8, 79.7, 80, 80.7, 80.7, 82.7.
University of Colorado	(1909)	75.8, 81, 84.5
Denver College of Physicians and Surgeons	(1909)	75.7
Rush Medical College	(1909)	83.2
FAILED		
Denver and Gross College of Medicine	(1909)	73.6
Bennett Medical College	(1909)	58.5
Baltimore University	(1897)*	
Ensworth Medical College	(1908)	38.7
Lincoln Medical College	(1908)	61.6

REGISTERED ON CREDENTIALS College	Year Grad.	State Licenses
Denver and Gross College of Medicine	(1907)	Wyoming
Rush Medical College........(1899) Iowa;	(1906)	Illinois
College of Phys. and Surg., Chicago...(1906)	(1908)	Illinois
Hahnemann Med. Coll. and Hospital, Chicago	(1907)	Missouri
Northwestern University Medical School.(1891)	(1908)	Illinois
Keokuk Medical College	(1898)	Iowa
Louisville Medical College	(1908)	Indiana
Coll. of Phys. and Surg., Keokuk, (1880) Illinois;	(1897)	Missouri
University of Louisville....(2, 1874) Missouri;	(1891)	Kansas
Kentucky School of Medicine	(1888)	New Mexico
University of Michigan	(1908)	Michigan
Creighton Medical College	(1905)	Nebraska
St. Louis Medical College	(1881)	Missouri
Central Medical College, St. Joseph	(1897)	Missouri
Washington University, St. Louis.......(1895)	(1904)	Illinois
Columbia University, Coll. of Phys. and Surg.	(1901)	New York
Cleveland Homeopathic Medical College	(1878)	New York
University of Wooster, Cleveland	(1896)	Ohio
University of Pennsylvania	(1901)	Penna.
Hahnemann Med. Coll. and Hospital, Philada	(1899)	New York
Western Pennsylvania Medical College	(1887)	Penna.
Medical College of Ohio	(1880)	Kentucky
Trinity Medical College, Ontario	(1894)	Michigan

* Percentage not given.

North Dakota July Report

Dr. H. M. Wheeler, secretary of the North Dakota State Board of Medical Examiners, reports the written examination held at Grand Forks, July 6-8, 1909. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 13, of whom 12 passed and 1 failed. Eight reciprocal licenses were issued at this meeting. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Northwestern University Medical School	(1909)	79.
College of Physicians and Surgeons, Chicago	(1908)	75.
Medical College of Indiana	(1903)	78.
University of Iowa	(1908) 75; (1903)	83, 87.
Hamline University	(1908)	78.
St. Louis College of Physicians and Surgeons	(1904)	77.
Barnes Medical College	(1904)	79.
Bellevue Hospital Medical College	(1899)	87.
Wisconsin College of Phys. and Surg.	(1905) 80; (1909)	82.
FAILED		
Keokuk Med. Coll., College of Phys. and Surg.	(1908)*	

LICENSED THROUGH RECIPROCITY College	Year Grad.	Reciprocity with
Rush Medical College	(1906)	Illinois
Chicago College of Medicine and Surgery	(1908)	Illinois
Bennett Medical College	(1908)	Illinois
Northwestern University Medical School	(1907)	Illinois
University of Minnesota	(1906) (1907) (1908)	Minnesota
St. Louis University	(1908)	Illinois

* Second examination.

Connecticut July Report

Dr. Charles A. Tuttle, secretary of the Connecticut Medical Examining Board, reports the written examination held at New Haven, July 13-14, 1909. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 26, of whom 21 passed, 4 failed and 1 withdrew. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Yale Medical School	(1908) 77.6; (1909)	76.7, 78.8, 80.5, 80.7
Georgetown University	(1908)	80.9
University of Louisville	(1902)	76.8
College of Physicians and Surgeons, Baltimore	(1909)	75.2
Baltimore Medical College	(1909)	76.4, 82.
Harvard Medical School	(1894)	75.5
Columbia University, College of Phys. and Surg.	(1909)	89.1
Long Island College Hospital	(1908)	82.2
Syracuse University	(1908)	78.8
University and Bellevue Hospital Med. College	(1909)	80.9
Cornell University Medical College	(1902)	84.

Medico-Chirurgical College, Philadelphia	(1909)	79.1
Jefferson Medical College	(1909)	79.2
University of Pennsylvania	(1909)	75.7
University of Vermont	(1909)	81.5, 82.2
FAILED		
Maryland Medical College	(1908)	69.9
Jefferson Medical College	(1909)	72.6
University of Vermont	(1903)	73.6
University of Naples, Italy	(1905)	68.4

Maine July Report

Dr. Frank W. Searle, secretary of the Maine Board of Registration of Medicine, reports the written examination held at Augusta, July 13-14, 1909. The number of subjects examined in was 12; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 31, of whom 26 passed and 5 failed. Three reciprocal licenses were issued at this examination. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Medical School of Maine, (1908) 83.7; (1909) 82.8, 84.6, 85, 85, 85.6, 88.2, 88.2, 89.3, 89.6, 90.6, 91, 91.5, 92.4.		
Baltimore Medical College	(1909)	76.5
Maryland Medical College	(1909)	83.5, 86.6
Atlantic Medical College	(1909)	78.6, 86.2
Boston University (1891) 91.6;	(1909)	91.
College of Phys. and Surg., Boston, (1901) 86.3;	(1909)	86.3
University of Michigan	(1909)	83.3
Women's Medical Coll. of the New York Infirmary,	(1884)	94.3
Jefferson Medical College	(1896)	87.4
FAILED		
Atlantic Medical College	(1909)	73.6
College of Physicians and Surgeons, Boston	(1903)	72.6,‡ 81*†
Laval University, Quebec	(1903)	76.2*
Bishop's College, Montreal, Quebec	(1905)	79.8*

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Baltimore	(1899)	Maryland
Johns Hopkins University	(1904)	Maryland
Laval University, Montreal, Canada	(1899)	Minnesota

* Fell below 60 in one or more branches.
† Second examination.
‡ Third examination.

Connecticut Homeopathic July Report

Dr. Edwin C. M. Hall, secretary of the Connecticut Homeopathic Medical Examining Board, reports the written examination held at New Haven, July 13-14, 1909. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 8, of whom 3 passed, 4 failed and 1 was conditioned. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
New York Homeo. Med. Coll. and Hosp. (1907) 89;	(1908)	78.7
Hahnemann Med. College and Hosp., Philada.	(1909)	85.4
FAILED		
Hahnemann Med. College and Hospital, Chicago	(1909)	62.2, 65 1
Atlantic Medical College	(1909)	53.7
Boston University	(1905)	64.3

Marriages

Harvey Leonard, M.D., to Miss Neva Bell Drase, at Easton, Md., September 22.

J. Knox Insley, M.D., Tangier, Va., to Miss Helen Horn, at Baltimore, September 18.

George Henry Schroeder, M.D., to Miss Elsa Niemeyer, both of Chicago, September 18.

Walter S. Cherry, M.D., to Miss Frances Phillips, both of Table Rock, Neb., September 21.

Pendleton Gardner, M.D., Haileyville, Okla., to Miss Ida A. Flickinger of Arcola, Ill., September 16.

Samuel Luther Bare, M.D., to Miss Nellie Ruth Schaeffer, both of Westminster, Md., September 22.

William H. Coogan, M.D., Bryn Mawr, Pa., to Miss Alice L. Prince of Vineland, N. J., September 18.

Alexander M. Macaulay, M.D., Belt, Mont., to Miss Anna M. Eitelgoerge of Rome, Ind., September 7.

Elias Burton Howell, M.D., Tiffin, Iowa, to Miss Bertha Hemsworth of Cedar Falls, Iowa, September 23.

John Jacob Remsberg, M.D., Walkersville, Md., to Miss Harriet English Everett, at Hamilton, Va., September 22.

Deaths

George Cuvier Harlan, M.D. University of Pennsylvania, Philadelphia, 1858; of Philadelphia; a member of the American Medical Association; of Philadelphia; surgeon in the Navy and later surgeon of the Eighth Pennsylvania Volunteer Cavalry in the Civil War; a member and once president of the American Ophthalmological Society and Philadelphia College of Physicians; consulting surgeon to Will's Eye Hospital; ophthalmologist to the Pennsylvania Hospital and Pennsylvania Institute for the Blind and Pennsylvania Institute for the Deaf and Dumb; emeritus professor of diseases of the eye in the Philadelphia Policlinic; chief of the ophthalmologic section at the Louisiana Purchase Exposition, St. Louis; died in Chestnut Hill Hospital, after being thrown from a horse, September 22, sustaining a fracture of the spine, aged 74.

Xenophon Christmas Scott, M.D. Western Reserve University, Cleveland, 1867; College of Physicians and Surgeons, New York City, 1869; a veteran of the Civil War; for many years a member of the American Medical Association; formerly president of the Mississippi Valley Medical Association; ophthalmic and aural surgeon to the German Hospital, Cleveland; and professor of ophthalmology, otology and laryngology in the Western Reserve University; founder and surgeon-in-chief of the Cleveland Eye, Ear and Throat Institute; in charge of a military hospital in Heidelberg during the Franco-German war; a well-known specialist on diseases of the eye; died at his home in Cleveland, September 30, from cerebral hemorrhage, aged 66.

John Janvier Black, M.D. University of Pennsylvania, Philadelphia, 1862; a member of the American Medical Association; College of Physicians, Philadelphia, and National Association for the Study and Prevention of Tuberculosis; acting assistant surgeon U. S. Army, from 1862 to 1864; president of the board of trustees of the Delaware State Hospital, Farnhurst; and a trustee of Delaware College, Newark; authority on the culture of fruit trees and author of "Forty Years in the Medical Profession;" died at his home in New Castle, Del., September 27, from uremia, aged 71.

William H. Felton, M.D. Medical College of Georgia, Augusta, 1844; four years later ordained a clergyman of the Methodist Episcopal Church South; a volunteer surgeon in the Confederate service during the Civil War; a member of the forty-fourth, forty-fifth and forty-sixth congresses from the seventh district of Georgia; and for four terms a representative in the state legislature; died at his home in Cartersville, September 24, from acute gastritis, aged 86.

Leonard Warring Arnold, M.D. Medical College of Ohio, Cincinnati, 1877; Vanderbilt University, Nashville, Tenn., 1882; health officer of Florence, Ala.; a member of the board of censors of Lauderdale county; formerly president of the local board of U. S. pension examining surgeons; local surgeon of the Louisville and Nashville Railroad; died in Memphis, Tenn., September 25, from cerebral hemorrhage.

Edwin Rutherford Willard, M.D. Rush Medical College, Chicago, 1852; of Joliet, Ill.; a member of the American Medical Association; consulting surgeon to St. Joseph's and Silver Cross hospitals, Joliet; surgeon of the Thirteenth Illinois Volunteer Cavalry during the Civil War; died at his old home in Wilmington, Ill., June 22, from nephritis, aged 79.

Francis Marion Slemons, M.D. University of Maryland, Baltimore, 1860; a member of the Medical and Chirurgical Faculty of Maryland; and for forty-nine years a practitioner of Salisbury; clerk of the Circuit Court of Wicomico county from 1885 to 1891; died at the home of his son in Baltimore, September 22, from cerebral hemorrhage, aged 70.

Edward N. Shaw, M.D. Atlanta (Ga.) Medical College, 1884; a member of the Milam County (Texas) Medical Society; major and surgeon Fourth Texas Infantry, U. S. V., during the Spanish-American War; major and surgeon Texas National Guard; owner and superintendent of the Milam Hospital; died in that institution, August 31, aged 48.

James G. Hart, M.D. Eclectic Medical Institute, Cincinnati, 1873; a member of the Kentucky State Medical Society, and twice president of the Western Kentucky Medical Society; supreme medical director of the National Fraternal Union; died suddenly at his home in Murray, September 23, from heart disease, aged 60.

Edgar I. Bradley, M.D. College of Physicians and Surgeons, Chicago, 1894; a member of the American Medical Association; formerly secretary of the Madison County (Mont.) Medical Society, and owner of the Virginia City Hospital; died at his home in White Sulphur Springs, Mont., September 21, aged 38.

William Hart Withrow, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1883; formerly of Spring Station, Ky.; for four and a half years assistant superintendent of the Minnesota State Hospital, Rochester; died at the home of his sister in Minneapolis, September 12, from paresis, aged 52.

Henry F. Battey, M.D. Cleveland University of Medicine and Surgery, 1884; formerly of Boulder, Colo.; died in McAllen, Texas, February 17, from the effects of a gunshot wound, self-inflicted, it is believed with suicidal intent, while despondent on account of ill health, aged 46.

James D. Guy, M.D. Geneva (N. Y.) Medical College, 1868; a member of the Medical Society of the State of New York; health officer of the township of Chenango; and coroner of the northern district of Broome county; died at his home in Chenango Forks, September 15, aged 68.

Simeon Palmer Lloyd, M.D. University of Pennsylvania, Philadelphia, 1893; city physician of Savannah, colored department, from 1895 to 1900; a member of the medical staff and treasurer of the Charity Hospital for the Colored; died at his home in that city, September 25.

John B. White, M.D. University of Tennessee, Nashville, 1882; of Fall Branch, Tenn.; for fifty-two years a practitioner; at one time a representative from Washington county in the legislature; died at the home of his daughter in Baileyton, Tenn., September 9, aged 78.

Orrin Hayden Evans, M.D. Starling Medical College, Columbus, Ohio, 1898; formerly city physician of Springfield, Ohio; a member of the Clark County Medical Society; died at the home of his mother in Jackson, Ohio, September 20, from pulmonary tuberculosis, aged 35.

John Willis Mitchell, M.D. Jefferson Medical College, Philadelphia, 1889; of Clarksville, Ark.; physician of Johnson county; a member of the Arkansas Medical Society; was shot and killed by his business partner at Clarksville, September 11, aged 42.

Ernest Edward Barker, M.D. State University of Iowa, Iowa City, 1907; a member of the North Dakota Sixth District Medical Society and health officer of Underwood; died suddenly at his home, September 9, from cerebral hemorrhage, aged 28.

George H. Berry, M.D. Washington University, Baltimore, 1848; Georgetown University, Washington, D. C., 1850; a member of the Somerset County (Md.) Medical Society; died at his home in Hopewell, September 10, from rheumatism, aged 84.

Albert Michael Fischer, M.D. College of Physicians and Surgeons, Chicago, 1906; of Kaukauna, Wis.; a member of the American Medical Association; died in St. Mary's Hospital, Oshkosh, Wis., September 21, from anterior poliomyelitis, aged 27.

Walter H. Vinal, M.D. College of Physicians and Surgeons, Baltimore, 1897; a surgeon of volunteers during the Spanish-American War with service in Cuba; died at his home in Hamilton, near Baltimore, September 27, from pneumonia, aged 35.

Gardner C. Wood, M.D. New York University, 1846; representative from Somers, Conn., in the general assembly in 1862; for more than half a century a fruit culturist and scientist; died at his home in Somers, March 7, aged 85.

Alfred M. Webster, M.D. Chicago Homeopathic Medical College, 1887; general secretary of the New Era Association of Grand Rapids, Mich.; shot and killed himself in the office of the organization, September 30, aged 60.

Fenton G. Helms, M.D. Cincinnati College of Medicine and Surgery, 1873; a member of the Ohio State Medical Association; formerly a member of the city council of Uhrichsville; died at his home, September 24, aged 59.

Clifford Llewellyn Pike, M.D. Medical School of Maine, Brunswick, 1881; formerly secretary of the Oxford County (Maine) Medical Society; died at his home in Saco, Maine, September 20, from pneumonia, aged 50.

John James Babington, M.D. Long Island College Hospital, Brooklyn, 1894; a member of the Medical Society of the State of New York; died suddenly at his home in Brooklyn, September 27, from angina pectoris, aged 51.

James L. Penney, M.D. Western Reserve University, Cleveland, 1873; for half a century a physician of McKeesport, Pa.; assistant surgeon of volunteers during the Civil War; died at his home, September 21, aged 71.

William Caldwell, M.D. University of Dublin, Ireland, 1848; for two years editor of the Blairsville (Pa.) *Appalachian;* died at the home of his daughter in Johnstown, Pa., September 13, from senile debility, aged 81.

Marshall Alexander Gilreath, M.D. University of Nashville and Vanderbilt University, Nashville, Tenn., 1891; of Selma, Cal.; died in the Selma Sanitarium, September 22, from intestinal obstruction, aged 46.

Earl Carlton Smith, M.D. Eclectic College of Physicians and Surgeons, Indianapolis, 1893; of Indianapolis; died suddenly at the home of his sister in that city, September 19, from heart disease, aged 37.

Henry R. Case, M.D. George Washington University, Washington, 1873; a member of the American Medical Association; died at his home in Flint, Mich., Dec. 5, 1908, from cancer of the neck, aged 60.

Enoch Mills Baker, M.D. New York University, New York City, 1890; a member of the American Medical Association; died suddenly at his home in Jersey City, N. J., from spinal disease, aged 48.

Martin H. Calkins, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1868; a member of the Iowa legislature from 1882 to 1884; died at his home in Wyoming, September 28, aged 81.

Joseph Carson Beckham, M.D., one of the oldest practitioners of Zebulon, Pike county, Ga.; died at the home of his son in Atlanta, Oct. 31, 1908, from cerebral hemorrhage, aged 88.

Frederick Cobbold McCallum, M.D. University of Toronto, 1866; Bellevue Hospital Medical College, New York City, 1866; died at his home in Hersey, Mich., September 18, from jaundice.

John Alexander Harper, M.D. Memphis (Tenn.) Hospital Medical College, 1896; of Lux, Miss.; died in Hattiesburg, Miss., January 14, from carcinomma of the cecum, aged 47.

W. Gregg Austin, M.D. Memphis (Tenn.) Hospital Medical College, 1893; a member of the Mississippi State Medical Association; died at his office in Utica, September 25, aged 44.

Robert Marion West, M.D. University of Louisville (Ky.), 1860; a member of the American Medical Association; died at his home in Clarendon, Ark., September 23, aged 77.

Charles W. Harper, M.D. University of Maryland, Baltimore, 1869; died at his home in Halethorpe, near Baltimore, May 14, from senile debility, aged 71.

Alfred Ernest Pleavin, M.D. Bennett Medical College, Chicago, 1906; died at his home in Elgin, Ill., September 22, from acute meningitis, aged 29.

Emmett E. Richardson, M.D. Cleveland University of Medicine and Surgery, 1893; died at his home in Dundee, Mich., September 18, aged 50.

Robert E. Tweedy, M.D. University of Pennsylvania, Philadelphia, 1856; died at his home in Courtland, Ala., August 27, aged 78.

Milton D. M. Batdorf (license, Berks county, Pa.); of Bethel, Pa.; died March 7, from cerebral hemorrhage, aged 65.

George W. Bell (license, Mo., 1892); an eclectic practitioner of Kansas City; died at his home, June 19, aged 71.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Correction: Through a mistake, in The Journal, September 25, the wrong program appeared under the heading, "First Month—Fourth Weekly Meeting." Instead of "Diseases of Cerebral Veins and Sinuses, etc.," there should have appeared "Surgery of Pericardium and Heart, etc.," printed below.

First Month—Fourth Weekly Meeting

SURGERY OF PERICARDIUM AND HEART

Pericardium: Injuries; diagnosis and treatment. Hemopericardium and hydropericardium; diagnosis of each. Indications and technic of aspiration of pericardium, of pericardiotomy.

Heart: Injuries, character of wounds. Indications for surgical treatment.

Surgery of Mediastinum

Injuries: Rarity, structures injured.

Mediastinitis, Acute and Chronic: Etiology.—Acute, external and internal wounds, extension from adjacent viscera, cellulitis of neck, etc. Chronic, tuberculosis, caries of vertebra, etc. Symptoms. Treatment.

Tumors of Mediastinum

Varieties. Symptoms and diagnosis.

Monthly Meeting

The Treatment of Penetrating Wounds of the Thorax.
The Symptoms and Diagnosis of Empyema.
The Present Status of the Surgery of the Heart.

REFERENCE BOOKS FOR THE FIRST MONTH

Beck: Surgical Diseases of the Chest.
Keen: Surgery.
Bryant and Buck: Practice of Surgery.
Von Bergman and Bull: System of Surgery.
Paget: Surgery of the Chest.
Ricketts: Surgery of Heart and Lungs.

Second Month—Second Weekly Meeting

DISEASES OF THE BRAIN

Diseases of the Meninges

Pachymeningitis Interna: Etiology, age, sex, alcohol, acute infection. Pathology, changes in dura, in pia, in blood-vessels. Presence of (a) subdural vascular membrane; (b) simple subdural hemorrhage. Changes in brain structure. Diagnosis.

Pial Hemorrhage: In new-born, frequency, location, causes, immediate effects, remote effects. In later life, causes, location symptoms.

Leptomeningitis: Etiological classification.* 1. Primary, (a) cerebrospinal fever (diplococcus intracellularis, (b) pneumococcic (pneumococcus). 2. Secondary (due to bacillus tuberculosis, pneumococcus, pyogenic cocci (streptococci and staphylococci), acute infections (typhoid, influenza, diphtheria, etc.). Symptoms. History of previous infection. Invasion period. Headache, delirium, convulsions, vomiting, constipation, muscular rigidity. Basilar symptoms. Course and terminations.

Cerebral Anemia and Hyperemia: Etiology, diagnosis and prognosis of each.

Cerebral Arteritis:† Etiology and pathological changes of (a) acute arteritis, (b) periarteritis, (c) chronic arteritis (atheroma), (d) arteriosclerosis, (e) syphilitic arteritis.

Society Proceedings

COMING MEETINGS

Amer. Association of Railway Surgeons, Chicago, October 20-22.
American Public Health Association, Richmond, Va., October 19-22.
Hawaiian Territorial Medical Society, Honolulu, November 19.
Kentucky State Medical Association, Louisville, October 19-21.
Medical Association of the Southwest, San Antonio, Tex., Nov. 9-11.
Minnesota State Medical Association, Winona, October 13-14.
Mississippi Valley Medical Association, St. Louis, October 12-14.
Nevada State Medical Association, Goldfield, November 2.
Southern Medical Association, New Orleans, November 9-11.
Vermont State Medical Assn., White River Junction, Oct. 14-15.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Fifty-Ninth Annual Session, held in Philadelphia, Sept. 27-30, 1909

The President, Dr. George W. Wagoner, Johnstown, in the Chair

Address of Welcome and Presentation of Flag

Dr. Frederick P. Henry, Philadelphia, delivered an address of welcome on behalf of the Philadelphia County Medical Society and presented to the society a flag designed by a committee of the county society. The flag was accepted by the president on behalf of the state society and a motion was passed by a rising vote that it be accepted as the official banner of the Medical Society of the State of Pennsylvania.

An address of welcome was also made by the Hon. John E. Reyburn, mayor of Philadelphia.

Secretary's Report

The state of the society was reported by the secretary, Dr. Cyrus L. Stevens, Athens. The sixty-three component county societies were stated to have done more scientific work and to have held better meetings during the year than in any previous year. The present membership is 5,207, a net gain of 203 during the year.

President's Address: Physicians and the Public

Dr. George W. Wagoner, Johnstown: There seems to be a lack of harmony between the public and the medical profession which has caused antagonism and open warfare on matters of immense importance to all, and a disinclination on the part of the public to deal fairly with subjects which all true medical men consider necessary to the welfare of the public and the profession. If the reason for this antagonism can be discovered, some method may be devised by which the public mind may be disabused; but while pointing out the injustice of the public we should not be blind to our own shortcomings. If in ordinary active practice we are more interested in watching and noting the phenomena of disease than in securing the comfort of the patient, we are missing the true object of our science and art, which is helpfulness. If we attempt to prove theories in the application of remedies while our patients linger in uncertainty and disability, then do we fail in helpfulness. If we clash over the minute and technical measures while neglecting the fundamental means of renewing life and health, we fail to be helpful. The keynote of success is helpfulness. If it be helpfulness on scientific observation, deduction and knowledge, it marks the highest and most desirable attainment possible to an educated physician. The sick are not cured by knowledge alone. But knowledge joined with gentleness, tact, amiability and sincere sympathy is invincible. The true ideal for a medical man is to become a bringer of peace to those entrusted to his care, rather than to acquire a store of worldly goods by commercializing his work among his people. Three hindrances to this ideal are ignorance, superstition, and incompetence; ignorance on the part of the public of the basic motives which have caused unselfish physicians to assume their life-work of personal sacrifice and responsibility for the good of others; ignorance concerning the benefits of prevention rather than the cure of disease. Notwithstanding the claims to enlightenment there is a taint of absurd superstition corrupting the mental processes of multitudes of people. Incompetence among medical men is an ever-present danger to the public. The most important problem concerning the dignity and material welfare of the medical profession to-day is to convince men, women and children that we as physicians strive to be helpful and to protect them from disasters following ignorance, superstition, disease and incompetency; that we desire to advance the standard of preliminary and scientific education of all physicians so that competency may be rewarded and incompetency be rejected by the public. Let us all open our minds to truth wherever found; our hearts to its disciples under whatever name they may be known, and as the highest object of our professional lives strive only to be bringers of peace to our fellow men.

Sanitary Science and the Social Evil

Rev. Floyd W. Tomkins, D.D.: This evil is becoming so tremendous that a man must recognize that he fulfills his duty neither to God, to man, nor to himself unless he looks into it, and studies and plans to see what can be done. I count it a privilege to say a few words as a minister who has long been interested in this subject, and to urge on you the eradication of this disease in comparison with which the spread of tuberculosis is as nothing. This is not merely a general question of purity or impurity. Let me give you an illustration which is only one of a thousand which could be given and one of which I have direct knowledge. A young man married, though infected with this disease. His health soon failed, tuberculosis developed, and he was about to die. On his death bed his wife said to him: "You have poisoned my body and ruined my life, and I pray God that in hell your mind may suffer just retribution." That is not an isolated case. We ministers know about cases that make our hearts ache and yet we are absolutely helpless in the vast majority of them. What can you and I do practically about it? Cannot we at first educate those with whom we come in contact? Cannot we put aside that modesty to which, God knows, we would like to hold to ourselves? Most of us would be glad to go back to the innocence that we had in our childhood. Why should we not urge on mothers that they teach their daughters concerning this evil, teach them not only to be pure in mind and body, but warn them of this terrible evil which is spreading through the land with such fearful results. Much can be done in this and other directions if we will only be honest enough, fearless enough, high-minded enough to recognize our responsibility.

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* Osler: Practice, 6th edition, page 926.

† Church and Peterson: Nervous and Mental Diseases, 6th edition.

(To be continued)

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Twenty-Second Annual Meeting, Held at Fort Wayne, Ind., Sept. 21-23, 1909

(Continued from page 1122)

Surgical Treatment of Tumors of the Bladder

Dr. John W. Keefe, Providence, R. I.: The surgery of tumors of the bladder is in a transitional state. The last word has not been said. While the perineal and vaginal routes have been abandoned by most surgeons, some now prefer the urethral, while others the suprapubic extraperitoneal, and yet others the abdominal intraperitoneal route, or a combination of both. The medical treatment of tumors of the bladder is often prolonged until surgery is of no avail. The suprapubic operation is the method most frequently employed at the present time, although the abdominal intraperitoneal route has many points in its favor. It gives one plenty of room in which to operate, and one can see exactly where to excise or cauterize the growth. The choice of the anesthetic is important for consideration in the removal of bladder tumor, as the patients are often found in a debilitated condition from loss of blood, sepsis or diseased kidneys. Nitrous oxid gas and oxygen are preferable on account of their safety and the non-irritation of the kidneys. The operation may be rapidly performed, and takes much less time than it does to describe it.

DISCUSSION

Dr. C. C. Frederick, Buffalo: I have operated on three patients for malignant disease of the bladder. In the first case, which occurred six or seven years ago, the tumor was located in the posterior wall of the bladder, in women, just back of the trigone. Following the removal of the tumor she made a good recovery, went on for two or three years, and I supposed was going to get perfectly well. But she had a recurrence to the left side of the original scar. She did not have a secondary operation, and eventually died of anemia.

Dr. Ernst Jonas, St. Louis: With the cystoscope we are able to decide the size of the tumor, but not its character.

Dr. M. I. Rosenthal, Fort Wayne: In a case of cancer of the uterus, which involved the bladder, I did a radical operation for the removal of the uterine cancer, also removing a piece of the bladder in a woman of 58. She is still in fairly good health.

Chylous Cyst of Iliac Mesentery

Dr. Charles E. Condon, Buffalo: The patient in this case was a boy, 5 years and 11 months old. The usual incision for an apppendix operation was made. On opening the abdomen a tense cystic tumor presented, which resembled an ovarian cyst, but was more elastic and had the color of omentum. On enlarging the abdominal incision, the tumor was found to be the distended iliac mesentery, beginning about eighteen inches above the ileocecal valve. It was ovoid, with a valley lodging the bowel, and dwindling toward the posterior mesenteric attachment into a wedge-shaped separation of the mesenteric layers. The ileum corresponding to the mesenteric cyst was compressed into a white cord, while above it was distended. After incising the cyst, about two quarts of milky fluid gradually drained away, there was a reduction of tension, allowing the vessels of the bowels to fill and the pallor to disappear, while the relief of pressure caused the lumen of the bowel to become patulous, and the distention above passed away. The cyst was sutured to the abdominal incision, and was drained by a rubber tube held in place by a stitch; otherwise the abdominal incision was closed with through-and-through sutures of silkworm gut. The relief was almost immediate.

DISCUSSION

Dr. Miles F. Porter, Fort Wayne, Ind.: In one case, on opening the abdomen, I found that I had a volvulus to deal with, but in unravelling the volvulus I found that it was due to chylous cysts of the mesentery. The gut was resected, but the patient died from the continued progress of the peritoneal infection.

Dr. Ernst Jonas, St. Louis: In regard to intestinal obstruction, produced by chylous cyst, I wish to emphasize the importance of not giving medicines with a view to relieving such intestinal obstruction when it is caused by these cysts. We should never try at this stage in surgery to remedy ileus by medicine, which we give to patients by mouth, as it is impossible to accomplish anything by them in any case of true obstruction.

Dr. A. H. Ferguson, Chicago: I have never encountered a chylous cyst of the mesentery in my surgical experience, and I think it is well for us in discussion of such papers to point out the relative infrequency of these cases.

The Embryo Abdominal Surgeon with Inadequate Preparation and Knowledge

Dr. J. Henry Carstens, Detroit: In every large center, say the county seat, there ought to be a hospital and a surgeon, or surgeons, who not only have picked it up but who have been prepared for the work by a thorough course of hospital training; and it seems to me that these men should limit their practice to surgery, and not compete with their colleagues. State boards should take up this question and issue a special license to those who want to practice special lines of surgery. In conclusion I would say: 1. Abdominal surgery by embryo surgeons should be prohibited. 2. Thorough preparation in a proper hospital, as an assistant for one year, should be the minimum requirement. 3. Those who want to practice abdominal surgery should furnish evidence of qualification. 4. Nothing herein contained should prevent any general practitioner from doing abdominal surgery in an emergency.

When Shall We Operate for Ruptured Ectopic Gestation?

Dr. R. R. Huggins, Pittsburg, Pa.: It has been my custom always to delay operation for a few hours in ruptured tubal pregnancy when all signs pointed toward a temporary cessation of the hemorrhage. In the vast majority of instances the hemorrhage has ceased temporarily when the consultant is called. The length of time which has passed since the hemorrhage begun varies. The attending physician will usually say that when he first saw the patient she was in a state of collapse, but that now, that is several hours later, there is some improvement. The pulse is slightly better, the air hunger has disappeared, etc. A pulse which was hardly perceptible when he first saw the patient is now easily counted and is of better volume; reaction has already begun. The formation of a clot in the pelvis has plugged the bleeding point and the force of the blood stream is now so low that for a time, at least, there is little danger of recurring hemorrhage. Who can say, and by what means are we to determine, how long this period of apparent rescue from death by Nature's efforts may continue? Doubtless in many cases hemorrhage does not recur, but my experience convinces me that some further advance must be made in diagnostic skill before it can be said that hemorrhage, severe, and even fatal, may not recur in a given case. A series of experiments on 50 dogs showed the coagulating time of the blood to average 3 minutes 28.10 seconds. The average time in 50 normal individuals taken by the same instrument was 6 minutes 45 seconds. There is a considerable difference in the time of coagulation of the blood of the dog as compared to the human. There is undoubtedly greater protection against continued hemorrhage in the dog because of this rapid coagulability of the blood. We all know that owing to the increased blood supply to the pelvic organs during pregnancy a small wound made in the uterus or in fact in any part of the pelvis will bleed profusely. Without careful consideration of these facts, experiments on animals in the study of this subject are of no practical importance. It is irrelevant to compare hemorrhage from other parts of the body to that which occurs from the torn vessels of a congested pregnant tube.

Recent papers advocating delay in operation have served an important purpose, because they have emphasized the fact that the patient usually rallies from the primary hemorrhage and that it is unnecessary, as a rule, to operate while the patient is in extreme shock. It is undoubtedly true that in a large percentage of the cases a few hours can be well spent in allowing the patient to react so that operation will be attended by less danger. That it can be postponed indefinitely without great risk to the patient has not been true in my experience.

DISCUSSION

Dr. H. W. Longyear, Detroit: There should be no hesitation on the part of the surgeon in regard to the necessity of operating immediately in cases of recent ruptured tubal pregnancy.

Dr. Hugo O. Pantzer, Indianapolis: Standing as we do in this class of cases oftentimes in the presence of doubt, when life is menaced, we cannot decide otherwise than to chance it with the doubt in favor of an operation.

Dr. W. H. Humiston, Cleveland: To me delay is dangerous doctrine. There should be very little trouble in making a diagnosis of ruptured ectopic pregnancy. If the rupture is sufficient to cause shock one cannot tell whether the shock will be overcome or not, and I do not hesitate to operate on all these patients who come into my hands whether they are in shock or not.

Dr. Thomas B. Noble, Indianapolis: It is bad teaching to advise delay in operating in cases of ruptured ectopic pregnancy. When Dr. Robb advocated procrastination, I said that some women would die as the result of such teaching. I wish to subscribe *in toto* to the advice given by Dr. Huggins, and to affirm that these patients should be operated on immediately.

Dr. A. B. Miller, Syracuse, N. Y.: We should not procrastinate in operating in these cases of ruptured ectopic pregnancy promptly. In over a hundred patients operated on immediately I have only lost three.

Dr. John Young Brown, St. Louis: I have seen a number of cases of ectopic pregnancy, and I have not been able to reason out from this experience why gynecologists should differ as to the proper time to operate. With modern methods of combating shock, and particularly by the use of salt solution by hypodermoclysis and by the method which Andrews has accentuated in the treatment of gunshot wounds in which the hemorrhage is severe, namely, buttonholing the upper abdomen as soon as the abdomen is opened, and starting the salt solution to flow immediately on the opening of the abdomen, a large majority of these patients can be saved by prompt action.

Dr. Albert Goldspohn, Chicago: Of 80 cases of ectopic pregnancy that I have dealt with in one way or another, I have only known of 2 patients to die from this affection who were not operated on.

Dr. C. C. Frederick, Buffalo: I have operated on about 130 or 140 patients with ectopic pregnancy in my city; 5 per cent. of these have been rapidly bleeding cases, and the other 95 per cent. were cases in which rupture had taken place and there were symptoms of recurrent bleeding extending over a period of 2, 3, 4 or 5 weeks, or even 6 months. I have operated on women who have had recurrent hemorrhages five or six months after the primary rupture. I recall one case in which hemorrhage stopped, the woman did not have another rupture, and she was not operated on. All things considered, I am in favor of early operation in cases of ruptured ectopic pregnancy. I believe we should insist on stopping hemorrhage in these cases, as well as bleeding which may take place in any other part of the body, namely, by tying the bleeding vessel and stopping the hemorrhage.

Dr. M. I. Rosenthal, Fort Wayne, Ind.: It has been my practice to operate on these cases of ruptured ectopic pregnancy as soon as the diagnosis is made. In all the cases that I have diagnosed early and in which I have operated, there have been no deaths, but in those that were operated on late I got a mortality in each case.

Dr. E. Gustav Zinke, Cincinnati: It is just as wrong to say that every patient with ectopic gestation must be operated on as it is that every case of this nature does not need operation. There are patients who recover without operation. This should not be forgotten. Most gynecologists probably know of instances in which operation has been proposed with counsel and without counsel, was refused by the family, and patients have recovered, and they had the laugh on the operators. I agree with Dr. Robb, and I must protest against operating in every case of ruptured ectopic pregnancy.

Dr. J. Henry Carstens, Detroit: If a woman is suffering from internal hemorrhage, as that from a ruptured ectopic pregnancy, she ought to be operated on promptly. I believe in operating in these cases promptly.

Rupture of the Uterus

Dr. Ralph W. Lobenstine, New York: Ruptures of the uterus during labor may be divided into complete, and incomplete ruptures of the vaginal vault. Of the 78 cases in a series of 78, at the New York Lying-in Hospital, there were 46 complete ruptures, 29 incomplete, and 3 ruptures of the vaginal vault. The etiology of the complete ruptures was as follows: (1) Spontaneous ruptures were due to pelvic contraction in 21 cases; Cesarean section scar, 2 cases; scar tissue after amputation of cervix, 1 case; transverse presentations, 3 cases; and hydrocephalus, 1 case. (2) Traumatic ruptures were due to high forceps, in 3 cases; internal podalic version, 5 cases; *accouchement forcé*, 6 cases; and embryotomy, 1 case. (3) Ruptures due both to version and transverse presentation, 3 cases. It is noteworthy that the large percentage of complete ruptures occur in multiparæ, and especially in patients in whom the uterine musculature has been weakened by inflammation.

The common location for the rupture is the lower uterine zone. There are two fundamental types, the longitudinal and the transverse, but there is often more or less fusion of these types. In the list there were 26 that probably started as the vertical type, and 20 as the transverse. Of the 26 longitudinal tears 18 occurred on the left side, 6 on the right, and 2 near the mid-line. Of the 20 transverse ruptures, 13 occurred on the anterior wall and 7 on the posterior. In the presence of a dystocia, especially in the generally contracted pelvis of moderate grade, as the lower zone becomes thinner and thinner, and more and more distended, the lower portion of the cervix tends to become imprisoned between the fetal head and the pelvic brim. At the same time the contraction ring assumes a high level, and acts as the upper fixed point. The lower zone finally has to give way, if relief is not at hand. The symptoms are: (a) Premonitory; (b) the signs of shock and hemorrhage, with or without the development of sepsis. The child only escapes into the peritoneal cavity in about 15 per cent. of cases. Of the 46 patients treated in the hospital, there were three with rupture at the uterovaginal junction. Such ruptures are seen most frequently as the result of transverse presentations, and of trauma due to faulty instrumentation. The posterior vaginal vault is injured more frequently than the anterior. The spontaneous ruptures are due to a tremendous distention and stretching of either anterior or posterior vaginal vault. The pelvic contraction is usually of high grade.

Incomplete ruptures of the uterus may be either spontaneous or traumatic, and either vertical or transverse. The common traumatic causes are *accouchement forcé*, forceps, version, extraction of the after-coming head, and embryotomy. Rapid dilatation in placenta prævia centralis gave the greatest number of ruptures of this type. The spontaneous ruptures usually depend on old scar tissue in the cervix or vaginal fornices.

The maternal mortality in the list of 78 cases was 53.8 per cent.; the fetal mortality was 70 per cent.

The treatment of incomplete ruptures consists of tamponage alone or with sutures; rarely laparotomy. Treatment of vaginal vault ruptures comprises tamponage or laparotomy, with suture of laceration, rarely hysterectomy. In complete ruptures, if the child is free in the peritoneal cavity, an abdominal section should be performed. If the child is still in the uterus, and the tear is a bad one, the woman should be delivered at once, by using tamponage or doing hysterectomy on the spot. The patient should not be moved. If the child is still in the uterus, and the tear is not a bad one, it will be best to move the patient to hospital before delivering. When the diagnosis is first made, after delivery of the child, tamponage may be relied on, if the patient is in good condition. A laparotomy is useless in the presence of severe shock.

DISCUSSION

DR. E. GUSTAV ZINKE, Cincinnati: Rupture of the uterus from purely obstetric causes should not occur in the hands of any one who knows obstetrics. I am referring now to rupture of the uterus, due to delayed labor, the result of an obstruction which is encountered in the passage of the child, and such ruptures should be wiped from the records. Knowing the doctrine of narrow pelves, as we understand it now, no man has a right to carry a patient to the verge of rupture of the uterus, as the clinical picture which brings the threatening danger is so clear that no man can possibly overlook it. The man who has taken the history of his case and studied his patient carefully will know in advance whether he has trouble to look for or not, and he will be on his guard and look for the symptoms indicative of rupture.

DR. EDWARD J. ILL, Newark, N. J.: I want to speak of rupture of the uterus, which is produced by the application of forceps high up, in a case of non-retracted cervix. Let us make a difference between the two. A dilated cervix does not mean a retracted cervix. The forceps, as a rule, should not be put on the fetus until the cervix is retracted. This is an old rule, and is little followed.

DR. R. W. LOBENSTINE, New York: I agree with Dr. Ill. The application of the forceps high up is responsible for a large amount of damage.

Calcareous Degeneration of the Fibroid Uterus

DR. WALTER B. DORSETT, St. Louis, read a paper on this subject and presented the specimen:

On opening the abdomen the tumor was found lying loosely in the pelvis and unattached. On grasping the mass I was reminded of the sensation usually imparted in the handling of uterine fibroids with a long pedicle. A supravaginal amputation was done, and the abdomen closed within a few minutes. The patient made an uninterrupted recovery and left the hospital within eighteen days, well, and relieved of her distressing symptoms. The ligation of the renal artery of the rabbit by Litten and his subsequent discovery of deposition of calcium salts in the renal tubules, probably proves that the true etiology of calcareous deposits lies in a retrograde process due to deficiency of blood supply. It can be readily seen that during the normal atrophic changes in the uterus, due to decreased determination of blood toward the uterus, degenerative changes are apt to occur.

DISCUSSION

DR. J. HENRY CARSTENS, Detroit: Thirty or more years ago a woman came to the dispensary with fibroid tumors. At that time we did not operate on these tumors so frequently as we do to-day. She was not operated on then. About five years ago she presented herself with three tumors which were jammed in the pelvis, causing obstruction of the bowels and bladder. I operated on her, removing one tumor about six inches long, and four inches in diameter. These tumors were so hard that I could not cut them open, but had to split them with a hatchet to show the calcareous deposits. No matter how long these cases are allowed to go, these tumors will either undergo calcareous degeneration or become malignant, so on general principles all fibroid tumors ought to be removed.

DR. HUGO O. PANTZER, Indianapolis, reported a case which was similar in every respect to the one related by the author of the paper.

Ovarian Pregnancy at Term

DR. WALTER C. G. KIRCHNER, St. Louis: The clinical symptoms were those associated with tubal pregnancy. At a later stage the patient had the usual symptoms attending uterine pregnancy at term. The tumor mass originated in the right ovarian region, and as pregnancy advanced the tumor was pushed toward the left side. The patient felt fetal movements about the fifth month of pregnancy. The condition was complicated by prolapse of the uterus with pronounced edema of the cervix. The patient consented to operation, and in doing a laparotomy a cyst-like tumor was delivered through the abdominal opening. The mass resembled an ovarian cyst, and contained the fetus. This was found to be full term and well developed. It was easily resuscitated and is in good health. The tumor mass was complicated by omental and intestinal adhesions. The appendix was adherent and appendectomy performed. The left tube was free. The right tube was incorporated with the outer surface of the gestation sac. The ovarian ligament was connected with the gestation sac. The sac originated in the right ovarian region, where a broad pedicle had formed which was ligated and severed. In this region also the main blood supply was obtained. The gestation sac contained the placenta and fetal membranes. The placenta was not associated with either tube and was free in the abdominal cavity. It occupied a central and anterior position in the gestation sac. The diagnosis of ovarian pregnancy was based on the presence of the utero-ovarian ligament, the normal condition of both tubes, the location of the tumor, and the microscopic evidence of the examination of the gestation sac. Mother and child are living and in good health.

DISCUSSION

DR. E. GUSTAV ZINKE, Cincinnati: Ovarian pregnancy is a very rare thing, and I am glad we have brought before us a case which leaves no doubt in our mind as to its real character. It is remarkable what Nature will not do under these circumstances when the ovum is implanted ectopically. The most frequent cases of ectopic gestation which go to full term are those in which the tube holds out to the last. It is comparatively rare, it is true, but these are the cases in which there are no adhesions between the abdominal viscera and the ectopic gestation sac. The next in frequency is the ovarian, but here very often rupture takes place because of the brittle character of the ovarian tissue. There is another variety of ectopic gestation which goes to term, but which is the rarest of them all, and that is, in cases of tubal rupture, or in tubo-ovarian pregnancy rutpure takes place sufficiently to permit the amniotic sac, with the decidua reflexa, which is formed under these circumstances to escape into the abdominal cavity. Here the placenta continues to grow within the tube or ovary, as the case may be. Sometimes it makes its way outside of the structures and implants itself on the pelvic wall. Occasionally it happens that the membranes are broken because of the movements of the fetus, and then the fetus is found free in the abdominal cavity.

DR. ERNST JONAS, St. Louis: I recall a patient operated on by Dr. Tuholske when I was assisting him, in whom in the second month of pregnancy the entire ovum was swept away from its seat of implantation in the right tube, into the free abdominal cavity, implanted itself in the region of the liver, changed the liver tissue, the peritoneum covering the kidney, and parietal peritoneum to such a degree that it was able to change these tissues to true decidual tissue. The pregnancy went on to term and the child was removed at the end of pregnancy alive. The mother died twelve hours after the operation. We did not know at the time why she died. The specimen which we have in our possession shows that it would have been impossible to have removed the placenta by force from these organs.

DR. A. B. MILLER, Syracuse, N. Y.: In the pathologic museum of the college in Syracuse a specimen has been recently placed of an ovary which contains an ovum perhaps of two months' development. The patient was operated on by a neighboring surgeon, he supposing he was simply dealing with an ovarian cyst. The patient had been complaining of more or less pain, and on examination a small globular mass was found in the pelvis. Without taking the history of the patient as to the possibility of this being a pregnancy, the woman was operated on, the ovary removed, and found to contain this small embryo.

(*To be continued*)

MICHIGAN STATE MEDICAL SOCIETY

Forty-fourth Annual Meeting, held at Kalamazoo, Sept. 15-16, 1909

(Concluded from page 1123)

The Physician and the Antituberculosis Campaign

Dr. A. S. Warthin, Ann Arbor: This paper treats of the changing attitude of laymen toward medicine, of the popular demand for preventive medicine, and of the increased knowledge of the laymen concerning matters once supposed to be the property of the physician. As a result of this change, the profession of medicine is also undergoing an evolution from a science and an art professing to cure, to a science of prevention of disease. The physician of the present day must meet this changed attitude. His duties become no longer those relating to his immediate patients; but he must concern himself with the broader questions of public health and the fight against preventable diseases. In modern health board work, in school inspection, in antituberculosis work, in the fight against venereal diseases, the physician finds a legitimate field for activity. The increasing medical knowledge among the people at large demands that the physician lead these movements in the prevention and extermination of diseases. There is a growing tendency for people to consult physicians as to the state of their health and what things should be avoided or prevented. The physician must meet this new conception of medical practice or fall behind. In the fight against tuberculosis he must especially take a leading and important part.

Diagnostic Value of the Hemolytic Tests in Cancer and Tuberculosis

Dr. Frank Smithies, Ann Arbor: This work comprises observations on 158 individuals affected with various ailments, and clinically well. Apart from the cancer cases, particular interest is attached to the findings in the cases of tuberculosis, syphilis, the anemias and the diseases associated with anemia. In the clinical diagnosis, of 31 cases of malignant disease, there were 14 positive, 10 negative, 4 reverse and 3 undetermined. Of 3 cases of benign tumor, the results are, 0 positive, 3 negative, 0 reverse, 0 undetermined. Of 45 cases of tuberculosis, there were 2 positive, 27 negative, 5 reverse and 11 undetermined. Of 19 cases of syphilis, there were 4 positive, 11 negative, 0 reverse and 4 undetermined. Of other diseases, there were 36 cases, 5 positive, 20 negative, 2 reverse and 9 undetermined. Of normals, there were 24 cases, 1 positive, 23 negative, 0 reverse, and 0 undetermined. While the main mass of data is at present for any single class of disease, yet the large number of cancer cases showing this reaction should urge us to seek modifications of the method in the hope that study of various sera along other lines will lead to the firm establishment of a specific reaction for cancer and other diseased conditions which seem to have specific pathology.

DISCUSSION

Dr. Victor C. Vaughan, Ann Arbor: This work on hemolysis and the use of hemolytic tests stands on a very uncertain foundation. Work has been done recently in Wassermann's own laboratory which seems to show conclusively that the hemolytic test is due to the presence of a ferment, and all this talk about amboceptors, complements, etc., is dependent on the acidity or alkalinity of the reaction. He is somewhat uncertain about the outcome. We know a great many more things about cancer than we knew years ago, and the medical profession is making some progress, and I think we may reasonably hope that the time will come when cancer will be cured not by any serum, or by any injection, or anything of that kind, but when we may reasonably expect that after operable cancer has been removed by the knife, a return of it may be prevented.

Dr. Hugo A. Freund, Detroit: The subject of hemolysis interested me a number of years ago in the direction of the presence of hemolysis in pernicious anemia. At that time I determined the hemolysins in the urine of individuals with that disease. One of the first things was their persistence; at times they appeared one day and were absent the next. In going over the work one fact struck me, and that was there is no uniform method of estimating the hemolysins. The method suggested by Crile is open to many criticisms. The one of Richard Weil, which appeared later, is as good a test as can be used. The results not only vary in accordance with the tests used, but the personal factor has much to do with the study. I am surprised at Dr. Smithies' results in tuberculosis cases, as other reports are contrary to his findings, especially the recent reports of Ottenberg of New York, who finds a degree of hemolysis in cases of advanced tuberculosis. There seems to be some relationship between agglutinins and hemolysins.

Dr. F. Smithies, Ann Arbor: My method in general was that of Weil. I have tried the Eppstein method, and the method suggested by Crile frequently as controls. Weil's method seems more reliable. With regard to the relation of hemolysins to agglutinins, practically I know little about the subject other than what I have read and work which I have done. Perhaps my list of reverse hemolysis was rather small because I had very few late cases of tuberculosis. In the moderately advanced cases, the degree of reverse hemolysis was more marked than in the localized infections. These cases were associated with anemia, fever and cachexia.

Landmarks in the Diagnosis of Incipient Tuberculosis

Dr. Elmer F. Otis, Battle Creek: The signs and symptoms that are not positively diagnostic are the family history, the cough, expectoration, night sweats, the diaphragmatic excursions and the so-called phthisical chest. The uncertain factors that are perhaps given undue importance are dull areas on percussion, cavernous resonance, hectic flushings, one or two negative sputum examinations, *x*-ray examinations, history of excesses in vital and procreative functions or the various vices. The findings that must determine the real diagnosis are the demonstration of tubercle bacilli in the feces and sputum and a possible early hemorrhage. Spasmodic fluctuations in vasomotor phenomena or bodily temperature. History of failing health, with loss of weight and appetite; a rapid and irritable heart even when the patient is at rest. Anemia without leucocytosis, but a strong tendency to blood dyscrasia, such as hemorrhages, nose-bleed, disorders of menstruation and vasomotor disturbances. The eye and percutaneous tuberculin tests are of real, but debatable merit. Last, but not least, are auscultatory findings.

Dr. T. M. Koon, Grand Rapids: The public is beginning to learn the importance of early diagnosis of tuberculosis. Physicians throughout the State of Michigan can render a great service along the lines of prevention of tuberculosis by diagnosing these cases earlier. Every man who is doing more or less special work along this line has occasion to see patients who are in the advanced stages of tuberculosis and who have been cared for by physicians for months without knowing they had this disease. Therefore, it is highly important that the profession should appreciate the fact that the public is going to call on them to make these early diagnoses. I would urge the importance of taking a careful history in all cases. During the last few years the profession has got away from the idea that heredity plays any part in tuberculosis, and the public has become educated to a certain extent along that line, but a great many of the leaders of the profession are getting back to the idea from personal observation that the children of tuberculous parents inherit a predisposition to that disease, and they are more likely sometimes during their lives to contract tuberculosis than the children of parents who are not tuberculous. I have diagnosed early a number of cases of tuberculosis with the skin test. It is easy to apply and is harmless. This test is being used by the leading men all over the world, and its findings are valuable, so that in all cases in which our suspicions are aroused, and in which we do not find the tubercle bacilli in the sputum, we should resort to the tuberculin test before dismissing the patient.

Dr. Victor C. Vaughan, Jr., Ann Arbor: The taking of the family history is very important. In fact, in the diagnosis of incipient tuberculosis everything is important, and we must use every means in our power which will furnish any knowledge or information. The diagnosis of early tuberculosis is very important. Not infrequently other individuals in families in which there may be cases of tuberculosis come to us before they have any symptoms apparently of the disease. They may take cold easily, or they may feel a little run down, may have lost a little weight, or look a little pale. They have no cough, and they come to us to know whether they are in good health or not. In these cases a physical examination is practically negative, that is, it is very hard to detect any signs or symptoms. I believe the diagnosis of incipient tuberculosis can hardly ever be made unless the patient is watched carefully for a certain interval of time. More stress should be laid on slight rises in temperature, and on accelerated pulse. It is difficult to get these slight rises in temperature and of increased pulse, and for that reason it would be a good thing if these patients could go to hospitals, say for a period of three or four days for purposes of observation, and at the end of that time a positive diagnosis could probably be made. One of the most useful adjuncts is the use of tuberculin in the diagnosis of early cases. This may be administered subcutaneously, percutaneously, or in the eye. I prefer the ocular reaction. I cannot agree with Dr. Koon as to the reliability of the skin reaction; I have obtained it in control cases, and one may say the subjects are tuberculous, but they show no evidences of it. It is much easier to prove a patient to be tuberculous rather than non-tuberculous. In no case in which I have obtained a definite ocular reaction have I failed on observation to find undoubted evidences of tuberculosis in 250 cases. Of course, there are certain cases in which the eye reaction does not work, or no reaction is obtained.

Dr. B. R. Shurly, Detroit: The medical profession has great responsibility in the early detection of these cases. These patients are always with us. They are so numerous that it is almost astonishing to any one, who is working on this problem, to see how frequently we can demonstrate active signs of tuberculosis. There are certain definite lines of procedure in regard to the early diagnosis that I have found very helpful in elucidating some obscure or unusual lesions. It is important in examining the chest to have the clothing removed. Many practitioners in examinations of the chest do so through a little opening, and no endeavor whatever is made to reach the back which in my opinion is the all important part in the diagnosis of this disease. I much prefer to have the percussion and auscultatory signs from the back than from the front of the chest. We know definitely where the lesions are more frequent, and these particular areas should be given more careful investigation. A routine examination should be made of the sputum. The newer tests are useful in detecting the early cases of the disease. The skin reaction in my opinion is of no value except in very early infancy, but the eye reaction is of considerable value in many doubtful cases. Observations should be carefully directed to the temperature. Examination of the throat and larynx offers considerable additional information as to the location of any possible lesions explaining early invasion in those regions.

Dr. J. Collins Johnston, Grand Rapids: We get our information from auscultation in these early cases; but we cannot make a diagnosis as a rule, with one examination. It is necessary to have these patients come to us from time to time, furnish them with thermometers, and have them take their temperatures every two hours for two or three days. I teach them to do this, and then we can get information about rises in temperature. The skin test is of inestimable value in a negative way.

Dr. Frank Smithies, Ann Arbor: If the eye reaction and skin reaction show the presence of a previously active tuberculosis, it does not necessarily mean consumption. There may be a tuberculous focus somewhere, and it is the physician's duty to find out where that focus is, and the only way to do so is by a thorough and careful physical examination. The tuberculin method of Koch is of more value in localizing infection and telling a patient he has consumption than any special reactions that may be mentioned.

Dr. Donald, Detroit: Has Dr. Shurly seen any unpleasant sequelæ from the ocular reaction?

Dr. Shurly: I have never seen any marked reaction in the way of a purulent discharge from the eye.

Urinary Infections; Treatment by Inoculations

Dr. W. T. Dodge, Big Rapids: Vaccine therapy has not been used extensively by many general practitioners because of the supposed necessity of regulating dosage by the opsonic index. In most cases the symptoms of the patient are a safe guide to the administration, and when the index is taken and does not correspond with the symptoms, it is safer to be guided by the symptoms. In sixty cases, nearly all of urinary infection, all the patients were treated with vaccines without index. Many cases were of several years' duration, in which the urine contained large quantities of pus, and which had resisted all local and general treatment. There were of *Bacillus coli communis* infection, 41 cases; mixed *B. coli communis* and *B. pyocyaneus*, 4 cases; mixed *B. coli* and streptococci, 1 case; mixed *B. coli* and micrococci, 3 cases; *B. pyocyaneus*, 8 cases; streptococci, 1 case; *Staphylococcus pyogenes aureus*, 2 cases; *Staphylococcus pyogenes albus*, 1 case.

The work was all done at the laboratory of Mercy Hospital, but the patients were under the charge of several different physicians, and the period extended from February to September, 1909. Twenty-three patients have been cured; 37 are still under treatment, the germs still existing in urine, but in every patient under treatment more than thirty days' symptomatic cure has taken place. A few of the patients had no pus in the urine, but had indication of infection at other places in the body. Many cultures of the urine have been made in cases of known infection in which the urine was normal chemically and microscopically, and in every instance the germs causing the infection have been obtained from the urine. This I consider a valuable diagnostic point in infectious diseases and one that should be followed up by other observers. Two cases of acute infection were treated, one of the colon bacillus, the other of the streptococcus, with highly satisfactory results.

Mind Cures in General and the Emmanuel Movement in Particular

Dr. Archibald Church, Chicago: Mind healing or psychotherapy is older than the story of the Garden of Eden; it is contemporaneous with the Garden itself. In olden times, the priest and physician were one and the same. Whether it was the priest of Apollo or the followers of Æsculapius, or as the medicine man in Dakota, medicine and religion went hand in hand. The influence of the mind as affecting the human body for better or worse has been known ever since men have congregated, and the influences which have dominated one and another sort of mind cure have been identical since the beginning of the world, and these influences have been exercised along rather definite plans to the attainment of a single end. That is to say, in all schemes of mind cure, whether it be scientific psychotherapy, hypnotism or the iterative vagaries of Christian science, they have all been exercised in two ways; the one establishing expectancy of improvement by the incubative method, the other by asserting better, helpful, hopeful and healthful things by the method of iteration or continued suggestion. This process of expectancy, waiting for something and earnestly anticipating benefit, is commonly described as the incubative, like the hen sitting on the egg, lives in hopes, and the sick individual always hopes and continues to hope. It is the keynote of all forms of mind healing, of all forms of psychotherapy—hope, eternal hope. The other plan is to have those who feel sure of their ground, or who are convinced that certain plans are beneficial, to insist constantly on these facts. By this iteration, the groove of health is established. In this suggestive purpose you will see that it is the element of hopeful expectancy which is the key to the situation, and it dominates the music and paints the scene and tempers the entire atmosphere. New England has given us

Christian science, which has largely for its purpose the alleviation and cure of disease. It has cured disease and will continue to cure disease so long as people adopt a hopeful expectancy toward that end. This is not saying that Christian science cures organic disease. Christian scientists do not admit that they can cure cancer or broken bones or that inflammatory processes or infections are modified by this hopeful expectancy to any considerable extent. Undoubtedly, many vagaries of feeling and worries of the flesh are benefited by Christian science.

Those of us who live in Chicago have seen the rise and fall of what has been called Dowieism. Any conception which you may entertain of Dowie as a faker or a grafter, or a mere money-getter, is absolutely besides the mark. Dowie believed he was the inspired agent of the Almighty. He believed that to him were vouchsafed messages from the archangels. He was deluded. He was convinced that what he did was under divine direction, and that those who opposed him were animated by the devil. He was sincere. Had he not been sincere the movement which he fostered and built up would have fallen away promptly, but it was his own conviction, his own righteousness and power, that enabled him to gather about him such men as made up the leaders of his church. When in the latter stages of mental disease he became absolutely irrational and thought he saw the King of England coming in a ship bringing him an immense fortune, then his followers were willing to see his insanity. Every year of his life had been the natural result of a deluded mind.

Of two physicians of equal intellectual attainments, the man of buoyant character and helpful disposition and encouraging nature, is the better physician, and his results will be better and his opportunities for doing good will be greater because he inspires this mind cure unconsciously, he inspires this hopeful anticipation of improvement. The physician should understand the forces with which he works and the obstacles he meets and the means at his disposal to get the best results by the application of mind treatment in his daily routine. Pleasant thoughts mean good circulation and good circulation means better nutrition.

The Emmanuel movement had its inception in a party of social-service workers. Dr. Worcester had his attention called to the fact that many people did not know about consumption and could not only not benefit themselves, but did not know how to check the spread of the disease. The social workers were organized to get the people out of doors. They induced consumptives to sleep in tents or on porches or in back yards. It was a fine thing, but it was not appreciated. Dr. Worcester saw the Christian science churches building and increasing all over the land, and he may have taken a tip from that cult. The other regular Protestant denominations were decreasing in attendance. But Dr. Worcester saw the defects of Chistian science. People worry. They have a lack of self-control. They are addicted to vice. These people he got together in small classes and their self-control was stimulated by pointing out the need for it. There was a moral element in it. The neurasthenics were added later. These people had fears of insanity or fears of general nervous breakdown. He insisted that they be examined by a regular physician to make sure that there were no organic defects, and that the cases were such as he might reasonably hope to benefit. The church is in a transitional stage. I do not know how, or why, or whither the trend, but these are the facts, and these people who are now seeking help in the Emmanuel movement in a few years will have tired of it and the church will have lost in grace in the meanwhile, and it will have turned itself into a sort of free clinic, so that its dignity will be broken and its prospects for doing good greatly diminished. Moreover, I very much doubt whether clergymen, by training and temperament or by experience, are admirably qualified to deal with medical subjects. The essential requirements for the clergyman is to have belief, to have faith; in other words, to be credulous, and credulity and good judgment are not necessarily interchangeable. Clergymen are good men. They are honest men. They are helpful men. They are hopeful, they are credulous, and therein lies the weakness in the work of this sort conducted by them. Mental treatment or psychotherapy should be based on modern psychology. It admits intelligent application of its methods in order to secure the normal mental action which shall be manifest in normal physical control, and above all things it depends in these nervous and mental cases in the establishment of hopeful expectancy. The successful psychotherapist is born. If the physician does not feel sure of himself he can never administer psychotherapy with any considerable success. The whole thing may be summed up in establishing hopeful expectancy, and I am devoutly thankful to the man who has scattered broadcast through this land the placard that says, "Keep Smiling."

Transitory Insanity and Its Basis

Dr. Charles W. Hitchcock, Detroit: This paper has, first, to do with the transitory insanities pleaded as a defense in criminal cases rather than with *bona fide* transitory insanity as laid down by the text-books. Second, transitory insanity is of rare, not to say, doubtful occurrence. Third, more frequent than its *bona fide* occurrence is its allegation solely as a means to the end of avoiding just responsibility for crime. Fourth, its most frequently pleaded varieties, transitory frenzy, transitory mania, emotional insanity, have but little standing among the best psychiatrists. Fifth, epileptic excitement and confusion, while admitted to occur, is often without adequate basis pleaded as a cover for crime. Sixth, it is unworthy of the expert, unable to make and define clean-cut diagnoses in these cases, to inject vague claims of insanity into such cases for the purpose of creating such doubt as will befog a jury. Seventh, medical experts should be careful to prove themselves anxious to conserve rather than to defeat the law. Eighth, the medical expert should approach such cases with an absolutely unbiased mind, reach his conclusions scientifically, take a clean-cut and firm position, and maintain it with the courage of his convictions. Ninth, if, with the crime eliminated, the case presents no adequate evidences to warrant a diagnosis of insanity, such a diagnosis should not be made, for the crime may not be of itself sole evidence to warrant such a diagnosis. Tenth, the expert, especially in cases in which transitory insanity is alleged, should zealously guard against being a party to the further increase of the disrepute into which medical expert testimony and insanity as an easy defense of crime have already come.

The Urgent Need of Operating in All Cases of Hernia

Dr. E. B. Smith, Detroit: There is urgent need of operating in all cases of hernia, but in this paper I restrict myself to the more frequent forms, namely, those of the abdominal and pelvic regions. Not all cases of reducible hernia are free from adhesions or local pathologic conditions other than the hernial opening. Adhesions around the ring are numerous. The local conditions may vary to a marked degree. The hernial opening may be small, tight, irritable, predisposing the sac to a partial or complete strangulation when forced through the opening, or the opening may be large and may be increased by the force of the additional abdominal contents pushing its way through. The glands adjacent become hypertrophied and adherent from the continued irritation of hernia. We must warn the patient that he should be on the lookout for certain symptoms which are pathognomonic of strangulation, yet there is danger of strangulation not being recognized even by the medical attendant, as there may be no sudden onset, no characteristic local pain, no nausea, no vomiting and no tenderness, but there may be expulsion of gas or even a fecal evacuation. The local complications may be such as to require a resection of portions of the omentum which increases the mortality, and very often we are forced to do a resection of the intestine which brings a high mortality. In uncomplicated cases, when the surgeon and the patient have been prepared, the percentage of recoveries should be from 98 to 100 per cent. An important factor in the early operation for hernia is the opportunity given both the surgeon and the patient for preparation. Knowing that the hernia increases in size, the complications in number and seriousness, and that a grave, if not fatal condition, must be the result, and knowing the necessity of proper preparation, why should we delay a comparatively simple operation for one of greater magnitude?

Dr. Conrad George, Jr., Ann Arbor: Intestinal resection comes up in connection with hernia, and I think as our methods of aseptic resection are perfected, the mortality will come down a little.

Dr. F. W. Robbins, Detroit: I think the profession is negligent in allowing patients with hernia to pass through their offices without strongly advising operation. Two years ago, in my service at St. Mary's Hospital, I saw three patients with hernia die simply because they were neglected. One of these was a patient who had had hernia for twenty years. He thought he could keep it back with a truss. Sometimes he did, sometimes he did not. He came to the hospital and he thought the hernia could be reduced, and that he would not have to submit to an operation. A few days later, when the man was *in extremis*, I operated on him and found some 10 feet of rotten gut, and the belly filled with a bloody, purulent secretion; the man died on the table. Within two weeks of that time I had two other hernia patients. One was a woman, with a large abdominal hernia, the other a man with a small strangulated hernia that had ulcerated through into the intestine; he died. These were poor people; they were sent to the hospital as a last resort, and a hopeless operation was undertaken. The deaths of these patients were not due to the conditions after they were admitted to the hospital, but to conditions that might have been prevented had they subjected themselves to an earlier operation. Since that time I have felt it my duty, when a patient comes into the office with a hernia, and wearing a truss, to urge operation, in consideration of the small percentage of mortality from operations conducted at the proper time.

Dr. Bayard Holmes, Chicago: I feel that if an operation will cure a hernia quickly and permanently, it ought to be done at once. The skill with which the operation is done has a great deal to do with the permanancy of the operation. When I first saw hernias operated on, the operations were frequently made in such a way as to allow the wound to close by granulation, hoping in this way to get a more permanent recovery. Since antiseptic methods have been applied to hernia, to every other surgical operation, and when they have been wisely managed, these hernias, so fas as I know, have been permanently cured. Of course, there are recurrences, especially when trusses have been worn a long time, and the abdominal wall has an enormous defect. The recurrences under these circumstances are worse possibly than the original hernia. The time to operate on a hernia is when it has begun, and when the abdominal wall has the full amount of strength, which it does have before a truss has been worn.

Dr. William K. West, Calumet: I think in these cases of abdominal section, when the involvement is large, when there has been free drainage on account of infection of the wound, when the abdominal walls are much weakened, and postoperative hernia likely to result, then it is wise on the part of the surgeon, before the patient leaves the hospital and as soon as the discharge has ceased, to prepare the wound; that is, open up the peritoneum, dissect free the fascia, unite the fascial layer, thereby adding strength to the abdominal wall, and guarding against a possible postoperative hernia.

Acute Postoperative Dilatation of the Stomach

Dr. Alexander W. Blain, Detroit: In this paper I draw the following conclusions: 1. The so-called acute dilatation of the stomach is a disease of the fore-gut, in which the upper portion of the duodenum as well as the stomach is involved. 2. We should be very cautious in entering the abdomen for ileus when the swelling is in the upper part of the abdomen, without first passing a lavage tube. 3. We should make an examination of the abdomen in all patients suffering from gas after operation, abdominal or otherwise, and not trust to the routine treatment without first making a diagnosis of the parts involved.

DISCUSSION

Dr. B. R. Corbus, Grand Rapids: I have had the opportunity of seeing two cases of postoperative acute dilatation of the stomach in the last few months. These cases were very much alike; both were referred to me by Dr. Campbell of Grand Rapids. In one case the dilatation occurred on the second day after an operation for the removal of a pus tube. The patient had a temperature of 101 F., but the attention of the physician was directed to the great distention of the abdomen. He suspected peritonitis. On examination it was found that the flanks were flat, and I was called. The woman had a pulse rate of 140, and seemed to be *in extremis*. The stomach was washed out; we got three pints of fluid, after which the pulse dropped. The next morning the temperature was normal and the woman was on the road to recovery. She had never vomited. The other case was a typical one of acute dilatation of the stomach of less severity. Many of these cases go undiagnosed, and maybe it is only after the attention of the physician is called to the subject that he diagnoses these cases correctly.

Dr. Conrad George, Jr., Ann Arbor: I am interested in gastric lavage in this condition. According to Dr. Aaron, the use of smaller quantities of fluid should be advised in washing out the stomach in these cases. It is much safer to use a smaller than a larger quantity, the idea being to introduce a small quantity, and then the whole stomach can be emptied out. This is an important part in lavage of the stomach in cases of acute dilatation, as in using too large a quantity of fluid there is danger of overdistention of the stomach and possible injury to its musculature and death from that cause.

Dr. Bayard Holmes, Chicago: There has been no account taken of the enormous quantity of fluid which appears so rapidly in these cases. This large quantity is either normally secreted by the wall of the stomach, and is ordinarily poured out into the small intestine, or else it is abnormal. The quantity seems to be so large that it can hardly be normal. I do not know what the normal amount is when the pylorus is obstructed, whether the stomach fills up with three or four quarts of fluid in two or more hours or not. But the cases I have seen have been marked by an enormous quantity of fluid going into the stomach at rather short intervals. You may empty it with a stomach tube, but in a few minutes, apparently, you have to empty the stomach again. My experience does not lead me to think that relieving the stomach in this way invariably cures acute dilatation. I remember one case in which, fourteen days after operation, I made a diagnosis of acute dilatation of the stomach. In this case an operation was done on the right kidney, and so far as I know was perfectly aseptic, but in spite of the fact that the stomach was emptied frequently of large quantities of fluid and an effort made to keep up the patient's fluids by enema and transfusion, the patient died after two or three days.

Dr. Frank B. Walker, Detroit: In one case I had acute dilatation occurred at the close of an operation for shortening the round ligaments in a young woman who was otherwise in good condition. In preparing the parts preliminary to closure, the stomach pushed out through the incision; it was returned to its normal position, and the case ended satisfactorily, and otherwise there was no more difficulty than in any other case. It was a surprise to me, as it was the first case of the kind I had seen, and it occurred so soon after the operation.

Dr. Mortimer Willson, Port Huron: I have known of a number of cases of acute dilatation of the stomach after operation, and in the past, when I was engaged in general practice, I had a number of such cases after parturition, in that there was sudden distention of the stomach shortly after delivery. Contrary to those cases that have been reported, in the majority of my cases the dilatation of the stomach was not due to the accumulation of fluid, but to the formation of gas. In some there were enormous quantities of fluid. It has occurred to me that this dilatation is due to a defect in the nervous tone. In a number of cases there was an extraordinary amount of secretion, but the dilatation was due to gas.

Dr. Blain: Dilatation of the stomach is a misnomer. It is a dilatation of the fore-gut, in which the pylorus plays no part, and most of the secretion comes from the upper portion of the duodenum rather than from the gastric glands. Dr. Walker's case is rather unique, and entirely different from others that have been reported, and it brings up one thing which I think is true, namely, that the etiology of these cases is different. Undoubtedly, this dilatation of the fore-gut has many etiologic factors. We have used too much fluid in washing out the stomach in the past. A half pint of saline solution or water, the use of bicarbonate of soda, or something of that sort, is much better than to use enormous quantities. No matter how much water is used, you cannot get it all out unless you lower the head of the patient and raise the pelvis, which is an important part in the treatment.

Subphrenic Abscess

Dr. Frank B. Walker, Detroit: Subphrenic abscesses are observable clinically on both the right and left sides of the upper abdomen. The signs of subphrenic abscess are in the main those of suppuration elsewhere, varying according to the source and route of infection. The constitutional symptoms are pain and tenderness in the upper abdominal region, chills, fever, immobile swelling, leucocytosis, thirst, disturbed nutrition and dyspnea. The course of subphrenic abscess is that of a complication of some other abdominal infection. One or more fossæ are invaded. From statistics, it is plainly evident that operation offers by far the more favorable prognosis. This pathologic condition occurs more often than it is discovered.

Sarcoma of the Ulna

Dr. H. E. Randall, Flint: The types of tumors of the long bones are the osteoma, fibromata, chondromata, sarcomata and rarely myelomata. Carcinoma is secondary. The cases in the older literature of cancer were metastatic hypernephroma. The other growths not included under tumors are osteophytes, hyperostosis, exostosis, due to irritation and myositis ossificans. Tuberculosis and syphilis must be excluded. Bone cyst is a degeneration of a pre-existing tumor in most cases. Some cysts are thought to represent the entire destruction of a sarcoma. Sarcomas differ greatly in malignancy. Even early amputation does not save some patients because of the early metastases in the lungs. Bloodgood, in over 100 cases of giant-celled sarcoma, found that no metastases had occurred. These patients had been treated by curetting, resection and amputation. Curetting may be all that is necessary. A mistake that has occurred is to diagnose a small-celled sarcoma for an inflammatory condition. Multiple myeloma is incurable. These cases are recognized by the *x*-rays when but one tumor is thought to be present or by finding the Bence-Jones bodies in the urine. Several examinations of the urine may be necessary to discover the reactions. The most malignant types of sarcoma are the spindle-celled and round-celled. In one of my cases the patient was cured by removal of the ulna. The ulnar nerve must not be injured. The functional result was satisfactory and the man was able to do all kinds of farm work. I am convinced that if an early diagnosis can be made, the radius, ulna, tibia or fibula can be removed and the patient escape the more mutilating operation of amputation. The diagnosis is to be made by snipping out a piece of the tumor which is submitted to the pathologist. T. W. Huntington found that the fibula would hypertrophy to such an extent as to become virtually as strong as the tibia, in a case of destruction of the shaft of tibia by osteomyelitis.

Hydronephrosis and Pus-Producing Infections of the Urinary Tract Complicating Pregnancy

Dr. Clara M. Davis, Lansing, Mich.: The patient in the case which I report was a multipara, aged 23, with a family history of tuberculosis. The important points are: 1. The family history of long-standing tuberculosis in the father, and abscesses and Bright's disease, with dropsy in the mother. 2. The importance of a correct history and the difficulty of getting it in this case, owing to the fact that the patient and family had settled on a diagnosis of miscarriage. 3. The relation of the traumatism to the disappearance of the hydronephrosis and the subsequent course of the case. 4. Psychotherapeutic treatment given by the mother with the coincident disappearance of pain, the sudden appearance at about this time of large quantities of pus in the urine, showing that cessation of pain was due, not to the mental treatment, but to the free drainage of pus, and illustrating how carefully cases should be scrutinized in which mental treatments are assigned as causes of relief of pain or cure of disease. 5. The importance for diagnosis of a microscopic examination of the urine in all cases of severe abdominal or pelvic pain in pregnant women. 6. Absence of bladder involvement throughout. 7. Benign course in the absence of any but the simplest treatment. 8. Normal character of the labor which occurred at full term, and the prompt convalescence.

Uterine Fibroids; with Report of Eighty-six Cases

Dr. Richard R. Smith, Grand Rapids: The general purpose of the paper is to call attention to the seriousness of the disease, because of its complications, and the necessity for more radical ideas in regard to its treatment. In over half of the cases reported life or health were seriously threatened. Complications which may arise, first, from the distortion and pressure caused by increase in size; second, from the inflammatory degenerative or malignant changes which may take place within the tumor itself; third, from the external inflammatory complications, causing adhesions, abscess, etc., outside of the uterus. Hysterectomy is to be preferred to myomectomy in women who have borne children and who are approaching the menopause; or when the growths involve the uterus to such an extent as to make the leaving it a menace to good health or life. Myomectomy should be restricted generally to the simpler cases.

Other Papers Read

"Management of Placenta Prævia," by Dr. E. T. Abrams, Dollar Bay; "The Internal Secretion of the Ovary: Its Application in the Treatment of Disturbances of Artificial and Physiologic Menopause," by Dr. W. H. Morley, Detroit; "Practical Application of Physiotherapy in Gynecology and Obstetrics," by Dr. J. H. Kellogg, Battle Creek; "Cervical Rib," by Dr. Alexander M. Campbell, Grand Rapids; "Experiments in Intestinal Anastomosis," by Dr. Conrad George, Jr., Ann Arbor; "Vincent's Angina," by Dr. M. L. Holm, Lansing; "Prognosis in Cardiac Insufficiencies," by Dr. Hugo A. Freund, Detroit; "Major Amputations," by Dr. Ralph H. Spencer, Grand Rapids.

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Disturbances of the Internal Secretions Clinically Considered

Dr. Oliver T. Osborne, New Haven, Conn.: Gigantism is a condition due to hypersecretion of the pituitary, and acromegaly is a condition primarily of hypersecretion, later hypersecretion of the hypophysisis cerebri. The thyroid may not only hypersecrete and hyposecrete, but the component parts of the secretion of the thyroid gland may vary in amount and in chemical constituency and cause various clinical manifestations. These symptoms and signs vary in all degrees and tendency from exophthalmic goiter on the one hand to myxedema and cretinism on the other. Insufficiency of parathyroid secretion causes tetany. A disturbed secretion of the parathyroids may cause paralysis agitans. Hypertension may be due to hypersecretion of the suprarenals. Continuous low blood pressure and neurasthenic conditions may be due to hyposecretion of the suprarenals. Continuous low blood pressure and neurasthenic conditions may be due to hyposcretion of the suprarenals. Surgical shock after abdominal operations may be due to the inhibition of suprarenal excretion. Many of the disturbing symptoms of menstruation are due to ovarian insufficiency or to increased ovarian activity, and it is doubtless probable that many nervous symptoms in women are due to ovarian disturbances. Uterine hemorrhage, profuse menstruation, and other uterine bleedings may often be stopped by the administration of mammary gland substance.

Obesity

Prof. Carl v. Noorden, Vienna: In the most common forms the condition is due either to over-feeding or lack of exercise, frequently these two factors are combined. It is easy to understand why excessive corpulence follows these two factors. It is much more difficult to explain those cases in which, although the proper amount of food is taken and sufficient exercise is indulged in, obesity develops. This has been termed constitutional obesity. After discussions which have been prolonged for years and after careful investigations the conclusion has now been arrived at that in such cases the oxidation power of the organism has become weakened. This is a factor which bears a direct relationship with the thyroid gland. Temporary changes in that gland raise or depress the power of oxidation. The various forms of constitutional obesity may be classified as follows: (a) primary thyreogenic obesity, dependent on actual changes in the thyroid such as atrophy, degeneration, functional weakness, and so on; (b) secondary thyreogenic obesity, that is to say, functional anomalies of the thyroid on the action of other organs, such as the pancreas, hypophysis cerebri, suprarenals, thymus, pineal gland, and perhaps other organs also, so-called chemical correlations by means of internal secretions. These questions have not only a theoretical interest but possess important bearings on therapeutics, as anomalies of metabolism known under the term of obesity can only be treated rightly, when in any given instance, the origin of these anomalies has been correctly recognized.

Polycythemia

Dr. H. Senator, Berlin: An increase in the number of red blood cells may be either relative or absolute and may occur under both physiologic and pathologic circumstances. Physiologic polycythemia is observed after the loss of much fluid from the body, after the ingestion of food rich in albumin, in convalescence from anemic disorders in new-born infants, after residence in a strange climate, and perhaps in hybernating animals during the winter months. Pathologic polycythemia is found when the blood becomes thickened during disease, in various forms of cyanosis, in certain intoxications and infections in which hemolysis takes place, and occasionally in diseases in which unknown changes in the blood occur, or in many affections of the nervous system. In all these pathologic circumstances, in addition to the relative polycythemia due to a thickening of the blood, the diminution of the tension of oxygen in the blood must be considered as a causal factor, whereby the hematopoëtic organs are stimulated to greater activity. These conditions must not be confused with polycythemia megalosplenica described by Vaquez, and polycythemia hypertamia described by Geisböch, in both of these a primary affection of the bone-marrow must be taken to be the cause of the polycythemia. Geisböch's disease, of which very few examples have been recorded, may be distinguished from that of Vaquez by the fact that in the former there is a high blood pressure together with hypertrophy of the heart, and enlargement of the spleen cannot be demonstrated. The changes in the blood, which have been more especially studied in Vaquez' diseases, consist in an increase in the viscosity of the blood, and a higher specific gravity. The resistance of the erythrocytes does not appear to differ from the normal, whilst the capacity for the absorption of oxygen lies within the usual limits, or is increased. The respiratory exchange in many cases is found to be high. With regard to treatment a vegetable diet and bleeding gives favorable results. Many cases of primary polycythemia cannot be placed under either of these categories.

Tuberculosis and the Community

Dr. S. Bernheim and Dr. L. Dieupart, Paris, said that, speaking generally, all collective work and every kind of overcrowding favored the development of tuberculosis, especially when they occurred under conditions of faulty hygiene, as was the case in the pursuit of so many occupations. They alluded to the researches which they made among laundry workers, printers, compositors, and sugar-refiners, among whom they found an excessive proportion of tuberculosis. In the same way the staffs of hospitals are often affected. Lunatics, carpenters, floor-layers, policemen, workmen, railwaymen, inmates of penitentiaries, domestic servants, soldiers, and sailors, all pay a heavy penalty to the contagium of tuberculosis. The authors discussed the causes of this contagion which they have estimated by statistical returns for each calling. The remedy which they propose is a relentless attack on unhealthy workshops, dusty trades, insanitary and dark houses, the supervision of the sanitary surroundings of the "pretuberculous" child from his schooldays onward, and the complete abolition of insanitary barracks and workshops. But the struggle against tuberculosis will never be effective unless directed by competent and independent men with a wide mandate, a free hand, and full public powers for the performance of their work. Further, they must be assisted by the serious and persistent cooperation of all classes of society and trade or professional organizations. Tuberculosis is a disease due to misery and ignorance; it plays its worst havoc among the working classes, and it can only be banished from the community by the action of the community itself.

Treatment of Paralytic Deformities in Children

Dr. Robert W. Lovett, Boston: The subject of tendon transference in paralytic deformity has been thoroughly discussed and no routine discussion of the matter is needed. The varieties of paralytic deformity are seven: (1) Deformity due to simple gravity distortion; (2) deformity due to adaptive shortening and lengthening of soft parts; (3) deformity due to the contraction of non-paralyzed limbs; (4) distortion from weight-bearing on partly paralyzed limbs; (5) deformity of the trunk due to effort to secure equilibrium; (6) bony deformity following persistent malposition, and (7) dislocation. The importance of preventing paralytic deformity is important as deformity is in nearly all cases preventable. Supporting apparatus should be used from an early period for the purpose of preventing malpositions. Treatment is, first, mechanical, and secondly, operative, both supplemented by a third therapeutic measure, the development of the muscles by muscle-training, massage, and electricity. The possibilities of mechanical stretching are: (1) The stretching of contracted tissues; (2) the shortening of lengthened tissues, and (3) the influence of growth toward normal by properly fitting apparatus. The replies to a circular of enquiry sent out to the members of the American Orthopedic Association show that tendon transference is on the whole useful, and that periosteal insertion is preferable to insertion of tendon into tendon. The after-treatment is fully as important as the operative. The treatment of paralytic deformity should consist of a combination of the three methods; the operative should not overshadow the others, and the operation of tendon transplantation in properly selected cases is to be regarded as a useful and satisfactory one.

Infantile Malaria

Dr. J. P. Cardamatis, Athens, Greece: Children at the breast are less attacked with malaria than at any other age, infants during the first year of their age enjoying a great comparative immunity. During the second year of life the liability to attack is not much increased, but between the ages of 2 and 7 years, and for some reason or other especially between the ages of 2 and 3, children are particularly subject to the poison of malaria. We are constantly led to believe the placenta to be furnished with antitoxic material which resists the development of the maternal hematozoa, destroying them at the surface of the placenta. Both among nurslings and little children there is great variation in susceptibility to malaria, the same natural immunity being met with as prevails among the indigenous inhabitants of tropical regions, though perhaps on a somewhat lower scale. Contrary to what has been affirmed by Plehn, the form of paludism which confers immunity does not always result in anemia. The natural immunity which has also been observed among children entirely differs from that relative immunity mentioned by Koch, which is due to a great frequency of infection during childhood. It differs also from that immunity which has been observed by Celli in the environs of Rome, and which is attributed to the periodical development and exhaustion of intensity of epidemics. Both the child and the adult in Greece are most frequently attacked with estivoautumnal malaria of the tertian type.

Cyclic Vomiting in Children

Dr. J. Comby, Paris, France: Periodic or cyclic vomiting occurs in attacks lasting two or more days with variable intervals; it is encountered between the ages of 2 and 6 or 8 years. It is seen a little more frequently in boys than in girls. Sometimes several members of the same family are attacked in turn. A neuroarthritic heredity is present in many cases. As pathologic conditions preceding the vomiting there may be sore-throat, adenoids, dyspepsia, a tendency to vomit, enterocolitis, and appendicitis. This form of vomiting has been ascribed to the liver and fatty acid poisoning, acidosis, and acetonemia. If in fatal cases a fatty condition of the liver has been found it is very evident that it has not been primary but secondary to digestive troubles. It is necessary to look for lesions of the appendix. The symptoms consist of uncontrollable vomiting with rapid wasting, which suggests meningitis, peritonitis, internal strangulation, or appendicitis. Constipation, fever, and acetonuria are frequent. The prognosis is generally favorable, but at least ten fatal cases have been published. After having eliminated indigestion the ingestion of some poisonous substance, migraine, intestinal obstruction, and peritonitis the appendix should be examined by an operation. Medical treatment consists of the administration of alkalies, a vegetarian diet, hydrotherapy, and saline injection. Surgical treatment consists in appendicectomy in an interval.

Diagnosis and Treatment of Tumors within the Spinal Canal

Prof. H. Oppenheim, Berlin, read a paper on this subject in which he came to the following conclusions:

1. The differential diagnosis between tumors springing from the meninges and from the spinal column itself can scarcely be said to be established. 2. For the diagnosis between intramedullary and extramedullary new growths important but not absolutely trustworthy symptoms are existent. Of these the chief is the constancy of the upper level of the lesion. Nevertheless, the collection of cerebrospinal fluid above the tumor and the frequently accompanying meningitis serosa circumscripta may cause this level apparently to vary and thereby reduce its diagnostic value. For other reasons also the upper level may seem higher than it really is. Criteria for distinguishing between meningeal tumors and spinal gliosis are not trustworthy. 3. Serous spinal meningitis presents more of the characteristics of spinal tumors than any other extramedullary disease. The aids to differential diagnosis mentioned by Sir Victor Horsley cannot always be depended on. 4. Spinal medullary "pseudotumors" are to be considered with reserve. 5. The segmental diagnosis of spinal tumors may be complicated by the existence of secondary serous or fibrous meningitis. The symptoms of a tumor may be referable to a level below the site of the tumor. Therapeutic results are distinctly encouraging.

The Function of the Frontal Lobes

Professor Bianchi, Naples: 1. For experimental work on the frontal lobes the only satisfactory animal is the ape, since in it these structures are well-developed and their architectural structure corresponds to that of the human cerebrum. The psychical activities of each ape must be carefully studied both before and after operation. 2. In front of the motor area (Rolandic) is an electrically excitable zone extending from the mesial margin of the hemisphere over the outer aspect to where that surface becomes continuous with the orbital surface. It is an integral part of the frontal lobe, and corresponds to the prefrontal fissure. From this area the muscles of the neck, eyes and ears can be stimulated. 3. The extirpation of the frontal lobes never produces permanent motor or sensory defects. Visual defects, similarly, are fugitive. 4. The whole intellectual life of the ape is altered after removal of the frontal lobes. Perception, attention, inhibition, and in particular memory and association, are enfeebled. The animal has no longer the power of profiting by experience. Sometimes stereotyped movements and tics are observed. 5. As a result its psychical tone is lowered; it lacks initiative, courage and spirit.

Pathology of Hereditary Diseases of the Nervous System

Dr. B. Sachs, New York: The term "family diseases" is preferable to "hereditary diseases," since very few diseases are conveyed directly from parent to child, whereas the morbid tendency exists in one or both parents which leads to the development of a family disease. There is a marked difference between the cerebral and the spinal groups; the family; diseases of cerebral origin are due to changes in the highest nerve elements, viz., the ganglion cells; the spinal affections are due largely to disease of, or maldevelopment of, one or more systems of white fibers. The one exception to this group is the spinal form of progressive muscular atrophy, and that is only rarely inherited. Family diseases of cerebral origin include hereditary diplegia, hereditary optic nerve atrophy, and amaurotic family idiocy, the infantile form (Tay-Sachs) and the juvenile form (Spielmayer and Vogt). In both types of the latter disease the ganglion cells of the entire nervous system exhibit a marked swelling of the cell body and of the dendrites, while the axones remain intact. The active cytologic factor is an abnormal swelling of the hyaloplasm and not a degeneration of the fibrillæ. The occurrence of the disease among Hebrews only suggests that in the members of a race whose nervous system is prone to deterioration children are born with the highest nerve cells so defective that they are entirely unequal to perform the ordinary vital function, and at a very early day undergo a typical disintegration.

Nervous and Psychical Manifestations of Arteriosclerosis

Professor von Tschisch, Dorpat, Russia: Arteriosclerotic neurasthenia is a common disease, especially between the ages of 50 and 55, characterized by anxiety and depression (in association with cardiac symptoms), insomnia, heaviness and numbness of the head, fatigability and incapacity for work. On the mental side it is distinguished by apathy, ill-humor, and irritability. From this stage the transition is a gradual one to arteriosclerotic dementia, in which the memory is greatly impaired, all psychical processes are slower, the patient becomes stupid, his opinions and judgments are mechanical and elementary, the imagination atrophies, and the will power diminishes. According to Dr. Cramer of Göttingen the nervous phenomena of arteriosclerosis precede the mental. The former usually consists in a triad of headache, giddiness, and defective memory, associated with, or followed by, transient pareses, slowing of speech, sluggish and unequal pupils, and paresthesia. Prominent among psychical symptoms is depression, sometimes also irritability and a paranoid symptom-complex.

Imbecility in Its Clinical and Medicolegal Aspect

Dr. Sommer, Giessen, Germany: 1. Idiots treated in institutions and the inmates of reformatory schools have many points of resemblance in bodily and mental characteristics. 2. It is therefore desirable that there should be a uniform method of investigating all such cases, and the further requirements for special groups may be easily met by a more extensive application of the special sections of the investigation schedule and by supplementary pages. 3. In studying congenital mental weakness as observed among the inmates of idiot institutions and reformatory schools a great many physiologic and psychophysical methods of examination might be usefully applied, in addition to those given in the investigation schedules, for the purpose of obtaining a better insight into the mental processes. 4. This improved system of classification is valuable both medically, psychologically, and educationally; it, moreover, leads to a better cooperation between the medical and educational authorities in general questions, as well as in respect to the special requirements of individual cases. 5. In the investigation of juvenile criminality it is to be remembered that some of the inmates of reformatory schools are obviously imbecile; when these are left out of consideration it will be found that the ordinary methods of investigation often fail, while, on the other hand, in individuals with apparently normal mental condition, more particularly as regards the intellectual faculties, there are apt to be hysterical and epileptoid manifestations as well as congenital moral defects. 6. Possession of the mental evidence of the existence of power requisite for comprehending the culpability of an act is a bad sign in a juvenile offender. 7. When juvenile offenders are of apparently normal mental capacity, the investigation respectively of their environment and of their inherited characteristics in connection with the study of family circumstances often leads to the recognition of the external or internal sources of criminality. 8. It is probable that analysis of the external and internal influences will more and more tend to show that juvenile crime both in its individual and in its social relations is to be regarded as a disease.

Imbecility in Its Clinical and Medicolegal Aspect

Dr. W. Weygandt, Hamburg, Germany: There are only a few places in which lunacy practice takes cognizance of the ideal classification of anomalous mental conditions, the study of psychologic distinctions with appreciation of bodily peculiarities and special features in the progress of the cases, subsequently confirmed by the results of post-mortem examination. Nevertheless, in the least esteemed branch of psychologic medicine, the investigation of feeble-mindedness in children, science is continually advancing toward this ideal, inasmuch as it obtains increasing success in separating from the mass of complex phenomena a number of groups which exhibit features entitling them to be regarded as distinct clinical entities. The groups which at present are more or less sharply defined are amaurotic idiocy in members of a family, and imbecility associated (1) with abnormal states of the thyroid body, (2) with encephalitis (porencephaly, atrophic sclerosis, etc.) (3) with hydrocephalus, (4) with meningitis, (5) with the mongolian type of features, and (6) with epilepsy; to these must be added tuberculous sclerosis, dementia infantilis, dementia præcox, and the group due to embryonic inhibition of cerebral development. Besides these there are cases which can not yet be clinically differentiated into special classes, and which, more particularly in slight degrees of mental defect, cannot be precisely classified during life. Hysteria, neurasthenia, and melancholia are mental conditions deserving attention. In arriving at practical conclusions such as are required in judicial decisions and in questions connected with the administrative protection of imbeciles the first thing to be considered is the special nature of the defect, because the various groups exhibit varying degrees of unfitness for general society and also of capability for being influenced. The second and even more important point is the degree of the defect. For instance, epilepsy is of itself a disease of the greatest importance in connection with crime; in the worst cases, however, the patients are unfit to be at large. The severe cases are of minor importance from a medical point of view, whereas the mild ones devoid of special characteristics are practically far more important, and psychoneurotic cases are most important of all. The earlier we can recognize an individual as defective in a material degree and the earlier we can draw legitimate inferences as to the person's mental capacity and suitability for institutional treatment, the more positively can it be referred to a definite group in accordance with clinical and still more in accordance with bodily peculiarities. In estimating the degree of feeble-mindedness the intellectual level of the person's environment must be kept in mind, and the same precaution should be observed even in the case of law-breakers who have not incurred any suspicion of mental defect. In answering a question as to a person's capacity for forming an opinion the most practical course is to endeavor to compare the case with a normal child at a definite age-period; of course with due regard to any anomalies external to the intellectual sphere. The proper treatment of a criminal imbecile is a matter for physicians and sociologists.

Diagnosis and Treatment of Mediastinal Tumors

Dr. A. Ceccherelli, Parma, Italy: Mediastinal tumors are possible of diagnosis, but only by the use of all our modern methods, foremost among which we must put radioscopy. No means of investigation must be neglected because it is only on an accurate and positive diagnosis that the decision to perform a difficult and dangerous operation can properly be based, an operation which too often results in a speedy recurrence, the tumor or the infected glands not having been completely cleared away. Tumors of the anterior mediastinum are most promising to attack surgically when they spring from the bones, for the invasion of the mediastinum is only secondary. Surgical intervention is possible in tumors of the posterior mediastinum if the tumor is esophageal, for if it is limited to three centimeters in extent it can be resected and the cut ends of the esophagus brought together, while if it is more extensive the two ends can be brought up to the wall of the thorax or they can both be sutured and the lower end invaginated into the stomach, a gastrotomy being subsequently performed or a plastic operation on the esophagus can be performed. If the posterior mediastinum has to be reached it is better to do so by the transmediastinal route, and it is better to approach the tumor from the right side of the thorax especially if it is low down. A longitudinal incision is to be preferred, and a transverse one may be added to form a flap, resecting a certain number of ribs in order to allow the surgeon a better view of the field of operation.

Relief of the Eye Disease in Egypt

Mr. A. F. MacCallan, M.B., B.C. (Camb.), F.R.C.S. (Eng.), chief inspector of ophthalmic hospitals in Egypt and late senior house surgeon and late chief clinical assistant at the Royal London Ophthalmic Hospital, Moorfields, read an interesting paper on this subject in which he considered mainly the incidence of blindness and trachoma. He divides the clinical variety of trachoma seen in Egypt into four stages based on the comparative prominence of the three features of the disease, granulations, papillary hypertrophy, and connective tissue formation. The universality of trachoma in Egypt is instanced by the high percentage of pupils in the government primary schools affected with the disease, 96 per cent. at one of them. According to the census of 1907, half a million persons were enumerated as blind in one or both eyes, this figure is probably a quarter of a million short of the actual number. Ophthalmic conditions have enormously improved in Egypt during the last twenty years, but no explanation has been offered for this phenomenon. The generosity of an Englishman enabled the Egyptian government to equip and maintain two traveling hospitals which were originally organized six years ago by MacCallan. In addition to these he has the direction of three permanent hospitals in different provinces recently built, or being built, partially by charitable effort and partly by the government. Mr. MacCallan travels from one to another of these five hospitals, of which he is director, and at which he gives clinical instruction to Egyptian surgeons who have obtained their diplomas at the government medical school. The surgical staff of all the hospitals is composed of surgeons thus trained.

Fibroids of the Uterus and Pregnancy

Professor S. Pozzi pointed out that under the influence of pregnancy fibroids of the uterus may undergo an important series of modifications as regards size and position. It is generally taught that fibroids become enlarged during pregnancy, but this is very variable. In some cases these tumors undergo during pregnancy a rapid and remarkable increase in size. The enlargement of a fibroid tumor concurrently with pregnancy is usually due to edematous infiltration, but it may be caused by actual hypertrophy of the tumor elements which produce a more or less marked softening of the whole growth. In other cases aseptic necrosis takes place, but more often cystic degeneration occurs, while rarely suppuration and gangrene of the tumor are seen. During pregnancy there is a tendency for pelvic fibroids to rise up out of the pelvis, but at times this does not occur and in such cases there may be obstruction to delivery. In many cases, fibroids do not in any way interfere with the normal course of the gestation. Occasionally, however, accidents of considerable gravity occur. Among these are incarceration of the retroverted gravid uterus, especially likely to take place at the fourth month and very frequent with an intraligamentous fibroid. When the tumor either by its weight or its position exercises pressure on the walls of the bony pelvis pressure symptoms are liable to supervene. These may take the form of pain due to compression of the nerves, dysuria, retention of urine, albuminuria, pyelonephritis, constipation, or distention from pressure on the intestines. In some cases, attacks of pelvic peritonitis are set up and may require immediate operation. In rare instances torsion of the pedicle, or even of the whole uterus, may be encountered with acute symptoms simulating those seen in cases of torsion of the pedicle of an ovarian cyst. Further effects of the fibroid on the pregnancy are noted in the occasional occurrence of antepartum hemorrhage, abortion, death of the fetus, and its retention *in utero*. Diagnosis of a fibroid complicating pregnancy may be simple or difficult. Three conditions may arise: the medical attendant may be aware that his patient has a fibroid and may find evidence of the occurrence of pregnancy, or he may know nothing of the patient and may find a fibroid with symptoms and physical signs indicating the presence of a pregnancy as well. In other cases, the signs of a pregnancy may be evident, but there may be others less certain pointing to the presence of fibroid. In such a case the diagnosis may present difficulties, and the condition is very likely to be regarded as one of extrauterine gestation. In the majority of patients the pregnancy runs its normal course, even when a fibroid is present and no interference of any kind is required. Any operative interference is only permissible during pregnancy when some grave complication supervenes, such as marked pressure symptoms, vomiting, severe pain, or peritonitis. In any case, even when it is certain that the presence of the fibroid will not permit of a natural confinement it is necessary to await the arrival of full term and then to perform Cesarean section. In cases in which the obstetrician is compelled to intervene in the course of the pregnancy the best treatment is to perform, whenever possible, myomectomy, either vaginal or abdominal. The induction of abortion or of premature labor are both contraindicated, and when myomectomy is not possible then the only alternative in these patients is hysterectomy.

Imbecility in its Clinical and Medicolegal Aspect

Dr. Fischer, Budapest, took for his subject that form of imbecility which has been described under the names of moral insanity or moral imbecility. The most important symptoms, he said, were the following ones: Lack of discretion, absolute incapacity for being influenced, strong propensity traceable even to childhood, lifelong instability and restlessness, aversion to useful employment, unsociableness, exaggerated self-esteem, excessive fancifulness, vanity, complete want of ethical ideas and impulses, absolute unconsciousness of justice and morality, and a great many signs of degeneration. Heredity had something to do with the development of these defects. Observations extending over many years had convinced Dr. Fischer that the ethical imperfections enumerated in this list and the criminal acts arising therefrom were the result of mental incapacity dating from the earliest period of life. In all individuals whom he had had the opportunity of observing from the age of 10 or 12 years to full maturity he found that the ethical shortcomings which rendered them useless as members of society showed no tendency to increase. He then described those forms of the disease which presented similar symptoms, and might therefore be confused with moral imbecility, called attention to the chief points serving to distinguish them, made some remarks on the prognosis, discussed the general question of how such cases should be dealt with, and devoted a few words to the subject of judicial decisions. He agreed with Songard that this form of mental abnormality—imbecility—presented certain features which were always similar and decidedly characteristic; as already mentioned, the features in question existed from the earliest period of life and showed no tendency to increase. On account of possessing these qualities the condition now described might be reckoned as one of the special or definite types of mental disease.

The Control of the Milk Supply in Large Towns

Dr. M. Ballo, Budapest, said that the official examination of milk delivered for consumption in large towns is subject to extraordinary, often almost insuperable, difficulties. Since the composition—that is to say, the amount of valuable elements contained in it—is subject to great variation in natural milk, and since, according to most regulations, the composition of the weakest, that is, the milk that is poorest in such elements, is used as the foundation for the examination, it is obvious that a richer milk can be adulterated or diluted to a certain degree so as to appear as weak, yet not adulterated milk, and be thus offered for consumption. In any such case, it is only possible to decide whether the milk is naturally weak or is more or less adulterated with water by means of tests undertaken regularly at the farms, and this is impracticable for large towns which draw their milk from many and various sources, unless by means of control of all dairy farms and milk depots. But since such continual control would entail much expense, the question arises as to whether it would not be simpler and more effectual to prescribe as the minimum standard a richer average milk instead of the weakest natural milk as at present. The latter proceeding would appear the most suitable, for the purveyors of weak milk would certainly lose the trade in large towns if they were not in a position to provide a supply of rich milk, but the sanctioning of a possible watering of milk would be thereby avoided in the surest and simplest way.

Tuberculosis in Armies

Dr. C. Sforza, Rome: Tuberculosis, generally speaking, is diminishing in all armies. Its incidence is always more marked during the first years of soldiers in the ranks. In armies tuberculosis is generally an important disease, proceeding from the revival of old and latent foci existing at the time of admission to the service. In order to reduce the number of cases and of deaths from tuberculosis it is necessary to eliminate all tuberculous and predisposed subjects on entry to the army; to gradually improve the strength and the power of resisting fatigue of the recruits, especially those whose constitution is weak, and those who have a bad heredity; to avoid as far as possible the contraction of the disease by soldiers during their service, and to eliminate promptly all cases of tuberculosis which arise. Patients with the disease, whether curable or incurable, would have to be treated in civil or military sanatoriums at the expense of the state, because armies, while protecting soldiers from tuberculous infection, must not spread the disease among the civilian population. On leaving a sanatorium the patient could receive an annual or temporary indemnity, according to the degree of incapacity at the time.

Dementia Præcox and Military Service

Dr. Drastich, Vienna: Great importance attaches to dementia præcox in military matters. For it occurs relatively often among the men and also in isolated cases among the younger officers. Since it often develops gradually, even imperceptibly, it is not infrequently overlooked in the early stages. It occasionally leads to various conflicts with discipline and military penal law, and, moreover, to occasional punishment or ill-treatment of those suffering from the disease, and at times it shows symptoms which may easily be mistaken for simulation. For these reasons it is important that not only military surgeons but also military judges should possess as exact a knowledge as possible of this form of psychic derangement, and especially that they should know the symptoms with which the disease is frequently marked at the beginning. Also the knowledge that dementia præcox often takes an intermittent course and has rather long intervals of quiescence is most important and essential in regard to anamnesia, for the assessment of the data relating to the history, and also for the claims of maintenance which come under consideration.

The Treatment of Amebic Dysentery with Special Reference to Appendicostomy

Dr. James M. Anders and Dr. William L. Rodman, Philadelphia: The subject of the treatment of amebic dysentery, particularly in its bearings on surgical procedures, assumes importance in view of the utter helplessness of a certain proportion of cases which have been allowed to drag on until the patients no longer yield to medical treatment, and also because accessible statistics indicate clearly the widespread prevalence of the disease even in subtropical and temperate regions. The fact that an unsterilized water-supply is the principal source of infection deserves especial emphasis. The danger of eating green vegetables and fruits which have either been fertilized by the oriental method, i. e., with human excrement, or cleansed with contaminated water, must be recollected. In the treatment of the attack an important indication to be fulfilled is rest. Magnesium sulphate is recommended since it lessens the pain and tenesmus by removing the hardened fecal masses and inhibiting rather than exciting undue peristalsis. In the advanced stages of amebic dysentery and in cases manifesting highly acute invasion symptoms, purgatives may assume the rôle of aggravating causes. Ipecacuanha early gained popular favor only to fall from its enviable position with the passing of time. It was reintroduced by Sir Patrick Manson, who has expressed the belief that in this drug we have a remedy possessing specific virtues. In general, but not invariably, it exerts a markedly beneficial effect, causing the amebas to disappear rapidly from the dejecta. Much stress is placed on the improved mode of administration by means of "membroids" and salol-coated pills. We think it may be questioned whether chronic irrigation *per se,—i. e.,* without surgical intervention, has in its last analysis given more encouraging results than the ipecacuanha treatment properly employed. The simple fact is that not all cases of chronic amebic dysentery yield to either rectal lavage or ipecacuanha even though carried out with great thoroughness. It is desired to place on record a case in which appendicostomy followed by irrigations with a solution of quinin resulted in a remarkable cure. We favor doing the operation in two stages, believing that it is best not to open the appendix until firm adhesions have taken place between the cecum and parietal peritoneum. If the mesoappendix is ligated the blood-supply to the appendix is cut off and gangrene is almost certain to follow. Bring the base of the appendix well up against the abdominal wall, stitching the mesoappendix to the parietal peritoneum. The appendix is snipped off with a pair of scissors after brushing it over with a solution of cocain. As compared with cecostomy we unhesitatingly pronounce in favor of appendicostomy, since it is impossible to prevent leakage after the former operation. It is our belief that the fistula should, as a rule, be maintained indefinitely if the patient contemplate residence or travel in a tropical country. Closure of the fistula is most easily accomplished when desirable.

Medicolegal

Liability for Leaving Sponge in Abdomen

The Court of Appeals of Kentucky says, in Samuels vs. Willis (118 S. W. R. 339), a malpractice case, that the defendant was a surgeon of many years' experience in performing abdominal operations. He was called to operate on the plaintiff for ovaritis. He sent down a trained nurse and followed the next day with a medical student as assistant. Several physicians of the neighborhood came in to witness the operation. After the patient had been put under the influence of an anesthetic, the abdomen was opened by a five or six inch incision, the intestines were pressed aside from the infected region, and in order that they might be held in place, and so as not to interfere with the operator's work, a number of surgical sponges were inserted in the abdominal cavity, forming a kind of cofferdam about the organ to be operated on. These sponges were described as gauze cloths about 14 inches by 6 inches, stitched together. After the operation the sponges were intended to be removed and the cut in the abdomen drawn together by stitches, leaving a small opening in which was inserted strips of the gauze for drainage purposes.

The operation was thought to have been a success, but the patient did not respond by the anticipated recovery. Instead, after a few days, she grew worse. Finally, and in about thirty days after the operation, it was discovered through a part of the original opening made in the abdomen, that some foreign substance was lying near the surface, which on being removed was discovered to be one of the surgical sponges used at the operation. So it was claimed by the plaintiff. It was incrustated in and saturated with foul-smelling pus. After its removal the patient improved in health, but there was left a sinus, which it was claimed had developed into a fecal fistula.

This suit was brought, the plaintiff charging malpractice in that the defendant negligently left or suffered to be left in her person after the operation the surgical sponge, which irritated the intestines, causing them to fester and ulcerate, creating the fistula, which emitted fecal matter and noxious gases to the serious impairment of her health, and causing her sickness and humiliation, mental and physical suffering, for which she sought damages. Simplified, the charge in the original petition was that the defendant had carelessly left foreign substances in the plaintiff's abdomen after the operation, which had perforated her bowels, producing the ill effects specified. But it was doubtless thought by the plaintiff's counsel on reflection that they would be held to show a perforation in order to recover, and that by the foreign substance left there, whether the sponge or other thing; that to perforate required a cut or puncture. Unwilling to rest their case on such a narrow charge, they by amendment sought to and did enlarge it. First they withdrew the charge that by the substances left in the abdomen the bowels had been perforated. In lieu they charged: First, that the defendant in the course of the operation negligently cut or perforated her intestines; and, second, that the sponge which he negligently left in her abdomen ulcerated her intestines "and left an opening therein," festering and gathering pus in her bowels.

When the evidence failed to support the first charge made in the amendment, the plaintiff was still at liberty to sustain the second, if she could, and such was the issue presented by the pleadings. Proof on that issue was admitted from each side. Expert witnesses were brought from great distances by the defendant, whose testimony in the main, if not wholly, was on that point. The jury's attention was directed sharply to that issue of fact. Motions for a peremptory instruction for the defendant and for judgment on the pleadings were properly overruled.

While the defendant was testifying he was required on cross-examination to answer the question whether he carried a policy of insurance against accidents of that kind. Before another witness had been introduced the trial judge receded from his ruling on that point. Moreover, on his re-examination before the matter was withdrawn the defendant was questioned thus: "You have been asked about insurance against suits for malpractice. I will ask you if the terms of your policy cover any damages that may be recovered in a case like this?" His answer was: "Not in the slightest." The court sees no cause to suspect that the jury would have disregarded the witness' answer, or did not obey the subsequent admonition of the judge. The error was probably harmless in the first place, and was cured in the next.

The defendant testified, and a number of other witnesses in his behalf testified, as to the customary and correct method of skilled physicians in performing the operation which was the subject of this suit. Some of the witnesses were asked the hypothetical question whether, if the operation was performed in that manner, it was an ordinarily careful manner of doing it, or was negligent. On objection the witnesses were not allowed to answer that question. This was the correct ruling. That was for the jury alone. Witnesses from a profession may be called to testify concerning the teachings of their science, and the customs of their craft, but whether these things amount to due care is for the court or jury to say in a controverted case.

Many of the physicians testifying on behalf of the defendant said that the best of surgeons left a sponge or some foreign substance in the bodies of their patients in performing similar operations. It was argued from this that, as the highest degree of skill and care are not exempt from the commission of such accidents, a similar lapse by the defendant was at least not other than "ordinary care:" but that did not follow. Because all men are at some time careless does not relieve any man from the legal consequences of his careless act; but even that was for the jury to say whether the defendant exercised the degree of care in the case which ordinarily prudent and skilled surgeons, who practice in similar localities, usually exsrcise in such matters.

The evidence was conflicting whether the defendant left the sponge in the plaintiff's body, but it was there. Its presence was not otherwise accounted for. He alone placed and removed the sponges that were used in tbe operation. There was considerable evidence tending to show it was left there by the defendant, and that he did not pursue the course which his own witnesses of his profession said was customary and necessary to verify whether all sponges had been removed.

The trial resulted in a verdict and judgment for $3,500 for the plaintiff. The court thinks that a statement of the case disposed of the claim that the damages were excessive, and it affirms the judgment.

Burden of Proof and Presumptions in Abortion Cases

The Supreme Court of Utah says, in the case of State vs. Wells (100 Pac. R. 681), that the statute of that state is that "every person who provides, supplies or administers to any pregnant woman, or procures any such woman to take any medicine, drug or substance, or uses or employs any instrument or other means whatever, with intent thereby to procure the miscarriage of such woman, unless the same is necessary to preserve her life, is punishable," etc. Under such a statute as this the authorities generally hold, and the court thinks correctly, that it is essential for the state to allege and prove that the production of the miscarriage was not necessary to save the woman's life, and that the burden of proving such fact is on the state.

The authorities are also to the effect that, when it is shown that the woman was healthy and in a normal condition, and that medicine was administered to her, or an operation performed on her to produce a miscarriage, the evidence is sufficient to raise the inference, and to find the fact, that the production of the miscarriage was not necessary to save the woman's life, or that it is sufficient where it is shown that there was nothing in the condition of the woman to indicate any necessity for a produced miscarriage, and that the negative in the information need not be shown by direct or positive evidence, but may be shown by circumstantial evidence. It is not enough however, that circumstances be proved from which an inference may be deduced that the production of the miscarriage was not necessary to preserve the life of the woman, but they must also be inconsistent with every other reasonable conclusion.

If an operation to produce a miscarriage is performed on a woman of ordinary good health and of normal physical conditions, the performance of such an operation is inconsistent with the conclusion that it is necessary to preserve her life. But in such case the good health and physical conditions of the woman may not be presumed, in the absence of testimony tending to show them, for the rule is also well settled that, "where circumstantial evidence is relied on, the circumstances must be proved, and not themselves presumed."

The fact that the woman was unmarried does not tend to show that the operation was not necessary to save her life any more than if she had been married. If any presumptions at all are to be indulged, it is more likely, for various reasons, that it might be more necessary, in order to preserve the life of the woman, to perform such an operation on an unmarried than on a married woman.

Nor does the fact that the defendant had illicit sexual intercourse with the woman necessarily agree with and support the conclusion that the operation was not necessary to preserve her life. If, because of the woman's condition of ill health, or other physical conditions, or bodily ailment, such an operation became necessary to save her life, it was just as necessary to perform the operation whether the woman was pregnant by the defendant or by another.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

September 23

1 Practical Suggestions for the Life-Insurance Examiner. W. E. Porter, New York.
2 *The Responsibility of the General Practitioner for Freedom of Medical Research. W. B. Cannon, Cambridge, Mass.
3 Serodiagnosis of Syphilis. F. P. Gay, Boston.
4 *Laboratory Work by the Country Physician. M. A. Cummings, Winchester, Mass.
5 *Suppurative Pericystitis. A. L. Chute, Boston.

2. **Freedom of Medical Research.**—Cannon reviews the work that has been done by the Council on the Defence of Medical Research of the American Medical Association. This Council is composed of representatives of various medical sciences, who live in well-separated parts of the country. During the past year the Council has been actively investigating the conditions of animal experimentation in laboratories throughout the United States, has taken precautions against the abuse of animal experimentation and against misconceptions of the conditions and purposes of medical research, and has planned a series of papers by experts which will serve to diffuse information regarding laboratory procedures and the results of laboratory study of disease.

In order to learn the conditions of medical research, a circular was sent to all the most prominent schools; reports have been returned for more than eighty. In this circular questions were asked as to the approximate number of different kinds of animals used each year; the methods of securing these animals; the number of dogs and cats killed in the city merely to dispose of the excess; the care of animals in the medical school, including the ventilation, warmth, cleanliness and lighting of their rooms; whether operations likely to involve pain were always performed under anesthesia; whether students were permitted to carry on independent investigation or were cautioned against it; whether experimental work was conducted under rules; and whether any public hostility to animal experimentation existed in the community. These questions have been fully answered. In a large number of laboratories dogs and cats are secured from the city pound or the city police, and in some schools owners contribute animals to be destroyed. In one instance animals are reported as being obtained from officers of the humane society, who had investigated the laboratories and had become convinced that the animals are humanely treated. The accommodations for experimental animals are reported as being well-lighted, well-ventilated, properly warmed and clean; in many instances special animal houses have been built, and in five instances a special attendant is provided to care for the rooms and their occupants.

In answer to the question whether any cutting operations on unanesthetized animals are performed, all the schools that use animals have reported "No." The number of schools in which animals are kept alive after operation are very few. From these schools the testimony is uniform that hospital after-care is always given to avoid discomfort. There is absolutely uniform testimony that students are supervised in any work which they do on animals, and, in fact, are not permitted to perform any experiments, except in a few of the laboratories, on any animals other than frogs.

4. **Laboratory Work by the Country Physician.**—Cummings urges that every practitioner should own or have access to a microscope with oil-immersion lens, and as he uses this from time to time he will find his facility increasing, and with that facility a greater satisfaction in his ability to do better work. Bacteriologic work may also be done, as in examining sore throats. By keeping on hand a few culture tubes, which may be obtained at small expense from some of the medical supply houses, and also sterile swabs, one can take a culture from a suspected throat, and after keeping it in a warm place for from twelve to eighteen hours, there will be a sufficient growth to make a smear on a slide. This may be stained with Loeffler's blue, and on examination through the oil-immersion lens, will show the presence or absence of bacilli. In the matter of examination of the blood, one does not need to be specially expert to determine roughly the hemoglobin by the Tallquist scale, or the contour and relative size of the red corpuscles and presence of white corpuscles in unusual number by means of the Leishman-Wright stain, all of which may be done in ten minutes. The same stain will bring out the plasmodium of malaria if it is present. The determination of the character of tissue changes and of the chemical and bacterial content of fluids, as well as the preparation of sera and vaccines, must be left to the expert.

5. **Suppurative Pericystitis.**—Suppurative pericystitis is a somewhat uncommon condition in which suppuration takes place in the zone of loose tissue above the bladder, and in which either a part or the whole of the space of Retzius becomes a veritable abscess cavity. Chute found that in a large proportion of cases the infection is secondary to some disease of the lower urinary tract. The infection of the prevesical space takes place by direct extension, or through the lymphatics. In a considerable number of cases of suppurative pericystitis the infection is through the blood stream and may come from a focus existing in practically any part of the body. In some instances the disease is an extension from a neighboring intra-abdominal or intrapelvic lesion. The char-

acteristic thing diagnostically is the presence of a mass above the pubes that more or less closely resembles a full bladder, but that is unaffected by passing a catheter. The disease is one that will probably always have a considerable mortality. It is of a secondary character and its mortality will depend largely on the nature of the disease that it is secondary to. The treatment should be free drainage of the pus collection. Chute reports one case.

Lancet-Clinic, Cincinnati

September 18

6 Direct Laryngoscopy. R. H. Johnston, Baltimore.
7 Pellagra. T. C. Minor, Cincinnati.
8 Tumors of the Mediastinum. D. D. Deneen, Cincinnati.

Virginia Medical Semi-Monthly, Richmond

September 10

9 The Physician as a Public Educator. W. L. Peple, Richmond.
10 Local Anesthesia in Major Operative Work. E. M. Hasbrouck, Washington, D. C.
11 Public Schools and Public Health. C. G. Kerley, New York.
12 The Value of Local Medical Societies. V. V. Anderson, Lynchburg.
13 *Re-naming of Malaria—Anophelesis (?) E. W. Robertson, Onancock.

13. **Anophelesis.**—Robertson considers the term malaria a misnomer. The anopheles is the *sine qua non* of the disease called "malaria." It digests the parasite or "develops" it in its body. It becomes its property—a part of its body; it is a harmless germ to it, becoming physiologic like the viper's venom in his own body, but it becomes pathologic to mankind, after being bitten with almost a mathematical precision, when a train of fever and blood havoc supervenes. Therefore, he asks, why not accept the term "anophelesis?"

Annals of Surgery, Philadelphia

September

14 An Analytic and Statistic Review of 1,000 Cases of Head Injury (continued). C. Phelps, New York.
15 *Skin Grafting at the Johns Hopkins Hospital. J. S. Davis, Baltimore.
16 Cyst of the Round Ligament of the Liver. M. S. Henderson, Rochester, Minn.
17 Hour-Glass Stomach. W. A. Downes, New York.
18 *Diagnosis and Treatment of Carcinoma of the Cecum. E. A. Smith, Buffalo, N. Y.
19 *Resection of the Colon for Cancer and Tuberculosis. J. H Gibbon, Philadelphia.
20 Large Phagedenic Ulcer of the Abdomen. W. H. Luckett, New York.
21 Inguinal Hernia in the Female. W. B. Coley, New York.
22 Surgical Aspects of Chronic Hypertrophic Arthritis. G P. Muller, Philadelphia.

15. **Skin Grafting.**—Davis' paper is based on a review of 544 cases in which skin-grafting was done in the clinic of Dr. Halsted at the Johns Hopkins Hospital. In this series all types of grafts have been used and skin defects on almost every part of the body have been grafted. It was found that the general health of the patient must be taken into consideration when skin grafting is contemplated and grafts to be successful must only be transplanted to healthy wounds. As a rule, grafts do not take well on luetic individuals. No antiseptics must touch the flaps before or after cutting. A general anesthetic is necessary in the majority of cases in which large grafts are removed. It is best to cover the defect with a single large graft, if possible, as the healing is just as satisfactory as if several small flaps were used and the scar is much smaller. Silver foil immediately over the graft has proved its worth, but it is best to apply it without the paper and not to use alcohol. Temporary moist salt gauze dressings are also satisfactory. Grafting, even if only partially successful, in the majority of cases will shorten the time in the hospital and accelerate final healing. Partial grafting nearly always stimulates epidermal growth from the edges of the wound.

Autodermic grafts take somewhat better than isodermic, but isodermic grafts are much more successful than is generally supposed. When a black superficial graft is applied to a defect on a white person the pigment disappears sooner or later, and *vice versa*. The majority of Thiersch grafts, especially in breast cases, that Davis has examined, were still adherent throughout the greater part of their extent. The shrinkage in the size of a wound after grafting is in some cases quite remarkable. Contraction is prevented to a large extent by grafting, although it sometimes occurs, especially under Thiersch grafts on exposed positions, such as the palm of the hand. In such locations the whole thickness of the skin should be transplanted. Slough of the axillary flap in breast cases has little effect on the healing of the grafts, as in many of the complete "takes" there was slough of the flap, and in many of the partial "takes" there was no slough. Mild wound infection, such as pyocyaneus, seems to have little effect on the ultimate healing of the graft.

18. **Carcinoma of the Cecum.**—Smith reports two cases treated successfully by resection of the cecum. He says that in the future he will choose for the operation in resecting the cecum for removable carcinoma, inversion of both ends of the cut intestine followed by lateral anastomosis by the clamp method between the stumps, or between the stump of the ileum and the most accessible portion of the colon, preferably the ascending or transverse colon.

19. **Resection of Colon.**—Gibbon reports 10 cases which he summarizes as follows: 1. Acute intestinal obstruction; carcinoma of colon; thoracic aneurism and chronic endocarditis. Resection of descending colon and immediate anastomosis. Sudden death eight hours later. 2. Acute intestinal obstruction; adenocarcinoma of colon. Resection and immediate anastomosis. Death twenty-three days after operation. 3. Partial obstruction and carcinoma of transverse colon and sigmoid. Resection of transverse and descending colon; immediate anastomosis. Recovery; patient well to-day. 4. Tuberculous strictures of ileum; tuberculous peritonitis. Resection of ileum and cecum, Sept. 28, 1905. Second operation, Jan. 20, 1906, for fecal fistula. Lateral anastomosis of ileum and transverse colon. Third operation, January, 1907, same condition; lateral anastomosis of ileum and sigmoid. Fourth operation, May 1, 1907; resection of transverse colon with a portion of the ileum. Fifth operation, May 19, 1907; jejunostomy. Patient died May 21, 1907, twenty months after first operation. 5. Obstruction of bowels due to carcinoma of sigmoid. Operation; colostomy, and eight days later resection and anastomosis. Recovery, with death from recurrence one year later. 6. Carcinoma of appendix and cecum. Resection of cecum, lateral anastomosis, Oct. 5, 1907. Death on seventh day after operation. 7. Carcinoma of ascending colon, March 28, 1908. Recovery; well at the present time. 8. Acute intestinal obstruction due to carcinoma of splenic flexure. Colostomy, May 12, 1908, followed by resection May 20, 1908. Death June 6, 1908. 9. Tuberculosis of cecum and peritoneum. Resection of cecum. Recovery; well to-day. 10. Carcinoma of sigmoid. Resection and immediate anastomosis, Jan. 31, 1909. Death, Feb. 14, 1909.

University of Pennsylvania Medical Bulletin, Philadelphia

September

23 The Development of Public Health Work in Philadelphia. A. C. Abbot, Philadelphia.
24 The Faculty of the Early Eighties and its Influence on Medical Men. H. A. Hare, Philadelphia.
25 Radiographic Statistics of the Sesamoid in the Tendon of the Gastrocnemius. H. K. Pancoast, Philadelphia.
26 Examination of Some of the Diabetic Foods of Commerce. D. W. Fetterolf, Philadelphia.

American Journal of Medical Sciences, Philadelphia

September

27 Infection of Urine and Urinary Tract by *Bacillus Coli Communis* in infancy. J. L. Morse, Boston.
28 *Diagnosis and Treatment of Bilateral Cystic Kidneys, with Special Reference to the Determination of the Renal Function. M. Krotoszyner, San Francisco.
29 *Value of the Wassermann Reaction in Cardiac and Vascular Disease. J. Collins and B. Sachs, New York.
30 Various Types of Plague and their Clinical Manifestations. N. H. Choksy, Bombay, India.
31 *Leprosy in the Philippine Islands and its Treatment. V. G. Heiser, Manila, P. I.
32 Luetic Bursopathy of Verneuil. J. W. Churchman, Baltimore.
33 Chorea a Symptom—Not a Disease. G. M. Swift, New York.
34 Practical Value of the Association Test. P. Bailey, New York.
35 *Importance of Blood Cultures in the Study of Infections of Otitic Origin. E. Libman and H. L. Cellar, New York.
36 *Tuberculin-Treated Guinea-Pigs in Recognition of Tuberculosis. G. Ebright, San Francisco.

28. **Bilateral Cystic Kidneys.**—A careful study of three personal cases and of others recorded in the literature convinces

Krotoszyner that polycystic degeneration of the kidneys is in almost all instances a bilateral affection. In cases in which, for the time being, one kidney appears to be anatomically and functionally healthy, an involvement of this organ may be expected to develop later. Determination of the kidney function is indispensable prior to decision on any operative procedure. Nephrectomy in cystic kidney is always contraindicated. Excruciating pain, general sepsis caused by suppuration of cysts, profuse hematuria, and distressing symptoms due to the presence of enormously large cysts are, under favorable conditions (good renal function), indications for operative interference. Nephrotomy with puncture of cysts, decapsulation and nephrofixation are the operative procedures which in selected cases may give satisfactory (temporary) results.

29. **Value of Wassermann Reaction.**—From a study of 36 cases of cardiac and vascular disease, the importance of syphilis as a causative factor is established in a very large percentage of all the cases. The highest percentage was obtained in cases of aneurism, in which a positive Wassermann reaction was obtained in all of 5 cases. In the cases of aortic disease, 10 out of 13 cases gave a strongly positive reaction; 2 gave a weak positive reaction. In marked contrast to this are the cases of diffuse chronic endocarditis affecting the mitral valve in which only 1 of the 7 cases gave a positive reaction. Collins and Sachs believe that the inference is justified that rheumatic and other infectious agencies are a much more potent etiologic factor in diffuse chronic endocarditis than is syphilis. Taking all these facts into consideration, there can be little doubt that when we have pronounced symptoms of aneurism or of aortic disease, it is well to suspect syphilis, even though the manifestations may be latent. Even in those cases in which articular rheumatism and other infectious agents may have played some sort of rôle, and in which metallic poison or abuse of alcohol or of nicotin be admitted, if a Wassermann reaction gives positive results, antisyphilitic treatment should be instituted, whatever else may have been discovered regarding the antecedent history of the patient. No doubt articular rheumatism and syphilis occur often enough in one and the same individual, and if the course of antisyphilitic treatment has been decided on, we may at least ask that it be properly administered. Collins and Sachs favor the routine treatment by hypodermic injection of mercury. Their best results have been obtained by the use of deep injections of corrosive sublimate. In some cases marked improvement in the cardiac and vascular symptoms followed on such treatment, but even if the vascular system should not improve the mercurial treatment, a positive Wassermann reaction would justify vigorous specific treatment for the purpose of preventing serious syphilitic involvement of other organs and systems of the body.

31. **Leprosy.**—Heiser has employed the x-ray successfully in a few cases, but does not regard it as being suitable as a routine treatment. The cases in which this form of treatment is apparently of value are the early stages of the tuberculous type in young and otherwise healthy subjects. The breaking down by the x-rays of one large, leprous granuloma of an individual usually results in marked coincident improvement in the granulomas situated in parts of the body far removed, and to which the x-rays have not been applied. The experience in the Philippines during the past three years demonstrates that segregation has decreased the incidence of leprosy by over 50 per cent.

35. Abstracted in The Journal, June 19, 1909, p. 2017.

36. **Tuberculin Reaction in Guinea-Pigs.**—The experiments on which Ebright's paper is based were undertaken in order to determine to what extent the tuberculin reaction in guinea-pigs might be of value in the diagnosis of human tuberculosis. The problem which presented itself was to reduce the length of time required for the determination of tuberculosis in guinea-pigs that had been inoculated with material containing tubercle bacilli. The method employed in carrying out this test has simplicity to commend it and the fact that positive results are conclusive. The technic consists of making an emulsion of the suspected material in normal salt solution, if it is not already fluid enough to be injected through a coarse syringe or sharp-pointed, improvised pipette. Three guinea-pigs are inoculated by injecting a considerable quantity under the skin of the abdomen. At the end of six days one pig is given 0.25 c.c. of tuberculin hypodermically on the other side of the abdomen, and is chloroformed at the end of twenty-four hours and autopsied. The fluids at the site of the original inoculation are smeared on a slide and examined in the ordinary way for tubercle bacilli. If the first pig results negatively, another is examined in the same way by giving tuberculin at the end of two weeks, and making the autopsy at the end of twenty-four hours. If this is also negative, the third pig is given tuberculin at the end of from four to six weeks, and the result of its examination is a check on the first two. The test offers a means in a considerable proportion of cases, of making a diagnosis at the end of a week instead of waiting until the lapse of from four to eight weeks. It also presents a method of distinguishing tubercle bacilli from other acid-fast bacilli, especially when, as often happens, they are present in large numbers.

Journal Missouri State Medical Association, St. Louis

September

37 Dr. Adam Hammer, Surgeon and Apostle of Higher Medical Education. J. M. Ball, St. Louis.
38 Tuberculosis as the General Practitioner Sees it. O. H. Brown, Mt. Vernon.
39 Acute Pulmonary Edema with Report of Cases. J. Q. Chambers, Kansas City.
40 The Art of Refraction. J. Green, St. Louis.

Journal of Biological Chemistry, Baltimore

September

41 *The Decomposition of β-Oxybutyric Acid and Aceto-Acetic Acid by Enzymes of the Liver. A. J. Wakeman and H. D. Dakin, New York.
42 The Leucin Fraction of Proteins. P. A. Levene and D. D. Van Slyke, New York.
43 The Leucin Fraction in Casein and Edestin. P. A. Levene and D. D. Van Slyke, New York.
44 Nature of the Acid-Soluble Phosphorous Compounds of some Important Feeding Materials. E. B. Hart, and W. E. Tottingham, Madison, Wis.
45 *Volumetric Method for the Estimation of Casein in Cow's Milk. E. B. Hart, Madison, Wis.
46 Preformed Hypoxanthin. V. N. Leonard and W. Jones, Baltimore.
47 Intracellular Enzymes of Lower Fungi, Especially Those of Penicillium Camemberti. A. W. Dox, New Haven, Conn.

41. **Decomposition of β-Oxybutyric Acid.**—The experiments of Wakeman and Dakin show that β-oxybutyric acid is oxidized by means of material derived from the liver, but not containing the liver cells. The oxidizing power of such material is destroyed by heating; hence it is concluded that the oxidation is due to a ferment contained in the liver tissue. The results also show clearly that an enzyme capable of decomposing aceto-acetic acid is also present in normal liver tissue, and that this action is not increased by the addition of blood.

45. **Estimation of Casein.**—Hart gives the following method of volumetric determination of casein in cows' milk: 10.5 c.c. of milk are placed in a 200 c.c. Erlenmeyer flask, 75 c.c. of distilled water, at room temperature, are added and 1 to 1.5 c.c. of a 10 per cent. solution of acetic acid. The flask is given a vigorous rotary motion. Usually 1.5 c.c. of acetic acid gives a clear and fast filtering separation, but, occasionally, with milks low in casein, a better separation is effected if a little less acetic acid is used. The separated precipitate is now filtered through a 9 to 11 cm. filter. As the casein accumulates on the filter, there is a marked retardation of the filtering process. This can again be made rapid by conducting a fine stream of cold water against the upper point of contact of filter paper and casein. This loosens the casein mass and accumulates it at the apex of the filter. This is all essential to the proper working of the process. It is absolutely necessary that all loosely combined or absorbed acetic acid be removed from the precipitate by a thorough washing and also that cold water be used in the process, in order to maintain the casein in a loose, easily soluble mass. The readiness with which the casein dissolves in the dilute alkali is largely determined by the temperature to which it has been subjected in the manipulations. A temperature not exceeding 20 C., and one that in his experience prevented the formation of large compact masses, is recommended. The particles of casein adhering to the glass of the precipitating flask need not be removed, as the bulk of the precipitate is again to be returned to the same flask. They should, however, be thoroughly

washed. The washings should continue until at least 250 to 300 c.c. of filtrate have accumulated. This insures removal of all acid. If the process has been properly conducted and the right amount of acid used in the precipitation, the filtrate will be perfectly clear.

The precipitate, together with the filter paper, is now returned to the flask in which the precipitation was made, from 75 to 80 c.c. of neutral carbon dioxid free water are added, and then a few drops of phenolphthalein and 10 c.c. of $\frac{N}{10}$ potassium hydroxid. The flask is stoppered with a rubber stopper, and vigorously shaken, either by hand or in a machine, until solution. Complete solution is easily indicated even in the presence of the filter paper by the disappearance of the white casein particles, that otherwise would settle to the bottom. After solution, the stopper is rinsed off with neutral carbon dioxid free water and immediately titrated with $\frac{N}{10}$ acid to the disappearance of the red color. It is imperative that a blank should be run parallel with the entire determination. In the author's experience it was always found that even when all ordinary precautions were taken to secure neutrality, a blank of 0.2 to 0.3 c.c. acidity was obtained. The correction for the blank—and in his laboratory it was invariably in the same direction—is made by its addition to the number of cubic centimeters of acid used in the titration. The difference between this corrected acid reading and the 10 c.c. of alkali used gives directly the percentage of casein in the milk. For example: Suppose it took 6.7 c.c. of $\frac{N}{10}$ sulphuric acid in the titration, and the blank was 0.2 c.c., then the per cent. of casein becomes 10 — 6.9, or 3.1 per cent. This method is rapid and, if properly conducted, is said to give accurate results in less than two hours.

Chicago Medical Recorder

September

48 Studies in Contemporary Workmen's Compensation (Second Paper). W. H. Allport, Chicago.
49 The Restoration of a Recent Perineal Laceration. O. Betz, Heilbronn, Germany.
50 Membranous Dysmenorrhea. J. T. U. Renaud, Chicago.

Journal Medical Society of New Jersey, Orange

September

51 *Intramuscular Mercurial Injections in Syphilis. H. A. Pulsford, South Orange.
52 Dyspepsia—A Misnomer. W. B. Stewart, Atlantic City.
53 *The Supernutritive Properties of Milk. A. McAlister, Camden.

51. Abstracted in The Journal, Aug. 7, 1909, p. 477.

53. Abstracted in The Journal, Aug. 28, 1909, p. 739.

Military Surgeon, Washington, D. C.

September

54 Civil Sanitary Function of the Army Medical Department in Territory under Military Control. E. L. Munson, Washington.
55 Favus: As Observed in the Inspection of Immigrants. J. B. Stoner, U. S. P. H. and M.-H. Service.
56 *Leprosy in Guam. G. L. Angeny, U. S. Navy.
57 Report of Twelfth International Congress on Alcoholism, held in London, July 18-24, 1909. F. L. Pleadwell, U. S. Navy.

56. **Leprosy in Guam.**—In 11 cases of leprosy, 2 of the anesthetic variety, 4 of the tuberculous variety, and 5 of the mixed variety, hydrargyrum succinimidum, gr. 1/5, was injected into the buttocks every second day for the first thirty days, then gr. 2/5 every fourth day, to date. In a few instances mild symptoms of mercuralism manifested themselves and necessitated the discontinuance of the treatment for several injections. In no case, however, did this occur until well along in the second month of the treatment. The results of nearly four months' treatment by this method are not encouraging, although in a majority of the cases some improvement of the subjective symptoms has taken place. Ten of the eleven patients state that they feel better since the treatment was begun. When asked to define the improvement they reply that they "feel better over the entire body." In 9 cases neuralgic pain was a prominent symptom. In 2 cases, 1 of the nerve and the other of the mixed type, the patients experienced entire relief from pain shortly after the first few injections; in 5 others, the attacks of pain recur less frequently and with less severity, and in the remaining 2 this symptom has not been modified. It is impossible, however, to detect any improvement in the objective symptoms. In one patient who has persistently held that he "feels better," there has been a decided loss of weight, an incipient leprous keratitis has advanced so as to destroy, entirely, the vision of the affected eye, several large ulcers of the extremities have manifested no tendency to heal, and the bacilli are far more numerous than when the treatment was instituted. In another case of mixed leprosy, a large bulla which developed on the foot during the third month of the treatment has left, as a sequel, an ulcer several square inches in area, which will eventually destroy one or more toes. A third patient has shown a decided increase in the facial lepromata, and an increase in the number of bacilli. In this and the remaining cases, aside from the improvement in the subjective symptoms, the disease has apparently pursued its normal course, unaffected by the treatment. While in some cases the existing skin lesions have healed, in most cases new lesions have appeared, so that now, after nearly four months of treatment, the individual cases show about the same number of open lesions as when treatment was begun. One patient declares that the treatment has made him worse, and he certainly has shown no improvement. Although the method has not been followed by any decided benefit, the results are not regarded as conclusive by Angeny, and it is his intention to continue the injections in the patients now under treatment and to add to the list a number of other cases.

Progressive Medicine, Philadelphia

September

58 Diseases of the Thorax and its Viscera, including the Heart, Lungs, and Blood-Vessels. W. Ewart, London, Eng.
59 Dermatology and Syphilis. W. S. Gottheil, New York.
60 Obstetrics E. P. Davis, Philadelphia.
61 Diseases of the Nervous System. W. G. Spiller, Philadelphia.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

September

62 Treatment of Certain Vesical Affections by Hydraulic Distention. E. Garceau, Boston.
63 *Suprapubic Operation on Pelvic Floor for Prolapse of the Uterus. W. M. Polk, New York.
64 Struma Ovarii. R. T. Frank, New York.
65 *Decidual Expulsion Occurring at Each Menstrual Period. O. Frankl, Vienna, and J. J. Scroggs, Beaver, Pa.
66 *Removal of Unusually Large Ovarian Cyst. S. H. Knight, Detroit, Mich.
67 Abdominal Myomectomy for Large Uterine Fibroids. H. P. Kuhn and W. J. Frick, Kansas City, Mo.
68 The Air of the Operating Room as a Possible Factor in the Infection of Wounds. H. Robb, Cleveland, Ohio.
69 Consideration of Eclampsia with Report of a Case Accompanied by Hemiplegia. C. W. Barrett, and J. H. Harger, Chicago.
70 Uncontrollable Hemorrhage from the Non-Puerperal Uterus. G. H. Mallett, New York.
71 Dermatitis Exfoliativa Neonatorum. H. G. Myrick, Boston.

63. **Suprapubic Operation on Pelvic Floor.**—In a case of complete relaxation, with elongation of all the interpelvic supports of the uterus, vagina and bladder, Polk performed an original operation, which, he says, is designed to aid in the correction of all degrees of prolapsus uteri, but particularly its ultra forms. The patient is placed in bed and treated for a week or ten days. Reduce the prolapse, and permit the affected viscera and surrounding structures to regain as much of the normal status as possible. After opening the abdomen, the Trendelenburg position being secured, and the pelvis (the true pelvis) cleared of all intestine, except the lower sigmoid and rectum, the uterus is firmly caught with a double tenaculum at its anterior vaginal juncture. Pulling it up and making the vagina taut, an anteroposterior incision is made reaching from the tenaculum to the bladder (which meanwhile is held against the pubis), and extending through tissue to the recognizable vaginal wall. Through this opening, which is stretched laterally, the bladder is separated from the face of the vagina as far as the trigone or even somewhat beneath it. The ureters are pushed aside, and where they turn toward the trigone are displaced upward and forward with the bladder. The next step is to unite by suture with continuous kangaroo tendon the anterolateral lines of the vagina (one on each side) from below upward, beginning as far down as possible

and ending just below the upper end of the original incision. A second line of continuous kangaroo suture is then placed, so as to draw to the median line as much fascia and covering peritoneum as can be brought in from the sides of the bladder, the vagina and the uterus. The structures in this region which must be left outside the sutures are the ureters and the uterine arteries—the arteries are in danger at the upper end of this field, the ureters at the lower. The most important loops of this suture are those employed at the lower portions of the incision—the last two need not enter the vaginal tissue, but, going down to it, pass over, and then out on the opposite side as before. Their effect will be to accentuate the line of the bladder base, and to shorten the suspensory ligament of the bladder, as well as the lateral fascial connections of the vagina and the basic lines of the broad ligaments. The uterosacral ligaments are caught up at about the junction of the inner and middle thirds, drawn in from this point and stitched with the same suture material either to the side, below or to the outside of their uterine attachment, as is most easily done. It is essential to take in as much of the slack as is needed to give them their original supporting function.

If the uterus is to be retained, the operation, as described, will be carried out with the addition, if deemed best, of shortening the round ligaments, but this is not essential. If it is a senile uterus, Polk suggests that it be thrown forward and the fundus held in the sulcus behind the bladder by a retaining suture through the round ligament at each cornua. If the uterus is removed, the operation is then executed as described as far as the completion of the suturing in front of the uterus, then this organ is dissected or cut from its lateral attachments to about the level of the internal os, stopping short of the attachment of the uterosacral ligaments. The cut surfaces of the stump are stitched together in continuation of the line of original incision; the loose ends of the severed broad and round ligaments caught up and included in this line of suturing. And finally, the uterosacral ligaments are caught up at the junction with the stump; the right is drawn over and stitched to the stump to the left, and the left is drawn to overlap the right and stitched in corresponding position to that given the left ligament. After closing the abdominal wound, further procedure can be determined by the patient's condition.

65. **Decidual Expulsion at Menstrual Period.**—A woman, 27 years of age, had given birth to a child when 24. Labor was normal. Since then she has had at her menstrual periods severe pains, simulating true labor pains, and is relieved only after the expulsion of a cast-like membrane. Before this membrane is expelled a bloody discharge begins. Her family physician attended her during three periods and each time found a complete membranous cast of the uterine cavity. The surface of this cast is finely granular. On opening the cast one sees both tubal cornua, and that the internal surface shows large and small granular elevations; the thickness of this membrane is more than 1 cm. The patient was under the authors' observation during two menstrual periods, and each time she expelled a membranous cast and suffered severe, labor-like pains. Histologic examination shows a marked decidual formation. Frankl and Scroggs believe that this is not a case of dysmenorrhea membranacea, but a true decidua; that it is a product of pregnancy, although no part of the ovum was found. Apparently, the ovum died each month in the first stages of its development. The woman admitted that she cohabited with her husband just after the menstrual period, and therefore must have been impregnated immediately. The ovum died during the first days, but the decidua remained in the uterine cavity until the time of the next menstruation. At the time of the physiologic menstrual wave the separation of the decidua from the uterine wall began in which the thrombosis of the blood sinuses perhaps helped, and it was then expelled by the uterine contractions.

66. **Unusually Large Ovarian Cyst.**—Knight's case was one of multilocular adenoma of the ovary, and some of the daughter cysts were filled with a thin pea-soup-like fluid. The fluid part of the tumor collected amounted to 96 pints. The solid part of the tumor weighed 15 pounds. The whole together weighed 111 pounds. The patient herself weighed 87 pounds when she left the hospital.

Journal of Advanced Therapeutics, New York

September

72 High-Frequency Currents. F. De Kraft, New York.
73 The Correction of Flat-Foot. H. McIntosh, Boston.
74 Alto-Frequent Cytolysis of Cancer (continued). J. A. Riviere, Paris.

Cleveland Medical Journal

September

75 *Asthenia Universalis Congenita. B. Stiller, Budapest, Hungary.
76 *Intestinal Hemorrhage in Typhoid. J. H. Lowman, Cleveland.
77 Estimation of the Amount of Paralysis in Infantile Paralysis from the Point of View of Operative Treatment (Tendon and Muscle Transplantation, etc.). H. O. Feiss, Cleveland.
78 Delirium. J. Phillips, Cleveland.
79 Extent and Variety of Refraction Cases in Cleveland. L. K. Baker, Cleveland.
80 Fatal Phlebitis of the Cerebral Sinuses and Veins in a Child Fourteen Months Old. J. J. Thomas, Cleveland.

75. **Asthenia Universalis Congenita.**—In the course of his studies Stiller discovered a constitutional disease, hitherto unknown, which he has called asthenia universalis congenita. The predisposition shows itself even in the child in the atonic habitus—thin bone structure, long flat and sunken thorax, sharply sloping ribs and wide intercostal spaces. The angulus epigastricus, upper and lower chest apertures, as well as the pelvis, are narrow. The cranium outweighs the face, owing to the delicate and pointed lower jaw, the zygomatic bones and the nose being small in size also. This congenital, mostly inherited, asthenic predisposition tends to lead to a chain of disorders, which, as a rule, show themselves first after pubescence, and together with the congenital habitus form the asthenic disease. These disorders are manifold; but among them appear most often four large groups, i. e., enteroptosis, nervous dyspepsia, neurasthenia and dystrophia.

76. **Intestinal Hemorrhage in Typhoid.**—In 1,218 consecutive cases of typhoid running over eleven years in Lakeside Hospital, Cleveland, there have been 74 cases of intestinal hemorrhage, or 6.07 per cent.; 56 of them were men and 18 women. Of the hemorrhage cases in this series, 21 individuals, or 28.37 per cent., died; this is 1.72 per cent. of the entire number of cases. Of the 21 cases, 11, or 52.38 per cent., died of perforation, representing 14.8 per cent. of the hemorrhagic cases. Nine, or 12.16 per cent., died of toxemia, and one from the immediate direct effects of hemorrhage. The symptomatology of hemorrhage is often indefinite. In this series, 36, or 48.64 per cent., gave no prodromata. The symptoms recorded are: Four stools in 1 case; diarrhea in 3 cases; pain in 9 cases; sudden distention in 3 cases; fall of temperature in 13 cases; fall in blood pressure in 1 case; and delirium in 6 cases.

The chief therapeutic conception in intestinal hemorrhage is the securing and maintenance of an empty and collapsed bowel, whereby the vessels will be compressed and the conditions favoring arrest of hemorrhage will be produced. As patients rarely die as the result of the hemorrhage, and then almost always after several bleedings, one can reasonably expect that the patient will quickly recover from the results of the acute anemia, and the entire energy of the physician can be devoted, for a time at least, to stopping the bleeding. The abstinence can be continued six days after the hemorrhage ceases. A Leiter coil or cold applications to the abdomen, stimulants hypodermically, opium in small quantities for restlessness and active peristalsis and water are incidentally used as required; all bathing, except for comfort, is stopped. Lactate or chlorid of calcium is employed almost as a routine measure, although its use is not scientifically demanded unless the coagulation time is slow, which is not always the case. The older remedies, turpentine and ergot, are useless. Opium abolishes peristalsis and is an effective aid. Absolute quiet is essential.

Journal of Nervous and Mental Disease, Lancaster, Pa.

September

81 *Critical Study of the Sensory Functions of the Motor Zone (Pre-Rolandic Area): More Especially Stereognosis. H. H. Hoppe, Cincinnati.
82 Aneurism of the Left Anterior Cerebral Artery with Rupture Simulating Brain Tumor. J. A. Booth, New York.
83 Case of Syringomyelia. J. A. Booth, New York.
84 Two Cases of Encephalitis. S. D. Ingham, Philadelphia.

81. Abstracted in THE JOURNAL, July 17, 1909, p. 227.

Buffalo Medical Journal

September

85 The Buffalo Academy of Medicine in 1908-09. E. A. Bowerman, Buffalo.
86 County Sanitary Associations and their Uses. O. J. Hallenback, Canandaigua, N. Y.
87 *Relation of Local Skin Lesions to Flat-Foot. W. H. Billings, Buffalo.
88 Nervous Sequelæ of Infectious Diseases. J. W. Putnam, Buffalo.
89 Treatment of Placenta Prævia. H. Schwartz, St. Louis.
90 Modern Surgery of the Stomach. J. B. Deaver, Philadelphia.

87. **Relation of Skin Lesions to Flat-Foot.**—Billings claims that in about 80 per cent. of flat-foot cases, the skin covering the ankle and foot will present one or more conditions which seem to be closely related and always benefited, often cured, by correction of the deformity. The most common skin lesion associated with flat-foot is the callus. Excessive sweating of the feet is a troublesome skin condition frequently seen in flat-foot deformity. This condition is relieved as the foot gains in strength in its corrected position. Varicose ulcer located posterior to and above the internal maleolus is occasionally a complication of flat-foot. A soft corn between the fourth and fifth toes is almost always associated with transverse arch relaxation. Eczema between the toes, although not common, is always associated with flattened transverse arch. A troublesome fissure located between the fourth and fifth toes is often associated with a relaxed transverse arch and relieved by arch correction.

New Orleans Medical and Surgical Journal

September

91 Chronic Interstitial Nephritis. F. M. Thornhill, Arcadia, La.
92 Cretinism. J. D. Bloom, New Orleans.
93 Hawaii as a Location for Sanatorium for the Tuberculous. E. S. Goodhue, Kona, Hawaii.
94 Case of Infantile Scurvy Associated with Rickets. P. J. Kahle, New Orleans.
95 Pathologic Sleep: A Manifestation in Certain Nervous Diseases. E. M. Hummel, New Orleans.
96 Pellagra: Report of Eleven Cases from Mississippi. C. C. Bass, New Orleans.
97 Case of Tubal Abortion. A. Jacoby, New Orleans.
98 Tumor of Brain. J. B. Elliott, New Orleans.
99 When is Gonorrhea Cured? A. Nelken, New Orleans.
100 Acetonuria with Relation of Cases. L. G. LeBeuf, New Orleans.
101 Indications for Digitalis in Pneumonia. A. A. Herold, Shreveport, La.

The Laryngoscope, St. Louis

September

102 *Lipoma of the Larynx. M. A. Goldstein, St. Louis.
103 Action of the Respiratory Muscles in the Production of Voice. G. H. Maknen, Philadelphia.
104 Suction or Hyperemia Treatment of Acute Suppurative Otitis Media. E. J. Brown, Minneapolis.
105 Significance of Certain Labyrinth Symptoms. G. E. Shambaugh, Chicago.
106 *Pemphigus of the Throat. L. M. Hurd, New York.
107 Laryngostomy. C. Jackson, Pittsburg.
108 Cyst of Epiglottis. J. C. Beck, Chicago.
109 Self-Retaining Submucous Specula. S. G. Higgins, Milwaukee.

102. **Lipoma of Larynx.**—Goldstein reviews, briefly, 12 cases recorded in the literature, and cites 1 personal case in which two lipomas of large size were removed successfully under local anesthesia. A large rounded, pale, yellowish-pink mass completely filled the glottis, extending from the left lateral wall of the ventricular fossa, pushing the ventricular band upward and overlying both vocal cords. Owing to unusual size of this mass and its extreme convex surface, the left ventricular band was stretched and arched abnormally upward, so that it appeared almost in a line with the left arytenoid cartilage. The patient had complained for about a period of fifteen years of almost constant discomfort in speech and respiration, two symptoms which have become more aggravated from year to year, culminating in marked dyspnea, with change in position of the body, frequent paroxysms of coughing and marked emaciation, restless nights, nervous depression, inability to eat or to digest properly.

106. **Pemphigus of the Throat.**—In Hurd's case the pemphigus was limited entirely to the mucous membrane of the throat, an exceedingly rare condition.

Denver Medical Times and Utah Medical Journal

September

110 Typhoid Fever. L. P. Barbour, Rocky Ford, Colo.
111 Cesarean Section: With Report of a Case. F. Finney, La Junta, Colo.
112 Diseases of the Cow that May Affect the Wholesomeness of Milk. M. White, Denver.
113 Rabies—Plague. R. Anderson, Salt Lake City.

St. Paul Medical Journal

September

114 Recognition of an Uncompensated Heart. T. W. Stumm, St. Paul.
115 Some Atypical Gall-Stone Diseases. J. W. Andrews, Mankato, Minn.
116 Climate of the Northwestern States of America. H. L. Taylor, St. Paul.
117 *Epidemic Poliomyelitis. H. Sneve and W. Ramsey, St. Paul.

117. **Epidemic Poliomyelitis.**—Sneve and Ramsey have translated and abstracted the clinical description of the disease by Dr. Wickman of Stockholm, and the pathologic studies of Harbitz and Scheel of Christiania, and the bacteriology of the affection by Dr. Geirsvold of Christiania, Norway's state epidemiologist. They urge on every physician to report every suspicious case, and also to furnish spinal fluid to the city or state laboratory, and whenever possible to secure a postmortem.

American Journal of Physiology, Boston

September

118 *The Paths of Excretion for Inorganic Compounds—IV. The Excretion of Magnesium. L. B. Mendel and S. R. Benedict, New Haven, Conn.
119 *Idem. V.—The Excretion of Calcium. L. B. Mendel and S. R. Benedict, New Haven, Conn.
120 *The Influence of the Isomers of Salicylic Acid on Metabolism. E. W. Rockwood, Iowa City, Iowa.

118. **Excretion of Magnesium.**—Mendel and Benedict find that when soluble magnesium compounds are introduced into animals by another route than the gastrointestinal tract, the greater portion of the excess injected leaves the body by way of the kidney within less than forty-eight hours. The intestinal path is of minor, if any, significance for magnesium introduced under these conditions. A considerable quantity of magnesium may be retained in the body for periods exceeding two weeks. The increased excretion of magnesium by the kidneys is accompanied by a marked rise in the urinary output of calcium. The calcium output in the feces is decreased, if any thing, at the same time. The parental introduction of magnesium sulphate in dogs and rabbits is never followed by purgation. The evidence for magnesium chlorid is not conclusive. Diuresis followed the use of both salts.

119. **Excretion of Calcium.**—The same authors find that excess of calcium chlorid may be eliminated by the kidneys and a simultaneous increased excretion through the bowel does not necessarily occur. A considerable quantity of the excess of calcium introduced may be retained for some time in the body. The increased excretion of calcium is accompanied by a rise in the urinary output of magnesium. The injections of calcium chlorid (with sodium chlorid solution) were followed by diuresis. It is suggested that the injection of either calcium or magnesium brings about the presence of an increased amount of the other metal in the blood as an antitoxic compensatory response of the organism whereby the toxic action of the injected metal is, to some extent, overcome.

120. **Influence of the Isomers of Salicylic Acid on Metabolism.**—Rockwood has experimented with metaoxybenzoic and paraoxybenzoic acids, which are isomers of salicylic acid (orthooxybenzoic acid) to determine their effect on metabolism. The experiments were made on a physician and three medical students. As is well known, orthooxybenzoic acid (salicylic acid) increases the elimination of uric acid in the urine. Rockwood concludes that this is due to an inhibition of uricolytic action rather than a stimulation of the nuclein-cleaving ferment. The meta-acids and para-acids do not affect the elimination of uric acid or of the other excretory products so far as they were determined.

American Journal of Urology, New York

September

121 The Pathology and Diagnosis of Dilatation of the Renal Pelvis. L. W. Bremerman, St. Louis.
122 The Surgical Anatomy of Inguinal Ectopia of the Testicle. L. de Raymond, Montpellier, France.
123 Circumcision with Cocain Anesthesia. S. Stevens, Battle Creek, Mich.
124 The Gonococcus, Its Relation to the Practice of Obstetrics and Gynecology. W. F. Thompson, Beaumont, Tex.

Journal of Cutaneous Diseases, New York

September

125 *Treatment of Certain Chronic Inflammatory Skin Diseases. L. A. Dühring, Philadelphia.

126 A Nodular, Terminating in a Ring Eruption (Granuloma Annulare). G. W. Wende, Buffalo.
127 *Osteopathies of Quaternary Syphilis (Gaucher). J. M. Winfield, Brooklyn.

125. **Chronic Inflammatory Skin Diseases.**—Dühring points out that some cases of eczema, psoriasis and other diseases are readily amenable to treatment, local or internal, or both, while others do not respond to the same line of treatment. The cutaneous lesions in appearance and pathologic anatomy may be the same in both sets of cases, yet they behave altogether differently under the same treatment. The reason, he says, may be found in what he believes to be an observation not sufficiently recognized, namely, that while the cutaneous lesions may be the same or closely similar in many cases, the causes producing them are not only varied, but may be entirely different in nature. The internal causes, whatever these may be, producing the cutaneous disturbance should be studied more closely and treated by appropriate means. Factors giving rise to disordered states of one or another part of the economy, require to be more closely investigated than is usually done. The rôle of general medicine should be brought into action more than is customary. For some cases it is indispensable. For nearly all, if not all, the chronic or persistent or recurring cases of eczema, and for some of the cases of psoriasis, and for some other allied forms of inflammation, Dühring believes there exist specific or general etiologic factors that must be determined on the plane of general medicine, and relieved by some means or other if the patient is to be permanently cured. Local treatment alone is inadequate for most of such cases.

127. **Osteopathies of Quaternary Syphilis.**—Winfield examined 46 patients which he divided into two lots: The first 17 individuals were simply examined for the external signs of inherited syphilis, and the second 29, in addition to the external examination, were subjected to the v. Pirquet tuberculin test and the Noguchi modification of the Wassermann test for syphilis. The ages of the patients ranged from 6 months to 14 years. Nine, of the first lot of 17, had Pott's disease: 3 of these had malformed heads (Olympic): 3 had typical Hutchinson's teeth, and 1 patient had both a misshapen head and pegged teeth. The remaining 8 of the 17 were suffering from hip disease: 3 of these had dental stigmata, and 2 had malformed heads. The total out of the first 17 who presented suspicious stigmata was 12, but according to the dictum of Gaucher only 1 of the 12, the individual with dorsal Pott's disease who had two dystrophies, Hutchinson's teeth and a malformed head, could be considered syphilitic.

Ten of the second lot of 29 were suffering from diseased spine, and 11 had disease of the hip, 3 had disease of both hip and spine, 2 had suppurating sinuses of the feet and ankles, and 2 had had abscesses of the wrists and hands. All the patients were tested for tuberculosis by the cutaneous method of v. Pirquet, and all but one reacted positively, some reacting more markedly than others; the greatest reaction was obtained in a child who had all the characteristic signs of inherited syphilis, and the family history obtained from the mother left no doubt but that the child was a victim of the inherited taint; this case also gave a positive Noguchi-Wassermann reaction. Ten out of the 29 had some stigmata suggestive of syphilis; such as Hutchinson's teeth, high-arched palates, saddle-noses, overhanging foreheads and other malformations of the head: 16 had no suggestive signs and 4 left the hospital before the examination was completed. Four of the patients with external signs suggestive of inherited syphilis and 6 who were absolutely free from all stigmata, reacted positively to the Noguchi-Wassermann test, making a total of 10 positive Wassermann tests out of the 29 examined, about one-third. The most marked reaction was in patients who had two or more dystrophies, and 2 with multiple abscesses of the wrist and hand, and 1 of those with sinuses of the foot. Three with a positive Wassermann reacted feebly to the v. Pirquet test, but the remaining 7 gave a marked reaction.

One patient out of the 29 did not react to either test; this was a baby about 6 months old, which undoubtedly was suffering from syphilis, and the probable reason why it was Wassermann negative was because it had been taking anti-syphilitic remedies. Six of the patients with suggestive somatic signs, and who were negative to the Noguchi Wassermann test, had been treated for syphilis. Winfield points out that this brings up the question, Can tuberculosis and syphilis exist simultaneously in the same individual? And is it possible to get a positive Wassermann reaction in all patients with inherited syphilis, who have not been treated for the disease?

Kansas City Medical Index-Lancet, Kansas City

September

128 The Causes and Prevention of Nervous Diseases. J. Punton, Kansas City.
129 Drug Eruptions. W. Frick, Kansas City.
130 The Anglo-American Medical Association of Berlin. F. C. Neff, Kansas City.
131 Charcot's Disease. B. A. Poorman, Kansas City.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

The Lancet, London

September 11

1 Forty Years of Hospital Experience. A. J. Pepper.
2 Three Cases of Sporadic Cretinism. G. R. Murray.
3 *Rabies, with Notes on Thirty Cases. W. J. Maloney.
4 *The Etiology of that Form of Dislocation of the Hip-Joint which is Generally Regarded as Congenital. R. Thompson.
5 *Vaccine Treatment of Somewhat Unusual Interest. E. W Allen.
6 Use of the Ultramicroscope for Early Diagnosis of Syphilis H. W. Bayly.

3. **Rabies.**—The only noteworthy point in the postmortem examination of the 15 cases in this series that terminated fatally was the presence in all but one of marked increase in the cerebrospinal fluid; the relief of the intracranial tension by lumbar puncture was found in three cases to be of some value in quietening very irritable patients; six series of experiments with the fluid as a means of antemortem diagnosis produced negative results. From the few cases cited it is obviously extremely difficult to assert that any patient is suffering from incipient rabies, so alleged cures may be discounted. Treatment after the disease was definitely declared proved invariably futile.

4. **Congenital Dislocation of Hip-Joint.**—Thompson suggests that in some cases that form of dislocation of the hip-joint which occurs in young infants and children without any apparent violence, and which is usually regarded as congenital, in reality may be due to pressure exerted on the hip-joint during the adoption of the erect attitude of such a nature as to produce displacement of the head of the normal femur from a nearly normal acetabulum. The history of a well-developed girl with dislocation of the hip rarely goes back before the adoption of the erect attitude. The fact that the child is well-developed is a considerable factor in the argument in favor of the condition being static rather than congenital. The female hip-joint is weaker and acts at a greater mechanical disadvantage than the male joint. The theory of the dislocation being congenital has so far entirely failed to explain the great preponderance of cases in females. This preponderance is explained by a reference to the comparative anatomy of the joints of the two sexes. The suggestion that the condition is static more easily explains the different conditions which may be encountered in the cases of so-called congenital dislocation of the hip, which should be called static dislocation.

5. **Vaccine Treatment.**—The cases treated by Allen were the following: (1) Double systemic infection by the *Streptococcus conglomeratus* (*scarlatinæ*) and the *Staphylococcus aureus;* (2) pneumococcal septicemia, arthritis and intramuscular abscesses; (3) pyuria; (4) delayed resolution after pneumonia; (5) infection of the antrum of Highmore by the *Bacillus influenzæ* and the pneumococcus; (6) asthma and bronchitis. Careful bacteriologic examinations in over 20 cases of asthma have failed to reveal the constant presence of any one particular organism; each case presents a complex picture, most swarm with micro-organisms, and a few have shown within the casts and spirals nothing but short streptococci, and Allen feels that a variety of streptococci is of considerable importance in the production of some of the symptoms of certain cases of severe bronchial asthma. Most of the patients are still under treatment and it is difficult to forecast the ultimate results. The majority are benefiting; in two or three the bronchitis has improved greatly, but on the asthma no beneficial effect whatever has been exercised.

British Medical Journal, London

September 11

7 Injuries of the Optic Nerve. J. J. Evans.
8 *Value of Surface Signs in the Diagnosis of Deep-Seated Disease. C. L. Isaac.
9 Oriental Sore of Northern India: A Protozoal Infection. R. M. Carter.
10 The Intensive Treatment of Syphilis by Aachen Methods. R. Hayes.
11 Case of Syphilis (Syphilis D'Emblee) without a Primary Chancre. A. C. Magian.
12 *Very High Specific Gravity of the Urine in Healthy Women. H. French.
13 *Partial Gastrectomy for Gastric Carcinoma: Recovery. H. B. Robinson.
14 Viper or Adder Bite (Vipera Berus). R. S. C. Edleston.
15 The Superficial and Deep Reflexes. J. M. MacCormac.
16 Somatic Delusions and Local Lesions. C. A. Mercier.
17 Heredity in Causation of Inebriety. T. D. Crothers.
18 Mongolian Imbecility. G. E. Shuttleworth.
19 Report of the Royal Commission on the Care and Control of the Feeble Minded. W. R. Dawson.
20 The Present Position on Medical Psychology. A. T. Schofield.
21 The Skeleton in Achondroplasia. A. F. Dixon.
22 Points in the Mechanics of Respiration. R. H. Scanes-Spicer.
23 Phosphatides in the Light of Modern Research. H. MacLean.
24 Deep Afferents: Their Function and Distribution. C. S. Sherrington.
25 Reconstruction Models of the Fetal Pelvis. D. Waterston.
26 Reply to Certain Criticisms of Observations on the Effects of Inhalation of Oxygen on Muscular Exertion. L. Hill.
27 The Structure of the Pancreas in Relation to Function. J. S. Goodall and H. G. Earle.
28 The Biochemistry of Hemolysis. B. Moore.
29 Development of the Heart. P. Thompson.
30 Distribution of the Intercostal Nerves. H. M. Johnston.
31 Features that Make for Persistence. R. J. Anderson.
32 Results of Uniformity of Action and Habit. R. J. Anderson.
33 The Cervical Pleura. J. S. Dickey.
34 The Chondro-Cranium of the Trout with Reference to the Brain and Cranial Nerves. N. C. Rutherford.
35 Discharge of Sewage Effluents into Tidal Water. H. O'Neill, E. A. Letts, and T. Carnwath.
36 Measles in Schools: An Account of a Recent Epidemic in St. Helens. J. J. Paterson.
37 Prevention of Tuberculosis in Cattle. J. Niven.

8. **Surface Signs in Deep-Seated Disease.**—Isaac claims that cutaneous hyperesthesia is of considerable value in the diagnosis of acute ulceration of viscera; that the neuromuscular reaction is of some value in the diagnosis of inflamed viscera; that myotatic irritability is by no means a negligible quantity; and the suggestion that there is a neuropigmentary sign in the skin of visceral disease proves that the question of superficial evidence of deep-seated disease is a far larger one than it at first seems, and offers considerable scope for both observation and research.

12. **High Specific Gravity of Urine in Healthy Women.**—On examination of 150 healthy nurses French found that a specific gravity even up to 1040 is by no means necessarily an evidence of ill-health in a woman. In the earlier cases it must be thought that there must be some error in the recording instruments; but this source of fallacy was excluded by the use of several different urinometers, each of which was tested separately; all recorded similar results for the same urine.

13. **Partial Gastrectomy for Carcinoma.**—The growth in this case was very limited, and the glandular involvement slight. This permitted removal of both with a fairly wide margin. The section of the stomach corresponded pretty well with the incision used by Mikulicz—that is, from just to the right of the cardiac orifice almost vertically downward to the greater curvature. The glands were rather soft and did not suggest involvement. An end-to-end junction after Billroth's method was used, as the cut edges could be easily brought into apposition. No trouble was experienced from leakage, the occurrence of which had led to the advocacy of other methods. The character of the growth was a colloid carcinoma. The man has been frequently seen since the operation, July 8, 1908; he has put on weight and remains free from symptoms.

Medical Press and Circular, London

September 1

38 Feeble-Minded Children. A. F. Tredgold.
39 Antigens, Antibodies and the Fixation Reaction or Deviation of the Complement. Prof. Chantemesse.
40 Visceral Syphilis. W. B. Washington.
41 The Inoculation Accident in Manila, Philippine Islands. W. M. Haffkine.

September 8

42 *Educational Number.

42. **Educational Number.**—This issue is devoted entirely to medical education.

Clinical Journal, London

September 1

43 Disorders of the Cerebral Circulation and their Clinical Manifestations. A. E. Russell.
44 *The Nature and Treatment of Surgical Shock. J. D. Malcolm.

44. **Treatment of Surgical Shock.**—Malcolm believes that the true explanation of the vascular changes of shock is that they depend on an exaggeration of the physiologic action by which stimulation of sensory nerves causes increased vascular and cardiac muscular efforts. This at once raises blood-pressure in the large arteries and lowers it in the small arteries. The lowering extends to the larger vessels in proportion to the degree of irritation. The heart is at first increased in power. Later it becomes relatively weak and its pace hastens. Its relaxation in diastole becomes so limited that it cannot take from the veins a normal quantity of blood and its output is therefore diminished; consequently the venous system becomes engorged, serum escapes from the vessels and from the body, and, if the action is sufficiently prolonged and severe, blood is almost certainly destroyed as in a fever. Thus the amount of blood in the body diminishes, and in fatal cases death is caused by a shutting-off of the blood-supply from the nervous centers. If recovery occurs, when relaxation takes place there is a marked disproportion between the diminished quantity of the blood and the vascular capacity, and therefore there is much danger from the collapse frequently observed in conditions of anemia. Therefore treatment should be directed to relaxing the vessels as shock develops and to filling them up as soon as relaxation begins. Vasoconstrictors should not be given, and attempts to dilate the vessels rapidly and forcibly should not be made. Vasodilators are indicated, but these may induce an even more dangerous condition if fluids are not at the same time supplied to fill the relaxing vessels. Complete quietude, especially in the early stages of recovery, is necessary to prevent collapse, and of course, the patient should be kept warm and recovery from the anesthetic must be attended to. The patient should not be drained of fluid by preliminary treatment, but, when time is available, this does not preclude attention to the condition of the alimentary canal, an overloaded state of which is so undesirable. All causes of weakness should be obviated as much as possible, and septic conditions should be anticipated by every means in our power.

Dublin Journal of Medical Science

August

45 Report on an Outbreak of Scarlatina in Lurgan. J. S. Darling.
46 Clinical Reports of the Rotunda Hospital (continued). E. H. Tweedy.
47 Acute Parotitis in Pneumonic Fever. Sir J. Moore.

September

48 *Valvular Disease of the Heart with Anomalous Symptoms. J. Little.
49 Hemophilia. J. E. M'Causland.
50 Clinical Reports of the Rotunda Hospital (continued). E. H. Tweedy.

48. **Valvular Disease of the Heart.**—A woman, aged 31, had been troubled with palpitation for six years. Her feet and legs had been somewhat swollen for two months, and her abdomen had become enlarged during three weeks before admission to the hospital. She was breathless on exertion, and felt very tight and uncomfortable in the upper part of the abdomen. The liver was manifestly swollen, and with distended jugulars pointed to overfulness of the right cavities of the heart. The day after admission to the hospital the legs were no longer swollen; the distention of the abdomen seemed due to flatulence, as a resonant note was produced all over it by percussion. The urine was free from albumin and fair in quantity. A loud systolic murmur was audible over the entire cardiac region and a diastolic murmur was at first to be heard along the sternum. When 6 years old, the woman had had scarlatina. From the first the patient had a symptom not usual in heart disease, except when rheumatism is actually present. She was nearly always bathed in perspiration. The application of six leeches over the liver gave relief to her feelings of oppression and to her breathlessness. Her temperature all this time was, as a rule, subnormal; the pulse varied between 80 and 90. At the end of a week a flatulent distention of the abdomen rather suddenly disappeared. At the end of a fortnight she was allowed up pre-

paratory to going home. In the third week, however, she became mentally affected; she would not speak; she refused her food, disliked to see her husband, and at night was sleepless and noisy. The influence of drugs was curious; a hypodermic of morphin made her excited; the 1/200 of a grain of hydrobromid of hyoscin distinctly quieted her; trional in a dose of 20 grains secured sleep. All this time the sweatings continued, and in particular she often awoke out of a troubled dream bathed in perspiration. Her temperature began to rise a little at the end of the third week. For three days it did not pass 99 F., then it rose to 100, then to 101.8, and the following day to 105 F.; two days later, on the day of her death, it fell to 102 F. A few hours before her death, though she took nourishment freely, she was pulseless; no murmur could be heard.

The body was opened twenty-eight hours after death. The pericardium was injected, and the heart weighed 1 pound 5 ounces. When the great vessels were severed, a quantity of perfectly fluid blood escaped. On opening the left ventricle, its walls were found greatly thickened, but its cavity was small. When water was poured into the aorta it did not escape through the valve, and when the finger was pressed against the valvules either from the aorta or from the ventricle, it encountered a dense calcareous and spiculated mass, which appeared as if it must have entirely closed the orifice of the vessel. The left auriculoventricular orifice would admit only one finger; the two portions of the mitral valve were welded together, and the ring which they formed was thickened. The left auricle was greatly dilated, and its coats were thickened. The right side of the heart presented somewhat similar appearances. The cavity of the ventricle was enlarged and its walls were thickened; the right auriculoventricular orifice with difficulty admitted the tips of two fingers, and the valvules forming the tricuspid valve were welded together just as those forming the mitral valve had been. There was nothing like septic endocarditis; the aortic valvules, instead of being eaten away by necrotic change, had been converted into calcareous structures.

Intercolonial Medical Journal of Australasia, Melbourne

July

51 *Experimental Pathology of Diabetes. G. A. Knight.
52 Adrenalin as an Emergency Treatment in Cyanid, Strychnin and other Forms of Non-Corrosive Poisoning. J. L. Jona.
53 Metallic Balance in Saline Aperients. W. A. Osborne.
54 *Curious Case of Antenatal Disease. W. H. Summons.
55 X-Rays in Treatment of Tuberculous Diseases. T. G. Beckett.

51. **Experimental Pathology of Diabetes.**—Knight fed animals (goats and rabbits) on food containing a very low proportion of fat, namely, bread 1 per cent., chaff 1.5 per cent., and young carrots 0.3 per cent. The animals thrived well, were killed after from three to seven days, and the amount of fat in the mucous membrane of the small intestine was estimated. In the case of goats, a quantitative estimation of the fat was made; also secretions of the intestine were examined under the microscope. In the case of the rabbits, sections were taken at different parts of the small intestine and examined for fat microscopically. A goat was fed for two days on white bread (1 per cent. fat). On the morning of the third day, the animal took a good meal of bread and water; five hours later it was chloroformed, bled by the carotid artery, and the abdomen immediately opened. The duodenum and small intestine were then removed from their mesenteric attachments. The first 6 feet of intestine contained 1.46 per cent. of fat, the middle 6 feet of intestine contained .982 per cent. of fat. Average, 1.2 per cent. of fat.

A goat fed on chaff for several days was starved for one day, then given a feed of chaff, five hours later was chloroformed, bled and the abdomen opened. The duodenum and small intestine were removed from the mesenteric attachment. First 6 feet of intestine (36 grams of mucous membrane) = .91 grams of fat—2.5 per cent. Third 6 feet of intestine (15.5 grams of mucous membrane) = .5 grams of fat—3.2 per cent. Fifth 6 feet of intestine (18.2 grams of mucous membrane) = 1.4 grams of fat—7.6 per cent. Seventh 6 feet of intestine (17.9 grams of mucous membrane) = .5 grams of fat—2.7 per cent. The mucous membrane of the intestine, therefore, averaged 4 per cent. fat.

Another goat was fed on chaff for three days, chloroformed, bled and four portions of intestine taken. First 6 feet of intestine contained 5 per cent. fat; third 6 feet contained 5.6 per cent. fat; fifth 6 feet contained 6.8 per cent. fat; seventh 6 feet contained 1.9 per cent. fat. Average 4.8 per cent. fat. If Pavy's theory that carbohydrate is converted into fat were correct, one would expect a much larger percentage of fat in the mucous membrane of the intestine, seeing that the animals were fed on a diet containing a low proportion of fat and a fair proportion of carbohydrate. In an attempt to prove or disprove the correctness of Pflüger's theory, Knight performed the following experiments: 1. Ligation of vessels between pancreas and duodenum, leaving duct intact. 2. Ligation of vessels, including duct and separation of pancreas from duodenum. 3. Extirpation of duodenum. 4. Cauterization of duodenum. Extirpation of the duodenum, and separation of the pancreas from the duodenum failed to demonstrate any glycosuria, while cauterization of the duodenum in one case only elicited a doubtful glycosuric condition. No experiments were done on the neurohepatic theory, but Knight points out that all conditions giving rise to a rise of blood pressure are liable to produce glycosuria.

54. **Antenatal Disease.**—The baby in Summon's case was born precipitately about fourteen days prematurely, and was a small child. Immediately after birth it was noticed that there was something wrong with the child's legs. There was no calcification in the femora, tibiæ or fibulæ. The feet appeared normal, also the pelvis. There was no trouble with the arms. The flat bones of the skull were deficient in calcification, but no crackling was present, the fontanelles being wide, and connected by a broad interparietal uncalcified space. The bones in the legs were so soft that they could be bent about like rolls of putty. On palpation, there was a crackling feeling, with irregularity and thickening, a feeling like that noted over subperiosteal hemorrhages. An important point noted was great tenderness of the lower limbs; the pain prohibited all voluntary movement of the legs. There was a large hemorrhage into the left side of the scrotum, and the urine was dark colored for two days after birth, producing dark stains on the linen. It was not decided that it contained blood. The legs were shorter than in a healthy child, owing to the deformity of the bones, but were otherwise normal.

The child was placed in a cardboard frame, with the legs suspended, and mercury was administered. Calcification has progressed irregularly, and great thickening and deformity may now be felt. The father states that there is no possibility of venereal disease. The mother, married young, was rather depressed during pregnancy, and had a prolonged bronchitis. She has never miscarried, and presents no evidence of scurvy.

Annales de Gynécologie et d'Obstétrique, Paris

August, XXXVI, No. 6, pp. 449-512

56 Negative Ocular Tuberculin Reaction in 500 New-Born Infants. M. Duverger.

Archives de Médecine des Enfants, Paris

September, XII, No. 9, pp. 641-720

57 *Exceptionally Large Doses of Diphtheria Antoxin in Malignant Sore Throat and Diphtheritic Paralysis. H. Méry and others.
58 *Leucemia in Infants. (La leucémie chez le nourrisson.) L. Babonneix and L. Tixier.
59 Two Cases of Fatal Diphtheritic Paralysis. J. Comby.

57. **Diphtheritic Paralysis.**—Méry states that 9 children succumbed to diphtheritic paralysis last year in his 622 cases of diphtheria; and 3 others died of the malignant sore throat without paralysis. Since then he has increased the dosage in such cases and the results have been much better. He reports 18 unusually severe cases in which the impending catastrophe was warded off by the repeated large doses of antitoxin, with 5 others in which the ordinary dosage was used, with fatal outcome. His experience confirms the value of this intensive antitoxin treatment in the unusually severe cases, keeping up the antitoxin during convalescence. While it did not prevent the development of paralysis entirely, yet the latter never appeared except in an attenuated form. Nothing suggesting

anaphylaxis and no disturbances from the antitoxin were observed in any instance. The daily dosage ranged from 40 to 60 c.c. for several days. Then, after the throat was clean, from 10 to 20 c.c. were given every day or second day. The antitoxin was given daily and the dose was increased if signs of paralysis appeared until some of the children had received over 500 c.c. of antitoxin, and all recovered. Méry affirms that there need be no fear of anaphylaxis on this dosage as that is the result of introduction of a small dose of antigen into an organism saturated with antibodies. When the antigen is supplied in large amounts, anaphylactic accidents do not occur as clinical experience has abundantly demonstrated confirming the theoretical premises. Even when the children showed signs of "serum disturbances" he did not hesitate to continue to inject more antitoxin, and the favorable outcome realized his anticipations.

58. **Leucemia in Infants.**—Babonneix and Tixier summarize from the literature 4 cases of congenital leucemia, 13 of lymphatic leucemia, including one from their own experience, 8 of myeloid and 3 of atypical leucemia, all in infants, some of whom were breast-fed. The leucemia developed between the first and second year in 13 of 21 cases; the majority were male infants. Death occurred within a few days in some cases. No treatment has been found effectual, but there is no record to date of Roentgen-ray treatment having been applied to an infant for leucemia.

Lyon Chirurgical, Lyons

September 1, II, No. 4, pp 407-522

60 *Operative Treatment of Inflamed Inguinal Glands. (Extirpation des adénites inguinales inflammatoires.) L. Imbert.
61 *Surgical Treatment of Gastric Cancer. X. Delore and H. Alamartine. Commenced in No. 3.
62 Anatomic Conditions with Undescended Testicle. (Etude anatomique d'un cas d'ectopie testiculaire.) H. Muller.
63 *Resection of Cancerous Rectum by the Sacro-Coccygeal Route. A. Chalier.

60. **Inguinal Adenitis.**—Inflammation of the inguinal glands sometimes runs a subacute course which allows the individual to continue at work, but this retards spontaneous cure. The suppuration in these glands, Imbert states, occurs by a series of small independent foci in turn. The best treatment is by radical excision; this induces a complete cure and more rapidly than simple incision, even with curetting. His remarks apply only to simple inflammation, not of venereal or tuberculous origin. In his experience at Marseilles he has operated in this way in 21 cases, with satisfactory results, and he regards it as indicated whenever the tumor does not subside after a week in bed.

61. **Surgery of Gastric Cancer.**—Delore reviews the experiences in Poncet's service with 158 operations for gastric cancer, including 43 resections.

63. **Resection of the Cancerous Rectum.**—Chalier advocates the mode of access by resection of the sacrum and coccyx. The only means of disinfecting the rectum beforehand seems to be with superheated air at from 300 to 500 C.; a preliminary artificial anus is of great service. The upper stump after resection is invaginated in the sphincter stump, and is brought out and sutured to the skin outside of the anus; the various steps of the operation are shown in nine illustrations. It is important to retain sufficient vessels in the invaginated stump to insure against gangrene.

Lyon Médical, Lyons

August 22, XLI, No. 34, pp. 309-348

64 *Oxygen in Threatening Whooping Cough. (L'oxygène dans les coquelnches graves.) E. Weill and G. Mouriquand.

August 29, No. 35, pp. 349-388

65 Malted Gruels. (Alimentation par les farines de céréales et de légumineuses diastasées.) A. Imbert.
66 Visible Peristalsis of the Stomach. (Tension intermittente de l'épigastrium: "Magensteifung.") A. Mollière.

64. **Oxygen in Pertussis.**—Weill has used oxygen in treatment of threatening paroxysms in whooping-cough in thirty cases, and has found it a valuable aid in warding off bronchopneumonia and suffocation. The oxygen is given at each paroxysm; if possible, just as it begins. The cyanosis subsides and the child is relieved and keeps in good condition, with appetite, throughout. The oxygen renders the lung aseptic and thus may arrest incipient infectious processes. The oxygen must be used freely; at least 10 or 12 liters are necessary to control a paroxysm, and if there is danger of bronchopneumonia, the oxygen should be inhaled systematically every hour. It is best inhaled through a funnel during the paroxysm and can thus be given even while the child is asleep.

Presse Médicale, Paris

September 4, XVII, No. 71, pp. 625-632

67 *Laryngeal and Respiratory Disturbances and Ptosis of Heart and Diaphragm. (Troubles laryngés et respiratoires et cardiophrenoptose.) G. Scherb.
68 *Autoserotherapy in Pleurisy. (L'autosérothérapie pour activer la résorption des épanchements pleuraux.) Marcou.

67. **Respiratory Disturbances with Ptosis of Heart and Diaphragm.**—Scherb describes a case of movable heart with ptosis of the heart, diaphragm, liver and intestines, associated with phobias and obsessions involving the organs required for the patient's livelihood. The patient was a man of 53, a professional cathedral chorister, with an unusually powerful bass voice. In his singing he had evidently overstrained the respiratory organs, and about six years ago he suddenly felt intense pain in the region of the heart, and lost his voice with other symptoms of extreme ptosis of the diaphragm and heart. The sensations induced by the movability of the heart he interpreted in almost delirious fashion, resulting in an obsession of respiration and phobia of inspiration. The case shows the importance of seeking for some organic defect or displacement in every case of pathologic emotional disturbances. The importance of ptosis of the viscera in the pathogenesis of intermittent states of disturbance in the emotional sphere and will power is becoming recognized more and more. In this case, the explanation for the respiratory neurosis was found in the ptosis of the heart and diaphragm, this assumption being confirmed by the results of wearing a supporting band to hold the organs in their proper place. This put an end to the disturbing ptosis and the neurosis, and restored the chorister to the choir.

68. **Autoserotherapy for Pleural Effusion.**—Marcou makes a practice of exploratory puncture in every case of pleural effusion. If the fluid is free from pus he reinjects it directly again into the subcutaneous tissue through the same needle which is not withdrawn; the direction of the point is merely altered to bring it into the subcutaneous tissue. These autoserum injections are repeated at intervals of two or three days, the amount injected generally being from 1 to 5 c.c. He has made over 150 injections on 82 patients, and a number have been cured and under observation for three or four years. Adding those reported by Tchigaeff at St. Petersburg, by Dehio at Dorpat and others, this makes a total of 168 cases in which this treatment, first suggested by Gilbert of Geneva, has been applied to promote the absorption of pleural effusions with eminently satisfactory results, subjective and objective, immediate and remote. Marcou explains the benefit as due to the stimulation of formation of an antipleuritic substance by the injection of a product of the pleuritis. The formation of this antibody in the organism determines the rapid cure of the pleurisy. In most cases the pleural effusion is rapidly reabsorbed, but the causal affection continues its course. The most convincing cases are those with large effusions of recent date. Marcou is now encouraged to apply this same procedure in treatment of ascites. One advantage of this method is that there is much less danger of formation of adhesions and of retraction than when thoracocentesis is done. Most of his cases were in out-patients.

Semaine Médicale, Paris

September 8, XXIX, No. 36, pp. 421-432

69 *Physiologic Research on Application of Leeches. (Recherches physiologiques sur les applications de sangsues en clinique humaine.) P. E. Weil and G. Boye.
70 *Should Salt Food be Forbidden after Administration of Calomel? (Y a-t-il lieu de défendre les aliments salés après l'ingestion de calomel?) L. Gaucher and R. Abry.

69. **Physiologic Research on Effect of Application of Leeches.**—The use of leeches is generally decried nowadays as contrary to asepsis, and wet-cupping and similar measures are supposed to answer exactly the same purpose without the drawbacks of the leeches. Weil has been the pioneer in the treatment of hemophilia with injection of normal serum, and

in the course of his research in this line he had occasion to study the effects of application of leeches. He found that the phenomena observed are different from those with wet cupping. In the first place, with the latter a certain amount of blood is drawn, but as soon as the cup is removed the flow of blood ceases. With leeches, on the other hand, the blood continues to ooze after they are removed, until from three to six ounces escape in the course of a day or so. Girardet has even reported a case in which after application of two leeches the total amount of blood lost reached thirty-seven ounces. Weil's research has explained the reason for this. It has demonstrated that the leeches seem to introduce into the organism some special substance which induces an acute, transient, local hemophilia, resembling in many respects true general hemophilia such as is induced in rabbits by intravenous injections of extract of leeches. The blood in the region is rendered incoagulable and the leech-hemorrhage persists until an amount of blood may be lost comparable to that of a considerable venesection. Wet cups, on the other hand, have no such action on the composition of the blood. When a general blood-letting is desired, leeches should be given the preference, he declares, even over venesection, unless promptly vigorous action is required, as there is no disturbance from the general or local disturbances from them, and the minute wound they form is never accompanied by infection.

70. **Calomel and Salt in Food.**—A boy of 14 with an artificial anus in the upper half of the small intestine was given calomel and the chyme was taken from the fistula and mixed in test-tubes with sodium chlorid in conditions approximating those in normal intestinal digestion. The mass was examined for the presence of bichlorid of mercury at various intervals, the aim being to settle the question as to whether the ingestion of salted foods with calomel leads to the production of corrosive sublimate in the digestive tract. The findings were constantly negative.

Beiträge zur Klinik der Tuberkulose, Würzburg

XIII, No. 3, pp. 245-437. Last indexed September 18, p. 980

71 *Effect of Tuberculin Treatment on Tuberculosis in Children. (Verhalten der kindlichen Tuberkulose gegen Tuberkulin.) Engel.
72 Processes of Immunization in Tuberculosis. (Das Komplementablenkungsverfahren, insbesondere in der Tuberkuloseforschung.) J. Bauer.
73 *Tuberculosis Immunity and Specific Therapy. J. Bauer and Engel.

71. **Tuberculin Treatment of Tuberculosis in Children.**—Engel devotes nearly 140 pages to the detailed report of the experiences with tuberculin treatment in the children's clinic at Düsseldorf. The principle followed was first to accustom the child to a large dose and then to continue to treat him with this dosage. The children are kept in bed at first and the temperature is taken in the rectum every two hours: the injections are made between the shoulder blades. The extent of the tuberculous process determines the reaction, independent of the age of the child. Typical child tuberculosis is distinguished by a great tolerance for tuberculin. The tendency to reaction grows less when the dose which was borne without reaction is repeated several times before increasing it. When the optional maximal dose is once determined, the children are treated afterward as out-patients, the injections repeated at intervals graduated to prevent too vigorous reactions. When the child tolerates 0.01 c.c. tuberculin the reaction to the v. Pirquet test usually ceases; this test may serve as a guide for the dosage of tuberculin. His experience shows, he asserts, that it is incorrect to speak of latent tuberculosis in children; the affection may be occult and non-localizable in a child, but it is never latent. When the process has spread beyond the lymphatics the prognosis is less favorable. An acute tuberculosis in apparently healthy children is generally merely the end of an occult process, and these processes should be combated by every means. In 8 children between 3 and 8 months old the tuberculous process was apparently arrested by the tuberculin in all but one, while the medication did not interfere with the development of the children. In one case the physical findings indicated an apical process, but the recovery under tuberculin showed that the process must have been restricted to the glands. He advocates tuberculin treatment in all cases in which the lungs are not involved. There also is a chance for benefit if the lung process is small with little tendency to progress, but progressive pulmonary tuberculosis contraindicates tuberculin and only discredits this method of treatment. The children thrive under the tuberculin. Fever does not necessarily exclude tuberculin treatment; small doses may even banish the fever. Fifteen curves are appended to show the dosage and progress of some of the little patients less than a year old.

73. **Immunity to Tuberculosis and Specific Treatment.**—Bauer and Engel state that the immune bodies are not found in the blood until after the children have been given comparatively large doses of tuberculin. Their experience indicates that 2 c.c. is the most favorable maximal dose. Regarding the antibody content of the blood as a favorable factor for recovery, they strive to keep it at its highest point, and found this was best accomplished by continuing with the maximal dose to support the curative efforts of Nature in conjunction with all other hygienic and dietetic factors. They are convinced that their experience with children offers a more rational basis for tuberculin treatment. Former studies of the subject have almost all dealt with tuberculous adults, while in children the local process is not so extensive. They are unable to offer direct proof of the assumed fact that the curative process is in direct relation to the antibody content in the blood. Proof of the parallelism between results in the test-tube and the process in the living organism can be obtained only by empirical observation of large numbers of cases over long periods.

Berliner klinische Wochenschrift, Berlin

September 6, XLVI, No. 36, pp. 1637-1676

74 Cobra Venom Hemolysis in the Insane. (Die Kobragifthämolyse bei Geisteskranken.) O. Pförringer and F. Landsbergen.
75 Suprarenal Tumor. (Ueber einen chromaffinen Tumor des Nebennierenmarks.) S. Suzuki.
76 Influence of Intravenous Saline Injection on Active and Passive Anaphylaxis in Guinea-pigs. E. Friedberger and O. Hartoch.
77 *Dental Surgery. (Einige Fälle aus der technischen Zahnheilkunde.) Warnekros.
78 Importance of the Wassermann Reaction for Treatment of Syphilis. Blanck.
79 *Tetanus from Catgut. R. Kleinertz.
80 Determination of Hemochromogen Crystals. (Neue und beste Methode zur Erlangung der Hämochromogenkristalle.) A. de Dominicis.
81 *Treatment of Rectal Prolapse. (Zwei Fälle von Rektumprolaps.) C. Goebel.
82 Symmetrical Enlargement of the Parotids. (Symmetrische Parotisschwellung.) Id.
83 Reform in Administration of Insane Asylums. (Zur Standesfrage der Irrenanstaltsärzte.) F. Hoppe.

77. **Dental Orthopedics.**—Warnekros reports some cases in which with the aid of dentistry methods satisfactory substitutes for large parts of the jaw were provided. In one case of bilateral luxation of the lower jaw, irreducible for sixteen years, good functional results were attained by dividing and resecting the jaw, the parts being held in place with a dental appliance until healing was complete. In another case the patient was unable to close his teeth properly and this also was remedied by resection and a celluloid dental splint appliance. The cooperation of the surgeon and dentist is especially valuable, he adds, in treating cleft palate, and cites some examples to illustrate this. He declares that in fully 75 per cent. of all cases caries is the result of defective or lacking articulation of the separate teeth involved. The loss of even a single tooth throws the chewing mechanism out of gear, imposing more work on some parts of the gum than others, while the shrinking of the gum disturbs the harmony of the projecting gum, etc., that protects the teeth, cheeks and tongue against injury. He advises prompt substitution of a lost tooth as the best means of prophylaxis against alveolar pyorrhea.

79. **Tetanus from Catgut.**—Kleinertz tabulates 33 cases, reports of which have been published in German medical literature alone. In 3 "cumol catgut" had been used, in 3 catgut prepared by the Hofmeister formalin technic, in 3 by the Saul and 2 by the Bergmann technics. The outcome is not known in a number of cases, but recovery is mentioned in only 2 and death in 17. The methods and scrupulously aseptic technic, from the first, of antitoxin production should be applied to the preparation of catgut instead of the usual haphazard methods before the actual sterilization.

81. Rectal Prolapse.—In the first case a Thiersch ring was applied, and after failure at first and recurrence in a few months, a renewed application of the ring induced a permanent cure. The ring was also used in a second case, accompanied by resection by the Mikulicz technic, with satisfactory results. Piqué has reported 27 cured out of 33 patients treated with the Thiersch silver wire ring. Scraps of wire may be eliminated later, but the desired purpose is accomplished before this can occur, cicatricial tissue developing and preventing recurrence of the prolapse. Goebel remarks that the different prolapse operations are not accurately estimated to date, as too many cases are reported before sufficient time has elapsed for the definite outcome to be known.

Centralblatt für die Grenzgebiete der Medizin und Chirurgie, Jena

September 3, XII, No. 16, pp. 609-640

84 *Treatment of Neuralgia by Deep Injections of Alcohol. J. Flesch. Commenced in No. 15.

84. Deep Injections of Alcohol in Treatment of Neuralgia.—Flesch reported last July 25 cases in which success almost invariably followed the application of deep alcohol injections. He here reviews 63 other communications on the subject, and describes the three methods in vogue. Flesch adds his commendation to those of the other writers, having found the peripheral deep injections reliable and only slightly painful, while they have the further advantage that they can be repeated as often as is necessary. Kiliani has reported 47 patients cured by peripheral or central alcohol injections in 55 thus treated, the neuralgia having resisted the other usual measures for from one to twenty years. The articles on the subject in The Journal a year or so ago are summarized with considerable detail.

Deutsche medizinische Wochenschrift, Berlin

September 2, XXXV, No. 35, pp. 1506-1552

85 Systolic Functional Heart Murmurs. (Systolische funktionelle Herzgeräusche.) S. E. Henschen.
86. Aërated Bath Water. (Ueber Luftperlbäder.) H. Senator.
87 Conception of Disease. (Bemerkungen zu dem Aufsatz Aschoffs "Ueber den Krankheitsbegriff.") H. Ribbert.
88 Roentgen Ray Diagnosis of Changes in Position and Shape of the Stomach. (Zur Diagnostik von Lage- und Formveränderungen des Magens mittels des Röntgenverfahrens.) E. Schlesinger and F. Holst.
89 Guaiac Test for Blood in Stools and Sources of Error. (Ueber den chemischen Nachweis von Blut im Stuhl mittels der kombinierten Terpentin-Guajak- und Aloinprobe mit besonder Berücksichtigung der dabei vorkommenden Fehlerquellen.) A. Ohly.
90 Regular Appearance of Tuberculin Antibodies in Course of Specific Treatment and their Significance from Therapeutic Point of View. (Ueber das gesetzmässige Auftreten von Tuberkulin-Antikörpern im Laufe der spezifischen Behandlung. M. Pickert.
91 Testing Heart Functioning. (Zur Prüfung der Herzfunktion.) E. Homberger.
92 The Tschernugobow Modification of the Wassermann Reaction. A. Stühmer.
93 Two Cases of Torsion of the Omentum. (Zur Frage der Netztorsion.) G. Seefisch.
94 The Physiologic Osteoid in the Fetus and New-Born Infant and its Importance for the Histologic Diagnosis of So-called Congenital Rachitis and Syphilitic Osteochondritis. E. Wieland.
95 Connection Between Infection and Flatfoot. (Beziehungen zwischen Infektion und Plattfuss.) J. Lewy.
96 Means to Prevent Conception. (Eine Mittel zur Verhütung der Konzeption.) R. Richter.

Medizinische Klinik, Berlin

August 29, V, No. 35, pp. 1291-1338

97 *Treatment of Diabetes. C. v. Noorden.
98 *Methods of Examining Sputum. (Neuere Methoden der Sputumuntersuchung.) P. Uhlenhuth.
99 Physical Factors in Pathology. N. P. Tendeloo.
100 Tuberculides. (Zur Aetiologie und Klinik der Tuberkulide.) E. Finger.
101 *Visible Gastric Peristalsis. (Zu äusserlich sichtbaren Magenbewegungen.) S. Laache.
102 *Gastric Mucosa in Pernicious Anemia. (Magenmukosa bei perniziöser Anämie.) S. Talma.
103 *Gastric Achylia with Anemia. K. Faber.
104 *Universal Asthenia. (Der Morbus asthenicus.) B. Stiller.
105 Oxaluria. (Bedeutung und Behandlung der Oxalurie.) H. Salomon.
106 New Needle and Technic for Deep Suturing. (Eine neue Methode zur Nahtanlegung in tieferen Körperteilen mit einer neuen Nadel.) I. Kubo.
107 *Arteriosclerosis. (Allgemeine Betrachtungen über die Arteriosklerose.) H. Huchard.
108 The Cortical Retina. (Ueber inselförmige Vertretung der Makula in der Sehrinde des Gehirns.) S. E. Henschen.

September 5, No. 36, pp. 1339-1376

109 *Flatulence. E. Schwarz.
110 *Value and Practical Importance of Serodiagnosis of Syphilis. Grosser.
111 *Permanent Hypertonicity of the Blood Vessels. (Permanente Hypertonie.) J. Pal. Commenced in No. 35.
112 Hot Water Treatment. (Die Heisswasserbehandlung in der Dermatologie.) C. Rosenthal. (Sensibilitätsstörungen und Heisswasserbehandlung.) A. Stern.

97. Treatment of Diabetes.—In this review of his own experience v. Noorden expatiates on the great progress realized in adapting the diet to the individual tolerance of the patient. His experience includes about 3,000 cases of diabetes during the last fourteen years, and with careful individualization the prognosis of the disease has been materially improved. Several hundreds of his patients under observation for more than seven years have been kept free from glycosuria by changing their diet occasionally, according to the metabolic findings, and they are all now in good health, free from any complications. Most of them must still be regarded as diabetics, as any carelessness in taking too much carbohydrate would certainly bring on the glycosuria again. He is waiting for the completion of the twentieth year to publish a thorough analysis of his experiences. Of course, it is impossible to keep the diabetes under control in every case. This is due in part to the malignancy of the process affecting the pancreas, but it is especially remarkable that in the cases with a rapid course, for example, in children and in young people, it is often impossible to detect any structural changes in the pancreas. Under the age of 30, glycosuria may occur for a time and then completely subside; he has observed this after acute infections; but when the diabetes appears in the form of severe glycosuria, persisting in spite of change of diet, with considerable amounts of ketone bodies, the prognosis is almost invariably very grave. The same occurring in older persons is of much less serious import, and he has several hundreds of elderly patients who have been kept free from glycosuria for more than five years and are in excellent general health and strength on their careful and regulated diet. These cases are much more numerous than is generally supposed, while in the young this form is extremely rare. Everything depends on the systematic dietetic measures being instituted early. The whole future of the diabetic is determined by the management of the case during the early stages, except in the really malignant cases. It is difficult to persuade the diabetic of the necessity for energetic measures during this early stage, for the disease has an especially dangerous deceptive property of leaving the general health unimpaired for several years and this is a constant temptation to disregard the needed precautions. In nearly every case the glycosuria occurs transiently at first, and is explained as a harmless alimentary or nervous phenomenon, but these so-called transient glycosurias become transformed later, if neglected, into true progressive diabetes. Not until every case of glycosuria receives the attention it deserves, and not until every diabetic has his diet regulated to conform to the individual indications, will the patients share in the benefit which is possible with appropriate dietetic therapy. Not until then will it become generally recognized that the prognosis of diabetes can become far more favorable than is the case at present with the ordinary routine measures.

98. New Methods of Sputum Research.—Uhlenhuth calls special attention to the antiformin method. This is a mixture of a solution of potassium hydrochlorite (Javelle water) with sodium hydrate. The proportion of alkali is 7.5 per cent sodium hydrate, and on the addition of the acid 5.3 per cent. chlorin is liberated. This mixture is so powerful that it dissolves bristles, horse hairs, insects and beetles in half an hour; wool and silk are also dissolved, but cotton and wax are unchanged. Bacteria are dissolved in five minutes in a 5 per cent. solution. Neither of the ingredients has this effect alone. The action of antiformin on scraps of iron is most remarkable; they assemble to form tree-like masses. Tubercle bacilli alone are not affected and the advantages of such a fluid for examination of sputum are evident. The bacilli are cleaned at once of mucus, etc., while their staining properties are not impaired. On the other hand, this exceptional resistance of the tubercle bacillus to a chemical that almost instantly destroys and completely dissolves all other microbes, shows that there is little hope of influencing these bacilli in the body by therapeutic means; the only hope is in preventing their invasion of the body. The secret of control is in prophylaxis.

101. **Visible Peristalsis of the Stomach.**—Laache reports three cases with an illustration of one in which the intermittent stiffening and protrusion of the stomach were so violent that they could be readily watched. Such a phenomenon indicates stenosis of the pylorus, and he thinks it should be accepted as an indication for immediate gastroenterostomy. This gave good results in two of the cases and Buchholz has reported similar cases.

102. **The Stomach Mucosa in Pernicious Anemia.**—Talma reports the case of a farmer of 28 who succumbed to pernicious anemia after symptoms for eight years. The findings in the stomach indicated a reactive secondary inflammation, probably the result of poisons generated in the intestines. Talma does not regard this stomach disturbance as primary.

103. **Gastric Achylia with Anemia.**—Faber states that out of 125 cases of chronic gastric achylia 12 of the patients presented progressive pernicious anemia. Besides this group there were a number of young women with gastric achylia accompanying anemia which persisted for years uninfluenced by therapeutics. In one case iron was given for three years with only slight transient benefit. He regards this as a special form of anemia plus achylia distinguished by its protracted course and resistance to therapeutic measures. The blood findings are different from those in pernicious anemia; in the latter, the anemia seems to be due to the destruction of the blood. In the group in question the anemia was of the same type as in chlorosis and in secondary anemia from cancer, hemorrhage and the like.

104. **Universal Asthenia.**—Stiller ascribes uniformly to the "morbus asthenicus" what has hitherto been regarded separately as the "anatomic predisposition to tuberculosis," wandering kidney, gastroptosis, nervous dyspepsia, etc. All these, he declares, are merely the various manifestations of the constitutional asthenia which is not a clinical curiosity, but is encountered on every hand. Neurasthenia is an integral element of this asthenia and the latter provides the most favorable soil for certain other affections. Most striking is its genetic connection with pulmonary tuberculosis. Not every asthenic becomes tuberculous, but nearly every tuberculous patient bears not only all or most of the features of the universal asthenia, but also its most special stigma, the floating tenth rib. The dyspepsia of the tuberculous is merely the nervous dyspepsia peculiar to the asthenia. Chlorosis and gastric ulcer show a predilection for "asthenics," as also orthostatic albuminuria and a certain form of mitral stenosis which he has encountered in young women and girls. On the other hand, asthenia seems to be antagonistic to certain other affections, including typhoid, obesity, gout, chronic rheumatism, nephritis and certain heart and vascular affections. These are only rarely encountered in this congenital asthenia. The latter is the most frequent and most predominant of all constitutional affections, and represents the most universal morbid predisposition. It is not restricted to a single organ, but involves all the organs in the body. It is distinguished above all others, besides, by the fact that it has its own "habitus" and its own stigma, and these anatomic signs reveal in the child the predisposition to certain diseases, and this warning permits prophylactic constitutional preventive therapy.

107. **Arteriosclerosis.**—Huchard has investigated the causes of the arteriosclerosis in 2,680 out of 15,000 cases personally observed, and lists them according to their relative frequency and importance as gout, uricemia, the food, syphilis, tobacco poisoning, worry, mental overexertion and alcohol. He reiterates that the abuse of meat in the diet is a powerful and frequent cause of arteriosclerosis as it fills the body with poisons which have an elective action on the arteries, causing contraction, with consequent hypertension. This intoxication is early revealed by a very important symptom which he calls toxic alimentary dyspnea. It rapidly subsides when the ordinary diet is changed to milk and vegetables, which is the basis of the treatment. The mere restriction of meat in the diet puts an end to the disturbances, confirming the theory that this dyspnea, formerly called cardial or aortic dyspnea, is in reality due to the food.

109. **Flatulency.**—Besides dietetic measures and exercise, Schwartz ascribes great importance to massage of the abdomen in treatment of habitual flatulence—energetic massage with rather long sittings—attributing the benefit to the stimulation of the venous circulation. Purgatives should be used only in emergencies. Charcoal and ethereal oils sometimes benefit, although this is not the rule. With a tendency to flatulence there are generally signs of interference with the abdominal circulation, some enlargement of the liver or signs of beginning arteriosclerosis, which explain the benefit from massage of the abdomen. Cardiovascular affections also induce a tendency to flatulence from this same cause. It is also liable to occur with cirrhosis of the liver before the stage of ascites is reached. A sedentary occupation and lack of exercise are important factors in inducing sluggishness in the abdominal venous circulation with its consequent defective absorption of gases and resulting flatulency. The cardiovascular system should be carefully examined as the first step in treatment or the measures advised for the flatulency are liable to overstrain a weakened heart.

110. **Serodiagnosis of Syphilis.**—Grosser reviews the literature and his own experience with 300 cases, his conclusion being that the Wassermann reaction must not be rated too highly as a guide for treatment, but that positive findings are important in diagnosis. A persisting positive reaction, notwithstanding vigorous specific treatment, raises the question whether the infection in these cases is peculiarly resistant to mercury. The reaction is tenaciously positive in hard drinkers, and the manifestations of the syphilis in such individuals are also peculiarly rebellious to specific treatment. A positive reaction during a latent phase of syphilis generally justifies a new course of treatment and a negative reaction suggests frequent repetition of the test for a decisive conclusion. He reiterates that the nature of the reaction is still a mystery, but it is evident that it is not strictly specific.

111. **Isolated Permanent Contraction of the Vessels as a Morbid Entity.**—Pal declares that a stable contraction of the vessels with consequent hypertrophy of the heart may occur not only as a secondary phenomenon, but as an independent morbid condition. When the arterial pressure becomes high and stays high for a few hours or days, but then subsides to normal, the high tension or "pressory vascular crisis," as he calls this condition, resembles in every respect the acute high tension induced in experiments on animals by direct stimulation of the nerves or by the action of some toxic substance. Frequently recurring increased pressure may in time induce a permanently high tension. This condition of permanent high pressure may be a secondary symptom with parenchymatous nephritis, secondary contracted kidney and atherosclerosis. But in many other cases it may be the primary and basal affection, especially in certain cases suggesting atherosclerosis and in true contracted kidney. This group deserves study as a morbid entity, both from the standpoint of etiology and pathogenesis. Huchard calls this condition of high pressure and consequent hypertrophy of the heart the "stage of presclerosis," and von Basch styles it "angiosclerosis." Chronic nephritis and arteriosclerosis are generally, but not invariably, accompanied by this increased pressure so that the connection between them and the high pressure is still a problem. Pal makes a point of systematically recording the arterial pressure in every case of nephritis and comparing these records with the post-mortem findings. The maximal pressure cannot serve as a basis for estimation of the condition, only the basal pressure. There is no direct connection between the degree of pressure and the nature or intensity of the kidney process. The figures are highest with contracted kidney, but these findings are unable to differentiate a true from a secondary contracted kidney. A permanent high pressure is much rarer with arteriosclerosis than generally assumed. Very high pressure is observed at times, but this represents merely a vascular crisis which subsides sooner or later. Albuminuria may be encountered during or following it, but this may indicate merely insufficiency of the right heart, venous stasis, in consequence of the high pressure. Autopsy in a number of such cases suggesting apparently "arteriosclerotic kidney," revealed merely congestion, but no other changes in the kidney, although the arteriosclero-

sis and the hypertrophy of the heart were pronounced. Such cases confirm the assumption that the kidney is not responsible for the high arterial pressure, but that some other cause must be sought. In other cases sclerosis of the coronary arteries was the only manifestation of the arteriosclerosis which had induced permanent high tension and extreme dilatation of the heart, especially of the left ventricle. In other cases slight atherosclerosis of the aorta and brain vessels was accompanied by extremely high arterial pressure, and yet the kidneys and their vessels proved to be intact, even under the microscope. In arteriosclerosis slight increased pressure has been the rule in his experience, but even pronounced low pressures have been encountered. All the data presented indicate that arteriosclerosis develops under various conditions. It may be localized or diffuse, but there is nothing to sustain the assumption that it necessarily depends on the contraction or relaxed condition of the vessels. In a case cited in detail, a woman of 42, with permanent high pressure and much hypertrophy of the heart, with signs of mitral insufficiency, developed albuminuria and headache ascribed to the arterial stasis in the brain, the whole syndrome suggesting impending acute uremia, but nothing could be discovered in the vessels at autopsy to explain the high arterial pressure which had persisted during the year and a half the patient was under observation. The kidney was intact except for stasis congestion, and the increased pressure with the consequent hypertrophy of the heart and insufficiency of the right heart must have been the result merely of contraction of the peripheral vessels. This excessive contraction may have been the result of addiction to alcohol or the effect of an adenoma found in one suprarenal. The case is instructive as showing that extremely high arterial pressure may exist in the absence of morbid changes in the kidneys and of an anatomic substratum in the vessels themselves.

Therapeutische Monatshefte, Berlin

September, XXIII, No. 9, pp. 463-518

113 *Mammary Tumors. (Tumoren der Brustdrüse und ihre Chirurgische Behandlung.) P. Bockenheimer.
114 Coryza in Infants and its Complications. (Der Schnupfen der Säuglinge.) O. Aronade.
115 *A Plea for Ample Gratuitous Supply of Quinin, Mercury, etc., as the Prophylaxis of the Future. (Die Rolle der unentgeltlichen oder zu billigem Preise erhältlichen Arzneimittel in der Bekämpfung einiger Krankheiten.) B. Galli-Valerio.
116 Treatment of Granulating Wounds with Scarlet-Red Salve. (Behandlung granulierender Wundflächen mit Scharlachrotsalbe.) G. Morawetz.
117 Utilization of Pawlow Fistula into the Intestine for Pharmacologic Research Purposes. (Die permanente seitliche Darmfistel eine Methode zur Untersuchung des Schicksals und der Wirkung von Arzneimitteln im Magen-Darmkanal.) A. Bicket.

113. **Tumors of the Breast.**—Bockenheimer discusses various benign and malignant tumors, remarking that over 80 per cent. of mammary tumors are malignant according to the records to date. He reviews his experience and states that radiotherapy, fulguration and injections of certain fluids may cause the tumor to subside, but it continues its growth in the depths. Recent statistics have shown fully 30 per cent. permanently cured three years after excision. The main point is an early diagnosis and prompt excision.

115. **Free Drugs in Prophylaxis of Disease.**—Galli-Valerio emphasizes the great forward stride that would be realized in prophylaxis if all with malaria, syphilis, cretinism and typhoid could receive free an ample supply of the drugs and disinfectants required to cure and prevent infection of others.

Therapie der Gegenwart, Berlin

September, L, No. 9, pp. 409-456

118 *Symptomatology and Puncture of Pericardial Effusion. (Zur Symptomatologie und Punktion der Exsudate des Herzbeutels.) W. Zinn.
119 *Action of Saliva on Secretion of Gastric Juice. (Wirkung des Mundspeichels auf die Magensaftsekretion.) E. Fricker.
120 *Present Status of our Knowledge of Brain Tumors. (Der gegenwärtige Stand unserer Kenntnisse vom Hirntumor.) L. Jacohsohn.
121 *The Kitchen in the Modern Sanatorium. (Die Küche in der modernen Heilanstalt.) W. Sternberg.

118. **Pericarditis with Effusion.**—Zinn pleads for more general adoption of puncture in pericarditis with effusion as a simple and reliable measure in general practice. He reviews the symptoms of pericarditis as he encountered them in over 130 cases. About 1,000 cases of acute articular rheumatism have been treated in the Bethanien Hospital at Berlin, and pericarditis was observed in 10 per cent. and endocarditis in 25 per cent. In the 100 cases of rheumatic pericarditis friction sounds were noted in 50 per cent.; in 14 there was a slight effusion besides the friction and in 35 per cent. the effusion was moderate to excessive. In pericarditis of other origin there were friction sounds or no symptoms in about two-thirds and an effusion was evident in less than one-third. In 47 cases with very much effusion the symptoms did not compel intervention in 16, but puncture was required in 25. In some of the cases the pericarditis was the first sign of the rheumatic infection and typhoid was suspected at first. All the patients in this category recovered. In case of a large effusion neighboring organs may be interfered with; in one case there was permanent recurrent paralysis, in another acute mediastinitis. Other cases show that pericarditis without effusion may occur as a primary process. Roentgen examination is sometimes useful. When puncture is indicated by threatening symptoms or by lack of any tendency to absorption of a large effusion, the best point to introduce the trocar is where the largest mass of the effusion is found and that is the fifth or sixth interspace on the left, outside of the nipple line, where there is dulness, but no friction sound nor pulsation. He makes an incision in the skin under local anesthesia, after which the puncture is made rapidly and easily and the effusion is siphoned out without aspiration. He has thus withdrawn from 80 to 300 or once even 700 c.c., but states that sometimes withdrawal of a small amount is enough to start the resorption of the rest. In case of much dilatation of the left ventricle, or adhesion of the pleural or pericardial sheets, it may be advisable to make the puncture on the right side of the sternum.

119. **The Action of the Saliva on the Secretion of Gastric Juice.**—Fricker reports a series of researches which he undertook in his own person, the results confirming the assumption that the act of chewing promotes the secretion of gastric juice, as also the arrival in the stomach of saliva, which seems to have a specific stimulating influence on the secretion of gastric juice.

120. **Brain Tumors.**—Jacobsohn gives the details of 10 cases of tumor in the brain, discussing the symptomatology in general.

121. **The Kitchen in the Modern Sanatorium.**—Sternberg discusses the arrangements by which the food can be served palatable, hot and freshly prepared, not warmed up, and he thinks that the sanatoriums can learn from hotels in this respect. He insists that fine grinding is often more important than the chemical constituents of the food. Large mortars and extremely fine sieves are important factors in the preparation of easily digestible foods. The aim should be to make a dish that melts in the mouth like fine grades of candy. The sanatorium kitchen should be provided with apparatus similar to that used in high art cooking and confectionery. His arguments to sustain these assertions were mentioned in THE JOURNAL, April 10, 1908, page 1219, and July 18, page 266.

Zentralblatt für Chirurgie, Leipsic

September 4, XXXVI, No. 36, pp. 1225-1256

122 *Cure of Prolapse of Rectum by Systematic Tamponing of Retrorectal Space. P. Sick.
123 *An Adjustable Drill for Extension of Bones. (Ein zerlegbarer Bohrer zur Extension am Knochen.) E. Becker.

122. **Treatment of Prolapse of the Rectum by Tamponing.**—Sick expatiates on the advantages of tamponing in treatment of prolapse of the rectum. An incision is made between the tip of the coccyx and the circular sphincter fibers, through the superficial fascia into the loose connective tissue behind the rectum. There are no vessels, muscles or nerves to be injured at this point. The rectum is then detached up to the promontory, as for resection, tamponed with a little gauze, and a strip of medicated gauze, folded four or six times is introduced. The incision 2 or 4 cm. long is closed with plaster or collodion. The tampon is removed as after a nephropexy in one or two weeks, but not until after the second or third week

should the patient be allowed to defecate seated. This technic is especially applicable for children, and he thinks it is much superior to the Ekehorn technic, which he declares is neither simple, harmless nor promising of permanent results.

123. **Drill for Extension of the Bone.**—Becker has been trying to perfect the technic of applying extension directly to the bone itself. He inserts a drill from both sides, these meet and lock in the center, while the outer ends fit into plates from which the weights are suspended. The drill is worked with an electric motor.

Zentralblatt für Gynäkologie, Leipsic

September 4, XXXIII, No. 36, pp. 1249-1280

124 *Conservative Operations for Myoma. W. Rubeska.
125 Influence of Delivery on the Levator Ani Muscles and the Operation for Prolapse. L. Heidenhain.
126 Familial Occurrence of Typical Menstrual Flow during Pregnancy. E. Vogt.
127 Operative Treatment of Complicated Retroflexion of the Uterus. (Pfannenstiel'scher Schnitt mit Verkürzung der runden Mutterbänder nach Alexander-Adams.) P. Brose.
128 Extrauterine Twin Pregnancy. (Zwillingsschwangerschaft mit heterotopem Sitz der Früchte.) A. Leo.

124. **Conservative Myoma Operations.**—Rubeska performed a conservative operation in 9 out of 91 abdominal operations since 1896. Only 1 of the women has not borne 1 or more children since without mishap. In 3 cases the myoma grew again compelling hysterectomy, but each woman had borne a healthy child in the interim of 7 or 5 years.

Gazzetta degli Ospedali e delle Cliniche, Milan

August 31, XXX, No. 104, pp. 1097-1104

129 *The Temperature Equivalents in Malaria. (Gli equivalenti termici dell'infezione malarica.) G. Trincas.

September 2, No. 105, pp. 1105-1112

130 *Dosage of Quinin in Malaria. (La somministrazione del chinino nella malaria.) G. Palumbo.

September 5, No. 106, pp. 1113-1128

131 Lime Metabolism and the Parathyroids. (Metabolismo del calcio e paratiroidi. Preteso antagonismo fra tiroide e paratiroidi.) Silvestri.

129. **Apyretic Malaria.**—Trincas declares that malaria should be defined as an infection which is frequently but not necessarily always accompanied by fever. There may be other phenomena taking the place of the fever, and these thermic equivalents, as he calls them, may be exceptionally serious. In the last year or so cases have been reported in which apyretic malaria induced paroxysms of kidney colic or of facial paralysis, aphasia or hemiplegia; in one case attacks of sciatic neuralgia occurred until the febrile paroxysms developed, after which the sciatica did not recur. In these apyretic cases of malaria differentiation is possible only by microscopic examination of the blood or the prompt cure under quinin.

130. **Administration of Quinin.**—Palumbo thinks that the prevailing methods of giving quinin fail to answer their purpose quite so fully as desired; the aim should be to have the blood saturated with the drug just at the time the attack is expected. He accomplishes this by giving the usual dose of 1 gm. fractioned in five doses, the last being taken just two hours before the anticipated attack. The same amount is taken on the day between the attacks, and after they have subsided he continues with smaller amounts for a few days. In 5 of his 120 cases the malaria was of the apyretic form, the attacks taking the form of trigeminal or intercostal neuralgia, recurring according to the tertian type, and all cured by two applications of quinin according to the above rule. When a large dose is given at one time about half of it is promptly eliminated, leaving only the other half to combat the parasites. A much smaller proportion is eliminated early, he says, when given in fractioned doses.

Policlinico, Rome

September, XVI, Surgical Section, No. 9, pp. 381-428

132 Radical Treatment of Chronic Laryngeal Stenosis. (Considerazioni e contributi per la cura radicale delle stenosi croniche laringee.) T. Della Vedova.
133 Three Cases of Osteocarcinoma of Traumatic Origin. G. Gallina.
134 *Treatment of Leg Ulcers by Circular Incision Above the Ulcer. (Cura delle ulcere varicose col metodo della sezione cutanea circolare della gamba alla Mariani.) S. V. Crainz.

134. **Treatment of Leg Ulcers by Circular Incision Above.**—Crainz here reports the application of this method in 14 cases before 1908 with the ultimate outcome. In 3 cases the operation was bilateral and in 6 cases the saphenous vein was also resected. There does not seem to be any danger of thrombosis with the circular incision technic, and all of the 11 patients with the simple incision have been entirely cured to date with one exception, in which there was only improvement. There was also one failure in the 6 cases in which this technic was supplemented by resection of the vein trunk. He regards these results as a brilliant success, particularly as the ulceration in many of the cases had been of several years' standing, the lesions were extensive and deep and the patients were working people, compelled to use the leg constantly. Even in the 2 cases reported as failures, although the ulcer still persists, it has been reduced to an insignificant lesion almost entirely free from discharge. The circular incision through the skin and subcutaneous tissue encircles the leg just below the head of the peroneus.

Riforma Medica, Naples

September, 6, XXV, No. 36, pp. 981-1008

135 *Diagnosis of Pseudoascites from Rupture of Ovarian Cysts. A. Ott.
136 Periappendiceal Inflammatory Swelling Simulating Neoplasm. (Tumore infiammatorio pseudo-neoplastico peri-appendicolare.) F. Gangitano. Commenced in No. 35.

135. **Differentiation of Pseudoascites from Rupture of Ovarian Cyst.**—Ott describes a case which emphasizes anew the importance of cooperation between the internist and the surgeon for interpretation of phenomena observed even when they are assumed to pertain exclusively to the domain of internal medicine. In a woman of 47 with supposed ascites after three years of vague lumbar pains, constipation, irregular menstruation and gradual increase in size of the abdomen, the discovery of a tumor in the right flank gave the clew to the diagnosis, especially as exploratory puncture brought a mucous rather than an ascitic fluid. At the laparotomy the abdomen was found filled with small cubes of a jelly-like substance and multiple cysts were found in the ovaries and invading the peritoneum. When the cyst ruptures insidiously and the contents escape gradually into the peritoneal cavity, as in this case, there may be no symptoms to call attention to the rupture, and the fluid obtained by puncture may not be characteristic either of a cyst or of ascites. However, if the fluid obtained by puncture contains an unusually large proportion of granulated corpuscles, a cystic origin is probable. When the rupture occurs suddenly, the symptoms generally differentiate the disturbance at once.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

A Book of Quatrains. Original and Translated. By Frederic Rowland Marvin. Cloth. Pp. 101. Price, $1. Boston: Sherman, French & Co., 1909.

Australasian Medical Congress. Transactions of the Eighth Session. Held in Melbourne, Victoria, October, 1908. Vols. I, II, and III. Paper.

Doctor Rast. By James Oppenheim, Author of "Monday Morning and Other Poems." Cloth. Pp. 321. Price, $1.50. New York: Sturgis & Walton Co., 1909.

A Text-Book of Obstetrics. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania. Sixth Edition. Cloth. Pp. 953, with 847 illustrations. Price, $5. Philadelphia: W. B. Saunders Co., 1909.

The Principles of Hygiene. By D. H. Bergey, A.M., M.D., Assistant Professor of Bacteriology, University of Pennsylvania. Third Edition. Cloth. Pp. 542, with illustrations. Price, $3. Philadelphia: W. B. Saunders Co., 1909.

Surgical Diagnosis. By Edward Martin, M.D., Professor of Clinical Surgery in the University of Pennsylvania. Cloth. Pp. 737, with 445 engravings and 18 plates in colors and monochrome. Price, $5.50. Philadelphia: Lea & Febiger, 1909.

Modern Materia Medica and Therapeutics. By A. A. Stevens, A.M., M.D., Professor of Therapeutics and Clinical Medicine, Woman's Medical College of Pennsylvania. Fifth Edition. Cloth. Pp. 646. Price, $3.50. Philadelphia: W. B. Saunders Co., 1909.

An Introduction to Chemical Analysis for Students of Medicine, Pharmacy and Dentistry. By Elbert W. Rockwood, M.D., Ph.D., Professor of Chemistry and Toxicology and Head of Department of Chemistry in the University of Iowa. Cloth. Third Edition. Pp. 241, with 20 illustrations. Price, $1.50. Philadelphia: P. Blakiston's Son & Co., 1909.

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Original Articles

ENUCLEATION OF UTERINE MYOMAS; WHY AND WHEN PERFORMED *

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PHILADELPHIA

The treatment of fibroids has ever been a mooted question. I can well remember the period when the extrusion of such growths through the long-continued administration of ergot was considered the proper plan of treatment, and the operative measures were principally confined to the reduction of the resistance to the action of the ergot. Not infrequently were seen cases in which the extrusion under this plan was so rapid that the circulation in the growth became affected and necrosis followed. Such a condition was fraught with danger whether a submucous or a subperitoneal growth.

It was not surprising that the futility of medical measures—indeed, their often disastrous effects—should have led to surgery as the means of escape from the discomforts incident to myomatous growths.

The earlier plans of treatment were necessarily confined to growths which were causing symptoms; and it is a well-known fact that the interstitial and subperitoneal rarely produce symptoms of a distressing character until sufficiently large to produce pressure or become visible through distention of the abdomen. The growths of the submucous variety, on the other hand, are very early the cause of discomfort and alarming symptoms from the profuse bleeding and the painful efforts of the uterus to expel the menacing growth.

The natural history of the extrusion of the latter growths was the origin of the ergot treatment, which was followed until the expulsion brought the growth within reach of the surgeon. Unfortunately it was but a very limited number of cases which were found amenable to such treatment, while medical measures were ineffectual or productive of additional danger to the majority.

Our present knowledge assures us that these patients suffered from weight and pressure of the tumors, from the absorption of toxins generated within them, and were endangered by necrotic and degenerative processes incident to their changing nutrition.

It is not surprising, then, that with increasing experience in operative measures within the abdomen measures should be instituted for the removal of the uterus containing these offending growths. The radical procedure was naturally chosen in view of the fact that the cases selected for operation were those in which the symptoms were so pronounced that the condition was no longer endurable. With a reduction of operative mortality, surgery has been resorted to much earlier in the history of the disease, and some have accepted the dictum that the pickled fibroid is the only fibroid to leave unmolested. The advocates of early operation are confronted with the recognition of the fact that early operation must necessarily result in the arrest of all hope of conception in a large number of comparatively young women, for fibroid growths are recognized as occurring in women between 25 and 40 years of age.

It is true that the presence of fibroids increases the tendency to sterility, but the large number of cases of the coexistence of pregnancy and fibromas demonstrates that they do not make sterility absolute.

The study of the specimens removed, showing the enveloping capsule and the ease with which the tumors could be peeled out, make the consideration of the removal of the growths and the preservation of a functionating uterus seem justifiable. The aim of any capital operative procedure is to save life, but the preservation of the function should be considered as next in importance, especially when the function preserved has to do with the propagation of the species.

Not infrequently a woman will place but little value on her ability to bear children—may, indeed, endeavor to avoid the responsibilities of the marital relation—but when she realizes that some operative procedure is followed by premature menopause she awakens to a realization of the fact that the function lost was one she prized beyond every other, and is so disturbed by her loss that the mental faculties become unbalanced.

The premature menopause frequently produces marked nervous and vasomotor disturbances, which destroy all comfort and pleasure in life. The combination of these symptoms with the mental phenomena induced by the knowledge of inability to conceive leads to mental derangement. As it is beyond our possibility to determine in advance the influence such measures will exert in any individual case, it seems the better procedure, whenever possible, to preserve the uterus and remove the growths.

An advantage of this procedure which is not always apparent to the patient in whom there is a recurrence is that, should the worst come and the growths recur, we can then if necessary do a second operation which will not, in the majority of cases, be required until years after the first. On the contrary, should the removal of the pelvic structures as a primary procedure be productive of deleterious effect, there is no plan by which we can replace the organs, and in many instances there is but little reason to hope for improvement.

I will not attempt to occupy the attention of the Section with the details of enucleation further than by remarking that the operation may be either vaginal or abdominal. The former should be employed only when the growths are limited to those which encroach on the uterine cavity or are confined to the lower portion of the uterus, making them readily accessible through a roomy vagina.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

In either the vaginal or abdominal procedure, the aim should be to do as little injury to the organ as possible; consequently the number of incisions into the uterus should be limited. The vascular supply to the growths occurs through the vessels of the capsule; consequently the hemorrhage is at times quite considerable and requires the employment of measures for its control. Some operators advocate the application of a rubber ligature about the cervix during the process of enucleation, but I have never found this necessary, as the bleeding can be controlled by pressure forceps direct to the bleeding vessels. Large vessels or sinuses should be ligated by passing a needle armed with a catgut ligature beneath the vessel. The wound or wounds in the uterus should be closed with interrupted catgut sutures and then with a second or superimposed row of sutures to bring the peritoneum in contact over the line of the wound. I formerly closed such wounds with several rows of continued catgut suture, but not infrequently the loose capsular connective tissue is of such low vitality that occasionally all the tissue inclosed in the line of suture will become so devitalized that it will slough out.

In reviewing my own work done to retain the uterus, I find about thirty-seven cases in which fibroids have been enucleated through an abdominal incision, and five cases in which the operation has been accomplished *per vaginam*. A large number of cases of myomectomy either through the vagina or by abdominal incision are not included, but only those in which the growths have been enucleated. In five of the abdominal cases, the operation was performed during gestation, and in all the patient continued to carry the offspring until the completion of pregnancy. In none of the cases has there been any trouble during labor. In several of the patients the convalescence has been stormy or prolonged, and in two death resulted. In one patient, a single woman, aged 33, thirteen growths were enucleated. The wounds were closed with several layers of continuous chromicized catgut suture, and finally the sutured surface secured to the lower angle of the abdominal wound. Her convalescence was disturbed. The abdominal wound became infected, and finally there was discharged through it a slough which contained the entire suture material employed in the fundus of the uterus. After a prolonged period the woman recovered, subsequently was married and gave birth in successive labors to two children. Her first labor was unattended by anything abnormal. Following the completion of the second, she went into collapse and died with what was supposed to be a rupture of the uterus and internal hemorrhage.

The growths have varied from one to twenty in number, and from the size of a pea to that of a child's head. The smaller, of course, were multiple. In eight cases the disease of the uterus was complicated by disease of the ovaries or tubes, requiring operation on one or both tubes. In one a hemorrhage occurred which required a vaginal incision some ten days later to evacuate the accumulation. In three cases it has been necessary to reoperate, and in one of them a second time. The latter operation was not for fibroids, however, but for appendicitis, and the opportunity was taken to overcome a ventral hernia. In one of these patients reoperated on, from whom two fibroids were enucleated at the first operation and no vestige of others recognized, at the second operation, five years later, twenty were enucleated and both ovaries removed for diseased conditions. One patient, from whom twenty growths, large and small, were removed eight years ago, now has a large collection, but as the menopause has occurred and they are not producing symptoms I have advised delay.

My analysis of my own cases and the study of the literature has caused me to regard the removal of fibroid growths by enucleation as indicated in the following conditions:

1. When the growths are few in number and the structure of the uterus is but little involved. Of course, the fibroids may be numerous but situated so near the surface as to permit their removal with but little injury to the general structure, but the large number indicates a tendency to fibroid degeneration which presages early redevelopment. Where a number of growths of considerable size are present, the structure of the uterus is so spread out and will be so injured as to render an attempt to save the organ attended with danger during the subsequent convalescence and an element of danger in the event of pregnancy and labor.

2. When the growths are readily accessible through the vagina or cervical canal. A growth within the uterus, either a sessile submucous or an interstitial, is readily attacked. Not infrequently, the canal may be partially dilated and the dilatation can be completed by the introduction of tents, or the cervix may be split bilaterally until the tumor is exposed or rendered accessible. The enucleation completed, the cavity may be packed with gauze and the split cervix closed much as is done in an ordinary trachelorrhaphy. The vaginal operations are attended with less constitutional disturbances than in the removal by an abdominal incision.

3. When the woman, whether unmarried or married, is under forty years of age, and particularly when she is childless or has but one or two children. The removal of the growths at an earlier period can not be considered as rendering certain the escape of the patient from recurrence, for one of my patients who had two fibroids enucleated when she was 33 years old five years later had twenty removed. The age of forty, however, is one at which the individual suffering from such growths begins to undergo retrogressive degenerations and when the patient has not previously been fertile pregnancy is much less likely to occur.

4. When the tubes and ovaries are free from complicating conditions. The existence of tubal or ovarian disease of sufficient gravity (as hydrosalpinx, or pyosalpinx, or ovarian hematoma), to render the probability of conception remote or to necessitate the removal of tubes and ovaries to insure restoration of health, should also be an indication for the removal of the fibromyomatous uterus. While it is true that in the majority of cases the tumors decrease and become quiescent after the menopause, yet they sufficiently often undergo necrosis and other degenerative changes to justify the removal of the uterus.

I have endeavored to indicate the conditions under which the enucleation of myomatous growths may be considered advisable, but it would seem even more important to enumerate some of the conditions in which experience has demonstrated that such a procedure would be inadvisable or even dangerous. On general principles, I would condemn the operation (1) when the woman affected has reached the age of forty, as with the changing conditions incident to the climacteric, the tendency to degenerative processes is increased. The woman who reaches this period unmarried or childless is unlikely to be fertile and the tendency to sterility will be augmented by the disease and the operative procedure required for its relief. I consider it inadvisable (2) when the uterus is spread out by the growth or growths to such a degree that the reconstruction of a functionating uterus will not be feasible, and (3) when the tumors are so distributed in the structure of the uterus that the circulation will be greatly affected in the necessary suturing to replace the disordered structures.

The danger to the patient is so great in both of the classes indicated in 2 and 3 as to render attempts to preserve the organ not only inadvisable but unjustifiable. The patient is endangered during the convalescence from necrosis and infection of the structures of low vitality, from accumulation of blood in the torn tissues, and in some cases from extensive sloughing of the devitalized structures. Should she survive the operative danger and subsequently become pregnant, she is still in danger from uterine inertia or from rupture, as evidently occurred in one of my cases.

Enucleation of growths may occasionally be of service in promoting the procedure of removal of the uterus. Its employment reduces the bulk of the mass, permitting more ready access to the tissues of the pelvis. I have made use of it, as have others in many instances, to lessen the bulk and afford more ready access to the deeper structures of the pelvis. But two cases recur to me in which it was of especial advantage. The first was that of a woman who had been subjected to an abdominal incision and the wound closed because the conditions seemed too formidable to justify further procedure. When I opened the abdomen the pelvis was so packed with the growths that the vessels were inaccessible in any direction; but the enucleation of a large number of growths rendered the shell containing the blood-vessels readily accessible and the operation easily completed.

Recently I operated on a woman past the climacteric who had carried a large tumor over eighteen years. Of late she had been suffering from abdominal pain and elevated temperature. When the tumor was exposed it was found firmly fixed, filling the large pelvis, and with the intestines so adherent to its posterior surface as apparently to defy dissection. As progress seemed unfavorable in front, behind or on either side I determined to bisect the mass. Incision disclosed that the uterine wall, nearly an inch in thickness, covered a large necrotic fibroid. This was turned out, the inner surface of the uterus curetted, the bleeding vessels ligated and the organ closed without disturbing the adherent intestines. The convalescence was unusually rapid and satisfactory.

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ABSTRACT OF DISCUSSION

DR. H. J. BOLDT, New York City: I desire to endorse Dr. Montgomery's position as to the limited indication for myomectomy; in other words, myomectomy should not be done when the uterine structure has been greatly encroached on by a large number of myomatous nodules within the organ. An inflammatory condition of the ovaries and tubes does not mean that the ovaries should be removed. With malignant change taking place in the neoplasm, particularly in patients over 40 years of age, I believe entire extirpation of the uterus is indicated rather than a supravaginal extirpation of the uterus. In patients below or about that period it is more desirable to retain the cervix and the adnexa for obvious reasons, unless there is a question of malignancy. In appendicular inflammation, the inflammation is not necessarily present only in those cases in which it is seen macroscopically; in the majority of cases in which the appendix has been removed it has been demonstrated microscopically that there was present an inflammatory condition of the appendix.

DR. HOWARD A. KELLY, Baltimore: I agree with Dr. Montgomery that myomectomy is the operation *par excellence*. When a patient comes to us our first thought is: Can I take out these tumors? Not: Can I take out the uterus? And leaving out the age limit in young women, in the absence of complications I always try to do a myomectomy. But a myomectomy is undoubtedly more dangerous than hysterectomy. I have had over 200 cases of myomectomy and the percentage of mortality is large. The operation is dangerous on account of the possibility of serious secondary hemorrhage and of infection, particularly of the former.

I have only perhaps in the last fifty or sixty cases operated by methods in which I feel secure against this accident. They consist in limiting myself to the cases in which there are not so many tumors. I expose the uterus, tie with a little gauze strip, and bisect the tumor. It is of great advantage to use a serrated instrument. A large vessel supplying the tumor should be clamped as an ordinary bleeding vessel. If after having taken off the pressure and having clamped these vessels, there is still free hemorrhage, they should be tied very carefully as described by Dr. Montgomery. The method of suture is important. The vessels should be caught and sewn together with a strong continuous catgut suture. I sometimes make the figure-of-eight suture which binds the sutures between where they tie and loop. It is the best suture I know of in loose flaccid tissue to stop hemorrhage. Most important of all and that which has helped me with my myomectomies and the only thing by which I can feel safe is to close up the wound with a little bit of a drain. It is not enough to interfere with the prompt healing and when I pull it out after two or three days I always know whether there has been hemorrhage. There is always a surprising amount of leakage; if there is too much the wound is opened up. The little telltale drain has been invaluable in enabling me to feel comfortable about the patient. It can be removed on about the third day.

DR. E. E. MONTGOMERY, Philadelphia: It is not in the simple case, the case in which the fibroid is small and the operation slight, that death is likely to take place. I would not for a moment wish to be understood as advocating operation in every case in which fibroid tumor is recognized; but I do say that such cases should be kept carefully under observation; that the growth of the tumor should indicate early operation, principally for the purpose of trying to save the patient's functions and her power of propagation. When the tumor has gone beyond this early stage and shows extensive development in the uterus we should resort to operation and safeguard the life of the patient.

Objections to External Splints in Fractures.—H. E. Pearse, in *Kansas City Medical Index-Lancet*, gives the following objections to external splints: 1. It is impossible to see the ends of bone, hence impossible to secure accurate apposition of ends. 2. Breaks are never so transverse as not to slip sidewise on occasion. 3. Portions of fascia and muscle will become misplaced and engage between the ends of bone. 4. The hemorrhage from broken bones does not stop until the parts are packed with a blood clot that must be absorbed and whose presence increases the stiffness and uselessness of the mended member. 5. External splints applied over the parts, separated from the actual broken bone by the muscle, fat and skin, cannot hold the parts in more than indifferent position and then only by exerting undue pressure on the soft parts. 6. Too often one fragment is too short to afford proper bearing for the splint and thus maintain the axis of the bone in proper position. 7. Every factor of the external splint process used to maintain apposition—splints, bandages, pressure, extension and rest—all these tell against nutrition. 8. Early motion, which is the panacea for stiffness and loss of function, must be sacrificed to the need for bony apposition.

INSECT CARRIERS OF TYPHOID FEVER *

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The events brought about by the Spanish-American war marked the beginning of the greatest epoch in the history of preventive medicine in America. The arrest of the growth and propagation of certain mosquitoes—anopheles, culex, and stegomyia—has blazed the way for the greatest achievements of modern times.

FLIES

Insect carriers of disease have not, until a comparatively recent date, received any impressive attention from medical observers. The mosquito was, perhaps, the first insect to receive due attention. Its importance as a host in malaria, yellow fever, and other diseases has been thoroughly established.

The common house-fly (*Musca domestica*), since time immemorial, has been a common nuisance of all countries, civilized and uncivilized. My first observations of the house-fly as a carrier of disease were made in army camps during the Spanish-American war. It is well known that the army camps of this war were veritable hotbeds of typhoid fever. Some outbreaks could be readily traced to the water-supply; in other camps, where the water was free from contamination, the cause of the spread of typhoid was at that time unknown. Other observers (Veeder, Craig, Austen, Stalham, Oldham) have connected the fly with the transmission of typhoid in army camps.

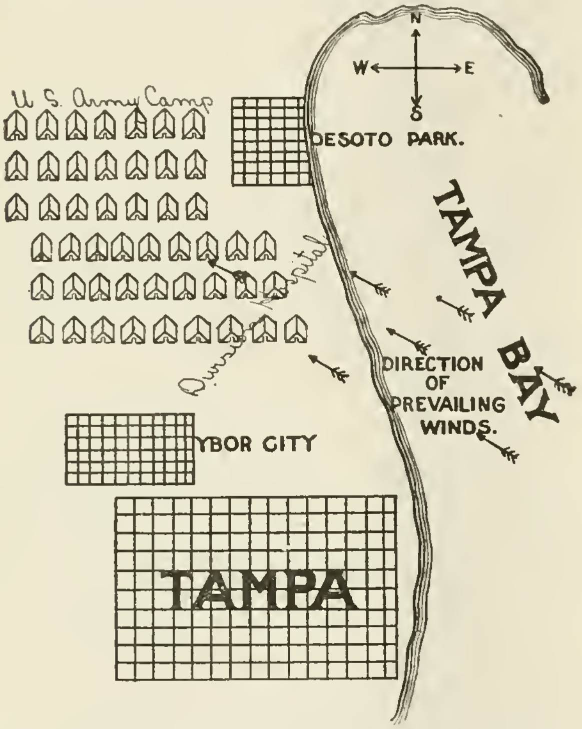

Fig. 1.—Map showing the location of part of the U. S. Army camp at Tampa, Fla., July, 1898. The arrows show the general direction of the prevailing wind and indicate how infected flies were carried from hospital, latrines, etc., to other parts of the camp.

While stationed at Tampa, Fla., in the early summer of 1898, I observed that the larger outbreaks of typhoid took place and spread in the direction of the prevailing wind. I did not fathom this peculiar phenomenon until Sergeant Brady was stricken with typhoid fever at Fernandina, Fla., some months later. He mentioned to me that the lime used about the latrines and garbage dumps was carried by flies to the food which we were using. After investigation, I found that the flies did not only carry lime, infectious matter, and other foreign material, but that they traveled in the direction of the prevailing wind.

Dr. Thomas S. Anderson, of Pittsburg, has recently confirmed and observed the factor of the prevailing wind in the spread of typhoid. In a symposium on typhoid fever before the Allegheny County Medical Society, Pittsburg, Pa., held April 20, 1909, Dr. J. F. Edwards, superintendent of the Bureau of Health, said that with the many open box privy vaults in the densely populated parts of the city the possibility of flies as carriers of disease might be a factor, but that his department had no knowledge that such was the case. Pittsburg until recently had one of the largest typhoid mortality rates of any municipality in the world. Thus, one notes how easy it is to overlook some of the most important factors in the transmission of typhoid.

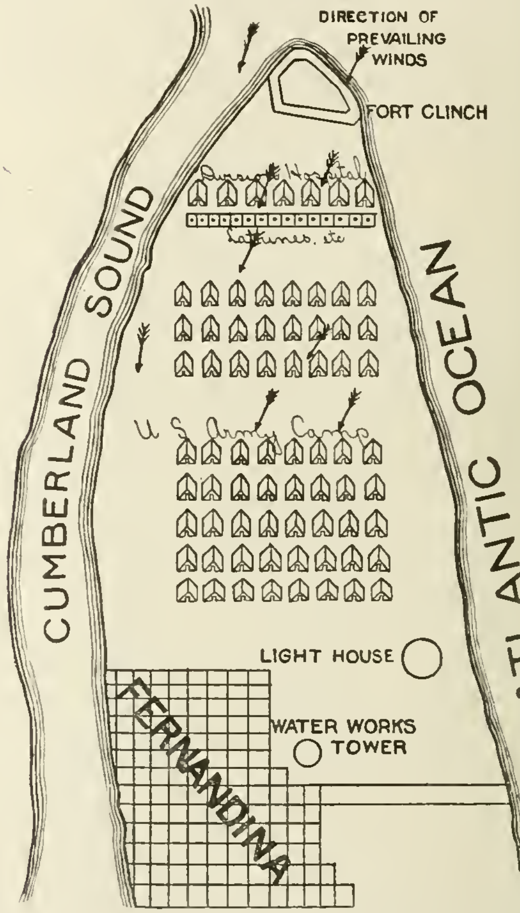

Fig. 2.—Map showing the location of the U. S. Army camp at Fernandina, Fla., 1898. The arrows show the directions of the prevailing winds and indicate the direction flies were carried from infected sources to different parts of the camp.

According to the investigations of Dr. Hamer, of the London County Council, the most productive of all factors in the fly genesis are accumulations of horse manure, but collections of dust and other refuse act as breeding-grounds. He states further that children, dirty walls and ceilings, particles of food on the floor and in sinks, are influential in attracting flies.

It has been shown that flies may carry typhoid fever germs in a living condition for over two weeks. Experiments have shown that typhoid bacilli may pass through the intestinal tract of the fly and remain alive. The germ is not so readily carried in the body of the fly as on its hairy feet. The urinals, linen, and even the mouth and rectum, as seen in many army camps, are places most likely for the fly to frequent, and thus pick up germs and become a most potent medium for the dissemination of the disease.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The true or common house-fly (*Musca domestica*) commonly lays its eggs on horse manure (its favorite food), cow manure, human excrement, and decaying animal and vegetable material. Howard has found that in midsummer each female lays 120 eggs, which hatch in eight hours, the larval period lasting five days, making the total time for the development of the generation ten days. This was at the end of June in Washington, D. C. The periods of development vary with the climate, season, and food. In the climate of Washington there is ample time for the development of twelve generations every summer (Howard).

Pomace-flies, or little fruit-flies, are commonly seen about decaying fruit and other decaying vegetation (Howard). The most abundant and widespread species is *Drosophila ampelophila,* the vine-loving pomace-fly (Kellogg). These flies are frequently found feeding on table fruits such as pears, peaches, plums, grapes, and apples. Fruit furnishes both food and a place for oviposition for these insects. Kellogg has observed: "The larvæ or maggots hatch in three to five days, live in the fruit four days, and lie in the pupal stage three to five days, so that the life cycle is gone through in less than two weeks."

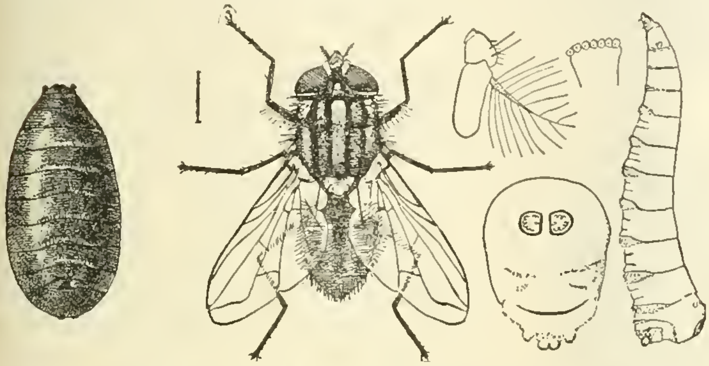

Fig. 3.—Common house fly (*Musca domestica*): Puparium at left; adult next; larva and enlarged parts at right. All enlarged. From circular 71 (by L. O. Howard), Bureau of Entomology, U. S. Department of Agriculture.

It is difficult to rate the importance of the pomace-fly as a carrier of disease. Howard has recently shown that these flies are attracted to dangerously foul substances, and that they may be responsible for the spread of certain diseases. Their method of dissemination of disease is much the same as that of the house-fly, with this exception that pomace-flies often breed in the food used by man, and their significance as carriers of typhoid bacilli can not be overestimated. In Pittsburg, September, 1908, I secured cultures from pomace-flies found in a garbage-can in which excreta had been thrown, and within one hundred feet of a restaurant where hundreds of people dined daily.

HOUSE-ANTS

The most important species of ants found in houses is the little red ant (*Monomorium pharaonis L.*), the little black ant (*Monomorium minutum Mayr*), and the pavement ant, of the Atlantic seaboard (*Tetramorium cæspitum L.*).

Perhaps the little red ant is the most thoroughly domesticated. It passes its entire existence in or about houses, having its nest in the walls or beneath the flooring, or in other places favorable to rapid ingress or egress near articles of food.

The habits and life histories of these several species of ants are much the same. The specimens usually seen in houses are all workers. The colony itself contains the larger wingless females, and at the proper season the winged males and females. During the greater part of the year the colony consists mostly of workers with one or more perfect wingless females.

In squalid homes, where the garbage-pail is used for the deposit of excreta, etc., it can be readily understood how these insects may become carriers of typhoid infection.

COCKROACHES

The cockroach is among the commonest and most offensive of insects which frequent human habitations (Marlatt). The American roach (*Periplaneta Americana*) is the commonest of domestic species found in America. The house roach is particularly abundant in pantries, kitchens, store-rooms, and especially in the neighborhood of well-heated apartments. It conceals itself during the day behind baseboards, refrigerators, boxes, furniture, in damp or moist cracks about sinks, and wherever protection from light is afforded. Unless routed out, or suddenly uncovered from their hiding-places, roaches are rarely seen. If discovered, they make off rapidly for other secure hiding-places. Domestic roaches congregate in large numbers at night and feed on almost any kind of food, dead animal matter, cereal products, leather, cloth, and such other materials as may suit their fancy for food or destruction. It is said that roaches are occasionally cannibalistic. They seem to be natural enemies of the bedbug, but as they do not usually frequent the places inhabitated by the bedbug they are not valuable as exterminators of that insect. Roaches travel from place to place, wherever their instinct may lead, to fertile fields for foraging.

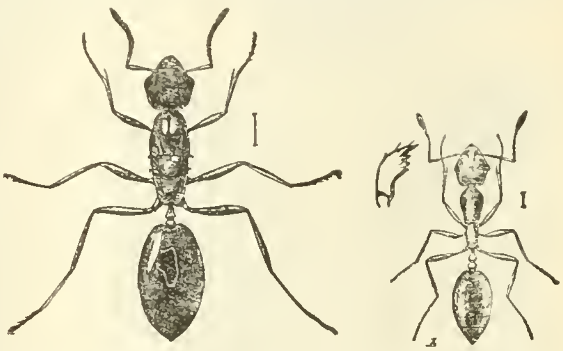

Fig. 4.—The red ant (*Monomorium pharaonis*): A, female; b, worker. Enlarged. From circular 34 (by Riley), Bureau of Entomology, U. S. Department of Agriculture.

Marlatt says:

> The roach, in its different stages from egg to adult, shows comparatively little variation in appearance or habits. The eggs, instead of being deported separately, as with most insects, are brought together within the abdomen of the mother into a hard, horny pod or capsule which often nearly fills the body of the parent. On hatching, it is said, the young are often kept together by the parent and brooded over and cared for: at least, a colony of young will usually be found associated with one or two older individuals. The common American roach (*Pariplaneta americana*) has been carried from egg to the adult state in our insectary. Young hatching July 11

from an egg-case received from Eagle Pass, Texas, reached the adult stage betweeen March 14 and June 12 of the following year, indicating a period of twelve months for development. The rate of growth undoubtedly depends very largely on food and temperature.

The omnivorous habits of the roach make it a prolific source and a ready carrier of disease. Engelmann has observed the relation of the cockroach to the conveyance of typhoid infection. It may carry disease from the source of infection on its body and limbs, or, by excreta, to drinking or other vessels used about the household, or even into the food.

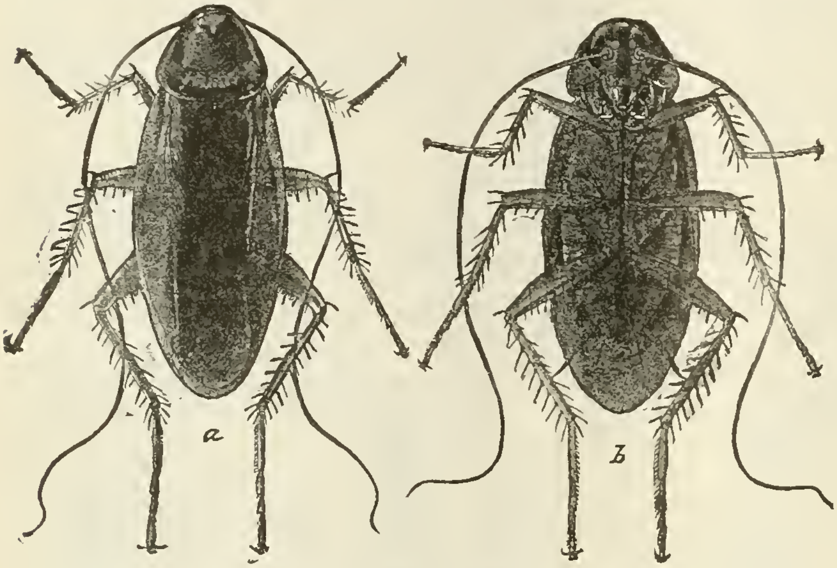

Fig. 5.—The American roach (*Periplaneta americana*) : A, view from above ; b, from beneath. Both enlarged one-third. From circular 51 (C. L. Marlatt), Bureau of Entomology, U. S. Department of Agriculture.

HOUSE-FLEAS

The human flea (*Pulex irritans L.*) and the dog and cat flea (*Ctenocephalus canis, Curtis*) are among the common nuisances found in houses in this country. Howard maintains that the flea most likely to be found in dwellings in this country is the cosmopolitan flea of the dog and cat. My observations, however, do not tend to confirm this, except in homes where these animals are kept. The human flea (*Pulex irritans*) is the prevailing flea of our country, and more especially in stock-raising districts. In small villages, where the homes are well-shaded and with a tendency to dampness, human fleas may be found in abundance. I have known an entire village to be infested with fleas after a drove of hogs and cattle had been driven through it. Homes that are damp during the summer are most liable to be infested with fleas.

The eggs of the *Ctenocephalus canis* are deposited among the hairs of dogs, cats, and numerous other animals. They may be deposited where animal material is free. There they develop and live until full grown. In warm, damp weather a generation may develop in a fortnight.

The flea, as a factor in the dissemination of plague and some other diseases, has been so fully established that it does not call for further comment here. The flea as a carrier of typhoid has not been so thoroughly brought out. From some 500 human fleas which were allowed to suck the blood of typhoid patients I have secured twenty cultures. Typhoid cultures were secured from 5 out of 650 of the dog and cat fleas. The extreme difficulty in securing the fleas, keeping them in captivity, and placing them in an artificial environment after possible injury, gives, I believe, a good reason for the small percentage of cultures. I am fully convinced, as were my confrères, that two of the cases which came under my service were inoculated by the house-flea.

BEDBUGS

The bedbug (*Cimex lectularius L.*) is the most loathsome insect infesting the habitations of man. It is commonly found in the homes of the squalid, yet it may be found in the palaces of kings. It is found in the cracks and crevices of old houses, in old mattresses, bedsteads, and more especially when these are approximate to human beings. It is nocturnal in its habits and inactive in cold weather. The food of the bedbug is normally human blood, yet it may subsist for a time on other substances. The eggs of the bedbug are laid in such places as are used by them for concealment. They are laid in clusters, each cluster containing six to fifty eggs. The period of growth, from the egg to the adult, varies greatly with temperature and food supply (Howard). Under ordinary conditions eight or ten weeks is necessary for rearing a generation of bedbugs.

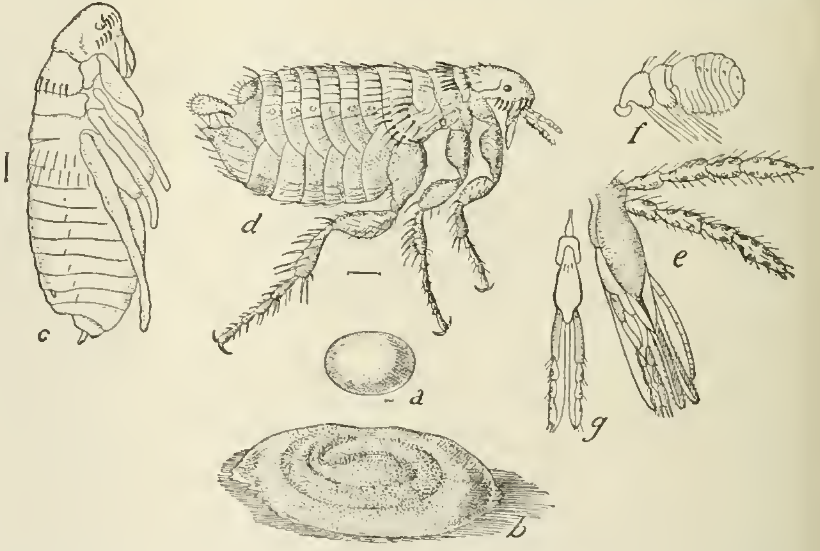

Fig. 6.—Cat and dog flea (*Ctenocephalus canis*) : A, egg, b, larva in cocoon ; c, pupa ; d, adult ; e, mouth-parts of same from side ; f, antenna ; g, labium from below ; b, c, d, much enlarged ; a, e, f, g, more enlarged. From circular 108 (by L. O. Howard), Bureau of Entomology, U. S. Department of Agriculture.

The bedbug has been found by observers to be a factor in the transmission of various diseases, as tuberculosis and relapsing fever. I believe that my investigations, covering a period of three years, have a prior claim over that of others in respect to the transmission of typhoid bacilli by the bedbug. I had observed among Poles, Italians, and Russians, in filthy quarters, where the beds had been used by typhoid patients, that succeeding occupants were stricken with typhoid. I had noted that after having been bitten with bedbugs, in from eight to fifteen days they were attacked with typhoid.

This disease-carrying factor was suggested to an Italian tenant of one of a number of typhoid-infected houses, with the advice that the beds be destroyed by fire and the house fumigated. The advice was refused. To test the case, the man offered himself for experiment. I collected some bedbugs, starved them for several days, then placed them on the abdomen of his 8-year-old daughter, who had typhoid, incarcerating them under a square piece of a fleece-lined undershirt, fastened at the edges with zinc oxid adhesive plaster. In six hours the bugs, satiated with blood, were imprisoned between soiled pieces of canvas and allowed to remain twenty-four hours. They were then transferred to the abdomen of the father, imprisoned in the same manner as on the child, and allowed to remain twelve hours. It was noted that only about one-third of the bugs had bitten the subject. After removal, the bugs were crushed between glass slides and cultures made. These cultures showed the Eberth bacilli. Unfortunately, a few of the bugs escaped and fed on the blood of an 11-year-old boy, with whom the subject was sleeping. The father developed typhoid of the most virulent type in fourteen days and the boy in twelve days. The vitality of the *Bacillus typhosus* in the bedbug persists for several weeks, without any apparent lessening in virulency. In the case of the boy referred to above, the virulency was greatly increased.

MOSQUITOES

There are some 300 different mosquito species in the world, representing two dozen distinct genera. In North America, there are sixty species, representing ten genera. In the family Culicidæ are included two distinct types of mosquito, one with mouth-parts forming a long, slender, sucking proboscis, provided with sharp, needle-like stylets for piercing, the other with mouth-parts short and better adapted for lapping or supping liquids (Kellog). Two genera have a mouth of the latter type; all the others are piercers and blood-suckers. The females normally feed on plants, but when opportunity offers they feed on the blood of warm-blooded animals. Three genera of the piercing type are of special importance and interest to the medical profession, because of their relation to the development, incubation and dissemination of certain diseases of man and beast. These three genera are the *Culex*, *anopheles* and *Stegomyia* and, according to Kellogg, may be distinguished as follows:

Palpi (the mouth-feelers projecting by the side of the proboscis) long in both male and female, about as long as the proboscis: *Anopheles.* Palpi as long as proboscis in male, but only one-third as long in female. Scales on the head narrow and curved. *Culex.* Scales on the head flat and broad: *Stegomyia.*

Stegomyia and *Culex* are the breeders and disseminators of yellow fever and filariasis, and to the anopheles is given the responsibility of the breeding of malaria. I have been able to make cultures, in two cases, from mosquitoes (anopheles) after they had been satiated with the blood of a typhoid patient. Although this is not enough clinical evidence to be conclusive, it marks a starting-point for further investigations. I believe, however, that I am not alone when I say that mosquitoes may be active disseminators of many other diseases.

It is generally conceded that the larvæ of mosquitoes are aquatic, yet they are air-breathers. They are rapid breeders and may pass through several generations in the course of a year. The duration of a single generation may be twelve days. As adults, they hibernate and may be found during winter months in houses, barns, cellars, cisterns, culverts, etc. Mosquitoes do not fly far, but may be carried by light continued winds considerable distance from their breeding-places. An important factor to be noted in the spread of yellow-fever epidemics, as well as other insect-carried diseases, is the direction of the prevailing wind.

REMEDIES

Hydrocyanic-acid gas is one of the most effective remedies against household insects. The cyanid and gas is a deadly poison, and great care should be used when a house is fumigated. Some old remedies are insect powder (as pyrethrum), benzine, kerosene, corrosive sublimate, oil of turpentine, fumigation with sulphur, bisulphid of carbon, and traps. Many insects have natural enemies; as the roach and red ant against the bedbug, the ichneumon fly and tree-frog against the roach. A careful screening of windows and doors during the summer months, the use of sticky fly-paper and the elimination of breeding- and feeding-places will soon abate the fly nuisance. The means and methods of attack on the mosquito have been clearly delineated in recent literature by Gorgas, Guiteras, White and others. I will say in passing that by draining swamps, ponds and pools, the introduction of petroleum and other substances to kill the larvæ, the dissemination of dragon flies, and the screening of houses, cisterns, barrels, etc., leaves little for the pest to thrive on.

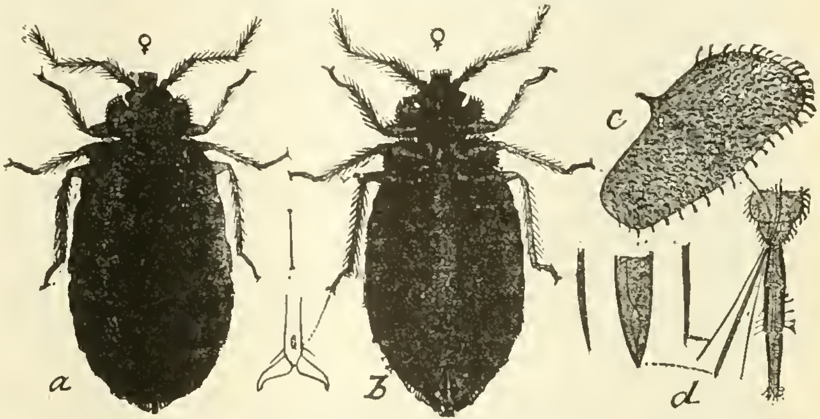

Fig. 7.—Bedbug (*Cimex lectularius*): A. adult female, gorged with blood; b, same from below; c, rudimentary wind-pad; d, mouth-parts; a, b, much enlarged; c, d, highly magnified. From circular 47 (by C. L. Marlatt), Bureau of Entomology, U. S. Department of Agriculture.

The stools and urine of typhoid patients must be disinfected with chlorinated lime, or by cremation the moment voided. Especial attention should be given to the antiseptic toilet of the mouth, nose, anus and meatus urinarius. Bedding, utensils and such articles as may come in contact with the patient should be scrupulously guarded and disinfected. These precautions are valuable and necessary under any and all circumstances, but we are somewhat nonplussed when we have to deal with the human carriers of typhoid bacilli.

All mosquitoes, bedbugs, and fleas, which have sucked the blood of typhoid patients, contain typhoid bacilli.

The virulence and vitality of typhoid bacilli are preserved in these insects. Typhoid bacilli may be found in these insects from eight to twenty-one days after they have sucked the blood of a typhoid patient. The feces of these infected insects contain virulent bacilli as long as they persist in the alimentary canal or in the blood or secretions. Insects which have fed on patients infected by bacilli of high virulence by means of bites convey infection of equal virulence. The local inflammatory reaction of patients to bites of these infected insects is slight, and, in fact, no more than from the uninfected insect. Infected insects may communicate the disease for two or three weeks after infection. The injury to the skin caused by the bites of mosquitoes, bedbugs, or fleas offers an avenue of infection for typhoid bacilli. The bed-linen fabrics, or other material, on which infected insects may be crushed, offers a ready source of infection. All insects which feed on excreta, animal or vegetable material, and which frequent, breed and hatch, in or on, or come in contact with material infected with typhoid bacilli will become carriers thereof.

It may be argued that these insects do not bear a sufficiently important relation to the transmission of typhoid fever to be of value to preventive medicine. It is true that the evidence is not as convincing as it might be, but when we consider the unfavorable conditions under which investigations must necessarily be made it is certainly an important problem well worthy of further study. Occasionally the investigator is enabled to secure insects immediately after they have become infected, but generally he must work with captive insects, using artificial means, in a strange environment. Thus his efforts are often thwarted, and persistence, perseverance, and an immense amount of systematic work is necessary to secure positive results. The isolation of a pure culture of typhoid bacillus from the blood of suctorial insects is no small matter. The isolation of the bacillus from the alvine discharges is even more difficult. Yet these insects are marvelous factors in the dissemination of the typhoid bacillus.

I should like to voice the sentiments of Dr. White as to the importance and significance of the study of entomology by physicians. It is a field practically untilled; yet some of the greatest advances of preventive medicine in modern times are due to the work of those who have labored therein. The pioneer work of Laveran, Manson, Ross, Sternberg and others initiated the campaign against the malaria-bearing mosquitoes. The subsequent researches of Manson and Bancroft have proved that filariæ are transmitted by mosquitoes. The suggestion, based on observations by Dr. Charles J. Finlay of Havana, that mosquitoes might be agents in spreading yellow fever was slightly regarded and even contemptuously received by investigators. It remained for the Army Yellow Fever Commission, in 1900, to report that yellow fever followed the bite of mosquito species, *Stegomyia fasciata*. Eminent investigators (Reed and Lazear of America and Dutton of Liverpool) lost their lives from attacks of the disease they were studying, caused by insects. The work that these pioneers had so nobly advanced has been efficiently maintained by Gorgas, White, and others associated with them in their work.

In this brief account of the rôle that certain insects play in the propagation and dissemination of typhoid fever, only a small part has been told. I believe that within two years observers will be able to find that insects are the disseminating medium of various other diseases. The medical profession and laity are fortunate to have the government bureau of entomology, under the efficient direction of Dr. L. O. Howard, it having made possible many advances in preventive medicine.

The study of entomology and its relation to disease is comparatively recent, and it offers one of the most prolific and promising fields in preventive medicine.

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TYPHOID IMMUNITY AND ANTITYPHOID INOCULATION *

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The difficulties attending the diagnosis of mild types of typhoid fever have made the study of the duration of immunity conferred by an attack a perplexing one. The differentiation of typhoid-like, paratyphoid, colon and paracolon infections is by no means easy, even for those so fortunate as to have at their disposal ample facilities for conducting blood culture and agglutination tests against strains of all the bacteria mentioned.

Typhoid simulating mild types of meningitis, early tuberculosis and many pneumonias with delayed resolution, likewise malarial fever (so-called) is frequently overlooked. In our hospital wards one rarely hears, in taking the history of a typhoid case, reference to an earlier attack. Most writers agree that, as in many other acute systemic infections, one attack is sufficient to produce a probable, although not absolute, immunity against later attack. Dreschfeld's figures, based on 2,000 cases in the Hamburg General Hospital, show that only 0.7 per cent. were affected twice. It is extremely probable, however, that the actual incidence of attack in individuals once infected is much greater than these figures indicate because of lack of facility in the way of accurate laboratory and clinical observation in many localities where the disease is prevalent.

The various antibacterial substance elaborated in the blood and the tissue fluids of an infected individual serve, however, in a large percentage of cases to protect against subsequent attack. These antitropic substances, the agglutinins, lysins, bactericidins and latterly the bodies concerned with phagocytosis (the opsonins and stimulins), are distinctly antibacterial rather than antitoxic in their function. The process of immunization in typhoid is, according to present knowledge, a matter of specific reaction on the part of the body cells to the protein molecule making up the cell structure of the bacterium. This reaction is specific for the protein molecule exciting the reaction on the part of the body cells and take place, according to Vaughan and Wheeler,[1] through the liberation of a specific ferment which is activated or liberated through excitation by the proteid in question, whether bacterial, animal or vegetable. Such specific reaction in the process of immunity protects only against the specific proteid derivative which calls it forth; that is to say, the proteid derivatives obtained from colon bacilli protect, when inoculated, only against colon bacilli. The reaction is specific in the sense that the antibacterial substances elaborated under the influence of an infection are protective only against that infection.

THE BLOOD CHANGES DURING AND FOLLOWING AN ATTACK OF TYPHOID FEVER

Agglutinins.—During the second week of typhoid fever the agglutinins, in accord with general experience, are increased so that, on an average, the serum will agglutinate typhoid bacilli in dilutions from 1 in 100 to 1 in 200, exceptionally 1 in 400 or higher. After the decline of the fever there is rapid decrease in agglutinative value, the average being 1 in 60 or 1 in 80. For a few months to one year or longer this value remains low at about 1 in 40 to 1 in 60. (In my own case eighteen months after an attack of typhoid the serum would agglutinate in dilutions of 1 in 60.) Exceptionally a very high agglutinative value may be obtained as mentioned by Leishman and Harrison,[2] who refer to one patient whose serum, six months after the commencement of the illness, would agglutinate in dilutions of 1 in 1000.

Bactericidins.[3]—The bactericidal powers are increased, on an average, two or three times above the normal (which has more or less bactericidal power in dilutions from 1 in 10 to 1 in 20) during the first few weeks after the commencement of an attack. This power gradually falls at the decline of the fever so that the normal is reached at above the fourth month. Fatal cases may show a relatively high bactericidal power.

Opsonins.[4]—In contrast to the low bactericidal power of serum obtained during the decline of the fever and afterward, the opsonic index is relatively high. During the first few weeks of the fever the index is increased to 1.5 to 3.5. There is usually a slight decline during convalescence, although occasionally high indices may be obtained at this time. As a rule a high index, from 2 to 3, is found to persist for months after an attack. The only fatal case (bowel perforation at the end of the second week) I have been able to follow had a low index of 0.6 from the beginning. The general impression is that cases manifesting a persistently low index have a less favorable prognosis. This may be true for the patients who die in typhoid from exhaustion, a relatively small number, when compared with those dying from hemorrhage or perforation. It is conceivable, on the other hand, that a low phagocytic power to destroy bacilli locally is responsible for extensive necrosis of an intestinal ulcer leading to such erosion as eventually favors hemorrhage or perforation.

Stimulins.—Heating a serum to 60 C. renders the opsonin it contains inert, at least for some strains of typhoid bacilli. On the other hand, some strains are more readily phagocytable when the serum is heated to 60 C. The substance remaining in the blood serum heated to 60 which is still capable of inducing phagocytosis has been called "stimulin." It is more stable than opsonin. In some cases cited by the Royal Army Commission, heated serums showed double the power to activate phagocytes over that obtained with unheated serums. The only statistics available in this connection are those of Leishman and Harrison,[2] who estimated the stimulin value of the serums of thirty-five typhoid patients by adding a small amount of their heated serums to heated normal serum which was then tested as to its power to stimulate the phagocytic activity of normal leucocytes. During convalescence and afterward the stimulin curve rises considerable above normal to 2 or 2.5, at about which points it is maintained for months after the attack.

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Vaughan, V. C., and Wheeler, May S.: Experimental Immunity to Colon and Typhoid Bacilli, New York Med. Jour., June 22, 1907.

[2] Leishman, W. B., Harrison, W. S., et al: Third Report on Experiments in Connection with Antityphoid Vaccine, Jour. Roy. Army Med. Corps, October, 1908.

[3] To determine the bactericidal power of a serum progressive dilutions are mixed with a measured quantity of twenty-four-hour broth culture of bacilli and allowed to remain in the incubator at 37 C. for fifteen minutes. Agar plates are then inoculated with the mixture and the number of colonies which develop after twenty-four hours are estimated.

[4] It makes some difference in the results obtained whether one uses the method of Wright or Klein in estimating the index; also whether a virulent or non-virulent strain is used for the bacterial emulsion.

PREPARATION OF ANTITYPHOID VACCINE

The early history of antityphoid inoculation concerned itself with the same problems which led up to the Pasteur methods of inoculation against rabies and anthrax or to the anticholera inoculations of Haffkine; i. e., by the use of attenuated living virus. Such methods of procedure in typhoid prophylaxis have seemed to be quite beyond the necessity of its scope. The pioneer work of Prof. R. Pfeiffer,[5] in 1896, who was able to obtain a specific agglutinin reaction in man by the injection of heated typhoid culture in two cases, led, through a personal communication to A. E. Wright, to the experimental work and the publishing of the results of two inoculations by him.[6]

To Wright belongs the credit of placing the method on a rational basis through many thousand preventive inoculations made in the British army in India and during the Boer War. The investigations carried on in the laboratories of the Royal Army Medical College under Leishman, as well as the stamp of approval placed on the results obtained by the Royal Army Commission and the Royal College of Physicians, to which was referred the question of the efficacy of antityphoid inoculation, has done much to dispel the skepticism with which it was first regarded.

Wright's method, with slight modification, has been followed since that time. In general as in the preparation of other bacterial vaccines the following principles are followed: 1. The vaccine must be capable of stimulating the production of protective typhocidins, lysins, agglutinins and opsonins (typhoid and cholera differ from many other acute infections in that bactericidins and bacteriolysins are largely limited to them). 2. The vaccine must not be so altered in its preparation by heat or chemical agents as to impair its immunizing properties. 3. The dosage employed must be sufficient to maintain a phase of increased resistance to infection for a considerable period.

In the earlier work the vaccine was prepared as follows: Broth cultures of non-virulent typhoid bacilli, after from 10 to 21 days' growth at 37 C., were standardized and exposed to a temperature of 60 C. for fifteen minutes, after which 0.45 to 0.50 per cent. phenol was added for purpose of preservation. Broth cultures cultivated for from ten to twenty-one days undergo considerable autolysis so that standardization is difficult, so that more recently twenty-four-hour broth cultures have been used (agar cultures twenty hours old may be used in the preparation of vaccine on a smaller scale). Overheating greatly impairs the immunizing properties of the vaccine. The thermal death point of most strains of typhoid bacilli is 53 C. (occasionally one may meet with an exceptionally resistant strain) at which point, at present, the bacterial suspension is maintained for one hour.

The addition of phenol or liquor cresolis compositus to the vaccine when hot destroys its immunizing efficacy. Liquor cresolis compositus (0.25 per cent.), which is largely used, is sufficient to preserve the vaccine against contaminating anaërobes or spore-bearing bacteria. Phenol is in some respects superior to liquor cresolis compositus, since the cloudy, at times clumpy, masses found in some cresolized salt solutions are avoided. I have more recently avoided heat in the preparation of the vaccine. Harrison[7] has shown that 0.2 per cent. compound solution of cresol is sufficient to inhibit the growth of typhoid bacilli in broth, while Leishman and his co-workers[8] have shown that 0.25 per cent. liquor cresolis compositus added to unheated typhoid vaccine is sufficient of itself to render it sterile in twenty-four hours. Moreover, vaccine prepared by the simple addition of liquor cresolis compositus without heat is capable of inducing in rabbits a rise in agglutinins, bactericidal substances and in substances concerned with phagocytosis. I have more recently added 0.4 to 0.5 per cent. phenol in normal salt to the bacterial suspension *without* heat in the preparation of the vaccine. The vaccine is sterile in forty-eight to seventy-two hours. Such vaccines seem to produce a rise in the antibodies concerned with immunization in smaller dosage than vaccines killed by heat. On the other hand, it should be noted that heating a typhoid vaccine to 53 C. for one hour does not impair it.

Along this line it may be of interest to mention certain results obtained with other chemical agents used to devitalize bacterial vaccines without heat. Acetozone in saturated solution, 1 to 1,000, was used as a diluent. A suspension of three strains of typhoid bacilli containing approximately 5,000,000,000 per c.c. was diluted with twenty volumes of acetozone, 1 in 1,000. The suspension was sterile in forty-eight hours. Doses of this vaccine when inoculated in one individual produced after fourteen days an agglutinative reaction in one-half hour after administration, with a 1 in 500 dilution of the serum.

Acetozone, 1 in 1,000, in doses of 1 to 2 c.c., is nonirritating when injected subcutaneously. A 1-in-2,000 acetozone solution failed to sterilize a vaccine made from an avirulent strain in five days. A saturated chloretone (0.5 to 0.7 per cent. with heat) in normal salt (after a suggestion by Dr. Willard H. Hutchings) would sterilize unheated bacterial suspensions of typhoid containing 1,000,000,000 and 2,000,000,000 per c.c., respectively, in twenty-four hours, but the vaccine containing 2,000,000,000 per c.c. germinated and a diffuse growth on agar was obtainable after seventy-two hours, while the 1,000,000,000 vaccine was still sterile after ten days.

Macfadyen[9] suggested in 1903 a method of preparing typhoid vaccine by trituration and grinding, such as is used in the preparation of Koch's new tuberculin. Such a method, without the security of sterilization, involves the risk of transmitting infection and does not produce a more potent vaccine. Among the other methods which have been tried may be mentioned the use of "washed bacteria" as a vaccine; bacterial suspensions killed by chloroform vapor, and vaccine killed by the addition of 20 per cent. neutral glycerin. All of those methods produce a rise in the substances concerned with acquired immunity, but no more effectively than the standard vaccine. Harrison has used typhoid bacilli in glycerin emulsion by mouth, also sterile typhoid bacilli suspended in fat and enclosed in gelatine capsules, by mouth. Although it appeared possible to increase slightly the antibacterial elements in the blood by such methods of administration the results, on the whole, were not as satisfactory as those obtained by subcutaneous inoculation.

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[8] Leishman, W. B., et al: Report on Further Experiments in Connection with Antityphoid Inoculation, a continuation of work published in Jour. Roy. Army Med. Corps for May, 1907.

[9] Proc. Roy. Soc., 1903, quoted by A. E. Wright in A Short Treatise on Antityphoid Inoculation, London, 1904.

THE RELATIVE EFFICIENCY OF VACCINES PREPARED FROM VIRULENT AND NON-VIRULENT STRAINS

The earlier work done with various strains of typhoid bacilli, as in the preparation of other vaccines, seemed to convey the impression that virulent strains, when injected, produced a more decided rise in protective antibodies than vaccines prepared from non-virulent, long-cultivated strains. This impression has not been borne out by facts. A typhoid vaccine prepared from a single non-virulent strain is quite as capable of inducing a sufficient immunizing response as vaccine prepared from two or more virulent strains. This protection exists against other non-virulent strains and also against single or multiple virulent strains.

DURATION OF POTENCY OF TYPHOID VACCINES

Typhoid vaccine six months or more old is apt to lose a considerable amount of its immunizing potency. Vaccine three months old has been found by Leishman and Harrison to be as potent as when freshly made.

To be on the safe side, vaccine not over three or four months old should be used. Extreme degrees of heat or cold seem to affect the immunizing qualities of a vaccine if kept for a considerable period under such conditions. Room temperatures seem best suited for preservation.

METHOD OF ADMINISTRATION AND DOSAGE: THE LOCAL AND GENERAL REACTION

Although a considerable immunity results from one inoculation of 500,000,000 to 1,000,000,000 bacilli, this immunity may be much augmented by a subsequent injection of 1,000,000,000 ten to fourteen days. The Royal Army Commission, appointed in October, 1904, found that an interval of about ten days should separate the doses. The first dose consists of 500,000,000 to 1,000,000,000 and the second from 1,000,000,000 to 1,500,000,000. The injections are conveniently given subcutaneously on the outer side of the upper third of the arm near the point of insertion of the deltoid, or subcutaneously in the abdominal wall. The needle should not puncture the muscle, as pain is produced and a considerable local reaction follows. The site of injection usually becomes reddened and slightly tender to touch, but these local manifestations disappear in about twenty-four hours. The first dose of vaccine does not, in my experience, produce any marked degree of reaction, local or general. Occasionally in a hypersusceptible subject the general reaction is severe. This is manifested by a feeling of malaise and headache with more or less general muscular aching and a temperature which may reach 100 or 101 F. for a few hours. This general reaction is more apt to occur after the second injection of 1,000,000,000 to 1,500,000,000, but it disappears within twenty-four hours. Patients are seldom required to give up their work. The best time for administration of the vaccine is in the late afternoon so that rest may be secured early in the evening.

THE BLOOD CHANGES AFTER PREVENTIVE INOCULATIONS AND THE DURATION OF IMMUNITY

Agglutinins.—The agglutination curve begins to rise about nine days after an inoculation and reaches on an average 1 in 500 to 1 in 1,000 by the tenth or eleventh day. The average has been about 1 in 500 in my cases. Occasionally a very high agglutinative point may be reached as in a case cited by Shoemaker,[10] in which eleven days after the first inoculation agglutination was obtained in a dilution of 1 in 12,800.

The immediate effect of the second inoculation may be temporarily to lower the agglutinative value reached as a result of the first inoculation, for twenty-four to thirty-six hours, but the value is then increased, reaching in some cases 1 in 1,200, 1 in 1,500, to 1 in 8,000. Such a high point may be maintained for a number of months, but a decline manifests itself within a year, at the end of which time the serum will usually agglutinate bacilli in dilutions of 1 in 100 or 1 in 200. Harrison has reported agglutinin reactions in dilutions of 1 in 30 four years after inoculation and complete reactions in dilution of 1 in 20 after six years.

Bactericidins.—The bactericidal substances are increased fourfold or fivefold by the inoculations. There seems to be less decrease in these substances after considerable time than in the agglutinin value of the serum. For example, Harrison has found the bactericidal value four times the normal one year after inoculation; three or four times the normal after four years, and two and one-half times the normal after six years.

Bacteriolysins.—The bacteriolytic substances are likewise increased. Serums from inoculated subjects diluted 1 in 5 to 1 in 10 and mixed with living typhoid bacilli cause either complete disappearance of the organisms or their reduction to amorphous masses.

Opsonins and Stimulins.—The opsonic index is markedly increased, reaching often 2 or 2.5 after the first and 3 to 5.5 after the second inoculation. Stimulins are also increased; serum after the inoculations when heated to 60 C. gives from one and a half to two times the power to activate phagocytes over that shown by unheated serum. In general the results obtained by Leishman and Harrison agree with those obtained by Klein,[11] who found, by dilution experiments, in immunizing rabbits by subcutaneous injections of living typhoid bacilli, that opsonins were considerably augmented. He also found that typho-agglutinins and lysins were increased and comparatively, that the opsonins and lysins increased more rapidly than agglutinins. The discrepant results obtained, as regards the opsonins, have been shown by Clark and Simonds[12] to be due to the use of different strains of organisms. Markedly divergent results may be obtained using different strains with the same serum. In fact, some strains, when freshly isolated, may give considerable spontaneous phagocytosis, while repeated transplantation of strains which do not induce spontaneous phagocytosis may render them very susceptible to phagocytes in the absence of serum. One strain virulent to rabbits may give a lower opsonic index with rabbit serum than a non-virulent strain, while again with the same serum another virulent strain may give a higher index than the non-virulent strain.

The duration of immunity produced by preventive inoculations has been variously estimated at from two to six years. In many cases the immunity probably lasts for life, although of this conjecture no definite proof exists. Whether the immunity following the inoculations in man is sufficient to ward off infection with virulent typhoid bacilli is not known. The striking preponderance of the substances which have to do with phagocytosis (opsonins and stimulins) stand out more clearly as evidence of increased protection following preventive inoculations than the other bacteriotropic substances concerned with this form of acquired immunity.

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[10] Shoemaker, H.: Observations on Prophylactic Inoculation Against Typhoid Fever, New York Med. Jour., Feb. 6, 1909.

[11] Klein, H.: Johns Hopkins Hosp. Bull., 1907, xviii, 245.

[12] Clark, C. P., and Simonds, J. P.: Jour Infect. Dis., 1908, l, 1.

THE PROTECTIVE POWER OF ANTITYPHOID VACCINE AGAINST PARATYPHOID INFECTION

Since the substances concerned with acquired immunity to typhoid have been shown to be largely those which pertain to phagocytosis, the opsonins and stimulins, it becomes a matter of interest to know whether the injection of antityphoid vaccine increases the phagocytic stimulating activity of the blood serum against paratyphoid infection. Clark and Simonds[12] find that "opsonins arising in typhoid fever are generally, if not constantly, equally capable of stimulating phagocytosis of paratyphoid bacilli," and, moreover, that the injection of either typhoid or paratyphoid vaccine caused a rise in the opsonic index for both organisms in rabbits. The index gradually increased after each injection. On the other hand, Leishman and his co-workers did not find that inoculations of antityphoid vaccine in man produced any increase in the phagocytic value or, for that matter, any increase in agglutinins or bactericidins, when tested against two strains of paratyphoid bacilli. In the light of these differences it may be concluded that the matter of protection against paratyphoid fever afforded by injections of antityphoid vaccine has not been settled.

CONDENSED STATISTICS RELATIVE TO ANTITYPHOID INOCULATION IN THE BRITISH ARMY AND THE ADOPTION OF THE PROCEDURE IN THE U. S. ARMY

Leishman[13] has recently given the results of inoculation in the second battalion of the Royal Fusiliers in India from December, 1904.

TABLE 1.—Results of Inoculation in One Battalion

Strength of Regiment.	No. Inoc.	Admitted to Hospital to Date.			
		Non-inoculated.		Inoculated.	
		Cases.	Deaths.	Cases.	Deaths.
12/31/1905, 883	103	2	0	0	0
12/31/1906, 1013	181	35	5	9	0

The statistics of the Seventeenth Lancers in India from October, 1905, are also very favorable. In a regiment varying from 508 to 680 men, 425 men were inoculated with antityphoid vaccine from October, 1905., to May 1, 1907. Among the inoculated men during this period, two developed typhoid with no deaths, while among the non-inoculated men there occurred 69 cases of typhoid with eleven deaths. Among the inoculated men, each of the two in whom typhoid occurred had refused to take the second dose of vaccine, which in the case of this regiment was prepared at 53 C. No case of typhoid has occurred in this regiment among the men who received two inoculations of this vaccine. In seven large India regiments the results have been as shown in Table 2.

TABLE 2.—Results of Inoculation in Seven Regiments, January 1 to June 30, 1907

	Strength.	Cases.	Deaths.	Incidence Per 1000	Mortality Per 1000
Non-Inoculated..	8113	173	42	21.32 (+1.08)	5.18 (±0.54)
Inoculated......	2207	15	3	9.80 (+1.18)	1.36 (±0.53)

The latest statistics in the British army[14] up to June 1, 1908, relative to prophylactic inoculation are as follows: Among 12,083 men comprising sixteen regimental units, 5,473 were inoculated. These regiments were stationed in India, Egypt, Malta, Crete, South Africa, etc. The case incidence per thousand, taken as a whole, among the inoculated men, was 3.8, while among the non-inoculated men the case incidence per thousand was 28.3. Among those sixteen units in which typhoid occurred (typhoid did not occur in some of the regiments) the case incidence per thousand among the inoculated men was 6.6, while among the non-inoculated men the case incidence per thousand was 39.5.

In the U. S. army, the work begun last December, as a result of the conclusions reached by the medical board appointed for the purpose, is well under way. This board consisted of Surgeon-General O'Reilly, V. C. Vaughan, W. T. Councilman, J. H. Musser, A. Lambert, Simon Flexner, W. S. Thayer and Major F. F. Russell, of the Medical Corps, U. S. Army. The conclusions reached by them are as follows:

1. The board is convinced that the practice of antityphoid vaccination is both useful and harmless, and that it offers a practicable means of diminishing the amount of typhoid fever in the army, both in times of peace and war.
2. It finds that the experience to date with antityphoid vaccination justifies it in recommending the introduction of the practice in the regular and volunteer armies in time of war.
3. It recommends the immediate introduction of the practice of vaccination against typhoid in the Hospital Corps, the Army Nurse Corps, and in any expedition of troops from the regular army which is ordered to take the field for active operations; and further, that an opportunity be given to volunteers from the army as a whole to be protected by vaccination against typhoid.

The vaccination work is under the charge of Major Russell, of the Medical Corps, and is entirely voluntary.

THE INOCULATION OF ANTITYPHOID VACCINE IN TYPHOID-CARRIERS. IN ENDEMIC AND EPIDEMIC AREAS. GENERAL CONCLUSIONS

Investigations have established that about 4 per cent. of convalescent typhoid cases become chronic "typhoid-carriers," disseminating the infection more or less constantly with the feces and urine for periods of years.

Where new cases of the disease can, with fair degree of presumption, be traced by appropriate bacteriologic tests to such individuals, especially cooks, dairymen or dairymaids, workers in confectionery, waiters and waitresses or those who have to do with the handling of food in any way, the inoculation of antityphoid vaccine offers a more certain means of raising the bacterial resistance in such individuals than any other known method of treatment.

The method of antityphoid vaccination involves no risk and is especially applicable for those constantly exposed to infection, such as nurses, hospital attendants and physicians.

Antityphoid inoculations should be avoided if possible in individuals during the incubation stage of typhoid, for, although it is probable that the stage of diminished resistance (negative phase) for a few days following the inoculation is more theoretical than real, it is more wise, in the present state of knowledge, to avoid the possibility of cumulation.

In endemic areas, where a considerable proportion of the population annually suffers the infection, or in epidemic areas, where there is reason to suppose the possibility of widespread infection, inoculations of antityphoid vaccine are indicated in individuals not in the prodromal or incubation stage of the disease.

The Colton Building.

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[13] Leishman, W. B.: Antityphoid Inoculation in the British Army, Mil. Surg., 1908, xxii, 6.

[14] Leishman, W. B.: Statistical Table of Recent Results of Antityphoid Inoculation, Jour. Roy. Army Med. Corps, 1908.

Deserves Publicity.—We quote from a recent case report: "This was a young lady, middle-aged. . . . I think such cases deserve as much publicity as possible."

EPIDEMIOLOGIC STUDIES OF TYPHOID FEVER *

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PREVALENCE OF TYPHOID FEVER IN THE UNITED STATES

Judging by obtainable figures, there are in the United States comparatively few communities of over 1,000 persons which during any period of twelve consecutive months within the past ten years have been entirely free from typhoid fever. The extensive prevalence of this thoroughly preventable disease in our country as a whole is beginning to be justly considered a national disgrace.

Communities, like individuals, seem to be as a rule unable to profit by the experiences of others, and the history of typhoid fever is replete with instances of communities having failed to carry out clearly indicated preventive measures until the occurrence among them of severe epidemics has caused an awakening.

NATURE AND SOURCE OF THE INFECTIOUS AGENT

At present the generally accepted view is that typhoid fever is an infectious disease caused by a specific parasitic organism, the typhoid bacillus. The undetermined elements in the causation of the disease are those concerned in the establishment of individual susceptibility to the infection and, in some instances, those concerned in the transmission of the infection. All known facts on the subject support the view that man is the permanent host of the parasitic organisms which cause typhoid fever, and that if their multiplication in and their dissemination by the human host could be prevented these organisms would soon perish from the earth. Therefore, what appears a sound belief, based on epidemiologic findings, is that "each and every case of typhoid fever comes somehow from some previous case." (Sedgwick).

PREVENTION OF INFECTION

The specific parasite which causes typhoid fever and its permanent host being known, an apparently simple formula to prevent the disease is to destroy the infection as it leaves the bodies of infectious persons. Could such a plan of action be made sufficiently wide in scope it would promise success; but the people of a given community may use water, milk and various foodstuffs obtained from a distance and liable to contamination with the excreta of infectious persons over whom their own health officials have no jurisdiction. Therefore, for the local health officer the two principal plans of action to prevent typhoid fever in his community should be the following:

1. The discovery of and the prevention of the spread of infection from persons in his community who harbor infection (typhoid fever patients and bacillus-carriers).
2. The prevention of the introduction of infection into his community from without through various channels, such as the water-supply, milk-supply, and the general food-supply.

DETERMINATION OF IMMEDIATE SOURCES OF INFECTION

In order to determine the principal immediate sources of the infection in a locality careful epidemiologic studies are necessary. Explosive outbreaks, such as those produced by highly infected water or milk, present rather characteristic features, and as a rule epidemiologic studies of these will point out quite readily and definitely the source of the infection. But in communities where a high rate of prevalence of typhoid fever is maintained for years and is due to a number of different factors which vary in relative extent of operation from time to time, the problem becomes very intricate and its exact solution exceedingly difficult.

Studies of all typhoid fever situations, however, should be conducted along the same general lines. Hasty conclusions, based on first-glance impressions, should be avoided. Every factor possibly concerned in the spread of the infection should be carefully considered and investigated. As the facts are collected one factor after another may be eliminated, until definite conclusions may be drawn as to the principal source, or sources, of the infection.

DIFFERENT TYPES OF TYPHOID FEVER SITUATIONS PRESENTED FOR STUDY

Large urban communities in which the disease has prevailed for a long time as a rule present complex typhoid fever situations. Here the conditions of life are complex. Large numbers of all classes of people are in close association. Foodstuffs are obtained from many sources and handled by many persons. In some instances the water-supply is obtained from a number of different sources. Small communities, usually free of the disease, when visited by sudden and extensive outbreaks, present, as a rule, simple typhoid fever situations.

During the last three years as a member of a board of officers[1] detailed by the Surgeon-General of the Public Health and Marine-Hospital Service to study the origin and prevalence of typhoid fever in the District of Columbia, I have been engaged in a study of a situation of the complex type; and recently I have conducted an investigation of an outbreak at the National Park Seminary at Forest Glen, Md., which was of the simpler type of typhoid fever situation. These two situations may be presented as a striking contrast:

THE TYPHOID FEVER SITUATION IN WASHINGTON, D. C.

Previous to 1906 there was quite a general consensus of opinion among those who had given attention to the subject that the high rate of prevalence of typhoid fever in Washington was due to the polluted public water-supply obtained from the Potomac River.

Effect of Filtration of the Public Water-Supply on the Typhoid Fever Rate.—In October, 1905, a filtration plant was completed and since then the city has been supplied continuously with filtered Potomac River water. During the winter and spring months following the installation of the sand filters there was comparatively little typhoid fever in Washington, but early in July, 1906, there occurred a great increase in the number of cases and the disease was properly regarded as prevailing in epidemic form.

This marked increase in the prevalence of typhoid fever with the advent of summer weather corresponded with the history of the disease in many previous years. The typhoid fever death rate for the calendar year 1906 was 49.3 per 100,000, while for the three years immediately previous to the filtration of the water it averaged about 44 per 100,000. Thus, the rate in 1906, the first year after the filtration of the water, was somewhat in excess of the rates of the several years previous, despite the fact that the results of the bacteriologic analyses of the water showed that the filtration accomplished a very great reduction in the total bacterial content of the applied water such as was supplied to the city during the three years previous to filtration. In 1907 and 1908, the second and third years after filtration, the typhoid fever case and death rates in Washington were lower than in any other years of which there is record The typhoid fever death rate in 1907 was 34.5 and in 1908 36.5 per 100,000. The reduction in the rate in these two years is accounted for by the reduction which occurred in the summer typhoid. The rates in the winter, spring and fall seasons of the three years 1906, 1907 and 1908 were almost exactly the same.

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Surgeon M. J. Rosenau, chairman; Passed Assistant Surgeon L. L. Lumsden; and Prof. Joseph H. Kastle, recorder.

An important question and one difficult to answer positively is: How much, if any, of the reduction in the typhoid fever rate in the summers of 1907 and 1908 was due to the improvement in the water-supply as the result of sand filtration? Had such a reduced rate been observed in the summer of 1906, the first year after the filters were put into operation, probably few if any would have doubted that the reduction in the summer typhoid had been accomplished by the improvement in the water supply.

Judged by bacteriologic standards we found the filtered water supplied the city in the summers of 1907 and 1908 was of considerably better quality than the filtered water supplied the city in the summer of 1906. The fact that the higher degree of improvement of the filtered water was followed by a reduction in the typhoid rate, to my mind, suggests cause and effect.

As a board we have not been able to decide definitely as to what part water-borne infection played in the causation of typhoid fever in Washington in 1906; but we are satisfied, by the results of our studies, that the Potomac River water previous to filtration caused much less of Washington's typhoid than was generally supposed, and that in the summers of 1907 and 1908 the public filtered water-supply played a relatively minor rôle, if any, in the causation of the disease.

Milk.—In the typhoid fever seasons (May 1 to November 1) of each of the three years, 1906, 1907 and 1908, we have definitely attributed about 10 per cent. of the cases originating in the District of Columbia to milk-borne infection. These cases occurred in the course of pronounced milk outbreaks among the customers of certain dairymen.

In the season of 1906 there were three such outbreaks, in the season of 1907 one, and in the season of 1908 one. The outbreak in the fall of 1908[2] was of particular interest, inasmuch as the infection was traced to a bacillus-carrier who was engaged in handling the milk on one of the farms from which the implicated supply was obtained. This woman gave a history of having had typhoid fever about eighteen years before and of having been since then in robust health.

Besides the cases which have occurred in the course of pronounced milk outbreaks we believe that there have been a number of scattering cases due to infected milk which we have not been able to trace, and we consider milk one of the major factors concerned in the transmission of typhoid fever in Washington.

Contact.—In the cases originating in the District of Columbia during the typhoid seasons of 1907 and 1908 about 20 per cent. of the patients gave a history of more or less direct or indirect association, during the thirty days previous to onset of illness, with previous patients in the febrile stage of the disease and were attributed to infection by contact.

Considering the large amount of association between persons living in a large city and the number of ways in which infection through personal contact may occur it is easy to understand that many cases in a large city may be due to infection by contact which can not be traced, and I regard personal contact as one of the major factors concerned in the transmission of typhoid fever infection in the District of Columbia.

Imported Cases.—About 24 per cent. of the cases of typhoid fever which were reported in the District of Columbia during the typhoid seasons of 1907 and 1908 were cases in which the infection had been contracted outside the District of Columbia. In the 1906 period the imported cases amounted to about 15 per cent. of the total.

Intricacy of the Washington Problem.—A number of interesting details as to seasonal prevalence, racial distribution, relation of the seasonal abundance of flies to the seasonal prevalence of the disease, etc., have been worked out, but they are set forth in the publications[3] and enough has been cited to indicate the great intricacy of the typhoid fever problem in Washington.

There is no mystery as to why Washington has some typhoid fever, but there does seem to be some mystery as to why Washington still has so much typhoid fever. For a city having the climatic and general sanitary conditions of Washington and having no water-borne infection a typhoid death rate of 35 per 100,000 per year does seem comparatively high.

The "excessive" typhoid rate in Washington presents an interesting field for speculation, such as (1) the possibility that the public water-supply, though not distributing typhoid bacilli, does convey some other agents which have to do with the establishment of susceptibility to typhoid infection; (2) the possibility of there being peculiarly active in Washington some as yet entirely unknown agent or agents which are concerned in the dissemination of the infection.

The fact that communities which have good water, a properly safeguarded milk-supply, a good sewerage system, and in which cases of the disease are properly cared for, have little or no typhoid fever indicates either that there are no unknown agents much concerned in the spread of the infection or that the same measures which prevent the operations of the known agents also prevent the operation of whatever unknown agents there may be.

In considering the "excessive" typhoid fever rate of Washington it should be borne in mind that climatically Washington is a southern city and that there are few, if any, cities of over 75,000 population south of Washington and east of the Mississippi river which during the two years 1907 and 1908 had typhoid fever rates as low as that of Washington.

AN OUTBREAK OF TYPHOID FEVER AT THE NATIONAL PARK SEMINARY, FOREST GLEN, MD.

In the latter part of March, 1909, an outbreak of typhoid fever occurred at the National Park Seminary, a school for young women located at Forest Glen, Md., a village about nine miles from Washington, D. C. Twenty-four cases developed.

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[2] Lumsden, L. L., and Woodward, William C.: A Milk-borne Outbreak of Typhoid Fever Traced to a Bacillus-Carrier, THE JOURNAL A. M. A., March 6, 1909, lii, 749.

[3] Rosenau, M. J., Lumsden, L. L., and Kastle, J. H.: The Origin and Prevalence of Typhoid Fever in the District of Columbia, Rep. 1, Hyg. Lab. Bull. 35, U. S. P. H. and M.-H. S., Washington, 1907 [Season of 1906]; Rep. 2, Hyg. Lab. Bull. 44 [Season of 1907]; Rep. 3, Hyg. Lab. Bull. 51 [Season of 1908].

The first patient began to have slight prodromal symptoms about March 10 and developed definite symptoms and took to bed on March 19. The last patient began to complain about April 16 and developed definite symptoms and took to bed on April 21. The occurrence of cases by definite onset of symptoms was as follows:

	Cases		Cases
March 19	1	April 9	2
March 24	1	April 10	1
March 25	2	April 12	1
March 29	1	April 13	1
April 3	1	April 14	1
April 4	2	April 15	1
April 5	4	April 21	1
April 6	3		
April 8	1	Total	24

A fairly large proportion of the cases ran a mild course. Only one death occurred, making a fatality rate of 4.17 per cent. In the majority of the cases the diagnosis was confirmed by positive Widal test or by isolation of the typhoid bacillus from the blood, feces or urine.

Some of the students developed the disease at the seminary and others in different sections of the country to which they had gone for the Easter holidays.

Distribution of the Infection.—At the time of the occurrence of the outbreak the population of the seminary consisted of about 400 persons as follows:

Students	270
Officials and instructors	35
Employés and servants—	
White men	15
White women	35
Colored men	45
Total	400

The 24 cases were distributed among the seminary's population as follows: 20 in students, 1 in officials and instructors, and 3 in employés and servants. Thus the distribution of the disease among the three classes was quite general.

The grounds of the seminary cover about sixty acres. The buildings are all of modern construction and are kept in excellent sanitary condition. The four buildings occupied by the students are located in different parts of the grounds. The number of students to each building and the number of cases of typhoid fever which developed among them were as follows:

	No. of students.	No. of cases.
Main building	145	10
Villa	50	7
Junior building	35	3
Senior building	40	0

The three buildings occupied by employés and servants, with the number of occupants and cases to each, were as follows:

	No. of occupants.	No. of cases.
Building for white women	35	2
Building for white men	15	0
Building for colored men	45	1

Again, it was evident that the disease was generally distributed throughout the population regardless of building occupied as place of residence.

Previous Typhoid.—The seminary was established in 1894. No cases of typhoid fever developed among the persons living at the seminary until the beginning of the school term in the fall of 1908. Then two of the students developed definite symptoms of typhoid fever, one sixteen days and the other twenty-three days after arrival at the seminary. As no other cases occurred it was presumed that probably both of these students contracted the infection before coming to the seminary.

In the summer of 1908 three cases developed among the students about three weeks after they had left the seminary and gone for the summer vacation to their homes in different parts of the country. In these cases, also, the infection may have been contracted when the young women were *en route* to or after their arrival at their homes.

Place of Infection.—The first seven cases to occur in the outbreak were all among the students. As the students made trips to Washington about twice a month and on these trips usually took luncheon in the city, the first question to arise was if the infection had been contracted at the seminary or in Washington.

As a member of the typhoid fever board of the Public Health and Marine-Hospital Service engaged in the investigation of the disease in the District of Columbia, I was aware of the rate of prevalence of typhoid fever at that time in Washington and, as the rate among the students even then far exceeded the rate in Washington, and as reference to our case cards showed that there had been no disproportionately large number of cases among persons in Washington who had taken meals at the restaurants frequented by the students, there seemed at the beginning of the investigation little room for doubt that the infection had been contracted at the seminary. The subsequent extent of the outbreak proved the correctness of this impression.

Investigation of the Outbreak.—On March 30 the typhoid fever board of the U. S. Public Health and Marine-Hospital Service was requested by the authorities of the seminary to investigate the outbreak and to suggest corrective measures. This request was approved by the State Board of Health of Maryland, and on April 7 I visited the seminary and began the investigation.

On March 30, when first consulted in regard to the situation, however, I had advised that all milk supplied the institution be boiled or pasteurized previous to use and that the part of the water-supply obtained from a spring stream which, from its description, was considered liable to dangerous pollution, be discontinued unless this water could be boiled previous to use. The milk-supply was boiled on and after March 31; but some of the water from the spring stream was used until April 8.

At the time the investigation was begun the population of the seminary was about 150, about 230 students, and about 20 employés having left the seminary on or about April 3 and gone for the Easter holidays to various parts of the country. Seven cases of typhoid fever were then known to have developed between March 19 and April 6, five of the cases having been among the students who had remained at the seminary and two among those who had gone away.

Possible Sources of Infection.—After a careful inquiry the following possible sources of infection were found to have been common to the cases then known of:

1. Water-supply.

2. Milk-supply.

3. Bacillus-carriers among servants who prepared or handled foods.

4. Fruits and vegetables such as are eaten uncooked and other food-supplies.

5. Ice.

No raw shell-fish had been served at the seminary during the three months previous to the outbreak. So these could be definitely excluded.

Ice.—The ice had been obtained from one of the large factories in Washington and there had been no unusual number of cases among persons in Washington who used ice from that source. So the exclusion of ice as a factor was quite definite.

Food-Supplies.—The fruits and vegetables and other food-supplies had been bought from dealers in the large markets of Washington and Baltimore; and, as there was no unusual occurrence of typhoid fever among other customers of these dealers, the exclusion of the market supplies as a factor was quite definite.

Bacillus-Carriers.—The explosive character of the outbreak argued against a bacillus-carrier being the source of the infection. It was difficult to conceive how infection from a bacillus-carrier could have been disseminated so generally throughout the seminary's population in so short a time unless the bacillus-carrier was among those concerned in preparing or handling the food in the store-rooms or kitchen from which the meals for the whole population were served. Therefore, specimens of feces and urine from the sixteen servants engaged as cooks, store-room men, dish-washers or waiters were obtained and examined bacteriologically at the hygienic laboratory of the Public Health and Marine-Hospital Service. All the specimens were negative for the typhoid bacillus.

Milk-Supply.—The milk-supply during the four years previous to the outbreak had been received from a farm in the neighborhood. The farm is located on a high hill and is quite well isolated. No history of any illness on the farm to account for the infection was obtainable. Of the twelve persons at the farm none had ever had typhoid fever, all used the milk freely, and none had been sick. There had been no recent changes made among those who collected and handled the milk. The water-supply used for washing the milk-cans, etc., was obtained from a well located on the summit of a hill. A sample of water from the well was examined bacteriologically and found to be of good quality. Thus there seemed to be no reason for suspecting the milk-supply.

One of the cases developed 22 days after the milk-supply had been boiled; which fact, though by no means positively excluding the milk, yet is some evidence against it, as the incubation period in cases due to milk-borne infection usually is considerably less than 22 days.

Water-Supply.—The water-supply was obtained from two sources: (*a*) Three bored wells, each about 90 feet in depth, supplied most of the water used for drinking. The water from these wells was examined bacteriologically and found to be of good sanitary quality. (*b*) A small creek running through the seminary grounds supplied the water used for bathing, for washing dishes, and by the students and others frequently for brushing their teeth and sometimes for drinking. This creek had its source in a spring about half a mile above the intake for the seminary's supply.

The creek was found to be quite highly polluted with human excreta. Emptying directly into it about 100 yards below the spring was the sewage from a hospital in which there were thirty to forty persons. Besides this, some of the sewage from about fifteen residences located on the water shed of the creek between the spring and the seminary's intake evidently was washed or drained into the creek. The physician in charge of the hospital stated that there had been no case of suspected typhoid fever in the hospital. In one of the houses on the water shed, however, there had been a man ill with typhoid fever in February; his excreta, after treatment with copper sulphate—probably not sufficient to disinfect them thoroughly—were thrown out into the yard. This yard is on the crest of a hill which forms one shed of the creek. A roadway and a somewhat poorly defined gully run from the side of the yard down the hill to the creek, a distance of about 400 yards. It was evidently possible that some of the excreta from this patient could have been washed by the heavy rains and melting snows which occurred in the latter part of February and early part of March down the hill and into the creek.

Bacteriologic examination of the water from the creek showed it to be highly polluted, the colon bacillus being invariably demonstrated in quantities of 0.1 c.c. Specimens of the water collected on April 9 and on April 19 were examined by the method of Hoffman and Ficker[4] and by plating on Endo's medium for the presence of the typhoid bacillus. The results were negative. The failure to find the typhoid bacillus in the water was, of course, evidence neither for nor against the presence of such organisms in this water at the time the infection was distributed.

Measures Taken to Suppress the Outbreak.—All the evidence seemed to point to the water-supply obtained from the creek as the immediate source of the infection which had caused the outbreak. The infection in the water may have come from the discharges of the typhoid fever patient or of a bacillus-carrier on the water shed. The following recommendations were made with a view of eliminating the creek water as the primary source of the infection and also to prevent the spread of the infection from such secondary sources as had arisen or might arise:

1. Water.—To discontinue immediately the use of water from the suspected creek unless it could be surely and thoroughly boiled previous to use for any purpose. To make arrangements as rapidly as possible for permanently abandoning the creek as a source of water-supply and to pipe the water directly from the spring to the seminary. Before again using the tanks and pipes through which the creek water had been distributed, to scald them out thoroughly with boiling water.

2. Milk.—To pasteurize all milk used in the seminary.

3. Possible Typhoid Patients.—To isolate immediately all persons becoming ill with symptoms suggesting the possibility of typhoid fever, and to disinfect their excreta thoroughly.

4. Recovered Typhoid Patients.—To have bacteriologic examinations made of the stools and urine of the persons who had had typhoid fever to determine their freedom from infection before permitting the return of such persons from hospital or home to the seminary.

5. General Precautions.—To exercise special care in disposing of sewage and garbage; to flush out the sewerage system with a strong solution of crude carbolic acid; to protect the food-supplies from flies and other insects, etc.

6. To extend the Easter holidays until April 27, so that the improvements could be made before the majority of the students returned.

Result of Carrying Out Preventive Measures.—These recommendations were made on April 7, the day of my first visit to the seminary. They were concurred in by the Maryland State Board of Health and were carried out by the seminary officials thoroughly and as rapidly as possible. The water from the creek was shut off on April 8 and the last patient to contract typhoid fever in the course of the outbreak developed definite symptoms on April 21, just thirteen days later.

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[4] Hoffman, W., and Ficker, M.: Neue Methoden des Nachweiss von Typhusbacillen, Hyg. Rundschau, 1904, xiv, 1.

A cement basin has been installed immediately below the springs, and into this the water is piped directly from the springs. Each of the springs is cement-walled. The water from the cement basin is conveyed by an iron pipe to the seminary, a distance of about half a mile.

The school term reopened on April 27 and all the students, with the exception of thirty or forty, returned to the seminary. Under the improved conditions all have remained well.

This outbreak strikingly illustrates (1) the comparative ease with which the problem of a local typhoid outbreak may be solved by careful epidemiologic studies, and (2) the readiness with which such an outbreak may be checked when the local authorities have, and exercise, the power to carry out the proper preventive measures.

ABSTRACT OF DISCUSSION

ON PAPERS BY DRS. DUTTON, STONE AND LUMSDEN

DR. W. H. WELCH, Baltimore: I should like to emphasize the importance of such prolonged, thorough, intensive investigations of the epidemiology of typhoid fever as those reported by the commission, of which Dr. Lumsden is a member, concerning the origin and prevalence of typhoid fever in the District of Columbia in 1906 and 1907. The report of the commission, consisting of Drs. Reed, Vaughan and Shakespeare, appointed to investigate the typhoid fever so appallingly prevalent in our camps during the Spanish-American War aroused attention to the importance of contact and of other sources of infection than the water in the spread of this disease, and the painstaking study of the typhoid fever of the city of Washington has still further emphasized the lesson that in the past we have often been too hasty in attributing the epidemic prevalence of typhoid exclusively to the drinking-water. The experience of Washington is particularly instructive, inasmuch as it was generally assumed before the introduction of central sand filtration in the latter part of 1905 that the Potomac River water was contaminated and was the source of the large amount of typhoid in that city. Despite an apparently admirable system of filtration, the amount of typhoid fever continued high during the summer months of 1906 and to a less extent of 1907. The evidence is strong, even if not absolutely convincing, that the drinking water at present plays no important part in the conveyance of typhoid fever in Washington, and the probability is that it never has been a significant factor there in propagating the disease, despite the almost universal professional opinion to the contrary in past years.

The experience in Washington is probably not exceptional, and it indicates the need of much more careful and detailed study of the conditions determining the occurrence of typhoid in American cities than has hitherto been customary. We should not make the drinking-water responsible for the disease without conclusive evidence. Of course, in many instances such evidence has been presented, and there seems no doubt that a large amount of the typhoid of Pittsburg, Philadelphia and some other cities is water-borne.

Although contaminated milk as a source of infection has long been known, the importance of this factor is not, I think, as yet sufficiently realized. Hitherto attention has been especially directed to explosive outbreaks occurring in the route of particular milk dealers, but there is evidence that the milk may be responsible for not a small percentage of the class of cases hitherto deemed explicable only on the assumption of a water-borne infection, that is, of the scattered and more or less uniformly distributed cases in a city, where the relation to the milk supply is not so immediately apparent. We need protection from the many and peculiar dangers of infection from the white streams of milk which course through our cities quite as much as from the risks of contaminated water. Recent investigations have brought to the front with ever-increasing force contact or the more or less direct conveyance of the typhoid bacillus from person to person as an important mode of propagation of this disease. It is certainly disturbing to learn that the human carriers and distributors of the bacillus are not merely patients in the febrile stage of the disease but are also those incubating the disease as well as persons during convalescence or after recovery, it may be even individuals in health without a history of a previous attack of the fever. It is apparent that the occurrence of multiple cases of typhoid in a household and the demonstration of contact with a typhoid patient afford no accurate measure of the extent of danger from contact, and that the determination of the rôle played by this factor in spreading the disease is often a matter of great difficulty and requires unusually patient and careful search. Under these circumstances it is significant that about 19 per cent. of the typhoid cases in Washington in the summer of 1907 were attributed to contact. In considering the manifold possibilities of conveyance of typhoid germs we should not lose sight of the fact that the primary source of the bacilli is always from human beings, and that every effort should be made to prevent the escape of living typhoid germs from this source into the various vehicles of contagion. In conclusion, I would urge the need for other cities of such painstaking studies by skilled investigators of the modes of conveyance of typhoid fever as those conducted during the past two years in the city of Washington, some of the results of which have been presented to us by Dr. Lumsden.

GENERAL GEORGE M. STERNBERG, U. S. Army: Dr. Lumsden did not refer to one condition in Washington which I think accounts for many of the unexplained cases. In Washington we have a very good water supply and a very good system of sewers, but the sewer system is not complete. We still have a large number of box privies in the alleys and in out-of-the-way places. We have a large colored population living in insanitary surroundings. Many of these colored people are scattered during the summer months at seaside resorts. Some of them no doubt after their return develop typhoid. I doubt whether Dr. Lumsden has been able to keep track of all of these important cases in the alleys of the city. We have a good health department but, unfortunately, not a sufficient number of inspectors. Some of the unexplained cases, I believe, are due to the carrying of infectious material by flies from the insanitary alley houses and out-houses often to the better houses which have sewer connections, and are located on streets and avenues, in the vicinity of the hidden alleys. The fly was not referred to by Dr. Lumsden but it was referred to by the first speaker. It seems that our sad experience during the Spanish-American War was necessary to convince the profession in this country of the rôle of the fly in the propagation of typhoid fever. I was convinced of this some years before the Spanish-American War, and in April, 1898, I issued a circular to medical officers of the army pointing out the dangers from insanitary camps, and especially calling attention to the danger of the transmission of typhoid fever by flies. The reader of the first paper seems to have made the discovery for himself. I think perhaps my official circulars were not read so extensively as they might have been, although most of our regular medical officers of experience were well informed on the subject, but when a lot of undisciplined troops are thrown into unprepared camps with insufficient medical officers, the result appears to be inevitable. Even when the chief surgeon is an officer of experience, he finds himself unable to cope with the situation. I fear that we might have the same result if undisciplined troops were again thrown into unprepared camps in preparation for an unexpected war. Now the remedy for this condition of affairs is proper training of volunteer troops, a thoroughly organized medical department, the prompt removal of febrile cases from the camp, and disposal of excreta by cremation whenever practicable. With a moving camp this may not be practicable, but with a moving camp there is less danger. This is one reason why the Japanese troops suffered little from camp diseases during the recent war with Russia. In the Spanish-American War our troops were assembled in camps where they expected to remain but a short time, but the majority of them were never called on to go to Cuba and remained in the camps, awaiting orders, until the camp site was thoroughly infected. One of my recommendations made at the close of the Spanish-American War was that we should have permanent camps with sewers and a pure water supply, and everything necessary for the assembling of troops in case of emergency. So far as I know, this recommendation has not yet been acted on and I fear that if we had another war and a large number of troops were called out the lessons of the Spanish-American War might have to be relearned by the officers, both of the line and of the medical department.

Dr. Henry B. Hemenway, Evanston, Ill.: The greatest obstacle to progress in the control of typhoid has been the early recognition that sometimes typhoid was spread by water. It is familiarly called a water-borne disease. It has been impressed on me very emphatically, of late, that milk is far more liable to give the disease than is water. The typhoid germ, if I am not mistaken, does not thrive in water. In water it is a weakly germ, which cannot so readily multiply; but in milk it may multiply under exactly the same conditions, because it gets more nutriment. The great problem to-day seems to be the control of what is familiarly called the typhoid bacillus-carriers. That is a problem on more than one account. In the first place, a large number of these individuals are not suspected of being bacilli-carriers. There has been no systematic effort on the part of health departments to keep track of every typhoid case until it is known that the patient no longer excretes the typhoid germ. I can recognize the fact that it would be a hardship on the community, and especially upon the individual, if every typhoid patient were kept, as we might say, in quarantine, using that word even in a very broad sense; but it seems to me that certain laws should be passed which would give a supervision of all bacilli-carriers. Diphtheria presents a similar problem. I had an instance within the last six months; the bacillus-carrier, a woman perfectly well and strong, absolutely objected to being restricted. She happened to be a diphtheria carrier. A number of cases of diphtheria were shown in a certain territory occasionally cropping out; and the thing was to find where the infection came from. Finally, it incidentally came to the knowledge of some that there was a particular fruit peddler going through that territory who himself was well but had had a case in his family which was suspiciously like diphtheria. The typhoid carrier is particularly dangerous whenever he comes in contact with any food which others will eat without further cooking. The typhoid carrier should by law be restricted from any employment on milk farms; he should be restricted from employment in a bakery, or in a grocery, or in any such place.

Dr. Juan Guiteras, Havana, Cuba: I have had no special experience with typhoid fever from the point of view of the public health officer. We have little typhoid fever in Havana. Our water supply is excellent, coming direct from abundant springs. The milk used in Cuba is always boiled. No raw milk is ever drunk in Cuba. Perhaps for those two reasons typhoid fever is limited there. The tracing of contact relations in the few cases that we do have in Havana is usually not difficult.

Dr. A. C. Abbott, Philadelphia: Coming from a community in which the average incidences of typhoid fever has been for years approximately 6,000 cases annually, it is not unlikely that some at least of our experiences may prove to be of service. In the beginning, I should like to subscribe to that which has already been said by Dr. Welch concerning the instructive work of the Washington board of which Dr. Lumsden is an active member. It has brought out in an impressive manner the complicated nature of the problem of typhoid fever as it effects a community, and has left no doubt in the minds of those familiar with it that no stone should be left unturned in seeking for the causes of endemicity of typhoid fever. It also demonstrates that conclusions drawn for one community may not of necessity be applicable to others. You have heard what has been said concerning Washington. In Philadelphia there is no reasonable room for doubt that our principal trouble lay in the filthy, grossly polluted drinking-water with which our city until very recently was supplied. With the introduction of proper methods of purifying that water, the occurrence of typhoid fever immediately lessened by about 80 per cent., and we believe that with the continuance of the purifying methods and the further extension of the system that this reduction will be still greater reduced. There is no doubt that many cases in the city arise from the use of specifically infected milk, but I would hesitate to form an estimate of the proportion of these cases, for it would be nothing more nor less than guess work. On several occasions we have, it is true, succeeded in tracing to their origins some isolated outbreaks of the fever due to contaminated milk. Two of these are so instructive and worked out with such mathematical percision that I am tempted to relate their main points:

One outbreak occurred in one of the lower wards of the city and involved over fifty persons. Without entering into the details, it will suffice to say that on investigation the milk purchased by these individuals was found to have come from a farm on which about three or four weeks prior to the outbreak there had been in a family of seven, five cases of typhoid fever, the two remaining members, the wife and a little daughter, having charge not only of the patients but likewise preparing the milk for market. The bedpans used by the patients were washed on the back porch immediately over the spring used for rinsing the milk cans. The next outbreak involved a number of students at one of the colleges in Philadelphia. In this instance we found the milk being supplied to have been produced on a farm where inspection showed everything to be in a satisfactory condition. It was, however, handled by a middleman and in looking into affairs at his place we found that the milk was being bottled from the cans by means of a rubber syphon. His two sons sucked the milk up from the can with an ordinary piece of rubber tubing and allowed it to flow into the bottle. One of these sons within a day or two was taken to the hospital ill with typhoid fever, and in less than a week the second was also sent to the hospital with the same disease. That experiences of this kind are to be had in every community I have no doubt.

With the contact cases we have a much more difficult problem. Of course, the obvious contacts we exclude from our consideration but that there is a subtle dissemination of the disease through ways of contact not obvious I have no doubt whatever.

A great difficulty in satisfactorily tracing out completely the dissemination of this disease lies in the almost impossibility of securing uniformly correct histories. It is astonishing how few apparently intelligent people can answer no questions in such a way as to aid you. Many do not seem to have the least recollection of where they have been or what they have done during the incubation period of the disease. Others make statements that are intentionally misleading, I am sure.

Another difficulty that is common to most communties is incorrect diagnosis. We have repeatedly had reports come to our office of persons having typhoid fever at such and such an address. Often in less than a week from the onset of the disease these persons are attending to their ordinary avocations.

Until there is some concerted action concerning the control of water courses the municipal problem of typhoid fever is going to be very largely a water problem.

It is needless for me to mention the variety of other ways in which the disease may be disseminated, such as by insects, by vegetables grown in land fertilized with human manure, by shell-fish taken from polluted waters, etc.

Dr. Liston H. Montgomery, Chicago: Perhaps raw oysters and other shell-fish have something to do with the dissemination of typhoid fever in the cities on the coast. In Chicago the people cannot all afford these luxuries. It is well known that the dissemination of typhoid is due to the house-fly and the fruit, or pomace, fly, roaches, etc. Weeks ago our Commissioner of Health issued a bulletin instructing housewives on the necessity of placing in windows wire screens, so as to prevent flies from entering the house and contaminating the food. In some of the cities, as I understand it, active war has already been begun for the extermination of the house-fly. Bacteriologists who have captured flies in the houses stained these insects, as I understand it, with a brilliant dye and released them, watching the flies afterward by following them and seeing that they reveled in filth boxes, garbage, etc. Later these same flies returned to the houses where they were previously captured and stained; then, before they had time to contaminate food, they were recaptured and their excreta, or contents of their alimentary tract, were investigated and were found to contain the bacteria, not only of typhoid, but of various other diseases.

In one of the larger towns in the East a householder, having recovered from typhoid fever proved to have been contracted, I understand, on account of the polluted stream that went through the town, instituted a lawsuit against the town and, I believe, recovered damages by judgment.

Dr. Seneca Egbert, Philadelphia: One other source of infection has not been mentioned to-day, and I am rather surprised thereat. It is not a proved source, but it seems to me a very possible one. I refer to celery, lettuce and other articles of food which come to us in the fresh, green state. I have in mind three instances which seemed to me to help make that a possibility. One case was that of the small child of one of my colleagues, in whose home I can vouch for extraordinary care as to typhoid infection. The little girl had a serious case of typhoid; and in the minds of her parents the only thing that could have caused it was celery, of which she was very fond and which they used very largely in the household.

Some years ago members of one of the improvement associations in the northern part of Philadelphia came to me and asked my opinion as to the use of night-soil from old privy vaults on the truck farms in their neighborhood. They declared it a common practice of these farmers to use night soil on these farms. I saw an Italian picking watercress from a little stream which was close to the ends of the ties of the railroad track and which could readily have been polluted and infected by a typhoid carrier on a passenger train. So it seems to me entirely possible that a number of cases may occur in this way through infection from such articles of food as are consumed in the fresh, green state and which cannot, so far as I know, be sterilized and made free of the germ, once they are contaminated.

I am glad to testify that Dr. Abbott has been one of the factors in Philadelphia which have brought about that elimination of a large proportion of our typhoid cases and which we are very glad to have eliminated. The sources of the others may continue to puzzle us for some time to come, but must eventually be discovered and eliminated.

This problem is a very complex one, demanding the attention of every sanitarian. For a long time I have felt that it is just as important a problem as tuberculosis; while the incidence and the death rate from typhoid may not be so high as in the case of tuberculosis, I think a crusade against the former carried on with the same vigor and the same widespread effort the country over as that against the latter would result in a much greater diminution in death rate and incidence than the tuberculosis crusade can possibly hope to achieve in anything like the near future.

Dr. J. N. Hurty, Indianapolis: Other theoretical sources, and we now think practical sources, of typhoid fever, are public lunch wagons, public fruit stands and candy wagons. My attention was directed to this by a newspaper man. A reporter was taken ill with typhoid fever; and the man who made his rounds, afterward talking on the subject to me, said: "I don't know where he could have gotten it; unless from one of those lunch wagons." Then a policeman who frequently patronized the same lunch wagon was attacked with typhoid. Investigation showed that the lunch man had typhoid in his family; so, of course, there was the source, and it is comparable to the restaurant source.

In regard to the spread of typhoid fever by contact: The Indiana Soldiers' Home at Lafayettte is beautifully situated. The sanitation is very good. There was no typhoid there—had not been for years. The commandant's son came home with typhoid from school. The chief physician of the institution attended him, and presently the disease spread all over the institution. There were 65 cases and 1 death. After a thorough investigation showing the deep well-water to be pure, the sewage perfect, and all that, we found that the physician spread the infection all through that institution. He came down with it himself and was very ill—so ill that he was delirious while the investigation was being made. We asked him what precautions he took after he handled the patient; what precautions he took in regard to washing his hands, and he said he did not take any. "Did you wash your hands?" "Well, sometimes I did and sometimes I did not." In this instance 65 patients were infected by the physician himself: not all of them, of course, but he started the infection. So a physician may be a distributing agent.

Dr. Henry B. Hemenway, Evanston, Ill.: I have long been accustomed to use a little coverette on my thermometer, so that the thermometer never touches the patient. It seems to me that is a precaution that might well be used in such cases.

Dr. A. W. Freeman, Richmond, Va.: We have had in Richmond, and later in Virginia at large, an interesting experience with typhoid. The Richmond investigation was begun independently of the Washington work, and the results were in perfect accord with those arrived at in Washington. The parallelism between the typhoid rates of the two cities, as has been pointed out elsewhere, is remarkable. We were able, also, to account for about the same percentage of cases, leaving the larger number of cases without explanation. In July, 1908, the newly reorganized state department ot health began a similar investigation of the small, local outbreaks in Virginia, believing that these, offering less complicated situations than the outbreaks prevailing in the larger cities, would throw more light on the problem. The results of this investigation were varied. Of about thirty outbreaks investigated a few were apparently caused by water, but by far the larger number of cases in the smaller towns could be traced to the carrying of the infection from house to house by food, or by the visits of neighbors entering the sick-room. Even the most casual contact might, apparently, be responsible for the spread of the disease.

This year we hope to investigate the true rural typhoid; typhoid on the farm, where the whole process of spread can be seen plainly. On the average Virginia farm you can follow the movements of every member of the family for weeks and even months prior to the outbreak, and we have already followed out a number of these cases, where the disease could be traced from farm to farm, over long distances. We believe that this type of the disease offers a particularly inviting field for investigation. We believe strongly in the contact idea as applied to typhoid in Virginia. We have no opinions to offer as to typhoid in any other locality, but so far as our present experience goes we do not believe the farm well to be responsible for any great number of cases. It is the contact of the well person with the patient that results in the spread of the disease in Virginia.

Dr. F. F. Russell, U. S. Army: There is another way to prevent typhoid fever besides tracing down the source of infection and destroying that source, and that is, by vaccination, or inoculation or immunization of a body of men. While this is not a practicable matter for civil life within any large limits, it is within the military service, and the surgeon-general of the army has now started to immunize large bodies of troops against typhoid. The British and German campaigns against typhoid fever (which are conducted as our own, with the idea of preventing infection from every possible source and without neglecting any other means which will help us in stamping out typhoid) have shown that vaccination against typhoid undoubtedly does protect and that it protects for a considerable length of time. The figures of the British (which have recently been published and which have been mentioned by Dr. Stone) show very roughly that among those men who have been vaccinated there is only one case of typhoid to every ten cases among men equally exposed who have not been vaccinated. Now that result is sufficient to encourage us in the use of vaccination among all persons who are to be exposed to typhoid. Going into a camp is equivalent to going into an endemic area, for typhoid prevails everywhere in the United States; and we cannot organize a camp or assemble any large number of men without having typhoid introduced inside of three weeks. The disease will spread by contact, almost altogether by contact, and contact in a camp is much more intimate than in civil life, so that the dangers which are present everywhere are present in a much greater degree in camp. We feel that not only must we provide pure water and pure food, and destroy the excreta, etc., of everyone, but we must also vaccinate everyone who can be persuaded to take it as an additional means of reducing the morbidity and mortality from this disease.

Dr. James B. Bullitt, University, Miss.: In my town (population 2,500), cisterns, shallow wells and privies were in use until about ten years ago. On the installation of a sewerage system and of a water supply from artesian wells, typhoid, which had been fearfully prevalent, practically disappeared. There is one block, however, occupied for the most part by the better class of people, where the configuration of the ground prevented junction with the main sewers. A short sewer was therefore laid emptying into a little ravine only a few rods away. The water supply is the same as for the rest of the town. Here several cases of typhoid have occurred every year, though the rest of the town has remained practically free. As there have been several intervals of eight or ten months between consecutive cases, it seems unlikely that each crop has developed from those immediately preceding. It is my opinion that some bacillus-carrier, whom we have been unable to identify, lives on that street and intermittently infects the ravine, from which doubtless flies and other insects carry the infection to the neighboring houses.

Dr. Gardner T. Swartz, Providence, R. I.: In Providence, when an epidemic breaks out in a quarter, the health officer is called on to put his finger on the source; if he cannot he is not a master and cannot hold his position. The public is now becoming informed of these matters and the possibilities that we have of determining the various sources of this disease. We must encourage our departments, both state and national, in the promulgation of this investigation work, and urge that the laboratories must be so situated, and of such convenient distances, that we shall be able to utilize them for carrying out the study of this disease, concerning which on many occasions we must acknowledge our impotence.

Dr. Martin Friedrich, Cleveland, Ohio: These discoveries of new carriers of typhoid fever germs are not only interesting but of great importance but let us remember that in the main typhoid fever is a water-borne disease.

Dr. H. M. Bracken, St. Paul, Minn.: We had a beautiful opportunity to study typhoid in Minnesota in a little town where we told them they were going to have it; and we got the first case. A short time ago my attention was directed to a farm where the residents were man and wife, and where every employee for the last seven or eight years who has come onto that farm has had typhoid fever. I asked if either of the members of the family had had the disease and I was told by the physician no; but when we sent someone to find out, we found that the wife had had typhoid several years ago.

Dr. W. Forest Dutton, Walkers Mills, Pa.: When I prepared this paper I expected critical discussion, and earnestly desired it, for my own personal edification more than anything else. The technic was not different from that used by bacteriologists. Precautions were taken to eliminate other than the *Bacillus typhosus* of Eberth. When I say typhoid, I mean, distinctly and absolutely, the bacillus of Eberth and not paratyphoid, colon, or the paracolon bacillus nor intermediate species. I used culture media most suitable to the individual case. It is truly a difficult task requiring ofttimes months to secure positive results. It has been known for years that typhoid bacilli reach the blood through other than ordinary channels. In the first two weeks of typhoid there is a marked blood infection; the bacilli occur in the tissues in clumps, and the roseolæ contain bacilli. Bacilli are frequently found in urine, feces, bile, and pus, years after primary infection. Thence, it can easily be inferred how the infection is accessible to the insects referred to in my paper. The proofs that have been furnished by Grünbaum and Sanarelli prove the specific character of typhoid.

In reference to typhoid commissions, I would say that a great deal has been accomplished by their efforts, yet salient etiologic factors are frequently overlooked. A general survey is made of epidemic and endemic outbreaks of typhoid, and general data are accumulated. The fact remains, however, that a commission cannot study individual cases as affecting rural districts, and this, perhaps, accounts for failure to learn the source of infection.

In closing, I should like to say that vaccination against typhoid will, when the method is perfected, prove one of the greatest boons to the human race, second only to vaccination against smallpox.

Dr. L. L. Lumsden, Washington, D. C.: It is a great pleasure to see such a keen interest taken in the typhoid problem. The many valuable suggestions made in the course of the discussion I am sure will aid us in our future work in Washington. At the beginning of our studies in Washington we suspected that there might be many cases of typhoid which were not reported and which might constitute some of the undiscovered links in the chain of transmission of the infection by contact. In the summer of 1908 we conducted a house-to-house canvass in 32 city blocks having a population of about 6,000. The results of this canvass incline us to believe that in Washington more cases of typhoid are reported than exist in a clinical sense.

As Dr. Welch remarked, I probably did not sufficiently emphasize the milk problem. The pronounced milk outbreaks in Washington may be regarded somewhat as acute exacerbations of a chronic affection. A number of scattering cases doubtless are due to milk-borne infection which cannot be traced. In our reports charts are presented which show the occurrence of typhoid cases among customers of different dairymen proportionate to amount of milk sold. One dairyman who sterilizes bottles and cans and pasteurizes milk has had among his customers a consistently low typhoid rate. This is significant and perhaps indicates what would be the result of the pasteurization of Washington's general milk supply.

There are now in the District of Columbia only about 3,000 privies. We expect to find a higher rate of prevalence of typhoid in the sections largely provided with privies; but we were disappointed and we have not been able to say as harsh things about privies as we had hoped. It is true that there are in Washington insanitary alleys having a crowded negro population, but we have found that the prevalence of typhoid in these alleys is no greater than in the better sections of the city. We have given considerable attention to flies. No preponderance of cases has been found among persons living in unscreened houses and among those whose occupations exposed them unduly to flies. Last summer Dr. L. O. Howard, at our request, made a study to determine the seasonal abundance of flies in Washington. The lack of parallelism between the curve showing the seasonal abundance of flies and that showing the seasonal prevalence of typhoid opposes the view that flies are a major factor in the transmission of typhoid infection in Washington.

It is encouraging to hear from Dr. Guiteras that there is very little typhoid in Havana. Havana is distinctly a tropical city, having the year round about the same climate that Washington has during the summer, Washington's typhoid season. It seems that, regardless of climate, localities having good water, good milk, good sewage disposal and in which typhoid patients are properly cared for have as a rule little or no typhoid.

Publicity in Tuberculosis.—Publicity through the press is being utilized with good effect in the fight against tuberculosis by the Board of Health of Salem, Mass. A series of articles has been prepared for insertion in the newspapers which aim to give information that will be of benefit to the people in general. The objects of the articles are to show the great frequency of tuberculosis and the importance of infection, bad habits and insanitary surroundings as compared with heredity, to arouse public officials to a sense of duty, to instruct the well as much as the sick, and paint the consumptive's future as bright as possible, avoiding extreme opinions and interference with the proper field of the physician. The articles are supplemented by a skillfully managed question box in which many of the popular fallacies regarding the disease and plausible objections to the statements made in the articles are corrected and refuted. The method of the Salem board is worthy of the attention of other health authorities and has received the commendation of a considerable number. Such articles must be carefully managed to avoid exciting undue alarm, but the hope of cure held out to sufferers from the disease and the sensible stand taken in these articles as to danger from contagion is likely to avoid such a result.

A CONVENIENT METHOD FOR DETERMINING CALORIC VALUES OF FORMULAS BASED ON PERCENTAGE FEEDING OF INFANTS *

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At present there are two schools in the pediatric world more or less opposed to each other on the subject of infant feeding. The German school almost universally supports the caloric, while the American school largely upholds the percentage system. It is apparent to all that each school must have its good points when supported by such representative men as Heubner, Camerer, Rotch, and Holt.

While one pediatrician using the percentage system of feeding occasionally calculates the caloric value of what he prescribes—not a rare procedure — another man can be seen following the German idea, who calculates regularly the calories considered essential, but seldom, if ever, knows what kind of percentage strength of food he is giving. Both schools support their side of the question stoutly and each seems to me rather slow to see any good in the other. If these can be combined, the good of each will strengthen the value of the other. Heubner, Camerer and others of their school have said that they have successfully fed children by using simple dilutions of milk, letting the caloric value of the food not exceed from 100 to 120 calories per kilogram per body weight and gradually reducing this to 80 calories at the end of the first year. Granting that Heubner's caloric value of milks, diluted to suit the digestion, is correct and is important for successful feeding, why is it not important also from a scientific as well as a practical point of view to have these same dilutions calculated in percentages of fat, sugar and proteid?

TABLE OF CALORIC VALUES USED IN INFANT FEEDING

(Values are estimated according to percentage strength of constituent and the amount of food.)

Am't.of Food in Ounces.	Percentages:-(%)			1.			2.			3.	
Am't.of Food in Cubic Cent.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
	4.00	0.3720	0.7440	1.1160	1.4880	1.8600	2.2320	2.6040	2.9760	3.3480	3.7200
	.75	0.3487	0.6975	1.0462	1.3950	1.7437	2.0925	2.4412	2.7900	3.1387	3.4875
	.50	0.3255	0.6510	0.9765	1.6820	1.6275	1.9530	2.2785	2.6040	2.9295	3.2550
	.25	0.3022	0.6045	0.9067	1.2090	1.5112	1.8135	2.1157	2.4180	2.7202	3.0225
	3.00	0.2790	0.5580	0.8370	1.1160	1.3950	1.6740	1.9530	2.2320	2.5110	2.7900
	.75	0.2557	0.5115	0.7672	1.0230	1.2787	1.5345	1.7902	2.0460	2.3017	2.5575
	.60	0.2325	0.4650	0.6975	0.9300	1.1625	1.3950	1.6275	1.8600	2.0925	2.3250
FATS-	.25	0.2092	0.4185	0.6277	0.8370	1.0462	1.2555	1.4647	1.6740	1.8832	2.0925
	2.00	0.1860	0.3720	0.5580	0.7440	0.9300	1.1160	1.3020	1.4880	1.6740	1.8600
	.75	0.1627	0.3255	0.4882	0.6510	0.8137	0.9765	1.1392	1.3020	1.4647	1.6275
	.60	0.1395	0.2790	0.4185	0.5580	0.6975	0.8370	0.9765	1.1160	1.2555	1.3950
	.25	0.1162	0.2325	0.3487	0.4650	0.5812	0.6975	0.8137	0.9300	1.0462	1 1625
	1.00	0.0930	0.1860	0.2790	0.3720	0.4650	0.5580	0.6510	0.7440	0.8370	0.9300
	.75	0.0697	0.1395	0.2092	0.2790	0.3487	0.4185	0.4882	0.5580	0.6277	0.6975
	.50	0.0465	0.0930	0.1395	0.1860	0.2325	0.2790	0.3255	0.3720	0.4185	0.4650
	.25	0.0232	0.0465	0.0697	0.0930	0.1162	0.1395	0.1627	0.1860	0.2092	0.2325
	7.00	0.2870	0.5740	0.8610	1.1480	1.4350	1.7220	2.0090	2.2960	2.5830	2.8700
	.50	0.2665	0.5330	0.7995	1.0660	1.3325	1.5990	1.8655	2.1320	2.3985	2.6650
	6.00	0.2460	0.4920	0.7380	0.9840	1.2300	1.4750	1.7220	1.9680	2.2140	2.4600
	.60	0.2255	0.4510	0.6765	0.9020	1.1275	1.3530	1.5785	1.8040	2.0295	2.2550
	5.00	0.2050	0.4100	0.6150	0.8200	1.0250	1.2300	1.4350	1.6400	1.8450	2.0500
	.50	0.1845	0.3690	0.5535	0.7380	0.9225	1.1070	1.2915	1.4760	1.6605	1.8450
	4.00	0.1640	0.3280	0.4920	0.6560	0.8200	0.9840	1.1480	1.3120	1.4760	1.6400
SUGARS-	.80	0.1435	0.2870	0.4305	0.5740	0.7175	0.8610	1.0045	1.1480	1.2915	1.4350
	3.00	0.1230	0.2460	0.3690	0.4920	0.6150	0.7380	0.8610	0.9840	1.1070	1.2300
	.75	0.1127	0.2255	0.3382	0.4510	0.5637	0.6765	0.7892	0.9020	1.0147	1.1275
	.50	0.1025	0.2050	0.3075	0.4100	0.5125	0.6150	0.7175	0.8200	0.9225	0.0250
	.25	0.0922	0.1845	0.2767	0.3690	0.4612	0.5535	0.6457	0.7380	0.8302	0.9225
	2.00	0.0820	0.1640	0.2460	0.3280	0.4100	0.4920	0.5740	0.6560	0.7380	0.8200
PROTEIDS-	.75	0.0717	0.1435	0.2152	0.2870	0.3587	0.4305	0.5022	0.5740	0.6457	0.7175
	.50	0.0615	0.1230	0.1845	0.2460	0.3075	0.3690	0.4305	0.4920	0.5535	0.6150
	.25	0.0512	0.1025	0.1537	0.2050	0.2562	0.3075	0.3587	0.4100	0.4612	0.5125
	1.00	0.0410	0.0820	0.1230	0.1640	0.2050	0.2460	0.2870	0.3280	0.3890	0.4100
	.75	0.0307	0.0615	0.0922	0.1230	0.1537	0.1845	0.2152	0.2460	0.2767	0.3075
	.60	0.0205	0.0410	0.0615	0.0820	0.1025	0.1230	0.1435	0.1640	0.1845	0.2050
	.25	0.0102	0.0205	0.0307	0.0410	0.0512	0.0615	0.0717	0.0820	0.0922	0.1025

Percentages of fat, carbohydrates, proteids, water, solids, etc., to a certain extent, are, we know, taken into consideration when feeding delicate digestions among adults. Why is it, then, not far more important to consider the same things when using food in the feeding of infants? We hear from Czerny, Camerer, Salge, Holt, and others that fats are not easily borne by the child and are frequently seen to be the cause of acute and chronic indigestion. If this is true, and I am fairly convinced of the fact, a knowledge of the percentages of ingredients in the milk formulas, etc., will be of great practical value.

I shall not enter into the much discussed fields of the digestibility of fats, sugars and proteids for infants, or their management in home modification or laboratory prescriptions. I merely wish to urge a more constant trial of the use of the two systems, using them in the proper relation one to the other. The percentage system, no matter how calculated, prevents, if properly used, the over-feeding of fat, and holds one within the conservative limits of sugar and proteid, while the caloric value of these same percentages prevents one from overcharging the intestine and putting too much work on the digestion of the infant.

My object in writing this paper is, first, to urge a more thorough trial of these combined methods, and, second, to offer to the medical profession a plan, other than the ordinary, as a possible aid in computing the calories of any formula of infant feeding based on the percentage system.

This plan depends on a table of caloric values for the different percentages of fat, sugar and proteid used in infant feeding. These values are calculated for each gradual increase of strength in percentage, and of the quantity of food. These same values are placed side by

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

side in columns and rows, so that the columns represent values of different percentage ingredients of the same quantity, while the rows represent the same per cent. strength of ingredient of different quantities. (For the former read up and down, for the latter read horizontally.) The fats differing in caloric value from the sugars or proteids (9.3 Cal. to 4.1 Cal.) are worked out by themselves. The sugars and proteids of similar energy power (4.1 Cal.) are estimated together.

The increase is 0.25 per cent., as is shown in the left-hand column. This is used throughout the table for fats, sugars and proteids, it being practically about the smallest and at the same time the most exact per cent. possible to be used in home modification and laboratory formulas. In the combined sugar and proteid values the strength will be seen to increase above 4 per cent. by 0.5. The limits of percentage for fat, sugar and proteid are taken from the general reading and practice of American and foreign pediatrists. The fats are estimated from 0.25 to 4 per cent., the 0.25 per cent. representing the lowest practical strength, while the 4 per cent. represents the usual strength in "whole milk" of Holstein and Ayrshire cattle, which is further generally agreed to be the safety point above which tolerance and indigestion, due to fats, seem to appear most often. The upper limit of sugar and proteid is that which is generally accepted as essential for ordinary use, that is, 7 per cent. in sugars and 3.5 per cent. for proteids.

The increase in quantity is shown in the two top rows of the table. Here, reading from left to right in the second row, are shown the gradual quantitative increase of food constituents from 1 to 10 cubic centimeters. The decimal system, although not much used in this country, is rapidly advancing. It has seemed to me the most natural and the easiest one to use when dealing with percentages. By merely changing the point to the right one, two or three places in any column the value of ten, one hundred and one thousand times the amount of the ingredient can be instantly seen (i. e., take "3 c.c." column; by moving the point one place, we have the value of 30 c.c., two places, the value of 300 c.c., and with three places, the value of 3,000 c.c.). For those who wish to calculate in ounces, the top row of figures has been added. Here we rely on the fact that one ounce practically equals 30 cubic centimeters, two ounces 60 cubic centimeters, and three ounces 90 cubic centimeters. With this knowledge, the values of one, two and three ounces can be estimated by following down the "3, 6 and 9 c.c." columns and changing the decimal point one place. For 10, 20 and 30 ounces merely change the point two places.

The method for computing the table is simple. The energy values for one cubic centimeter of 0.25 per cent. of fat, sugar and proteid are calculated. The resulting figures are used as factors or bases, whence by mere addition or multiplication all other values are easily worked out. One gram of fat possesses 9.3 calories of energy, and is practically equivalent to one cubic centimeter of fat; then one cubic centimeter of fat has 9.3 calories of energy. For example, if one cubic centimeter of 0.25 per cent. fat has 0.02325 calories, then 2 cubic centimeters will have just twice that amount, or 0.04650 calories; and, again, if one cubic centimeter of 0.25 per cent. fat has 0.2325 calories, then one cubic centimter of 0.50 per cent. fat will have twice the number of calories as are in one cubic centimeter of 0.25 per cent.

THE METHOD OF USE

When using percentages in feeding, the caloric value is ordinarily calculated by multiplication of the percentage of fat, sugar or proteid by the respective value of one gram of each ingredient, and then by the total amount of food in the twenty-four hours. To complete this problem, these three values must be added together to procure the actual daily energy of the food. For example:

Formula: Fat, 3 per cent.; sugar, 6 per cent.; proteid, 1 per cent. Total amount, 300 c.c.

Three hundred cubic centimeters of 3 per cent. fat, 300 x .03 (3%) x 9.3 cal. (energy value of 1 c.c. fat) gives 83.7 calories.

Three hundred cubic centimeters of 6 per cent. sugar, 300 x .06 (6%) x 4.1 calories (energy value of 1 c.c. sugar) gives 73.8 calories.

Three hundred cubic centimeters, of 1 per cent. proteid, 300 x .01 (1%) x 4.1 calories (energy value of 1 c.c. proteid) gives 12.3 calories.

Total, 169.8 calories.

This requires two multiplications in each ingredient, or a total of six. By referring to the table it is seen that by knowing the percentage of fat, sugar and proteid in the food, as well as the total amount, these same values are quickly found and the multiplications are done away with. The addition in both methods is and always will be necessary.

Read down the respective percentage column until the desired percentage is found, follow this row until the amount is reached, then read. Add these values and the total caloric value of the food results.

Formula: Fat, 3 per cent.; sugar, 6 per cent.; proteid, 1 per cent. Total amount, 300 c.c.

Look down the percentage column until 3 per cent. is reached, read now to the right until "3 c.c." column is seen, as the total amount is 300 c.c.; move the decimal point two places, and we have 83.7 calories for 300 c.c. of 3 per cent. fat. This same process is done in the percentage columns of sugar and proteid and we quickly find the calories of sugar to be 73.8 and those of proteid to be 12.3.

Variations in the above example appear when the total amount becomes an uneven quantity, 330 cubic centimeters, or 440 cubic centimeters. Here the problem is slightly increased. We find the value for 300 cubic centimeters, and for 30 cubic centimeters, by merely changing the decimal point; the addition of these two gives the total. When the total quantity is in ounces, we use the ounce columns and proceed as if using cubic centimeters, changing the point as occasion demands, and when necessary multiples of the same (i. e., for 6 ounces, twice the value of 3 ounces, for 4 twice that for 2 ounces, etc.).

All tables and formulas in infant feeding only add trouble to this already most complicated subject, unless they fulfill certain requirements. The method of formation must be clearly understood and the method of using the same, while both must be simple. Unless such tests can be applied to any such scheme, difficulty arises, and the table or formula is worse than useless. I have attempted to show as shortly and as concisely as possible how this plan was worked out and is used. It is simple, I think, to understand and to use; therefore, I hope that it may be of some service to the profession and possibly aid in the fusion of the two theories of the foreign and American schools.

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Tracheotomy in Cancer of Larynx.—Tracheotomy cannot be considered as a curative operation. It serves only to relieve the stenosis of the larynx caused by the cancer, or comes into play as a preliminary to the radical external operation.—O. Chiari, in *Annals of Otology, Rhinology and Laryngology*.

HEUBNER'S SYSTEM OF INFANT FEEDING EXPRESSED IN CALORIES AND ENERGY UNITS*

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No food, no growth.

After the fourth week of life in a qualitative, and after the sixth week in a quantitative manner, a certain normal feeding has been established for the child which allows of an average estimation in quantity and quality of food taken. The single and daily feedings of the infant will closely approximate the averages fixed.

After the sixth week the child requires from 600 to 900 (from 20 to 30 oz.) grammes daily and after the fourth month from 1,000 to 1,100 grammes (33 to 36 oz.); these amounts are seldom exceeded. These figures have been established by weighing a large number of children daily for months and represent average values. According to the observations of Dr. Feer the amount of food taken daily by one individual infant varies greatly; in this the child resembles an adult. These daily variations in feeding of infants must be remembered when we take up artificial feedings. The number of daily feedings in the cases observed and controlled were not frequent. The first three or four weeks of life the infant was fed every two hours; after this from six to seven times daily. After the fourth month six daily feedings were given, and in many cases only five.

The quantity taken at each meal varies from 50 to 200 (1⅔ to 6½ oz.) grammes. The time taken for a meal varies in individual cases from fifteen minutes to one-half hour. After the third week there is very little variation in the chemical quality of the mother's milk. The constituents are not so fixed as in a mineral water; fat varies greatly at the different feedings. Frequent examinations of milk obtained in sufficient quantity of the same breast, repeated for days, will show a surprising sameness. Further, the examination of milk from many different mothers also agrees so nearly that an average has been established.

In 100 grammes (3 oz.) of mother's milk the infant gets according to the form established:

Proteids. (13½-15 grs.)	Fats. (50-60 grs.)	Sugar. (90-105 grs.)	Salts. (2.85 grs.)	Unknown organic substance. (6 grs.)
0.9-1.0%	3.5-4.0%	6.7-7.0%	0.19%	0.6%

When the milk reaches the stomach it is rapidly changed. The casein is precipitated, but, as there is but little casein in mother's milk, the precipitation is fine and flocculent.

Casein and salts remove the acid of stomach secretions and it requires from 1 to 1½ hours before it reappears. According to von Mehring, whenever the intestines are filled up, no more food is allowed to escape the stomach, and thus the bowels are guarded against overflow and overwork.

All foods entering the body are acted on by the infant's organs and are disposed of in various ways. Much of it escapes through urine, fecal matter, exhalations from lungs and perspiration. Some of it, however, is added to the body as an increase. These processes are expressed in terms by Rubner as *Energie-Wechsel* (bodily activity) and *Energie-Bilanz* (increase). All duties performed by the body inclusive of adding to the growth are expressed by the term *Energie*.

The energy of a given food is expressed by the heat given off in its burning. The balance of food remaining in the body can be expressed in calories by deducting the amount lost through fecal matter, urine, etc., from the amount entering the body. Food given can be expressed in calories and is of greater significance than if expressed by weights and measures. It can be stated, *a priori,* that in a healthy infant of a steady, regular growth, for equal units of bodily weight we have equal working power in each individual case.

In this case the introduction of food or energy must be regular and of given quantity. By carefully examining a considerable number of normal thriving infants, being able to control them in every respect, so as to establish a proper basis for calculation, Heubner was enabled to express the energy power of the food required by the infants.

The daily amount of food required by a normal thriving infant expressed in calories per kilo (about two pounds weight) of infant is called energy quotient. A more thorough analysis of these infants showed that from the end of the third week to the end of the sixth month the energy quotient is 100 grammes; that is, for every kilo (2 lbs.) weight we require 100 grammes food (3⅓ oz.).

In the succeeding months to the end of the first year there was a gradual reduction in energy quotients. The amount of work required of the infants simply to preserve life—that is, energy power of the food taken minus the energy power of fecal matter, urine and growth—appears in the first six months to equal 70 calories per kilo weight daily. This has been proved by von Feer, Beuthner, Nordheim, and particularly Schlossmann, through various experiments to be approximately right for the first three months at least. Schlossmann is inclined to place the energy quotient to 110 grammes; this determination is based on milk obtained from wet nurses and reduced to calories. Czerny and Kellar have not succeeded and point out what they consider inaccuracies.

It will require further study and experience to prove whether they are inaccuracies or not. Not only in case of breast-fed infants is the food thus to be expressed, but in artificial feeding, the food can be expressed in calories and by learning the caloric value of the several foods used in artificial feeding we can easily compute or compound a food for an infant.

According to Rubner:

	Calories.
Mother's milk contains in 1 liter (dependent on fat contents)	614-724
Cows' milk, per liter	690
Two-thirds milk, per liter	480
One-half milk, (½) 10% sugar solution, per liter	500
Buttermilk (according to de Jager)	698
Liebig's soup (according to Kellar)	808
Allenburg's milk mixture	546
Asses' milk (Dresden)	502

One needs to know the weight of the infant to determine the quantity of the above foods to be given to satisfy its energy requirements.

An infant weighing 5 kilos would require 500 calories cow's milk; 700 calories to 1 liter. Therefore, we would require 5/7 of 1 liter of cow's milk or buttermilk; 1 liter ⅔ milk; ⅝ liter of Liebig's soup, etc. Of course, the above calculations premise that artificial food is as good as mother's milk. This we know is not so by a good deal.

A high percentage of nitrogenous contents in food for infants is not economical because a low percentage answers all demands. Further, nitrogenous food requires good digestive organs. The different proportions of casein and albumin in cow's milk and mother's milk are well explained in all text-books and require no elucidation here. The differences, however, have greater theoretical value than a practical one. The differentiation and characterization of the several nitrogenous compounds in the organic fluids have not reached that stage which would allow us to come to any definite conclusions.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

What is of greater importance is the presence in mother's milk of substances rich in phosphorus, as nuclein and lecithin, which are not found as well represented in cow's milk. In fact, there are more unknown substances which contain nitrogen in mother's milk than in animal milk.

Based on these chemical differences, as well as on the result of experiments, digesting nitrogenous compounds in test tubes, both of cow's milk and mother's milk, the conclusion was reached by different savants and so promulgated that cow's milk was hard to digest owing to the nitrogenous properties. This doctrine, however, has been disproved by experiments on infants. In fact, it was proved that the nitrogenous compounds, those of cow's milk as well, were easily and thoroughly digested (about 5.5 per cent. loss), and when not made use of in the body were chemically changed and passed in the urine.

This doctrine would not have received so much consideration and been so persistently believed, but the daily experiences seemed to prove it. A child could digest diluted milk quite well, but not whole milk. In whole cow's milk the nitrogenous compounds are far in excess of the same elements in mother's milk, while the fats and sugar are of about the same percentage; therefore, the nitrogenous bodies are the indigestible ones. This conclusion is probably right, but the explanation of the conclusion is interpolated and this is not right. That is, the conclusion is not based on rigid experimentation; it is not proved. Rubner and Heubner were enabled to study carefully the effects of artificial feeding—cow's milk, on two children, a seven months old child and a three months old sickly child—and from their observations and studies obtained a clearer idea of the digestion of nitrogenous compounds. What is the effect on an infant of a nitrogenous diet much richer than a breast-fed child obtains? It does not increase the growth of the child to any appreciable amount, but we have an increased destruction of nitrogenous compounds, and if we continue for some time this rich nitrogenous feeding we influence the metabolism of the body. The increased metabolic processes in the body increases the heat production. This was ascertained in the two children to be from 9 to 15 degrees daily more than in a breast-fed child. This overproduction of heat must be got rid of, and in the children examined it was accomplished through increased perspiration and exhalation from the lungs. This all means increased work for the infants.

The digestion and absorption of this richer food, the destruction and the disposition of the increased heat, all caused extra work for the internal organs without any benefit to the infant, no increase in growth or in repair of worn-out tissue. The increase of albumin in the cells of the body is not accelerated by a too rich nitrogenous diet, but is interfered with.

By continuing this rich nitrogenous diet, or rather, overfeeding, we injure the entire organism. This manifests itself first by loss of appetite. Observation has shown, particularly in delicate children, that it is always better to dilute cow's milk.

This dilution even during the first month of a full term baby does not need to be more than will reduce the proteids of cow's milk to equal the proteids in mother's milk. That is one part of milk and two parts of water. This mixture contains 0.9 to 1.0 per cent. proteids. Of this mixture the same amount is to be given as the child obtains from the breast when nursing, because if more were to be given the reason for diluting would be negatived.

If we were to give two or three times as much of this mixture as the child obtains when nursing we would give two or three times as much proteids and inorganic salts as we had determined, and also an unnecessary amount of water.

During the first month we give of this one-third mixture 400 c.c., at later periods of growth 600 or 700. c.c., in 5 or 6 meals daily if we wish to keep the amount of proteid equal to that of mother's milk.

It is clear, however, that this mixture has not the nutritive value of mother's milk volume for volume, because the non-nitrogenous bodies which are about equal in both fluids normally are reduced two-thirds in cow's milk.

This is the great evil in diluting cow's milk, but one that can not easily be remedied. Milk sugar, of course, can be added to 7 per cent., equal to the amount in mother's milk.

These differences are not the only ones resulting from diluting cow's milk. The organic substances containing phophorus, nuclein and lecithin, which whole cow's milk contains in less quantities than mother's milk, are still further reduced. The physical properties of this new mixture will be unfavorably influenced. It has been determined by Hans Köppes that cow's milk, notwithstanding its higher percentage of proteids and inorganic salts, has about the same molecular concentration that mother's milk has. Freezing point and electrical resistance will be disturbed and thus resorption will be unfavorably influenced.

Too great dilutions, 4 or 5 times, will conduct too much water to the system and overflood it. For these reasons it is not best to dilute cow's milk more than absolutely necessary. The highest dilution that physiologic conditions would allow is one part milk to two parts water. One part milk, two parts water, 8 per cent. sugar to keep sugar up to 7 per cent. in 100 parts.

	Proteids.	Fats.	Sugar.	Ashes.
33 parts milk	0.9	1.2	1.5	0.2
66 parts 8 per cent. sugar sol......	. .	. .	4.3	. .
	0.9	1.2	6.8	0.2
		400 Calories.		

This as a mixture, viewed as an ordinary chemical mixture, resembles mother's milk with the exception of fats. We can, however, increase the volume taken by the child by from 100 to 150 c.c. (from 3 to 5 oz.) over that obtained by nursing to overcome the deficiency in fat.

A simple way would be after the first two to three months to give the one-half mixture, which is as follows:

	Proteids.	Fats.	Sugar.	Ashes.
50 parts milk	1.5	1.8	2.2	0.35
50 parts 10 per cent. sugar sol.....	. .	. .	5.0	. .
	1.5	1.8	7.2	0.35
		500 Calories.		

This mixture shows an increase of proteids and sugar over mother's milk, but deficiency in fats, and can be given in the same volume as mother's milk of the same period.

Finally, from the third or fourth months we may give the two-thirds mixture; that is, two-thirds milk and one-third water in 100 parts.

	Proteids.	Fats.	Sugar.	Asbes.
66 parts milk	1.8	2.4	3.0	0.47
33 parts 12 per cent sugar sol......	. .	. .	4.0	. .
	1.8	2.4	7.0	0.47
		600 Calories.		

This mixture contains almost the same amount of non-nitrogenous substances as a mother's milk, but the nitrogenous substances, salts, are double the amount in mother's milk. Experience shows us, however, that children of four months or over can easily take this mixture providing that the daily quantity given does not exceed one liter from the fourth month on.

It can not be emphasized enough that we should always know the daily quantity given. This point is frequently overlooked when prescribing the mixture.

With the above mixtures one can artificially feed and raise a normal healthy infant and thousands are being thus raised today. This one point will have to be emphasized again and again, that cow's milk and sugar of milk will have to be bacterially clean if we wish to have any success in artificial feeding.

It frequently happens that the child is not satisfied with the portions given and will cry for more, as if still hungry. It is then well to add an ounce or two of oatmeal gruel so as to give the feeding more bulk. A too rapid increase in weight will also have to be watched, as it indicates overfeeding and the quantity will have to be reduced.

Another point to know is that it requires two hours to empty the stomach completely after breast-feeding and three hours after artificial feeding. The stomach should always be empty before another feeding is given. When the time approaches for a feeding the child, if healthy, will cry for its food, and it should be allowed to cry for a few minutes. The time allowance should be rigidly adhered to. Food given before the stomach has emptied itself of the preceding feeding causes distress to the child and will make it restless and give it colic.

Heubner's Tables

TABLE I

Barley meal, 100 calories to an ounce.
Oatmeal, 100 calories to an ounce.
Flour, 100 calories to an ounce.
Sugar, 100 calories to an ounce.
Whole milk, 700 calories to quart.
Skim milk, 400 calories to quart.
Buttermilk (plain), 400 calories to quart.
Buttermilk, 1.5 per cent. flour and 6 per cent. sugar, 700 calories to quart.
Skim milk, same as one-third milk. Heubner.

TABLE II

100 calories to kilo body weight.

Based on 45 calories to pound of body weight. Must feed child in 24 hours.

2 ¼ oz. to pound weight, pure milk.
2 ¼ oz. to pound weight, ⅔ mixture with barley.
2 3 5 oz. to pound weight, Heubner's ⅔ milk.
2 3 5 oz. to pound weight, Heubner's ½ mixture. (Barley.)
3 oz. to pound weight, Heubner's ⅓ mixture with barley.
3 oz. to pound weight, Heubner's ½ mixture with barley.
4 oz. to pound weight, Heubner's ⅓ mixture.

TABLE III

HEUBNER'S MIXTURE—PROTEIDS AND FATS

	Proteids.	Fats.	Sugar.	Salts.	Calories.
I. ⅓ milk	0.9	1.2	1.5	0.23	. . .
⅔ 8 per cent. sugar sol..	. .	. .	5.8	. . .	400
	0.9	1.2	6.8	0 23	400
with barley (5 per cent)	. .	. .	3.3	. . .	500
			10.00		
	Proteids.	Fats.	Sugar.	Salts.	Calories.
II. ½ milk	1.5	1.8	2.2	0.35	. . .
½ 10 per cent. sugar sol.	. .	. .	5.0	. . .	. . .
	1.5	1.8	7 2	0.35	500
with 5 per cent. barley..	. .	. .	2.5	. . .	600
			9.7		
III. ⅔ milk	1.8	2.4	3.0	0.47	. . .
⅓ 12 per cent. sugar ..	. .	. .	4.0	. . .	. . .
	1.8	2.4	7.0	0.47	600
with 5 per cent. barley..	. .	. .	1.6	. . .	700
			8.6		

TABLE IV

Weight.	6th and 7th months. 700 calories. Whole milk.	4-5 months. 600 calories. ⅔ milk.	2nd 6 weeks. 500 calories. ½ milk.	1st 6 weeks. 400 calories. ⅓ milk.
lbs.	oz.	oz.	oz.	oz.
6	13½	15	18	24
7	16	17	21	28
8	18	20	24	32
9	20	23	27	36
10	22	26	30	40
11	25	29	33	. .
12	27	31	36	. .
13	29	34	. .	. .
14	31	37	. .	. .
15	34	39	. .	. .
16	36	42	. .	. .

Less than needed should be given when first starting to feed.

By adding barley one need not give over 32 ounces in 24 hours before the child is 4 months old.

The attempt of Heubner and Camerer to apply mechanical principles to the processes of nourishment of the nurslings is declared by many pediatricians to be a failure, and so viewed by many more. Having made provision for energy requirements of the child, and it does not thrive, some observers declare that the application of the law of isodynamic representation of the different foods is inadmissible; in fact, they doubt the benefit of this mode of viewing things, and with this they have declared a doctrine as worthless that in every other field or department of physiology and pathology of nutrition has given invaluable results. No physiologist who earnestly considered his subject was ever of the opinion that the mechanical conception of nutrition solved the problem; it has always been pointed out and emphasized that, in connection with and conjointly, the chemico-physiologic side of the question deserves the closest consideration.

Those who make light of so fruitful and serious a matter and are inclined to be sarcastic are referred to the article of Camerer.[1]

There is no doubt but that in considering artificial feeding from the standpoint of energy units we obtain a new vantage ground, and one point gained, and not the least, is the capability of comparing the various foods in sickness and health.

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ABSTRACT OF DISCUSSION

ON PAPERS BY DRS. LACKNER AND BOWDITCH

Dr. Henry Koplik, New York: About fifteen years ago I had the honor to introduce the Heubner method of infant feeding into this country. I introduced it in my dispensary in New York. It was surprising to see how well a large number of children could be fed on this caloric system. I published the results of my experiences at that time in a paper on the increase in weight of infants on artificial feeding read before the American Pediatric Society. The paper received a great deal of criticism, for the percentage method was then just coming into vogue. The trouble with Heubner's system is its lack of elasticity. Heubner says that we can substitute the fats by carbohydrates, but I found that very young infants, before the third month, would not increase in weight under the exact caloric amount. I think the problem is something deeper than the caloric coefficient. It is not the normal baby that we are called on to feed. The exceptional baby we have to feed will require something else. In these exceptional babies the digestive capacity of the stomach and the gut must be considered. Some little time ago I had an opportunity to compare some of the formulas in the American text-books with the caloric method and they came very close to the caloric needs of the infants at those ages put down, and it would have been unjust to criticise these percentage formulas from a caloric standpoint. It is not simply a matter of caloric coefficient, it is not a matter of percentages alone, but it is a question of the individual baby pure and simple.

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[1] Jahrb. d. Kinderh., lvi.

Dr. L. T. Royster, Norfolk, Va.: We can not go by rule of thumb in feeding infants; the baby is to be studied. When I was a student in New York the feeding was done by a whole algebraic coefficient at which time the protein was vilified for all the troubles in infants. A little later the top feeding came along to simplify things, and it was very fortunate indeed. Then the fat was blamed almost entirely. In every instance in which a problem has been apparently solved, shortly thereafter the pendulum has swung away from that to the farthest extent. One of the older philosophers has said that "experience is fallacious," but through experience only can we acquire judgment, and only through seeing a large number of patients can any one determine that a certain formula will meet the requirements. And judgment, in the final analysis, is the court of appeal in the individual case.

Dr. J. P. Crozer Griffith, Philadelphia: I wish to compare the so-called American method of feeding with the German or "caloric" method. The trouble with the German method, as applied to infant feeding, seems to me to be its lack of elasticity. For instance, Biedert, years ago, developed in a thoroughly scientific manner certain "cream-mixtures," Nos. 1, 2, and so on. They were scientifically correct and it was a baby's duty to thrive on them. If the child did not thrive it was it's fault, not that of the mixtures. Then came the Backhaus mixtures, made fixed in the same way, and next put on the market as proprietary preparations. In fact, it is noteworthy that, contrary to the custom in America, many of the German proprietary foods were devised and named by physicians before they were patented. I do not question that German medicine, taking it all in all, is much ahead of us in the scientific study of infants and of the food which they require, based on the amount of nitrogen, phosphorus, and the like, ingested and excreted; but I think the American physician gives more attention to the needs of the child as an individual; his method is more elastic. The trouble with the caloric method, I think, is that, although scientifically exact, it can not be applied as well practically. It does not take into sufficient account the character of the food and the susceptibility of the individual child to certain ingredients. I consider it an excellent check on other methods of feeding, because by it we can tell whether a child is receiving a diet strong enough in calories to permit it to thrive.

Dr. Frank S. Churchill, Chicago: I am a believer in the percentage method of feeding because I consider it the best, and we ought to take the best wherever we find it. I was taught twenty years ago that the individual baby must be considered in this matter of feeding, and have seen no reason to change my opinion since. Every individual must have a certain amount of food; he must also have a certain amount of fat, carbohydrate, proteid, etc., to meet the requirements of the system. We must figure out, so far as possible, just how much fat, sugar and proteid each individual, each baby, needs. At present we must depend more or less on our judgment as to what are these requirements; in the future I think that the physiologic chemists will give us much help in this direction. After determining what the baby needs, the caloric method may act as a check in helping us determine just how much the baby needs. In feeding atrophic babies especially I have found it of value to "check up" by calories, to prevent over-feeding. Yet the caloric method alone is not sufficient. For instance, I have seen babies fed by the caloric method alone, no attention being paid to the percentages of the different ingredients in the diet. The total calories were all right, according to the baby's weight, but he was not gaining in weight. Analysis of the formula would show that the fat was low (the advocates of the caloric method are fearful of fat), and correction in this direction resulted in the desired gain. We must have a well-balanced formula in feeding babies.

Dr. H. D. Chapin, New York: One thing has not been taken into consideration in the comparison of the two systems. The feeding of the baby is practically for tissue growth. According to the caloric system we can run up the carbohydrates and leave out the fats and get the calories just right. We have just got our students educated up to the percentage system for food values, and if we are going to give them a long system of calories they will throw up their hands. There is no comparison between the two systems because the percentage system is right and the caloric system is only half right. The caloric system puts the emphasis in the wrong place.

Dr. C. G. Kerley, New York: Recently I investigated about 100 histories of infants ranging from 1 to 12 months of age who had thriven satisfactorily on artificial feeding. I estimated the caloric value of the daily amount of food each child had received. The infants were well, thriving and happy. I found that they had been getting from 100 to 300 calories a day more than Heubner's method called for. Since then I have attempted to feed other children according to the supposed caloric method and found that the New York baby is not satisfied and does not thrive when fed in this way. In fact, it was absolutely imperative to give more nourishment, as the children were hungry and failed to grow. If I had not given these babies food of a higher caloric value than Heubner states is necessary they soon would have ceased to be my patients. The element of waste is very important in the nutrition of children. Not all by any means is utilized that passes into the stomach. In one case, a physician's child, 3 months of age, I had to give 300 calories more daily than Heubner states is necessary. He had to have it. His father said he could not live in the house with him otherwise.

Dr. Charles Douglas, Detroit: Dr. Kerley's are exactly the principles I have been compelled to follow. A child of one month will digest more fat and more protein in proportion than a child of six months. I frequently find a child working up on a certain food, increasing steadily and without a single change in the food. If the caloric system were applied to that child with an increase in weight more calories would have to be given. I find that a child needs to be comfortable and happy, a happy child is always a successful child. A child who does not sleep and is not happy is not getting the right kind of food, or he is not getting enough or else too much food. Children vary in their digestive power at different ages. They digest the most simple parts of the carbohydrates and fats given them and the rest they throw away. The food that makes them comfortable is the best we can give them, and we must meet the child's ability in this regard.

Dr. Walter D. Ludlum, Brooklyn: I have been more and more impressed with the worthlessness of the caloric method. I, too, have compared the average percentage formulas with the caloric and I have worked out the calories, and I find that in every case more is actually needed for the child's nutrition than is required by the Heubner method. I have used the Heubner method only as a check, for it provides for the sum total of the caloric value of the food and not for the different elements of it. If it is to be popularized it must be simplified beyond the present arrangement. To place such a chart as that before a class of students, or even of physicians, simply horrifies them.

Dr. D. J. M. Miller, Atlantic City: For many years I have been connected with the Children's Hospital of Philadelphia, and I have been impressed with the fact that the young physicians serving as internes have not been taught the principles of artificial feeding of infants. I hope that this discussion will be productive of one thing at least, *i. e.*, that students will be taught the basic principles of infant feeding and not the method of this and that man, for they are taught methods and not principles, now, and those of us who are interested in children see the disastrous results of this plan of teaching. One of the most successful feeders of babies that this country has ever had, the late Dr. John F. Meigs of Philadelphia, said that the most successful physician for a baby was the man who adapted himself to the needs of the particular baby.

Dr. John Lovett Morse, Boston: The gentlemen who have preceded me have voiced well my feelings as to Heubner's system of feeding. I have found the calculation of the caloric value of food useful as a check to prevent both over-feeding and under-feeding. It seems to me that there is a very general misapprehension in the middle west as to what is meant by the percentage method of infant feeding. The percentage method is not a method of feeding; it is simply a means of knowing accurately what we are giving the baby. We try to feed adults accurately and we write our prescriptions accurately. Why should we not determine accurately what we are feeding babies? There are many men in this country who, it seems to me, are ready to accept anything which comes from Germany without investigation or consideration and without comparison with American methods. Pediatricians in this country know what is being done in Germany; those in Germany know little or nothing of what is being done here. Judging from their writings, they are almost entirely ignorant of the best American methods of infant feeding. I believe that what German pediatricians most need at present is a course in infant feeding in some of our eastern cities.

Dr. H. T. Price, Pittsburg, Pa: From the discussion here it would seem that all the German babies artificially fed should die. The foundation of the Heubner system is simply the aim to feed a low fat. Every sensible man will feed a baby what it should be fed to make it grow. The foundation of the Heubner school is chiefly a lower fat than has been the custom.

Dr. Ernest Lackner, Chicago: I would like to know what Dr. Morse would do without tuberculin or any of the other things we use every day and for which we are indebted to the Germans. The Germans have the necessary schools and establishments for the pursuit of scientific work. Scientific matters are neither American nor European, they are universal, and any man who will criticise any physician for doing things as Germany is doing to-day should reconsider his remarks. What von Behring is doing to-day is enough, for through his efforts hundreds of thousands of lives are being saved. What is Ehrlich doing? The work of these men is certainly not American. This idea of being patriotic in science is impossible. I have given you to understand what Heubner means by his method of feeding. Heubner's feeding is not caloric, he has simply reduced down to calories and to energy units the food given the baby. I have a letter here from Heubner on this subject that will answer most of these objections in a general way. Cow's milk is not fitted for the infant, it has to be modified. Each child will have to be examined closely as to its idiosyncrasies in taking fat. Start with a low percentage of fat and work up. The Germans are not advocates of a low percentage of fat, they are simply trying to fit the amount of fat to the capacity of the child. As to the sugar, there are three which may be used. Jacobi has recommended cane sugar, and one disadvantage is that when you want to wean the child it does not like to be weaned from this very sweet mixture to something else. Then there is lactose or sugar of milk. It is slow in adding to the weight, but you can give large quantities of it and a child will seemingly scarcely gain in weight at all. By the addition of maltose it will increase very rapidly. Lactose must go through a certain process in the digestive canal, but maltose passes directly through the intestinal canal, and is worked on in the system. The child can be given twice as much maltose as cane sugar or lactose. Finkelstein explains how to determine the amount by Heubner's system.

Dr. H. J. Bowditch, Boston: I am glad Dr. Morse said what he did about the percentage system of feeding. It is true that food for one is poison for another, and this is just as true in the feeding of babies as in adults. This trigonometry table may be of value but it is not a thing that should be taught to a student. The question has come up as to what should be taught the student. When I went abroad I found they were teaching the caloric method. I did not know anything about it and so was much handicapped. Students should be taught what it means and how, in the simplest form, calories are calculated, but we further ought to teach the student that it is not a method of feeding children. Every child has to be fed according to what we have discovered from its symptoms, its movements, and changes in the food.

THE INFLUENCE OF THE OLFACTORIES ON DIGESTION

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The sense of smell is probably the least valued of the five senses, and the rôle it plays in many of the important bodily functions is least appreciated by the human race. Among the lower animals it is more essential, for by this sense they find and select their food, as well as detect the approach of danger. Some of the savage, or so-called wild people, have this faculty as highly developed as the lower animals, and Humboldt tells us of some Peruvian Indians who could follow the scent of game as well as hunting dogs.

These facts, though interesting, do not come within the scope of this article, and, in order properly to discuss the influence of the olfactories on digestion, we should study this subject from an anatomic, a physiologic, and a psychic standpoint. It may be well to remind the reader briefly that the area of the terminal expansion of the olfactory nerve, the olfactory region, covers an area only about the size of a ten-cent piece in man, including only the upper part of the septum and the islands of the superior turbinate; detached islands are found in the vicinity of this chief olfactory region, but the remainder of the nasal cavity is fitted and used for respiratory purposes only.

There are certain essential differences between the olfactory and respiratory regions, the principal ones being as follows: The olfactory region possesses thicker mucous membrane, but is covered with only one layer of cylindrical epithelium, and contains a yellow or brownish-red pigment, while the respiratory region has a double layer of ciliated epithelium mixed with some goblet cells. The main difference, however, lies in the presence of the end organs of the olfactory nerves and the olfactory cells which lie scattered between the long cylindrical epithelial cells of the surface; also the fine olfactory hairs are present, projecting through the pores of a delicate structureless limiting membrane, covering the surface of the epithelium. It will be noted that the area devoted to smell is situated as far as possible from the external nares.

The sensation of smell is elicited by the presence of odorous substances in a gaseous state, coming in direct contact with the olfactory cells or hairs. This generally occurs during inspiration; but odors received through the mouth, and then expelled through the nostrils, may be smelled, though not accurately.

The first moment of contact of the odorous substance with the olfactories seems to be the most effective, for they soon "tire" of a continuous odor, and may be absolutely insensible to it, while retaining their usual acuteness for a different one; for this reason it is best to sniff, or take frequent short inhalations with the mouth closed. Some vaporous substances, especially those with pungent qualities, seem to act simultaneously on both the olfactory and gustatory senses, and Zwaardemaker describes some structures found in the olfactory region similar to taste buds. Nagel thinks, however, that this is only a stimulation of the gustatory nerves on the posterior side of the uvula.

While a morsel of food is being masticated there is free communication with the nasopharynx, except during the instant of swallowing. Immediately afterward a moist vapor charged with the odor of the substance in the mouth is carried into the nose. It is at this moment, but not while the fluid remains in the mouth, that one "tastes" the aroma or bouquet of drinks. This faculty of combining smell and taste in a discriminating manner is highly cultivated by those who make a profession of judging the various teas and wines.

The digestion may be influenced by the olfactories in several ways—directly, reflexly through idiosyncrasy, or by some complex psychic process hard to analyze. It is estimated that it requires about 2,000 cubic feet of air to pass daily through the lungs of an adult in order to furnish enough oxygen to maintain good digestion, and, as the greater part of this air passes over the olfactory region, the content of odorous substances it contains may exert a marked effect on the alimentary tract.

That appetizing odors may make the mouth "water" by stimulating the salivary glands is well known, and Pawlow has shown that the gastric juices are fully as susceptible to the gentle suggestions of the olfactory organs. Every one who reads these lines can doubtless remember a past experience, when fragrant odors wafted by friendly breezes from some near-by kitchen not only whetted the appetite, but also brought about in the stomach that gnawing sensation which only a bountiful flow of the digestive juices can produce.

On the other hand, no one factor can exercise a more malign influence over the appetite, and with it the digestion, than foul or repulsive smells; for we must admit that, as Bassler well says, "viewing the body as a whole, a marked disturbance in any organ outside of the digestive canal acts as a chestnut-burr irritation in upsetting the normal nervous balance of the neurologic system, and that these abnormal stimuli manifest their effects most easily on the digestive organs, which, through abundant sympathetic supply, are most sensitively balanced." As some loathsome sight or a disgusting mental picture may kill the appetite and "turn" the stomach, so a foul odor, through its reflex action, may just as effectually dry up the "appetite juices." Even after digestion has normally begun, the presence of a disagreeable odor may retard its progress, and, by inhibiting the secretion of gastric juice, and checking the motor waves of the stomach, may allow stagnation, bacterial fermentation, and the formation of gasses and irritant decomposition products.

The influence of odors and perfumes on many people is exceedingly marked. Some there are who can not remain where lilacs are in full bloom, or bear the odor of jasmin; others are given a headache or are nauseated by heliotrope or tuberose, while the smell of cantharides often causes vertigo and a sinking sensation in the epigastrium. Even the fragrance of roses has an irritating and nauseating effect on some. Attacks of real illness, with long trains of digestive disorders following in their wake, may be brought on by odors.

I recently saw, with Dr. J. L. Campbell of Atlanta, a middle-aged woman who was affected with nausea and vomiting by the smell of fish, mutton, turpentine or butter-beans, and, unless she got away from these odors quickly, severe purging and prostration set in, rendering her as ill as if she had been suffering from some form of ptomain-poisoning. Strange to say, she could eat either fish or mutton with relish, and without any discomfort, if she could prevent their odors from reaching her olfactories.

I have seen several individuals who, having been made sick by some article of diet in the past, experienced the most lively repugnance and nausea at the slightest whiff of the well-remembered article for months or years afterward.

Dr. J. D. Thomson of this city has reported to me the case of a veteran of the late war between the states, who was surfeited with onions during his war-time experience. The cooking facilities in camp being limited, the taste and odor of onions permeated every mouthful of food and drink, and now, after a lapse of over forty years, he can not eat in comfort where the smell of this vegetable is in evidence.

That offensive odors may not only derange the digestion, but may cause even death, and that the most horrible, was recognized about the time of Alexander the Great. One of the methods then used for executing a criminal guilty of some specially revolting crime was to manacle the living man hand to hand, foot to foot, and neck to neck to a dead body; and it was found that the vile effluvia emanating from every pore of the putrefying corpse, coupled with the awful psychic abhorrence, speedily quenched the vital spark of the hapless victim, no matter how powerful the physique or callous the mind.

Every intelligent observer will grant that these resentments to odors, in some cases, are real idiosyncrasies and not the manifestation of pretense or prejudice. The fact can be explained only as a pathologic phenomenon exerting its main force on the most vulnerable point of the human economy, the gastrointestinal tract. Such conditions can occasionally be aided by a general toning up of an unstable nervous system, but, as a usual rule, the only safety lies in avoidance, if possible, of the repulsive odors.

As offending scents may set in motion a train of morbid digestive symptoms, so, on the contrary, those that are sweet and agreeable may exercise a highly beneficial effect. The Orientals appreciate much more than we the delightfully soothing influence of pleasing perfumes, having developed within themselves to a notable degree the faculty of deriving the most enjoyment from inhaling fragrant odors. The most beautiful creations pictured in the imagination of Mohammedans are the houris, represented in the Koran as nymphs of Paradise, formed of musk, who exhale from their lovely bodies entrancing perfumes.

We are told by travelers that it is the custom of many Eastern peoples to spend after each meal a season of quiet, while the air around them is rendered fragrant by a fine mist; or, this not being convenient, a bottle of their favorite perfume is constantly inhaled. Even the poorest indulge in this habit, for they all, rich and poor alike, feel that it benefits both their nerves and digestion. By smokers the aroma of tobacco is greatly prized, and all unprejudiced observers will grant that a good cigar, coupled with a serene mind, will often materially help in the proper disposal of a hearty meal. Many have also noticed the speedy peristalsis of the bowels, which would otherwise be lacking, set up by an after-breakfast smoke.

It would seem that a psychic state favorable to the digestive processes may be induced through the olfactories fully as well as through the other senses, and I believe that this almost fallow field may be cultivated profitably by the gastroenterologists.

Since we admit that the commonly seen symptoms of cessation of digestion, spasms of the cardia or pylorus, anorexia, nausea, vomiting or diarrhea may be brought on by insulted olfactory organs; and, as all of us realize the danger to individuals and communities from noxious vapors, it would seem a worthy endeavor to study these agencies intelligently, that we may avoid the evil and extract the good that in them lies.

The different functions of the body vary in their importance as do different stars in brilliancy, but each has its proper rôle, exerting its own quota of authority. Let us not, therefore, deem unimportant this humble faculty of smell, which, though modest, is always alert and discriminating, and whose influence over the whole digestive system is becoming more and more appreciated.

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A STUDY OF THE ANATOMY AND THE CLINICAL IMPORTANCE OF THE SACROILIAC JOINT*

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Some time ago the writer was much surprised, on reading the literature of the minute anatomy of the sacro-iliac joint or synchondrosis, to find such a marked disagreement among the most prominent anatomists and gynecologists. To quote in brief from some of them: Morris holds that even the presence of synovial membrane is not constant, stating that it is more apt to be present in the female. Luschka believes that a small amount of synovial membrane is always present and that it increases in size at times of pregnancy. Cunningham states that the synovial cavity is imperfect and rudimentary, but believes that hyaline articular cartilage exists usually. Testut, the great French anatomist, mentions certain folds of synovial membrane which occur here and there, filling up gaps or margins of the fibrocartilage. Morris denies that there is any appreciable movement at this synchondrosis. Williams (in 1903) states that "the articulation between ilium and sacrum is described as a synchondrosis, but is really a joint, on account of the presence always of more or less synovial membrane." Kuttner asserts that it is a joint with motion and that the horizontal position increases the true conjugate diameter of the pelvis by 6 mm. and Walcher's position by 9 mm., as compared with the lithotomy position.

On account of the above-mentioned disagreement of the best authorities as to the anatomy of this joint, with emphasis on the term "joint" rather than synchondrosis, I was induced to ascertain, if possible, by the dissection of a sufficient number of joints, its true anatomy. By the kindness of Professor Haynes an abundance of material was furnished me at the Cornell University Medical College.

The results of this work are briefly as follows: In the careful dissection of fifty specimens a perfect joint, composed of all its elements, such as synovial membrane and cavity, and strong well-formed capsule was found in each instance, and proved to be as constant in its size and relations as any other joint. Before opening the joints many were injected with an aqueous solution of methylene blue, which colored the synovial membrane so that it could be seen to distend and retract all along the anterior-inferior aspect of the joint when motion was elicited. This part of the capsule is very thin, which accounts for the fact that infection of this joint is very prone to discharge by this avenue into the pelvis and rarely through the very thick part of the capsule posteriorly; also, this part of the capsule often ruptures in symphysiotomy, and in case of puerperal sepsis opens the joint to infection. Sansten states that it ruptures in 44 per cent. of cadavers below 6 c.c. of pubic separation. The lumbosacral cord passes in close proximity to the joint at its lower third, and undoubtedly is frequently involved in affections of this joint, thus explaining the presence of persistent pain in the distribution of this nerve, i. e., sciatica.

The articulation is easily opened by incising the anterior part of the capsule and forcing the pelvic bones apart in front, the symphysis pubis having already been separated. The sacrum and the ilium swing on the posterior and interosseous ligaments, as a door on its hinges. Hence the infrequent interference with locomotion and permanent injury of this joint following symphysiotomy.

In my dissections the interosseous ligament always separated from the ilium and never from the sacrum. The round ligament sometimes ruptured and sometimes its bony attachment. The anterior or auricular portion of each articular surface was covered with a thin plate of cartilage, which was thicker on the sacrum than on the ilium. It averaged, in the fifty specimens, in its greatest length, 7 cm. (2 3/5 inches), and in width 3 cm. ($1\frac{1}{8}$ inches). The largest joint area of hyaline cartilage was 8 cm. (3 1/16 inches) in length and 3 cm. ($1\frac{1}{8}$ inches) in width. The smallest was 6 cm. ($2\frac{1}{4}$ inches) in length and averaged in width $2\frac{1}{2}$ cm. (15/16 inches).

The posterior irregular part is the attachment of the interosseous and round ligaments, around the latter of which most of the motion occurs as about an axis. One joint was affected with osteoarthritis and the anterior part of the joint was obliterated with bony deposit, which also extended into the posterior ligament.

Let us now consider briefly the mechanics of this articulation. The sacrum is an inverted key to an arch suspended principally by the posterior sacroiliac ligament. The base of the sacrum, in the upright position, projects forward beyond the articular surfaces of the ilium and has a tendency to tip down. This is prevented by the sacrosciatic ligaments, which tie the lower part of the sacrum to the ischium. Here is a great articulation placed at the cross-roads, so to speak, between the trunk and the thighs and mechanically imperfectly constructed to sustain sprains and injuries.

Distinct motion was elicited and measured carefully in every specimen except one and motion was absent here, as stated above. These researches were carried on in conjunction with Dr. Henry L. Taylor and will be reserved for a future publication. Sixteen of the cadavers were placed in Walcher's position[1] and the true conjugate diameter of the pelvis averaged an increase of 8 mm. ($\frac{1}{3}$ inch). Walcher obtained 9 mm. on the living subject.

My interest in the pathology of this joint was first stimulated by seeing a case of relaxation of this joint with Dr. Goldthwait of Boston in 1903. This was before the publication of the monograph on this subject by Dr. Goldthwait and Dr. Osgood, who were the first to demonstrate the existence of such a condition. The relaxation in the case referred to was caused by lying for a very long time in the position of dorsal decubitus following a pelvic operation.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

* From the anatomic laboratory of Cornell University Medical College

[1] Patient on back with her legs hanging over the edge of the table.

Under favorable circumstances, however, this joint will stand much abuse, as in the case of a symphysiotomy. Edgar reported five cases in which he obtained from 2 to 2½ inches of separation at the symphysis followed by firm union and without symptoms. Nevertheless, this articulation is liable to all the affections of other joints and in the event of infection the prognosis is often serious, because, first, it is very likely to be a metastatic infection from some other part of the body, and, second, as described above, on account of the danger of spontaneous drainage forward into the pelvis.

ILLUSTRATIVE CASES

Case 1.—*History.*—Miss N. M., was seen by me Feb. 25, 1906. She worked in a web factory; her previous history was negative. Last October she fell over a large stone in the country and strained her back, and was in bed two weeks. This was followed by inability to stoop, lie on back, or stand on right foot, without severe pain in extreme lower part of the back, which always remained in the same place and became more severe at her menstrual periods. The patient's only comfortable posture was lying on the left side.

Physical Examination.—Total lateral spinal curvature to the left. Spine normally flexible. Hip and other joints normal. Very distinct tenderness over lower part of right sacroiliac joint. Goldthwait's symptom present, i. e., pain in region of sacroiliac articulation, when the thigh was flexed with extended leg to a right angle or less. Pain produced by standing on right foot; most severe, however, when patient attempted to turn over, while in a reclining position.

Treatment.—Pelvis was encircled by very tight two-inch bands of surgeons' adhesive plaster just below the anterior-superior spines of the ilia. Patient reported in one week entire relief. The strapping was reapplied, at periods of a week, four times. A long corset with a four-inch elastic webbing belt at bottom to grasp the pelvis was then made, which has been worn with entire relief every since.

Case 2.—*History.*—Miss A. O., aged 15, was referred to me by Dr. A. A. Crane, Waterbury, Conn., Feb. 20, 1906. She attended school and practiced on the piano a good deal. Previous history was negative. The patient has had pain continuously in lower part of back ever since falling on the ice three years before. There was an increase of pain at the time of each menstrual period, although menstrual fluid had not appeared. Pain was produced by walking, sitting, especially on the affected side, or laying on the back. The patient never lays on the back, always on the left side.

Physical Examination.—Fairly well developed and nourished girl. Examination negative except for marked total spinal curvature to the left. No rotation. Tenderness over upper part of right sacroiliac joint. Spine normally flexible except in its extreme lower part. Goldthwait's symptom markedly present. Pain elicited by patient standing on right foot and lying on the back.

Treatment.—This was same as first case. The relief was marked, although for three years the patient had been under constant treatment without the slightest amelioration of the symptoms. Three months later the patient reported that relief had continued and that she had gained ten pounds in weight.

I am indebted to Dr. H. H. A. Beach and Dr. R. B Osgood for the privilege of reporting the following case:

Case 3.—*History.*—F. C. R., a man, aged 23, entered the Massachusetts General Hospital, Dr. Beach's service, Sept. 28, 1905; occupation, mechanic. Past history was negative; no rheumatism. Three months before, while carrying one end of a heavy canoe the patient stepped into a hole and felt something slip in the lower part of his back. This was followed immediately by pain when sitting or turning in bed. The patient and his friends noticed that his right hip was becoming more prominent than the left. The pain increased also.

Physical Examination.—Very frail physique. Thorax and abdomen negative. Body tilted to left when patient stood, set or reclined. Flexing extended leg on pelvis caused pain when a right angle was reached. Forward and backward motions showed that the spine is held rigidly on the pelvis. Lateral motions of the spine were normal, from the mid-dorsal region upward. An x-ray picture showed a dislocation of the right sacroiliac joint.

Treatment.—Ether was given October 6 and Dr. Osgood reduced "the right ilium to its normal position, so that its crest came on the same level as that of the left ilium and so that the sacrum seemed in its normal relations." A long plaster-of-Paris jacket extending well over the hips was then applied, with the lumbar spine in extreme lordosis. I saw this patient Oct. 8, 1905, and at that time he was walking about without pain or deformity.

Case 4.—*Patient.*—M. G., a married woman, aged 35, was seen at the Post Graduate Hospital in June, 1906. Past history was negative. One year ago patient had a very difficult labor, forceps having been necessary. The convalescence was normal except for a great deal of trouble with the lower part of the back, on account of which she remained in bed six months. Patient stated that the first thing she noticed was pain and "a grating sensation" in that region, and indicated the left sacroiliac joint as its location. The grating lasted two months and slowly disappeared. The pain, however, persisted unabated and was much exaggerated at her menstrual periods. Stooping, standing on left foot and lying on back, caused pain in this region.

Physical Examination.—Patient well nourished. Total spinal curvature to right, patient sitting more comfortably on the right side. Tenderness to deep pressure over lower part of the left sacroiliac joint. Goldthwait's symptom present.

Treatment.—Pelvis was strapped and relief was immediate. The strapping was continued for six weeks and then a long corset with a webbing belt was fitted. The relief had continued when the patient was last seen.

Case 5.—Dr. M. H. was attending the lectures at the Post-Graduate Medical School in July, 1907, when I demonstrated a case similar to the above cases. The relief from the strapping was so marked that the patient threatened to leave a cane, on which he was so dependent only a few minutes before. Dr. M. H. was so impressed with the similarity of his own symptoms that, after the lecture, he came to me and stated that he felt sure that he was suffering from the same condition. He said that he had sought relief without avail, from many sources, including his colleagues and several members of the faculties of the Post Graduate Medical School and the Rush Medical School in Chicago, of which latter school he was a graduate. He had been thrown from the back of a horse two and a half years before, from which time symptoms dated. The result from the above-mentioned treatment in his case was as striking as in the case he had just seen.

A sixth case represents, with the postoperative case already cited, a class in which a relaxation occurs from a long-continued strain on the ligaments, as contrasted with a sudden trauma.

Case 6.—The patient was a man aged 45; his symptoms dated from the time he had held, for a considerable time, in a stooping position, a heavy plate-glass window, while a fellow workman fastened it in place. This patient had a convalescence similar to the others but slightly prolonged, which, by the way, is very liable to be the case in this type of trauma, according to my experience.[*]

Case 7.—*History.*—M. G., a man, aged 21, was seen May 12, 1907. For the past year the right knee had been very painful and had been in a plaster-of-Paris splint most of the time. The patient had used crutches most of the time. His general health had declined and he had lost considerable weight. Four months before he was seen he began to have pain in the lower part of the back, especially when walking, stooping or turning over in bed. The past few weeks the pain had become much more severe. The decline in the general condition had been more rapid. The appetite had become very poor and the patient thought that he had a fever each afternoon.

Physical Examination.—The patient was very poorly nourished and pale; temperature 101 F. at 3 p. m. There was considerable swelling about the right knee. It was flexed about 15 degrees and very sensitive to slight passive motion. Condyles of femur were apparently enlarged; tibia somewhat subluxated.

There was a total lateral curvature of the spine to the left. The lumbar region was held very rigidly. There was considerable swelling and deep fluctuation over the right side of the sacrum. A rectal examination disclosed a tumefaction and questionable fluctuation on the right side of the pelvis in the region of the anterior-inferior part of the sacroiliac joint. A diagnosis of tuberculosis of the knee and the right sacroiliac joint, with secondary infection and rupture of the latter into the pelvis was made.

Treatment.—An incision over and down to the joint was made posteriorly. The portion of the ilium overhanging and obscuring the joint was chiseled away and apparently good drainage secured. The patient rallied somewhat after the operation and disappeared from observation. His death was reported two months later.

CONCLUSIONS

1. The sacroiliac articulation has all the elements of a joint and therefore has a similar pathology.
2. It has motion and plays an important rôle in labor.
3. Its variation, according to individual, age or sex, is very slight.
4. Its anatomy is such that drainage into the pelvis is very apt to occur, and, therefore, in the event of infection, early posterior drainage is often indicated.
5. Its affections are, undoubtedly, the cause of many obscure and unexplained backaches and persistent sciaticas.
6. The important ligaments of this joint are so placed that the sacrum and the ilium swing open, in the event of a symphysiotomy, as described above, and little permanent damage results, even if the pubic separation has been great enough to rupture the unimportant anterior-inferior part of the capsule.
7. The relaxation of this articulation should be guarded against by support of the lumbar spine with pillows, etc., in cases of protracted postoperative convalescence. Undoubtedly, many here can recall instances of Nature's warning, in the form of a convalescent's backache, which the nurse so readily relieved by merely placing a pillow under the lumbar spine.

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ABSTRACT OF DISCUSSION

Dr. C. C. Frederick, Buffalo: The important point that the paper raises is the differential diagnosis between conditions in the female pelvis that are due to pathology of the female pelvic organs and those conditions which so simulate disease of the pelvic organs, but are not due to disease of these organs but to the conditions that Dr. Albee has just mentioned. Over a long series of years we have all had women come to us, young and old who have been treated by all the various methods employed for the relief of pain in the back, pain down over the appendix, pain in the ovarian region, tenderness in the pelvis, etc., the pelvic organs being blamed for the pain, discomfort and neurasthenia. If we go back into the history of these women we will find a fall or accident to which at the time little attention was paid. Gradually, however, symptoms developed over a number of years and the women have become semi-invalids with neurasthenic symptoms, pain in the pelvis, dysmenorrhea and all the ills of women. A pelvic examination in every one of these cases will elicit the greatest amount of hyperesthesia. The vagina, uterus, tubes, introitus are tender. Every bit of tissue below the brim is tender, presumably due to some intrapelvic condition. The patients have been tamponed and treated and it is almost impossible to convince the attending physician and the patient that the condition is not intrapelvic but due to trouble in the sacroiliac joint. This can be easily proved in a certain number of cases by the relief that comes from good hip support and support of the iliac joint. The period of time that elapses and the persistence with which the treatment must be followed up, the slowness of recovery from the injuries done to the tissues about the sacroiliac joint, and especially to the delicate nerve distribution make the hope of the patient ofttimes drop below par and cause her to think that a mistake in diagnosis has been made. I believe, however, that almost every one of these patients can be cured by the use of the hip bandage, leaving out of the treatment all intrapelvic tinkering and everything addressed to the intrapelvic organs. I have seen women whose ovaries have been removed, who have been curetted and subjected to other operative procedures and yet the pain has persisted.

Dr. Reuben Peterson, Ann Arbor: I want to speak of just one phase of the subject, not of the difficulty of diagnosis in these cases—although we know that that is hard enough. If one is not fortunate enough to be associated with a competent orthopedic surgeon I have found it most difficult to make a correct diagnosis, for it is by no means a simple matter to say in one case, this is due to pelvic disease, and in another this is the result of sacroiliac disease. Some time ago I looked into the question of the pain my patients experienced after operation. It seemed to me that it was all out of proportion to what it should be, and almost invariably the pain was in the back. I have no doubt that others have had the same experience with patients after operations. Finally, my head nurse suggested that the pain might be due to the patients lying for some time on a hard operating table. At that time we used the ordinary pad seen on most operating tables. This pad was changed to one made like a mattress, between two and three inches thick, and covered with rubber with a sterilized covering over that. Ever since I have employed this kind of pad for my operative work, even in prolonged operations, my patients have not suffered pain in the back. Then I had the pleasure of hearing it scientifically explained by Dr. Goldthwait of Boston, who showed that either in the Trendelenburg or the lithotomy position, when the assistant inadvertently leans on the legs of the patient, strain comes on the sacroiliac joint. Many times we have relieved the pelvic condition but our patients have been worse because of this sacroiliac strain. We are just beginning the study of this complication and it is only by working in conjunction with an orthopedist or studying under him, that the gynecologist can ever make headway in the treatment of pain in the sacroiliac region. Certainly it has opened up a field that the gynecologist never before suspected and the results of such study ought to be of great assistance to our patients.

Dr. C. W. Barrett, Chicago: I recall a case in which with pelvic infection following abortion there was inflammation of the sacroiliac joint, giving marked tenderness on deep pressure over that joint, but more marked tenderness on succussion of the pelvis. Succussion on the trochanters and crests of the ilium gave marked pain in the right sacroiliac joint. The treatment of the pelvic infection caused that to subside, or it subsided, without treatment and the joint recovered from the inflammation without any drainage or any direct treatment for that condition.

Dr. Myer Solis Cohen, Philadelphia: I think this discussion should not close without mention of Dr. Goldthwait's work regarding the conditions caused by straining of the sacroiliac joints. He shows that by standing in an improper position the curve of the spine is lost, the sacrum tilted backward, and strain put on the sacroiliac ligament. He also shows that the straight front corset and other bad forms of clothing cause lordosis which tilts the sacrum forward, thus also straining the sacroiliac ligaments. He also calls attention to accidents such as falling from horseback as being responsible for this condition.

Dr. A. J. Winebrake, Scranton, Pa.: The sacroiliac joint is more abused from ignorance than any other joint in the body. It is much abused by the ignorant practitioner in the application of forceps who has no time to wait and knows nothing of the mechanism of labor. He makes the high application of forceps and pulls with all his brute strength and the patient is rendered practically an invalid, due to injury to this joint and soft parts. This abuse is going on all over the country. In the race for money men have not time to wait in the practice of obstetrics and give Nature a chance. We are taught not to make examinations because there is always danger of infection. This is a grave mistake. An examination can be made with safety if the examiner is as careful in putting the finger into the vagina as in putting it into the abdomen. Something will then be known about the mechanism of labor in the abnormal case. It is surprising how many turns the head will make which cannot be guilded with a pair of forceps. I think that Cesarean section is a simpler operation than high forceps application. The latter operation in my opinion requires more mechanical skill and more good judgment than Cesarean section.

KELOID: A COMPARATIVE HISTOLOGIC STUDY *

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CINCINNATI

Reduplication of fibroconnective tissue of the skin to the extent of inducing tumor formation of neoplastic character is probably one of the most infrequent of histologic anomalies. This is all the more remarkable when we realize its abundant and universal distribution, the facility and promptness with which it reproduces itself and its constant exposure to insult and injury. Fibroconnective tissue stands in marked contrast, in these respects, to the other elements and structures of the skin, namely, the epidermis, hair follicles, sweat and sebaceous glands. The latter show a more marked tendency to reduplicate themselves to the degree of tumor formation and pathologic overgrowth, and when they are traumatically or pathologically removed or destroyed, with the exception of the epidermis, are prone to be replaced by fibroconnective tissue.

The clearest and probably the purest and most common type of fibroconnective tissue tumor or new growth is keloid. Many pathologic affections of the skin, namely, molluscum fibrosum, multiple fibroid new growths (so called), myofibromata, neurofibromata, angiofibromata, etc., have been erroneously classed with the fibromata and do not possess a clinical or a histopathologic analogy. We occasionally meet circumscribed lesions of pure fibroconnective tissue of varying size, with elevation, consistence, dimensions and definite proportions, either imbedded in the cutis and subjacent tissues, or lying freely on the surface, which are the direct result of the prolonged reaction of the tissues against the presence of a foreign body, or some other form of protracted irritation. These lesions are histologically pure fibromata, but are essentially non-pathologic and non-neoplastic in character, inasmuch as they possess no innate tendencies to enlarge or encroach on healthy areas, but expend their energies against diseased or pathologic agencies of which they are the indirect result. They are not, properly speaking, tumors or new growths in the commonly accepted sense of these terms. The same is true of the hypertrophic cicatrices which are the result of syphilitic, tuberculous and similar processes which primarily or secondarily involve the skin. Inasmuch as they are the indirect result of conservative agencies against pathologic and diseased conditions, they are not fibromata in a pathologic sense, though they possess an identical or indistinguishable histologic structure.

The disposition to divide keloid into true and false, and again to differentiate the latter carefully from hypertrophic and ordinary scar tissue on clinical and histologic grounds, although becoming more and more generally discredited, is still closely adhered to by many authors and investigators. It is generally conceded that the vast majority of keloids develop from pre-existing scar tissue, usually the result of some evident form of traumatism. Not every trauma, even in predisposed individuals, is necessarily followed by keloid, and in many instances keloids develop on areas which have not been the seat of any manifest injury or cicatricial change. This clinical observation has led to the arbitrary division of keloid into true, genuine, spontaneous or idiopathic, on the one hand, and false, spurious, traumatic or cicatricial, on the other. Repeated efforts have been made from time to time to strengthen this clinically empiric division by a differential histopathology, based chiefly on such gross characters as its deep or more superficial origin and location; the preservation or absence of the overlying papillæ, elastic fibers, hair follicles and glandular structures; the firm fibrous or loose cellular character of the growth; the arrangement and distribution of the fibrous bundles; vascular and other changes. Similar studies and investigations have led to a differentiation of false keloid from hypertrophic scar, and the latter from the ordinary depressed scar. Lack of unanimity of clinical opinion and uniformity of pathologic results have led to somewhat divergent views on the subject. The two latest, and in many respects most exhaustive and complete researches on the subject by Max Joseph[1] and Tschlenow[2] take grounds adverse to each other on many of these important points.

Those who oppose the division of keloid, on clinical grounds, into true and false, or spontaneous and cicatricial, maintain that traumatism plays the predisposing though imperceptible rôle (pin-prick, mosquito-bite, scratch effects from seborrheic eczema, etc.) in every case. This assumption is as difficult to prove as to disprove, and is manifestly more arbitrary and less empirical in character than the converse proposition. The remaining clinical features are sufficiently identical to warrant a classification on purely histopathologic grounds. For the purpose of reaching a closer knowledge and a possibly clearer conception of the points of controversy in the keloid question, I have made a comparative histologic examination of seven cases of spontaneous keloid and three cases of false keloid; for a comparative study of general fibrous tissue, in its relation to false and true keloid, I have added one case of soft simple fibroma, two cases of hypertrophic scar, two of atrophic scar, two of scleroderma and two of macular and striated atrophia cutis.

The following, in brief, is the clinical history and description of the cases which enter in the histologic consideration of the paper:

CASE HISTORIES

Case 1.—*False Keloid.*—L. H., negro, aged 30, received an incised wound 1½ inches long over the left arm, midway between shoulder and elbow, in 1897. The wound was sutured, healed by first intention, but promptly became the site of a keloid. In 1900 the keloid, which was elliptical in outline with sharply circumscribed but sloping borders, with its surface transversely traversed with numerous fine rugæ, measured 4 inches in length, 1 inch in breadth, and about ¼ inch in height. Two short "runners" extended from one end and the middle of the lower border, and several isolated nodules were present over the site of the old stitches. The patient presented himself in March, 1909; the keloid in the past nine years had undergone very slight change. The extirpated extremity became the site of a fresh recurrence, in the form of a bifurcated rounded thickened mass. The central portion had undergone an appreciable degree of spontaneous involution. The borders had not enlarged or encroached to any marked degree on normal new areas in the past nine years.

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* Read in the Section on Dermatology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

* This paper is accompanied by twenty illustrations, of which only Figures 1-9 and 17-19 appear in The Journal. All appear in the Transactions of the Section and in the author's reprints.

[1] Joseph, Max: Gutartige Neubildungen, Mracek's Handbuch der Hautkrankheiten, Vienna, 1904, iii, 441; See also articles by Joseph: Arch. f. Dermat. u. Syph., 1899, xlviii, 138; xlix, 277.

[2] Tschlenow: Dermat. Ztschr., 1903, x, 120.

CASE 2.—*False Keloid.*—Mrs. S. J., aged 33, full-blooded negress, was cut in 1896 over the middle of left cheek just below the ear, and the wound healed by first intention. It promptly became the site of a keloidal scar, which in 1901 was firm in consistence, rounded and cylindrical in outline; the surface was covered with characteristic rugæ. Several long, characteristic runners extended from the anterior extremity.

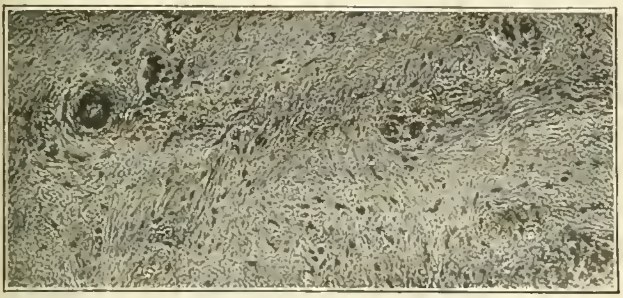
Fig. 1.—False keloid taken from Case 1.

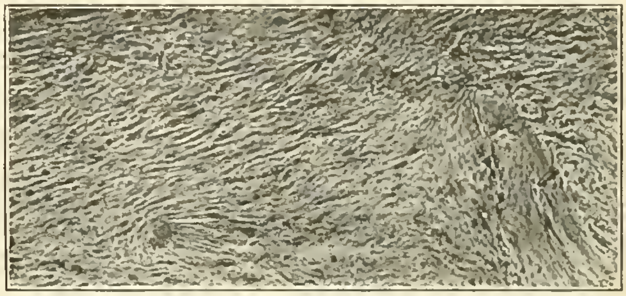
Fig. 2.—False keloid taken from Case 2.

CASE 3.—*False Keloid.*—L. S., aged 18 years, referred by Dr. Bronson of New York, developed several small keloids on the chest from burns incurred in pouring hot tea. The keloids were surgically excised and the resulting incisions, which healed by first intention, together with the stitch holes, became the site of characteristic keloids. Two of these were again extirpated on May 27, 1907.

CASE 4.—*True Keloid.*—Mrs. A. J. M., aged 26, developed a spontaneous keloid on the sternum at the age of 15, which was surgically removed by a New York physician in 1907, followed by union with first intention. Recurrence promptly ensued; I extirpated the recurrence on May 16, 1907, within several months of the time of the first operation, and successfully withheld further recurrence by means of ten *x*-ray sittings. On March 5, 1909, on the occasion of a requested visit, the original site of the keloid was occupied by a smooth, white, depressed and scarcely perceptible scar.

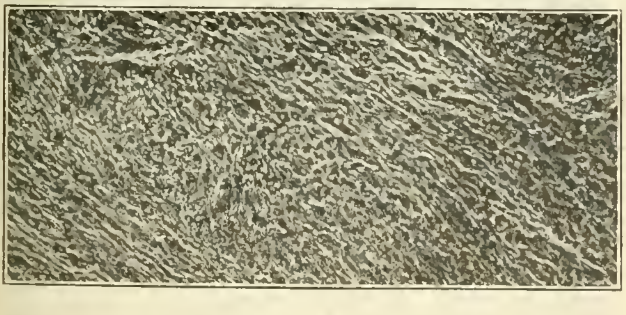
Fig. 3. False keloid taken from Case 3.

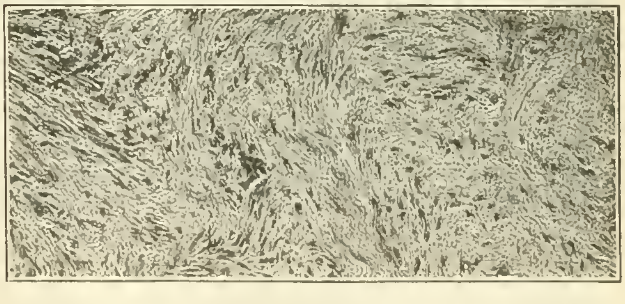
Fig. 4.—True keloid taken from Case 4.

CASE 5.—*True Keloid.*—Mr. A. I., aged 62, developed a spontaneous keloid on the left chest near the sternum, the size of a large butter bean, of several months' duration. It was firm in consistency, pinkish in color, non-sensitive to touch or pressure, and free from subjective symptoms, save mild itching. The center was round and elevated, borders sloping and well defined, and surface faintly wrinkled. The lesion was excised January 28 and after eight *x*-ray exposures, no recurrence followed.

CASES 6, 7, 8 AND 9.—*True Keloids.*—All spontaneous and of idiopathic origin, of varying duration, one of which was situated on the chest, one on the thigh and the two remaining on the forearm. All were very small, varying from a shot to a bean in size. Surgical extirpation with *x*-ray after-treatment, was not followed by recurrence in a single instance.

CASE 10.—*Simple Fibromata.*—Miss C. N., aged 38, presented two small tumors, over the posterior aspect of each arm near the shoulder; the left one, which was about the size of a marble, soft in consistency and somewhat pedunculated, resembled clinically a molluscum fibrosum. The overlying skin was normal in appearance. Its duration was about two years, and its origin spontaneous and non-traumatic in character. The larger lesion was removed Feb. 14, 1909, and the smaller Feb. 21, 1909. A keloidal bluish-red, firm, elevated cicatrix formed, at the site of each incision on May 7, 1909, and has already shown a marked tendency to subside under *x*-ray therapy. The histologic structure of both lesions was essentially pure fibrous connective tissue.

CASE 11.—*Hypertrophic Scar.*—Miss L. R., aged 26, suffered in girlhood and early youth from suppurating tuberculous glands of the neck, which repeatedly ruptured; the resulting ulcerations became the seat of numerous rough, irregular, hypertrophic scars. Numerous dense, heavy ridges coursed over the affected scars. No active inflammation had been present for the past six or seven years. In 1901 a portion of the most disfiguring area was carefully excised and replaced by a Krause flap.

CASE 12.—*Atrophic Scar.*—Mrs. W. B., aged 27, had incurred severe and extensive disfigurement at the hands of a self-styled dermatologist, who applied acid too freely, in July, 1904, for the removal of some facial moles. The deeply depressed cicatrices were extirpated Nov. 7, 1904.

CASE 13.—*Hypertrophic Scar.*—Mrs. D. C., white, aged 28, incurred a severe disfiguring hypertrophic cicatrix from the removal of a mole on right of the chin some two years prior to the extirpation, on June 6, 1907.

CASE 14.—*Atrophic Scar.*—Mr. H. C. D., aged 52, incurred a smooth, firm, hard cicatrix on the lower lip as a result of an application of arsenic paste for epithelioma some five years prior to the extirpation, which was made on July 11, 1906, to relieve a slight amount of cicatricial irritation.

CASE 15.—*Scleroderma.*—A man, aged 50, had multiple circumscribed patches of scleroderma, distributed over the trunk and extremities, of two years' duration.

CASE 16.—*Morphea.*—A young girl of 17 had a circumscribed patch of morphea, on the forehead, of six months' duration.

CASE 17.—*Macular Atrophia Cutis.*—An unmarried woman of 30 had white spot disease, situated around the base of the neck and upper aspect of the chest.

CASE 18.—*Striated Atrophia Cutis.*—A young man of 22 had striated atrophia cutis of several years' duration, abundantly distributed over trunk and extremities.

PRESERVATION OF PAPILLÆ

The clinical observation that many keloids develop from scar tissue, coupled with the fact that papillæ are prone to be destroyed and absent in a cicatrix, has led Kaposi,[3] Warren,[4] Langhans,[5] Joseph, Neumann,[6] Ravogli,[7] Schwimmer[8] and others to differentiate true and false keloid on this basis. Joseph maintains that this observation, original with Warren, must remain a fundamental distinction. Unfortunately, if the basis for this distinction were rational in character, it would fail to hold good for two obvious reasons. First, ordinary scar tissue need not be permanently devoid of papillæ; and, second, papillæ, even when originally present, are prone to disappear in any form of deep-seated new growth, from pressure or distention atrophy.

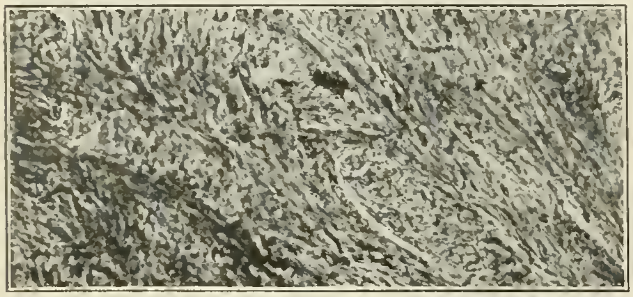

Fig. 5.—True keloid taken from Case 5.

The papillæ were entirely preserved in Case 1 (false keloid), Cases 5, 6, 7, 8 and 9 (true keloid) and in Cases 11 and 13 (hypertrophic scar); they were absent in Case 4 (true keloid) and Case 12 (atrophic cicatrix).

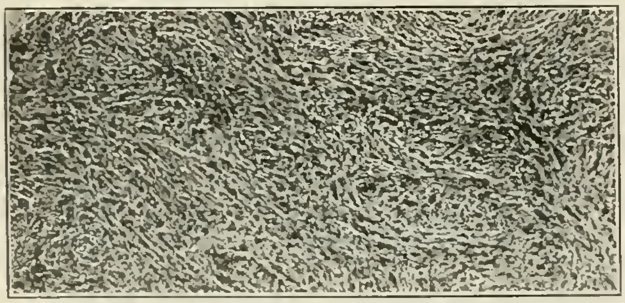

Fig. 7.—True keloid taken from Case 7.

Papillæ were absent in Cases 2 and 3 (false keloid) over areas where the growth reached to and pressed closely on these structures and were normally preserved so long as they remained separated by a comparatively narrow margin of normal connective tissue.

ENCAPSULATION AND LOCATION

It is maintained that true keloid has a deeper origin (Kaposi, Schütz,[9] Goldmann,[10] Joseph and others) in contrast to the more superficial location and development of false keloid, and is surrounded and separated from the overlying papillæ by a well-defined capsule (Joseph and others) of normal connective tissue.

Cases of false keloid (Nos. 1 and 3) and true keloid (No. 4) had a superficial location, and were surrounded with a fairly well-marked capsule of connective tissue, whereas true keloids (Cases 5 and 8), with a similar location, were without a well-defined capsule. False keloid (Case 2) had a deep location and a well-defined capsule, and true keloids (Cases 6, 7 and 9), with a similar location, were devoid of capsules. True keloid (Case 8), as already stated, possessed a superficial location and no encapsulation. The lesion in this case, relatively the smallest in size and the one of shortest duration, was situated on the forearm. Serial sections were made and the point of origin, as nearly as could be determined, was the fibrous envelope of a hair follicle. The orifice of the follicle in question was preserved; the remainder possessed but a semblance of its former structure, and was encompassed by bundles of fibrocellular tissue which somewhat preserved in their primary distribution the general contour of the follicle and its obliterated sebaceous gland; innumerable smaller bundles branched from the sides of the structure, intertwined or curled on themselves, and extended laterally in all directions and in the main parallel to the surface of the skin.

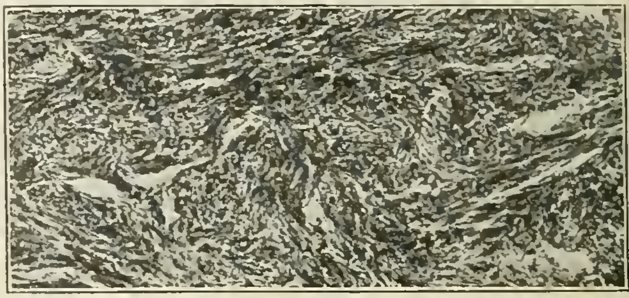

Fig. 6.—True keloid taken from Case 6.

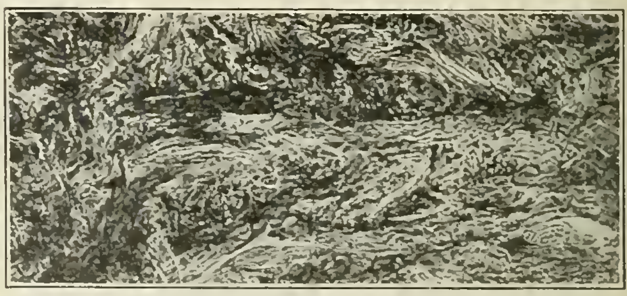

Fig. 8.—True keloid taken from Case 8.

PRESERVATION OF ELASTIC FIBERS

Much significance has at times been attributed to the presence or absence of elastic fibers in keloids. Their constant absence in keloid, and repeated presence in regenerated scar tissue, of sufficient standing, have induced some authors (Joseph, Meissner,[11] Kromeyer) to maintain that histologic differentiation is tenable on their presence or absence. Furthermore, the atrophic character of scar tissue has been attributed in a few instances to the restraining influence of elastic fibers, when present, and the hypertrophic character, when absent.

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[3] Kaposi: Arch. f. Dermat. u. Syph., xxxix, 11; xlii, 135.

[4] Warren: Sitzungsb. d. Akad. d. Wissensch., Vienna, 1868, lvii, 401.

[5] Langhans: Virchows Arch. f. path. Anat., 1867, xl, 332.

[6] Neumann: Arch. f. Dermat. u. Syph., xxix, 123.

[7] Ravogli, A.: Monatsh. f. prakt. Dermat., 1896, xxii, 624; A False or Cicatricial Keloid, THE JOURNAL A. M. A., 1904, xliii, 297.

[8] Schwimmer: Arch. f. Dermat. u. Syph., 1880, xii, 225.

[9] Schütz: Arch. f. Dermat. u. Syph., xxix, 25.

[10] Goldmann: Monatsh. f. prakt. Dermat., xxxiii, 439.

[11] Meissner: Dermat. Ztschr., iii, 182.

Elastic fibers were constantly absent except in Case 10 (simple fibroma) and Cases 15 and 16 (multiple patches of circumscribed scleroderma and morphea). They were present at the immediate confines of the growth in many instances, namely, Cases 3, 4, 7, 11, 13 and 17. In Case 9 (small true keloid of forearm) they were abundantly present between the growth and the epidermis. They were uniformly absent in true and false keloid, and in atrophic and hypertrophic scar tissue, irrespective of their duration and development. Their presence in Case 10 (simple fibroma) did not check the elevation and hypertrophic development of these lesions, which were slightly pedunculated, and their absence was constant in every atrophic cicatrix and lesion except in Case 10 (soft fibroma), already mentioned, and Cases 15 and 16 (multiple circumscribed scleroderma).

ARRANGEMENT AND DISTRIBUTION OF THE FIBROUS BUNDLES

It is maintained (Joseph, Warren, Kaposi, Berliner[12] and others) that in true keloid the dense bundles of fibrous tissue possess a more or less regular and systematic distribution, and are arranged in the main parallel to the surface of the epidermis. This arrangement was observed in only one case of true keloid (Case 4), and only as regards the lower strata of fibers. The arrangement, however, was observed in false keloid (Cases 2 and 3). In Case 2 the lower strata were irregularly interlaced; and in Case 3 masses of bundles were separated by fibrous septa. The interlaced character of the bundles, which is commonly attributed to false keloid, was manifest only in Case 1. A very irregular indefinite arrangement of the fibrous bundles, in which they curled on themselves and branched and crossed each other at random, occurred in Cases 5, 6, 7, 8 and 9 (true keloid), in Case 10 (simple fibroma) and Cases 15 and 16 (scleroderma). Bundles were evenly arranged and parallel to the surface of the epidermis in Cases 11 and 13 (hypertrophic scar) and in Cases 12 and 14 (ordinary irregular and depressed scars).

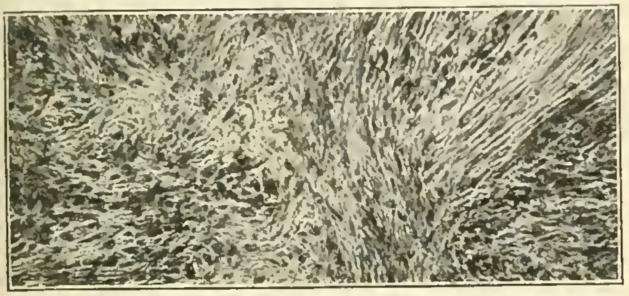

Fig. 9.—True keloid taken from Case 9.

FIBROCELLULAR CHARACTER

It is sometimes maintained (notably by Babes[13] and Joseph) that true keloid can often be histologically differentiated from false by its more cellular character, the shortness of its fibers, which are frequently reduced in length to mere spindles, the relatively larger nuclei, and by the presence of endothelial cells and remnants of partially obliterated blood vessels. It is conceded that there are marked variations between the extremes in both classes; that the variation in cellular and fibrous character depends, to some extent, on the duration of the process; the more recent the process the richer its cellular character. These are the chief points which are embraced in this histopathologic differentiation. All the specimens were similarly prepared and stained, and the most characteristic area of each was photographed under the same magnification. The photographic records confirmed the theory that a histologic cellular differentiation was quite impossible. False keloids (Cases 1 and 2) were rich in cells, with large oval distinct nuclei and rather short well-defined spindles; the same structure was approximated in the ordinary scar following the removal of a mole, in Case 13, and in true keloids (Cases 7, 8 and 9). In false keloid (Case 3) the structure was almost purely fibrous in character. The structure was almost purely fibrous in the remaining cases of true keloid, with a somewhat varying predominance of interspersed spindle-shaped cells, with small and indistinct nuclei. True keloid (Cases 4, 5, 7, 8 and 9) showed a somewhat more cellular and in Case 6 an almost pure fibrous structure. An absolute differentiation of false from true was not possible and a deceptive similarity of structure attained in all the cases of true and false keloid, and hypertrophic and simple scar. Hypertrophic scar (Case 11) and ordinary scar tissue (Case 13) were purely fibrous or almost purely fibrous in structure. The case of ordinary scar following application of arsenic paste was rather cellular in type. The duration and long standing of the process seemed to exercise little influence in determining the cellular or fibrous character of a lesion, cases of five to twelve years or longer duration, being often more cellular in type than similar lesions of relative short (months) duration.

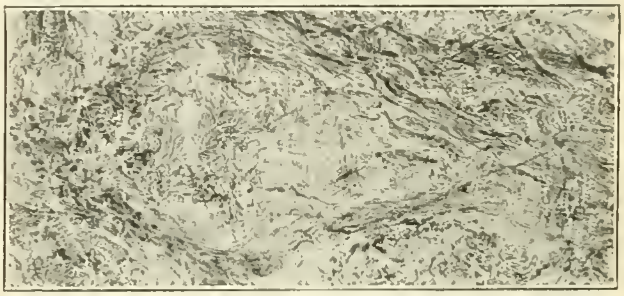

Fig. 17.—Simple fibroma.

In only two instances (Cases 15 and 16, scleroderma) did the fibrous tissue approximate normal collagenous connective tissue in structure and appearance, and assumed its peculiar undulating and wavy character. Normal connective tissue in its characteristic state was abundantly present at the confines of most of the lesions examined. The lesions in white spot disease and striæ atrophicæ were wavy and undulating in appearance, but failed to show the peculiar reticulated network of interlacing fibrils constantly manifest in normal connective tissue, and which stamps it with an unmistakable and characteristic histologic individuality.

PRESERVATION OF HAIR FOLLICLES, SWEAT AND SEBACEOUS GLANDS

Hair follicles undergoing obliteration were observed in only two cases (Nos. 6 and 8). Both were small spontaneous keloids of relatively short duration. Sweat glands in a fair state of preservation were found in Case 10 (soft simple fibroma). Normal or almost normal hair follicles were found conserved in close proximity to the growths, in false keloid (Cases 1 and 3) and spontaneous keloid (Cases 6 and 7); sebaceous glands in proximity to false keloid (Case 1); and sweat glands in proximity to false keloid (Cases 1 and 3), and spontaneous keloid (Case 6). In false keloid (Case 1) sweat glands were normally preserved below the keloid.

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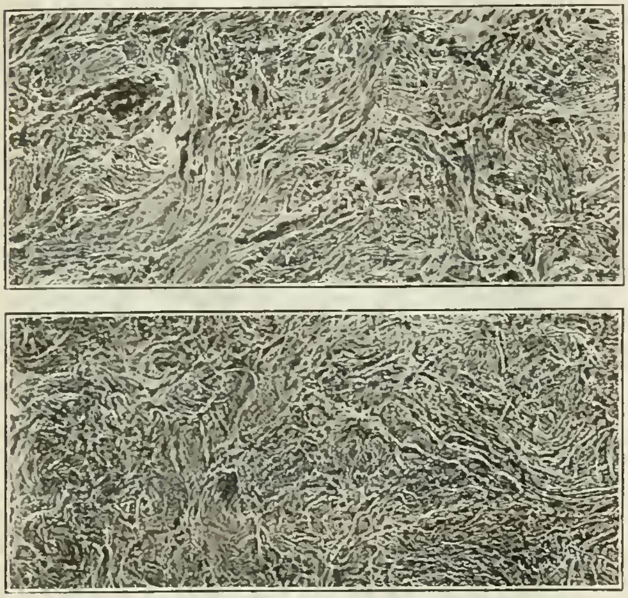
[12] Berliner: Monatsh. f. prakt. Dermat., 1902, xxxiv, 321.
[13] Babes: Arch. f. Dermat. u. Syph., 1880, xii, 237.

EXTENSION ALONG BLOOD VESSELS

The careful study and examination could in nowise confirm the original and amply affirmed observation of Warren (Collins, Unna,[14] Kaposi, Joseph, Neuermann, Crocker,[15] Freund[16] and others), that the extension of keloid can be readily traced along the course of the adjacent blood vessels, and that the latter were pathologically altered and surrounded with plastic exudate for some distance from the pathologic area. Nearly all the specimens showed vascular congestion and round-cell infiltration about the smaller capillaries, but not more than one would reasonably expect to encounter in any pathologic process of similar character and proportions. Some thin-walled, newly formed capillaries were observed in the body of many of the growths, but other vascular changes appeared to be purely inflammatory and secondary in character, due to direct involvement and extension on the part of the growth, and not *vice versa*. Growth and extension seemed to occur by reduplication and multiplication of the pathologic cell, and mitosis and cell division and transition to fibrous tissue was a matter of common observation. The early and marked involvement of hair follicles in several cases, and the apparent development of the small spontaneous lesion in Case 8, as observed from serial sections, have led me to believe that the fibrous envelope of glandular elements is a more probable cause than the fibrous coats of blood vessels. This is also in a measure strengthened by a confirmation of Thorn's observation[17] that keloid is free from involuntary muscular fiber. The tendency for keloid to become self-limited in its clinical growth, and not to involve the deeper subcutaneous structures, also speaks strongly against a vascular origin and an extension along blood vessels. The involvement of blood vessels seems to be not a primary process, but a secondary one due to the dirct independent extension of the body of the growth proper. In this way the blood vessels become invaded and involved, in the same manner as the hair follicles, sudoriferous and sebaceous glands and other specialized structures of the skin.



Figs. 18 and 19.—Ordinary collagenous connective tissue in the neighborhood of two cases of keloid.

SUMMARY

Briefly recapitulated and summarized, the essential observations gleaned from the histologic study of the enumerated cases are as follows:

1. The preservation of the papillæ does not differentiate true or spontaneous keloid from false keloid or from hypertrophic and atrophic scar tissue. They were found absent in spontaneous keloid and preserved in false keloid and found regenerated in cicatricial tissue. In this respect the claims of Kaposi, Warren, Joseph, Ravogli, and others are refuted.

2. A deep location does not differentiate true keloid from false. Three out of six cases of true or spontaneous keloid possessed a superficial location; and one case out of three of false keloid had a deep location. The claims of Kaposi, Joseph, Schütz and Goldmann are in this respect refuted.

3. Preservation of the capsule was not indicative of true keloid; most of the cases of spontaneous keloid were devoid of well-defined capsules, and all of the false cases possessed fairly well-defined capsules.

4. Absence of elastic fibers does not differentiate true keloid from false, or either of these from cicatricial tissue. It was found uniformly absent in all of these structures. Its absence does not serve to differentiate keloids from fibromata in general if a soft simple fibroma comes into that category. Elastic fibers were also found preserved in the fibrous structures of two cases of scleroderma. I share the views of Tschlenow as opposed to those of Joseph, Kromeyer, Meissner and others on the futility of this histologic differentiation. No regeneration of elastic fibers in scar tissue was observed in any of the cases.

5. The absence of elastic fibers is not an etiologic factor in the hypertrophic character of keloid as maintained by Ravogli and Goldmann. Their absence was noted in the depressed lesions of striated and macular atrophy and depressed cicatrices, and their presence in a simple soft fibroma did not inhibit the hypertrophic character of the gross lesion.

6. The contention of Warren, Kaposi, Joseph and Berliner, that the fibrous bundles of true keloid preserve in the main a longitudinal arrangement, parallel to each other and to the surface of the skin, in contradistinction to the interlaced character of false keloid, is controverted in five out of six cases of spontaneous keloid, and in two out of three cases of false keloid. The interlaced character was observed in simple soft fibroma and scleroderma, and the parallel arrangement was observed in ordinary scar tissue.

7. A differentiation of true from false keloid, and the former from hypertrophic and atrophic scar tissue, as maintained by Dieberg,[18] Kaposi, Schimmer, Joseph and others, was not tenable. Joseph's contention that old keloid is more fibrous and new keloid more cellular could not be confirmed. A deceptive non-differentiable similarity of structure obtained in true and false keloid, and hypertrophic and simple scar tissue. All these structures could be easily differentiated histologically from normal collagenous connective tissue, which was present in close proximity to the majority of the examined lesions.

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[14] Unna: Histopathologie, 1894.
[15] Crocker: Brit. Med. Jour., Sept. 18, 1886.
[16] Freund: Arch. f. Dermat. u. Syph. (Festschr. Kaposi), 1900.
[17] Thorn: Arch. f. klin. Chir., 1896, II, 619.
[18] Dieberg: Deutsch. Klinik, 1852, No. 33.

8. A deceptive similarity in histologic structure exists between scleroderma and normal collagenous connective tissue.

9. The differentiation of true from false keloid by the preservation of hair follicles and glands, which are neither pushed aside nor subject of pressure atrophy (Volkmann,[19] Joseph and others) was negated. The relatively few glands which were encountered occurred in equal measure in false and true keloid, and were pushed aside and subject to atrophic changes.

10. No origin could be traced to the adventitia or primary extension along the blood vessels of the corium, as maintained by Collins, Joseph, Unna, Kaposi, Neumann, Crocker, Wilms,[20] Dénériaz,[21] Freund and others, and denied by Thorn and Reiss.[22] The apparent origin in one case from a hair follicle, and the marked and prompt involvement of the glandular structures leads me to share the views of Berliner and Kirsch,[23] of the probable origin of keloid from these structures.

11. There seems to be as little basis for the assumption that trauma must play the causative rôle in every case of keloid (Jadassohn,[24] Schütz, Tschlenow, Besnier,[25] Barthelemy Hutchinson,[26] Unna and others) as that of attempting a successful histologic differentiation on the same grounds (Kaposi, Warren, Langhans, Ravogli, Neumann, Schwimmer, Joseph and others). An idiopathic or spontaneous etiology must be conceded to some of the cases of keloid, as long as these terms find a general acceptance for other affections.

12. A differentiation of true and false keloid is not possible on clinical or histologic grounds; the differentiation of keloid in general from scar tissue is not possible on histologic grounds. Keloid and scar tissue can be histologically differentiated from normal collagenous connective tissue.

19 West Seventh street.

NOTE.—In addition to the authorities cited above, the following may be consulted:

Herzog, Maximilian: Extensive Multiple Keloids, THE JOURNAL A. M. A., 1907, xlviii, 1844.

Kohn (Kaposi): Wien Med. Wchnschr., 1871, Nos. 24-26.

Roger: Brit. Med. Jour., 1884, p. 667.

Soffiantini: Gior. ital. d. mal. ven. e. d. pelle, 1893.

Fischer: Ein Beitrag zur Kentniss des Keloids, Monograph, Munich, 1889.

Welander: Nord Med. Arch., 1893, iii, 14.

ABSTRACT OF DISCUSSION

DR. W. A. PUSEY, Chicago: It was grateful to my desire to see generalizations in our groups of dermatoses, to hear the opinion expressed by Dr. Heidingsfeld that there is no essential difference histologically between hypertrophic scars and keloid; that is in the interest of simplification and decidedly in the direction that we hope dermatology will go. I am strongly of the opinion that there is no essential difference between hypertrophic scars and keloids, the difference being one simply of degree.

DR. MAXIMILIAN HERZOG, Chicago: About two years ago I published the report of cases of multiple keloid in Chinamen who were addicted to the morphin habit. I also at that time expressed the opinion that there was no essential difference between the so-called idiopathic and the acquired or traumatic keloid. In the cases I reported, the keloidal growths all followed the slight traumatism inflicted by the puncture of the hypodermic needle. Histologically, it is impossible to differentiate sections from the so-called idiopathic and from traumatic keloids. I can therefore fully subscribe to the opinion expressed by Dr. Heidingsfeld in his paper.

PERSISTENT THORACIC SINUS FOLLOWING EMPYEMA

A REPORT OF FIFTEEN CASES TREATED BY DECORTICATION OF LUNG AND THORACOPLASTY *

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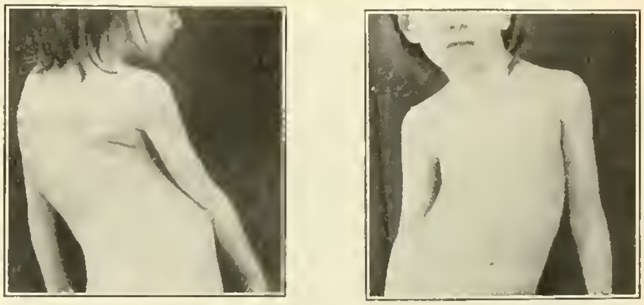
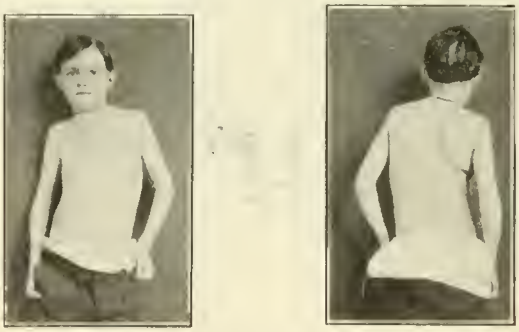
The persistent sinuses which occasionally follow pyothorax have long brought annoyance and perplexity to surgeons and ill health and disappointment to patients. Thoracoplasty has usually been tried for their relief, with varying degrees of success, and since Fowler[1] in 1893 and De Lorme[2] three months later, dissected away the constricting pulmonary pleura their operation of "lung decortication" has attracted considerable attention. This operation has become rather more firmly established on the continent of Europe than here and has been used by many surgeons. Bergeat[3] has recently made a very complete report of the subject from Dr. Sick's clinic in Hamburg, where the Schede operation was first elaborated: lung decortication was here done seven times in the treatment of twenty-one cases of persistent empyema, and it was done more commonly in the later than in the earlier cases. It was always done in conjunction with more or less resection of the chest wall and its value is appreciated. Jordan,[4] Kurpjurorit[5] and Bayer[6] may be mentioned among the others



Figs. 1 and 2.—Extreme deformity following lung collapse of two years' duration, Case 11.



Figs. 3 and 4.—From photographs taken six weeks after an operation for relief of deformity from pyothorax, Case 13. The extreme lung compression was the result of an empyema of two months' duration. The extreme chest contraction followed the failure of the lung to expand.

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19. Volkmann: Arch. f. klin. Chir. (Langenbeck's), 1872, xiii, 394.
20. Wilms: Beitr. z. klin. Chir., xxiii, No. 1.
21. Dénériaz: Etude sur la chéloide, Monograph, Paris, 1887.
22. Reiss: Arch. f. Dermat. u. Syph., lvi, 325.
23. Kirsch: Arch. f. Dermat. u. Syph., 1906, lxxviii, 255.
24. Jadassohn: Centralbl. f. Chir., 1896, No. 50.
25. Besnier and Doyon: Transl. Kaposi's Text-Book of Skin Diseases (annotations).
26. Hutchinson: Medical Times, May, 1885.

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Fowler: N. Y. Med. Rec., Dec. 30, 1893.
2. De Lorme: Gaz. d. hôpitaux, 1894, No. 11.
3. Bergeat: Beitr. z. klin. Chir. (Bruns'), lvii, 373.
4. Jordan: Beitr. z. klin. Chir. (Bruns'), xxxiv, 554
5. Kurpjurorit: Beitr. z. klin. Chir. (Bruns'), xxxiii, 79.
6. Bayer: Centralbl. Chir., 1908, No. 1.

who advocate the method. Many French surgeons have advocated the procedure since the publication of De Lorme's classical article.

A review of the American surgical literature of the last ten years shows fewer contributions to the subject than one would expect, although Ransohoff[7] has contributed a very practical method of liberating the pulmonary pleura, and Ferguson[8] has recorded seven cases in which he dissected away the sinus walls.

CASES ON WHICH THIS REPORT IS BASED

Within the last nine years I have employed the procedure coupled with thoracoplasty in fifteen cases, all but one of them in St. Mary's Free Hospital for Children. The average age of the St. Mary's Hospital patients was 5½ years; the fifteenth patient was an adult. In seven of these patients the primary empyema operation had been done elsewhere. The remaining eight persistent sinuses occurred among a total of 186 cases of empyema, thus indicating an expectation of about 4 per cent. of such sinuses in the empyema cases as they are referred to us in New York. The average lapse of time between the primary opening of the chest and the secondary lung decortication and thoracoplasty was fifteen months.

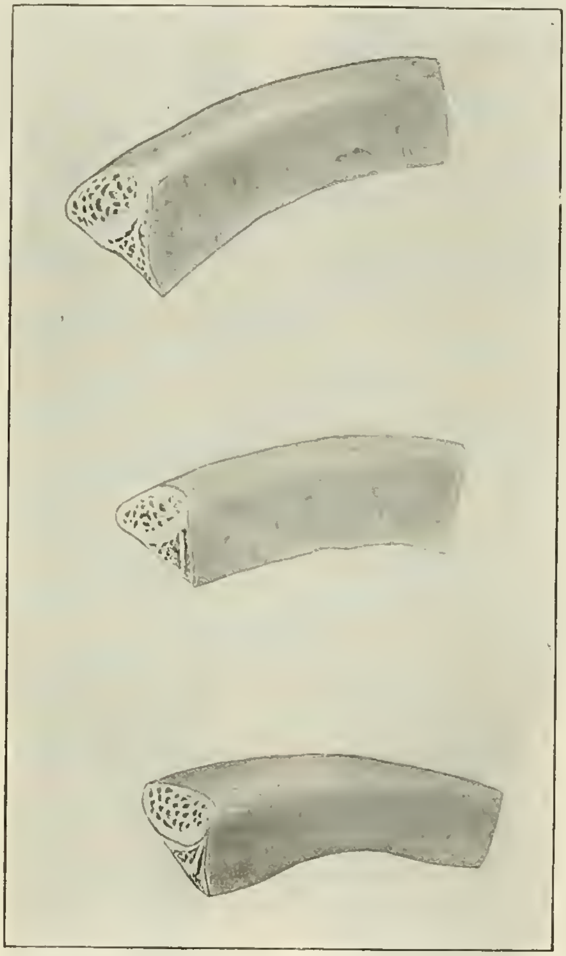

Fig. 5.—Rib compression and formation of new bone on inner surface of rib, due to Nature's effort to bring the chest-wall into apposition with the collapsed lung, Case 13.

TYPE OF CASES SUITABLE FOR OPERATION

It has not always been easy to determine when an operation should be advised for an unhealed pyothorax.

Sinuses which are accompanied by little deformity or suppuration may be treated for long periods without operation and will frequently close and leave very good lung function. Ochsner's recent report[9] of fourteen such cases treated by the aid of Beck's bismuth paste is very instructive, and his results are most satisfactory. In the selection of cases suitable for such treatment one may well remember the possibility of bismuth remaining as a foreign body within the chest cavity and follow Ochsner's example in applying the method only to cases with well formed sinuses.

On the other hand, sinuses which are coupled with excessive deformity and disturbing suppuration should be treated by operation while there is still a possibility of obtaining lung expansion; delay for them may be disastrous. Failure of lung expansion gives the key to the situation.

CHANGES WHICH ACCOMPANY PERSISTENT LUNG COLLAPSE

When the lungs fail to expand a distressing deformity results. Nature apparently abhors an empty chest. Figures 1 and 2 depict an extreme instance of this deformity; it occurred during the two years' non-operative treatment of a persistent empyema sinus. The original empyema operation had consisted of the removal of a short piece of the eighth rib in the posterior axillary line. The deformity shown in Figures 3 and 4 occurred within six weeks after a similar operation for extreme, neglected pyothorax.

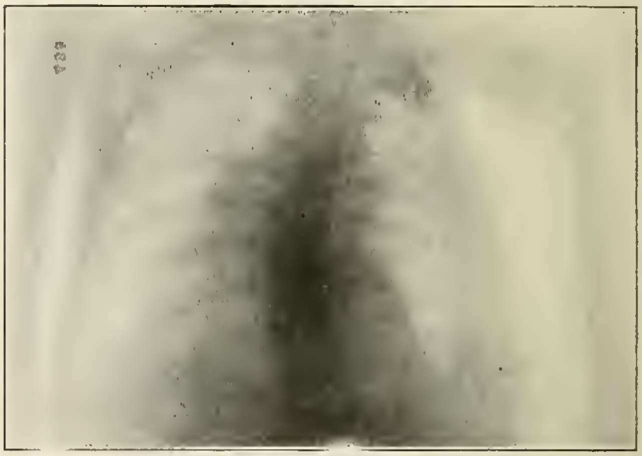

Fig. 6.—Radiograph showing the chest contraction and lateral spinal curvature in Case 13.

The changes in these cases may be summarized as follows:

1. Position of shrunken lung is against the mediastinum in the upper part of the chest.
2. There is lateral curvature of spine with concavity toward the affected side.
3. There is crowding of ribs on each other, so that the intercostal spaces are obliterated, their vertical diameters are lessened, and a new deposit of bone is found on their inner sides (Fig. 5).
4. There is bulging of diaphragm into the chest and against the lower ribs, the apposition sometimes including the sixth rib.
5. There is formation of firm exudate, which becomes so incorporated with the pleura that it seems like a pleural thickening. This is much thicker on the costal than on the pulmonary pleura.

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[7] Ransohoff: Ann. Surg., April, 1906.

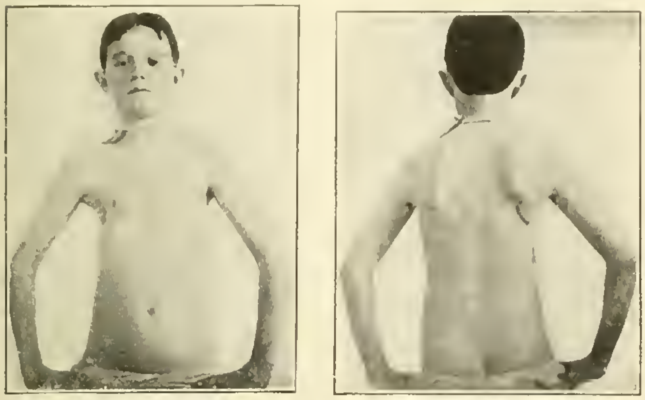
[8] Ferguson: Tr. Am. Surg. Assn., 1909.

[9] Ochsner: Ann. Surg., July, 1909, p. 151.

6. There is formation of a firm walled sinus which leads from the opening in the chest wall to the apex of the pleural cavity, usually about large enough to hold one finger and sometimes much larger.

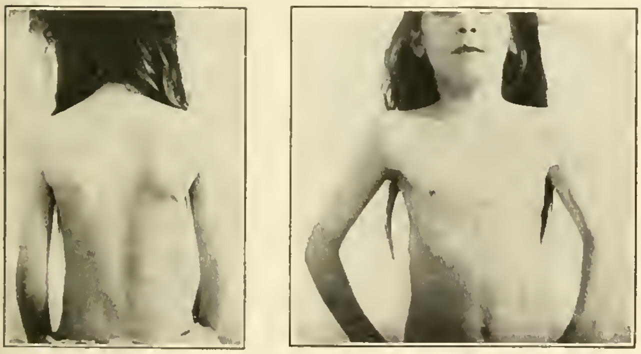
METHOD OF OPERATION

Ether anesthesia was used, the patient lying on the sound side. "Orientation" incision was made about the sinus opening, with resection of 3 or 4 inches of the rib above and the one below it, thus learning the size and direction of the sinus. The incision was then carried upward, usually in the anterior axillary line to the third rib. The ribs were divided and suitable portions removed, usually ½ inch from the second or third, 4 to 6 inches from the tenth, and corresponding pieces from the intermediate ones. Sometimes much less was taken away.



Figs. 7 and 8.—Result in Case 13, two years after operation.

With suitable retraction an excellent view of the sinus is thus obtained. A longitudinal incision is then made through the upper part of the sinus wall until the lung is reached. At this stage of the procedure the patient is allowed so nearly to emerge from the anesthesia that he will cough, when the lung usually bulges into the incision. The membrane is then separated from its surface over as large an area as is practicable and removed. In most of these cases a strip 2 or 3 inches long and from 1 to 2½ inches wide has been removed. This represents somewhat more than the pulmonary portion of the sinus lining. The chest wall was nearly brought together by strong sutures and a drain or suction tube inserted in the unclosed part.



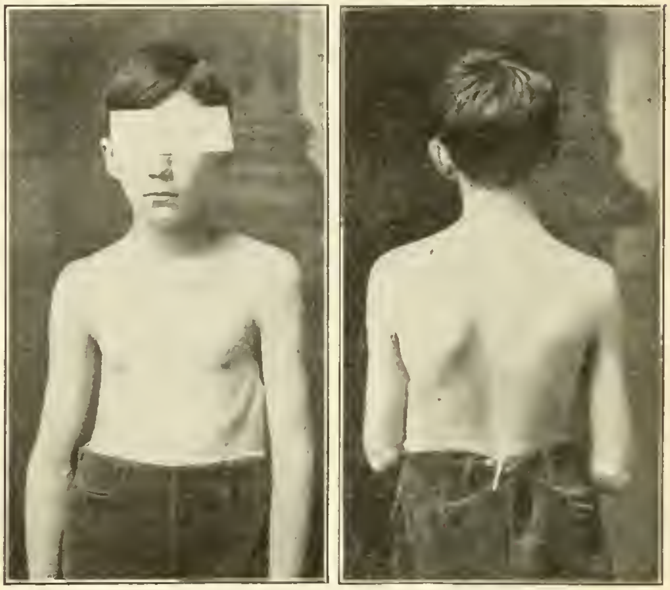
Figs. 9 and 10.—Result in Case 9, four and a half years after operation.

VARIATIONS

The amount of chest wall which was removed differed materially in the various cases and was dependent on the likelihood of gaining lung expansion. In one of the cases so little was resected that the operation could hardly be called thoracoplasty, and the lung expanded so as to fill the chest. The degree of chest-wall resection is indicated in some of the accompanying illustrations, which show the final results. In three of the cases in which additional operations were necessary, the lung was found collapsed against the mediastinum and could not be made to expand: it looked dark and spongy and had none of the pinkish inflated appearance which had been noted in other cases. On incising it, air whistled through it, but it showed no tendency to expand. For such cases Ferguson dissects away the fibrous lining of the apex and side walls of the sinus, for the purpose of obtaining an extensive surface for the production of new granulation.

AFTER-TREATMENT

Persistent and continued blowing on James' (or Wolf's) bottles has been used in every case. Negative pressure by means of Cotton's and other apparatus has been used in two cases. The pneumatic cabinet has not been used.



Figs. 11 and 12.—Result in Case 1, nine years after operation.

Judging from the appearance of the lung when the patient coughs, the writer believes that the expansive power which accompanies forcible blowing is very great; greater than is obtained from the other measures. Early and continued physical exercise is encouraged.

RESULTS

The results of this procedure are very encouraging. Twelve of the fifteen patients are in excellent health at the time of this report, or at the last observation; from a few months to nine years after operation, with varying degrees of chest expansion and chest capacity, and without lateral curvature of the spine. One of these twelve has a small sinus, but this sinus causes so little disturbance that he is unwilling to have anything done for it. One patient having a healed chest and nearly erect carriage lived seven years after the operation and then died of "dropsy." One patient has died of tuberculosis. One patient died a few days after her operation. This was the only operative death in the series and occurred in the patient whose excessive deformity is shown in Figures 1 and 2. She was taken from the

TABULATED ABSTRACTS OF CASE HISTORIES

No.	Age.	Hosp. No.	Side.	Date of primary operation for empyema.	Date of operation for lung constriction, and deformed chest wall.	Date of discharge from hospital.	Remarks.	Results.
1	5	102	L	2/ 8/1900	5/23/1900	7/30/1900	The primary lung compression was excessive; the pus having perforated the chest wall.	Examined March 10, 1909; erect, in good health; a champion tennis player in Van Cortlandt Park; circumference of right side of chest 2 inches less than left; good respiratory power.
2	4	B100	R	8/14/1900	10/25/1900	....	Lung expansion at operation unsatisfactory. Tuberculosis present.	Died Dec. 9, 1900, from tuberculosis.
3	8	C34	L	10/../1897	11/15/1900	2/25/1901	Case complicated by tuberculosis in pleura and axilla. Two operations had been done between October, 1897 and November, 1900. Small sinus persisted till March, 1902 and then healed firmly.	Seen March, 1909; in good health; erect carriage; circumference of left side of chest 1¾ inches less than right; good respiratory murmur.
4	7	287 888	L	4/../1900?	4/19/1901 5/ 8/1903	10/ 2/1901 6/23/1903	At both operations very great lung compression. Worse at second than at first.	Enjoyed good health, with chest healed and nearly erect carriage till 1908, then died of "dropsy."
5	4	909	L	1901	5/ 8/1903	7/25/1903	Lung did not expand well after decortication but sinus healed.	Reported in good health summer 1908.
6	3	1054 1209	L	12/17/1902	4/17/1903 1/ 4/1904	9/16/1903 1/31/1904	Extreme collapse of lung found at both operations. Good healing obtained.	Seen January 1905 and picture taken; erect and in good health; considerable contraction in left side of chest; good respiratory murmur; sinus firmly healed.
7	28	9988*	L	1899	6/11/1903	7/ 4/1903	Extreme lung collapse. Capacity of chest cavity about Oiii. Lung dark red and showed no tendency to expand.	Letter March, 1909, states "in best of health" working hard and eating and sleeping well; small sinus still present.
8	5	988 1311	L	12/ 4/1902	2/19/1904 2/27/1905	9/15/1904 3/30/1905	Was in country branch of the hospital between the two operations in good health but with small sinus.	May, 1909, in excellent health; erect carriage; sinus healed.
9	6	1529	R	3/21/1904	6/ 3/1904	8/ 4/1904	Sinus large enough to hold two fingers healed promptly. (Within two months.)	Examined Dec. 5, 1908; good health; erect; circumference of left side of chest 1¾ inches less than right; good respiratory murmur and good mobility.
10	6	305 1617	R	9/20/1901	7/ 1/1904	9/15/1904	Diaphragm at about the level of 5th rib. Lung much contracted. Prompt healing after decortication.	Seen winter 1905; in good health; erect.
11	8	1677	R	9/../1902	9/23/1904	9/25/1904	Extreme deformity—see Fig. 1. Lung about 1/6 its normal capacity.	Child removed from hospital by parents and died a few days later.
12	4	3472	R	1/../1907	4/ 5/1907 6/10/1907	7/ 9/1907	Lung extremely collapsed; found with difficulty; expanded after decortication when child coughed.	Seen December, 1908; well nourished; strong; erect; circumference of right chest 1¼ inch less than left; good respiratory murmur; a little later a small sinus opened which healed after operation.
13	12	3587 4739	R	4/ 2/1907	5/16/1907 9/19/1908	8/20/1907 10/10/1908	Empyema of two months' standing before chest first opened; lung could not be felt by finger in chest cavity. Rapidly progressing deformity at time of first decortication; see Fig. 3. Prompt healing, but sinus opened just before second decortication and then healed again.	March 10, 1909; circumference of right side of chest 3½ inches less than left; good respiratory murmur; is erect and in good health; see Figs. 7 and 8.
14	6	4556	R	6/ 2/1908	9/11/1908 3/26/1909	12/20/1908 6/12/1909	Lung extremely collapsed but bulged well on coughing; sinus persisted; another operation followed by good healing.	Report Aug. 1, 1909; good condition; sinus healed.
15	4	5549	R	11/20/1908	2/23/1909	4/14/1909	Lung expanded so well on coughing that ribs were fastened together with hardly any resection.	June 5, 1909; in good condition; erect; good respiratory murmur.

* General Memorial Hospital

hospital by her parents two days after her operation, while doing reasonably well, and died a few days later in her insanitary tenement surroundings.

PROPHYLAXIS

Prompt relief of pyothorax before lung compression takes place is the best way of preventing persistent sinuses. When a chest is opened for empyema an inch and a half of the eighth rib may be removed in the posterior axillary line. The finger may be inserted to remove coagula and to determine the position of the lung. The lung will usually expand at this time if the anesthesia is withdrawn and the patient allowed to cough. If the lung does not expand, adhesions may be very carefully started with the finger.

In the after-treatment, blowing exercises and suction apparatus and active physical exercise are desirable.

SUMMARY

So far as deductions can be drawn from this group of cases, they indicate the following:

1. Persistent thoracic sinus can be cured by decortication of lung and resection of the chest wall in 80 to 90 per cent. of the cases.

2. After operation the patient will not have lateral curvature of the spine.

3. The lung capacity on the affected side will remain much diminished.

4. Nearly all the patients are in good health and are not materially inconvenienced by this restricted lung capacity.

5. The mortality from the operation is probably more than 5 per cent. and less than 10 per cent.

ABSTRACT OF DISCUSSION

Dr. Emil G. Beck, Chicago: Resection of the chest wall for suppurative old sinuses should be reserved for old cases in which all other treatment has failed, as it is a procedure which will cause great deformity. A report from Dr. Ochsner of Chicago was presented before the American Surgical Association recently on fourteen patients who were treated with 33 per cent. bismuth-vaselin paste. Twelve of these sinuses are healed and 2 are much improved. Of my own patients, 13 sinuses were treated with this paste and 11 are closed. 1 patient is continuing the treatment, and 1 died. The latter had first been operated on unsuccessfully, then received this treatment, which also had no effect, and then was operated on again and died shortly after this operation. By this very simple procedure, without risk to the patient, 80 per cent. of these patients can be cured without operation. There is, however, danger of bismuth poisoning, which may be obviated if the physician will watch the cases. I have had but one case in which I saw distinct symptoms of bismuth poisoning and in that case I prevented further absorption by dissolving the paste with warm olive oil and then removing the bismuth. I have also tried as a prophylactic method the injection of a 5 per cent. bismuth-vaselin paste and all the sinuses closed without fever within ten days.

Dr. C. G. Kerley, New York: If there are any other means that would give better results than the methods suggested by Dr. Dowd, I will be glad to know of them. I have used the Bier method and seen it employed in several cases, without any striking results. Vaccine therapy has been used during the past year or two, usually with indifferent results. I have not had much success with the James bottle. It is looked on as a toy. The child will blow vigorously for a few days and then it is difficult to make him use it further. I have had much better results in expanding the lung in the use of different forms of exercise. One of these is carried on by putting a towel around the sound side of the chest, tying the towel or bandage to some stable object, and allowing the child to rest his weight in the towel, thus compressing the sound lung, at the same time breathing deeply in order to bring the diseased lung into action. Giving the child three exercise periods daily of ten minutes each has been followed by surprising success in my cases. Later, any exercise that will make the child breathe deeply is to be advocated.

Dr. Linnaeus E. LaFetra, New York: I have had the same experience with the blow bottle that others report; but there has been devised within the last year or two a little toy pipe with a rubber bag attached at the bowl to imitate a soap bubble. Children take much pleasure in blowing up these rubber bubbles to see how large they can be made. Other rubber bags are made in the form of animals, and much exercise results from using such devices. In the last three years I have seen two of the cases described by Dr. Dowd in which the results are most satisfactory. The lung will expand during the operation when the child coughs or makes a forced expiration.

Dr. Abraham Jacobi, New York: I have had the same difficulties in dealing with fistulas that have been described. The bismuth paste may probably fill up many of these fistulas. I have had fistulas up to eleven inches in length to deal with and I have had to operate after injections of tincture of iodin had failed. I have relied on iodin and it always failed. In the common run of empyema cases no one would think of employing this method, but in bad cases, in which adhesions are great, what would this operation and positive pressure do?

Dr. C. N. Dowd, New York: In my paper I incorporated references to his work and the results of Dr. Ochsner's treatment, and stated there that this method is to be tried before operation is resorted to. One may, however, select the cases in which it is to be used. When used in unsuitable cases, the bismuth has sometimes remained in the chest as a foreign body and has helped to keep the sinus open. When Dr. Beck's method and other methods fail, when the spinal curvature is increasing or has already reached an extreme degree, when expansion of the lung is prevented by its firm fibrous envelope and when the chest contraction is excessive, we have the suitable condition for the operation which I have described, and in certain instances of steadily progressing deformity it may be used before this full deformity has been reached. In the cases here reported, the average lapse of time between the primary empyema operations and the lung decortication was fifteen months—too long a time.

The method has been spoken of as producing deformity. It should, however, be referred to as preventing deformity and restoring the erect posture. The greatest deformity comes from Nature's effort to bring the chest wall into opposition with a collapsed lung. After thoracoplasty and lung decortication the erect posture is regained. This has been noted for years after the Schede operation.

Some form of negative pressure has been used in several of these cases. It can be maintained satisfactorily, but its results have been disappointing. That positive pressure is effective is shown by having the patient so lightly narcotized that he will cough and expand the lung at the time of the primary operation and later the toys to which Dr. Kerley has referred and the blow bottles are very useful. The special field of the pneumatic cabinet seems to be in other conditions than empyema. The increased pressure which is ordinarily used is not greater than the difference between the atmospheric pressure in the lower and upper floors of a high building and this is not sufficient to overcome the adhesions of a confined lung—not so great as the coughing or toys or bottles give. I know of one fatality which occurred in its use which would probably not have occurred had the anesthetist been in satisfactory communication with the operator.

Care of Children.—In education and religion, and in the principles of good citizenship, the child is the key to the problem. If we are to have literary men and women we must begin with children. By far a large majority of those noted for their strength of character have formed that character before 16 years of age. The best citizens are those who have instilled into their minds the principles of good citizenship during childhood.—Marion Hull, in *Annals of Medical Practice.*

Clinical Notes

CEREBROSPINAL SYPHILIS CAUSING INTERNAL HYDROCEPHALUS AND SYMPTOMS OF CEREBELLAR TUMOR

REPORT OF A CASE WITH NECROPSY FINDINGS *

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PHILADELPHIA

The following case, studied in Dr. T. H. Weisenburg's wards of the Philadelphia General Hospital, is of considerable interest for several reasons. Although cerebral syphilis frequently causes symptoms of brain tumor, it generally does so by the formation of gummata in relation with the meninges or vessels, and not, as in this case, by occlusion of the foramen of Magendie and resulting chronic internal hydrocephalus. The comparatively frequent occurrence of congenital internal hydrocephalus in association with congenital syphilis has often been noted. The pathology of congenital hydrocephalus is not well established, but occlusion of the foramina of communication between the ventricular system and the subdural space of the brain has been found postmortem by various observers, and appears to be the cause of the condition in at least some of the cases.

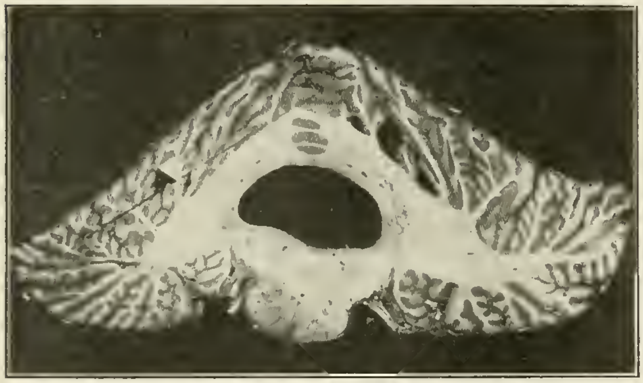

Fig. 1.—Stained section of the cerebellum and medulla showing the degree of the dilatation of the fourth ventricle, and the displacement and compression of the dentate nuclei.

Acquired, or secondary, hydrocephalus has been found in numerous cases to be due to mechanical obstruction of the foramen of Magendie or aqueduct of Sylvius by tumors, cysticerci, or as a result of tuberculous, suppurative or epidemic meningitis. Syphilitic meningitis, however, acting in this manner, seems to be a rare condition. Nonne ("Syphilis and Nervensystem") does not mention it, and in several text-books (Gowers, Oppenheim, Strümpell, Church and Peterson) consulted, syphilis was either entirely omitted or only vaguely suggested as a possible cause of acquired hydrocephalus.

The second point of particular interest in this case was the character of the cerebellar incoordination. During the period of his stay in the hospital (about four weeks), and no doubt for some time before his admission, the disequilibration became progressively worse, and from the first to the last was characterized by a constant tendency to fall directly backward, never to the right nor left. Physiologic experiments on animals (cited by Morat) teach us that destruction of the vermis, or bilateral destruction of the cerebellar hemispheres, will cause forcible extension of the head, opisthotonos, anteroposterior movements of oscillation, etc. Unilateral lesions of the cerebellum or its peduncles produce turning movements of various kinds and degrees, and in coordination on the same side of the body. Clinical experience confirms these experiments, but movements directly backward are very seldom observed, probably because central lesions of the vermis, and exactly symmetrical lesions of the cerebellar hemispheres, rarely occur. The incoordination in this case, together with other signs of intracranial neoplasm, led to a diagnosis of a tumor of the vermis.

History.—C. R., white, aged 42, was a salesman by occupation. Nothing of importance was elicited in the family history. He had a chancre at the age of 24, but gave no history suggestive of secondary or tertiary syphilis. He stated that he had not been well for two or three years, had had some difficulty in walking, pains from time to time in the arms and legs, headache rather frequently, and some difficulty with micturition, principally when beginning to urinate. His hearing had been somewhat impaired during the last year. His sister stated that he had been mentally dull for five or six years, and had had occasional attacks of nausea and vomiting, vertigo, and sometimes fainting.

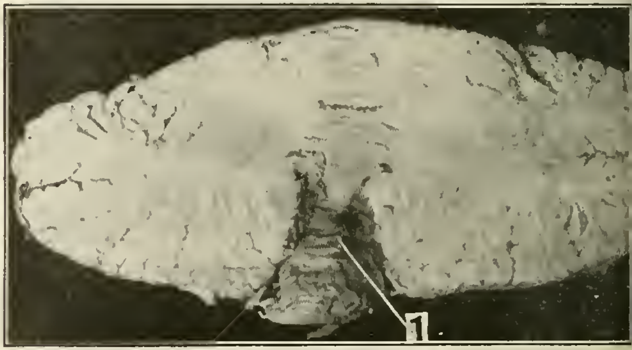

Fig. 2.—Part of the cerebellum removed showing site of the occluded foramen of Magendie (1) externally.

Examination.—He was able to walk at the time of his admission to the hospital, Aug. 30, 1908, when his condition was as follows: He was muscularly well-developed and nourished, and presented no gross motor paralysis, muscular atrophy nor cutaneous sensory loss. The pupils showed some inequality and irregularity of outline, but both reacted to light and to ocular movements. The fundi presented no pathologic changes, and there was no nystagmus. The actions of the motor cranial nerves were normal. In the upper extremities the muscular power was good, and there was no ataxia in the finger to nose test. All of the reflexes, however, were more prompt than normal. In the legs the power was also good, no ataxia was present (heel to knee test), the knee jerks were increased, especially the left, ankle clonus was present on both sides, and the Babinski sign was negative. The gait was slow but fairly steady, the steps short. He walked with the feet apart, head retracted, and after taking a few steps would come to a halt with a tendency to lean backward, sometimes taking a step or two backward to regain his balance. While standing with eyes open he exhibited a marked tendency to fall backward, and this was increased when the eyes were closed. The mental condition was poor; although he gave a fairly definite account of events in his past life, memory for recent events was very incomplete, and orientation for time was almost entirely lost

Subsequent History.—From the time of his admission, unti his death, four weeks later, he became gradually and progressively worse; mentally, more dull and finally stuporous; all of the reflexes became more prompt, with a tendency t spasticity on the left side. Slight ataxia developed in all o the limbs, and the loss of equilibration became so extreme that he could not remain in a sitting position, invariably falling backward. although the muscular power remained good. Incontinence of the sphincters appeared and persisted after about two weeks.

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* From the Philadelphia Hospital and the Laboratory of Neuropathology of the Medico-Chirurgical College. Read before the Philadelphia Neurological Society, April 23, 1909.

Postmortem.—At necropsy the pathologic condition found was syphilitic cerebrospinal meningitis, which was especially marked at the base of the brain where the new tissue formation had caused thickening in the pia-arachnoid and complete occlusion of the foramen of Magendie. All of the ventricles of the brain were much dilated, but especially the fourth, where the distention had caused compression of the white matter of both cerebellar hemispheres. and displacement and compression of the dentate nuclei in a symmetrical manner. No gross lesions of any other character were present. That the foramen of Magendie was impervious was demonstrated by removing the pons. medulla and cerebellum from the cerebrum by an incision through the cerebral peduncles, and filling the fourth ventricle *via* the aqueduct of Sylvius with a solution of eosin; the specimen was then dissected and it was found that none of the stain had penetrated beyond the cavity of the ventricle. Microscopically, the usual changes of cerebrospinal syphilis were present in the meninges and blood vessels of the brain and cord, and in addition, degeneration of many of the cells in the dentate nuclei of both sides, and degeneration, even disappearance in places, of some of the cells of Purkinje in the cerebellar cortex. The distention of the fourth ventricle in this case evidently acted as a symmetrical bilateral lesion involving both dentate nuclei and vermis and accounts for the purely backward type of cerebellar incoordination.

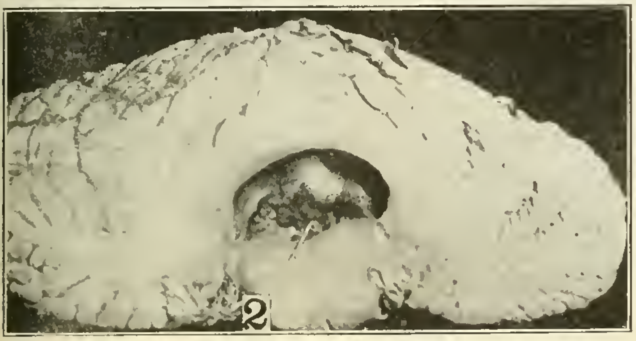


Fig. 3.—Section through the cerebellum and the medulla showing the matted condition (2) of the choroid plexus at the site of the occluded foramen of Magendie.

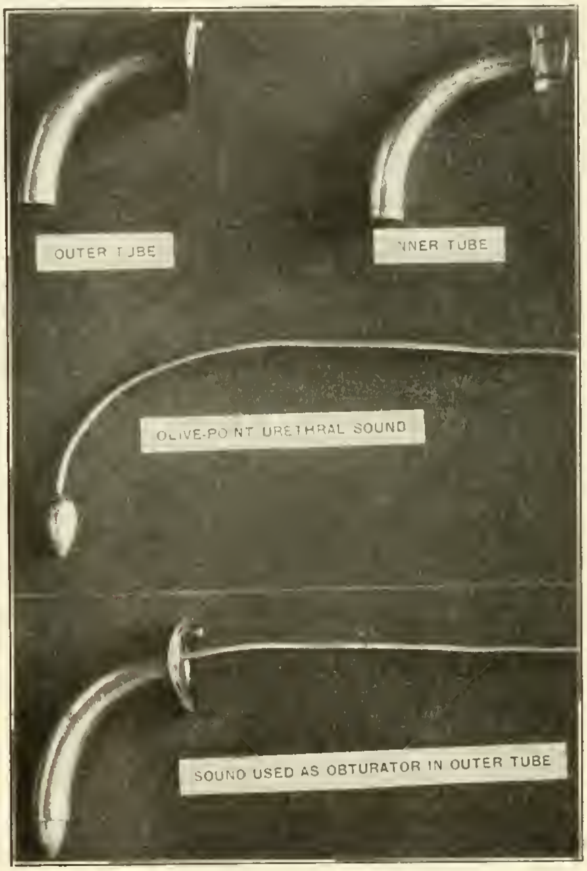
5249 Spruce Street.

The Prevalence of Fleas on Rats and Squirrels.—Previous observations made under government auspices have shown the occurrence of plague in the ground squirrel. The conveyance of plague from rodent to rodent by means of the flea has been proved and it has been shown that the fleas that ordinarily infest rats and also those infesting squirrels will bite man. The possibility of the agency of the ground squirrel in spreading the plague to man is therefore shown. G. W. McCoy and M. B. Mitzmain, in *Public Health Reports*, July 16, 1909, give the results of further investigations in this direction. Rats and squirrels were combed to determine the varieties and average number of fleas which they harbor. While the large majority of fleas are found associated with their proper hosts, it was found that rat fleas occasionally infest squirrels, and vice versa. It has been shown that the rat will live in perfect harmony with squirrels in captivity. The average number of fleas found on a rat varied from 4.7 in one series to 7.6 in another. Live ground squirrels yielded a larger average, 34. Mice, rabbits, skunks and other similar animals were also found to be infested. The nests of rats were found to harbor more fleas than the animals themselves. By placing rats in cages with squirrels, and vice versa, it was shown that an interchange of fleas took place, indicating that fleas from rodents readily adapt themselves to hosts of different species.

OLIVE-POINT SOUND USED AS AN OBTURATOR

J. E. TUCKERMAN, M.D.
CLEVELAND, O.

Some four or five years ago, while his own physician was away, a man who had always worn a tracheotomy tube came to me to have the same replaced. The tube had been out some days and the opening was contracted from side to side. On trying to replace it. the tube acted much like a reamer or corer, and would not slip in without paring the edges of the opening. Resort to the makeshift shown in the illustration made the introduction easy. The matter passed entirely from mind until recently my brother, Dr. W. H. Tuckerman, had a like difficulty in introducing a tube, larger than the one being worn, into the trachea of a growing child who has constantly to wear a tube. Again the device shown made the procedure easy.


OUTER TUBE
INNER TUBE
OLIVE-POINT URETHRAL SOUND
SOUND USED AS OBTURATOR IN OUTER TUBE

An improvised obturator to facilitate introduction of tracheotomy tube.

An obturator might very well be a part of every tracheotomy tube. A tip could be made with a shoulder to fit the inner tube which could then act as an obturator during the introduction of the outer tube. Withdrawal of the inner tube and removal of the tip would then allow the inner tube. when replaced, to fulfill its usual office. No doubt the same or like makeshift has been used by others. Still, even though tracheotomy is not now the common operation it once was, the accompanying illustration may be of interest and perhaps will lead some instrument maker to design a complete tracheotomy tube.

1856 Central Avenue. S.-E.

BOWING OF THE SHAFT AS A CORRECTIVE MEASURE IN DEFORMITIES OF THE UPPER EXTREMITY OF THE FEMUR

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TACOMA, WASH.

A class of deformity presents itself rather frequently to the orthopedist offering unusual difficulties on account of actual loss of bony tissue. Reference is made to those cases of absent epiphyses caused by acute suppurative arthritis, epiphysitis or tuberculous disease. The head of the femur is the common seat of such a lack. There presents, also, in the femur, abnormal deviations of the axis of the head and neck with the axis of the shaft, giving coxa valga, etc. For example, Figure 1 shows a defect in the femoral head due to arthritis; Figure 2 shows a typical case of coxa valga.

The question as to treatment has ever been a vexatious one, and authorities are apt to hedge. Lorenz advocates ankylosing the top of the femur to the acetabulum, but ankylosis is almost impossible in the very young. As a matter of fact, the results of these atypical cases have been far from satisfactory. Acknowledging that the idea was forced on me purely by an accident, let me report the results of a new mode of treatment, consisting in the bowing of the femur by artificial means so that it may maintain a position in the hip capable of performing function. Also let me report the results of the utilization of the same idea in other conditions at the femoral head. In coxa valga, bowing is used as a substitute for osteotomy.

A glance at the Figures 4 to 7 will show the purpose of the bowing. In weight-bearing the upward forces resolve themselves into the longitudinal and the lateral forces; the mean in any direction being the resultant. When by accident or deformity the direction of the resultant force falls in the lower half of the arc of the acetabulum we notice a tendency to dislocation, usually outward at first and then upward. When, however, the direction of the resultant pierces the upper half of th arc, as it does in the normal hip, this tendency to mis placement does not exist. Cuneiform osteotomies hav endeavored to alter the direction of the resultant. Fo the same purpose I have bowed the femur. Of course the method would be practicable only in childhood.

Case 1.—Girl, aged 3, presented to me in February, 190 with history of an acute arthritis (suppurative) during firs two months of infancy. Evidence of sinus in gluteal regio and history of much discharge. Sinus closed end of secon

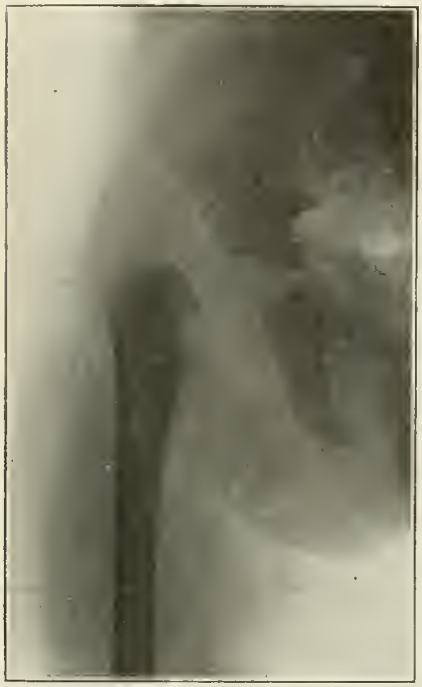


Fig. 1.—Femur, presenting deformity resulting from congenital arthritis (Case 1).

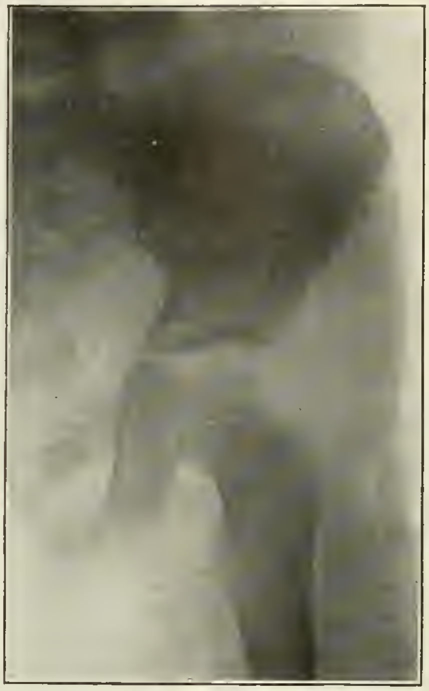


Fig. 2.—Case coxa valga; common type causing limp only (Case 2).

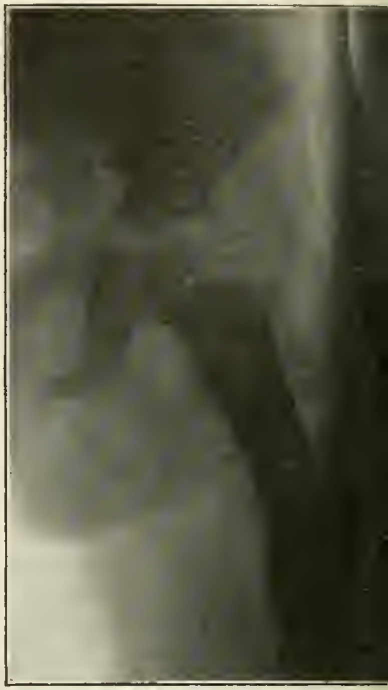


Fig. 3.—Result of femoral bowing coxa valga (Case 3).

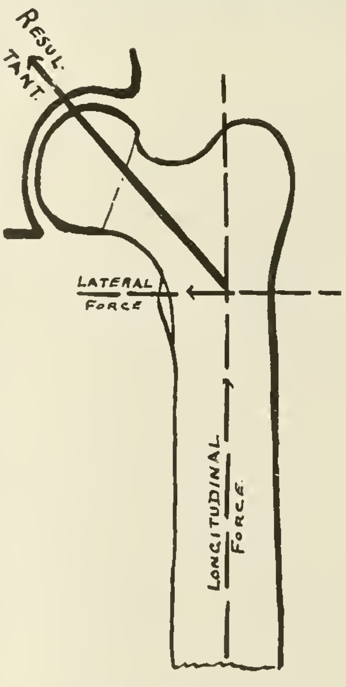


Fig. 4.—Diagram of normal hip, showing natural forces o weight-bearing and natural resultant.

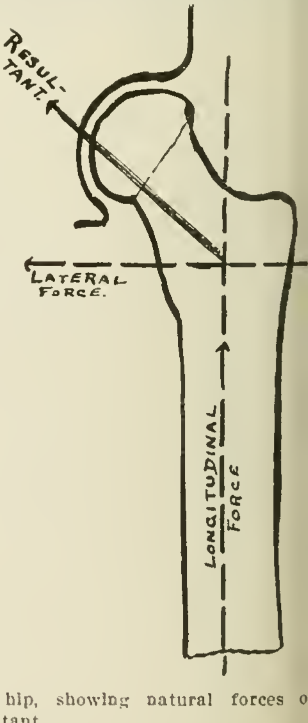


Fig. 5.—Diagram of hip in coxa valga, showing direction o resultant force with tendency increased to dislocation.

month. Only symptom noticed by parents was the limp that accompanied walking. The femur presented the appearance shown in Figure 1. The head was absent and dislocation was considerable.

When confronted with this condition in a child so young, I determined to reduce the dislocation and temporize by maintaining the thigh in extreme abduction, encasing in plaster as after the congenital hip replacements. This was done, the plaster including the knee, and the child returned home. An infectious disease in the home prevented her from returning to the city for three months. On her return I found, on the removal of the cast, that the child's rapid growth had bent the femur outward very markedly. My chagrin was lightened by the idea that such a bowing might be utilized to compensate for the lost angle at the femoral neck. Another cast was snugly applied and worn for two months. On the removal of this second cast I was delighted when the leg was adducted to note that considerable motion entirely failed to redislocate the hip. For the last six months or more I have retained the thigh in considerable abduction in a plaster spica and the knee straight but still maintaining the femoral bowing. I allow constant weight-bearing and have had no tendency to misplacement whatever.

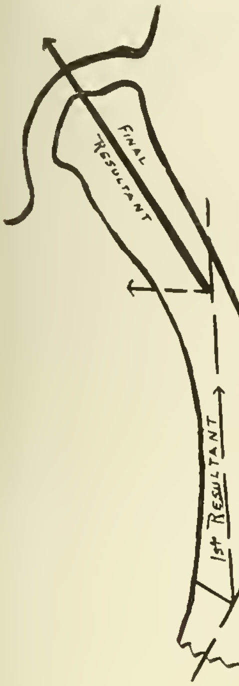


Fig. 6.—Diagram of hip in epiphysitis with loss of femoral head; femur bowed, showing final result of bowing.

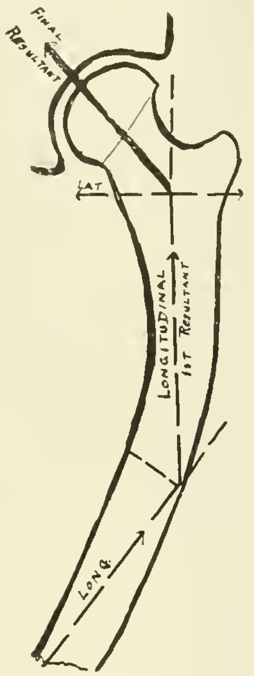


Fig. 7.—Diagram of hip in coxa valga with bowed femur, showing forces of weight-bearing modified by bowing of shaft, with direction of consequent resultant.

CASE 2.—Girl, aged 4; history unimportant except that right-sided limp had been present on weight-bearing since child learned to walk. No pain or other symptoms whatever. Radiograph (Fig. 2) shows coxa valga deformity with angle of 165 degrees. Cuneiform osteotomy was refused. Rather than resort to fixation in abduction I decided to try bowing of the femur. In four months I had produced an artificial bowing outward by applying a tight-fitting round-and-round plaster, the thigh flexed and abducted to right angles with the body. When sufficient bow was produced the patient was freed of splints and under observation weight-bearing was allowed. There is no shortening. The limp disappeared and walking is normal.

CASE 3.—The essential points in the history of this case of coxa valga are illustrated in the history of Case 2. Figure 3 shows the result.

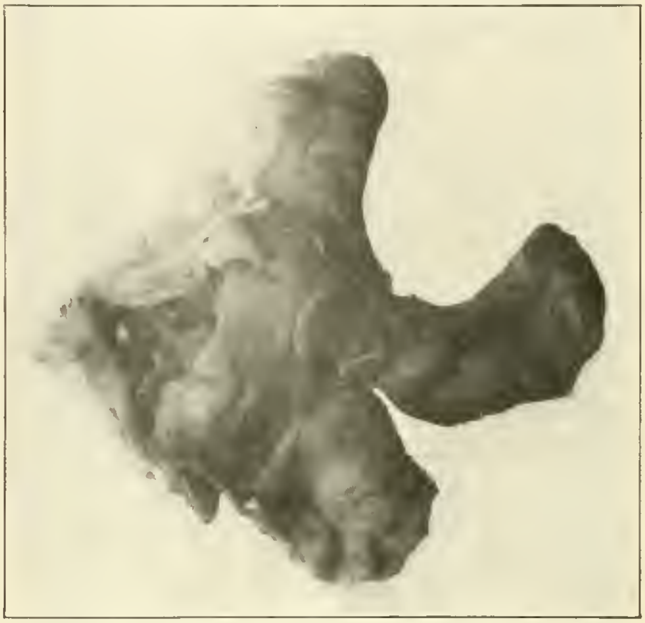
Provident Building.

SHOT IN THE APPENDIX VERMIFORMIS *

H. S. MARTLAND, M.D.
NEWARK, N. J.

History.—J. D., male, aged 30, was admitted to the surgical division of the City Hospital, service of Dr. E. R. Haussling, suffering from an acute appendicitis, which he had had for two days. The patient was immediately operated on, and the appendix, which had not ruptured, was removed. A localized abscess developed, which drained well. The patient left the hospital in twenty days cured.

Appendix.—The appendix measured 5 cm. in length; its outer two-thirds was triangular in shape, and sacculated. (See illustration.) The dilated portion contained pus, necrotic tissue, fecal matter, and twenty-two shot. The size of the shot was No. 8, and they showed signs of discharge. Microscopic examination showed an acute suppurative inflammation, together with a chronic process. The proximal end presented a thickened and rigid muscularis, which caused the lumen to remain patent and large.



Appendix, showing the presence of shot.

It seems probable that the presence of the shot had only an indirect part in causing the present attack, and that their presence in the appendix was due to the unusually large and rigid opening into the cecum, caused by a previously existing inflammation.

The patient attributes the presence of the shot to the eating of stewed rabbit.

Howard Kelly says:

> Of the heavy bodies which gain access to the appendix, the most common are shot or bullets. The rôle of shot resembles that of concretions, being purely passive; such bodies may occasionally produce abrasions of the mucous membrane, but, as a rule, they act indirectly, by obstructing the lumen, or by causing pressure anemia of the wall, and diminishing the vitality of the tissue.

Foreign bodies in the appendix, however, are unusual; in 1,000 cases at the Johns Hopkins Hospital they occurred in four cases only.

Physical Education.—The attempt of the National Education Association to persuade congress to organize a bureau of physical education similar to those found in most of the progressive countries of the world should be aided by all good citizens.—P. C. Phillips, in *Hygiene and Physical Education.*

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* From the Pathological Laboratory of the Newark City Hospital.

PRACTICAL WINDOW VENTILATION

WILLIAM J. MANNING, M.D.
Medical and Sanitary Officer, Government Printing Office
WASHINGTON, D. C.

One of the most difficult tasks, where many persons are gathered together under one roof, during the winter season and inclement weather, is the proper enforcement of healthful ventilation and the regulation of temperature in work rooms without meeting many protests.

Tersely stated, the idiosyncrasies of James Brown do not coincide with the idiosyncrasies of John Smith, so that what blows hot for John blows cold for James, and as a result one desires the window tightly closed, no matter the degree of temperature, and the other demands the window open.

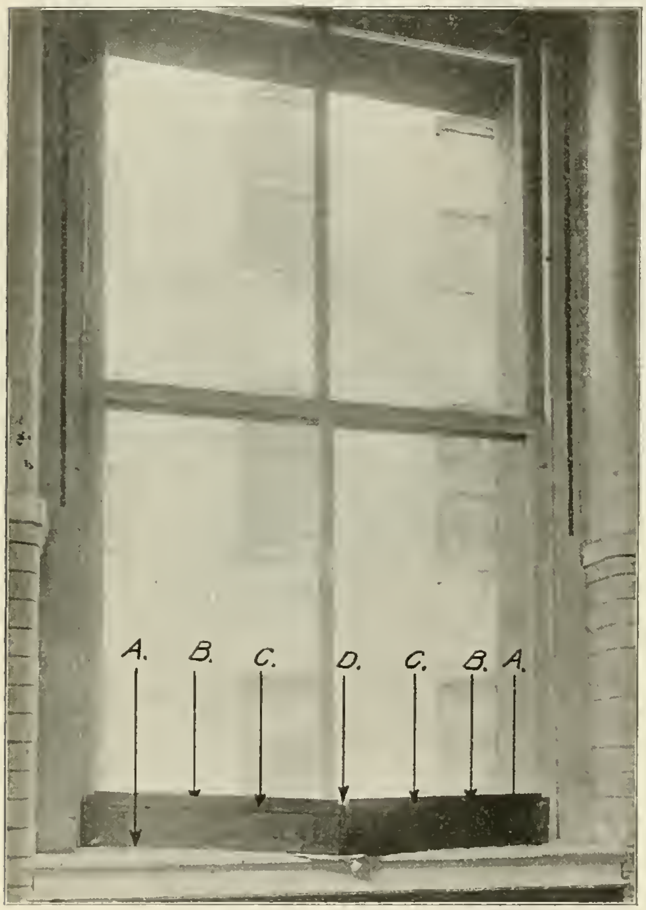

Fig. 1.—Ventilator about to be placed in position under window-sash.

Of course, in many of the larger buildings over the country, systems of internal ventilation are in use, some effective and some ineffective, but all very expensive and complicated. It is the smaller buildings, however, that interest me.

To aid the ventilation of those buildings which are not thus provided for, such as small workshops, factories, stores, etc., and to aid, even where ventilation systems are in use, has been my idea in publishing the present modification of a very old method of placing a board lengthwise under a window.[1]

It will be noticed on reference to Figure 2 that a current of fresh air is constantly entering the room far above the heads of those persons who may be employed within such apartment and in such a manner that no person is directly exposed to any draft or to "catching cold." One such ventilator in every third window in a large room will be found sufficient, in the majority of cases, to admit sufficient air to keep otherwise closed rooms in a healthful condition.

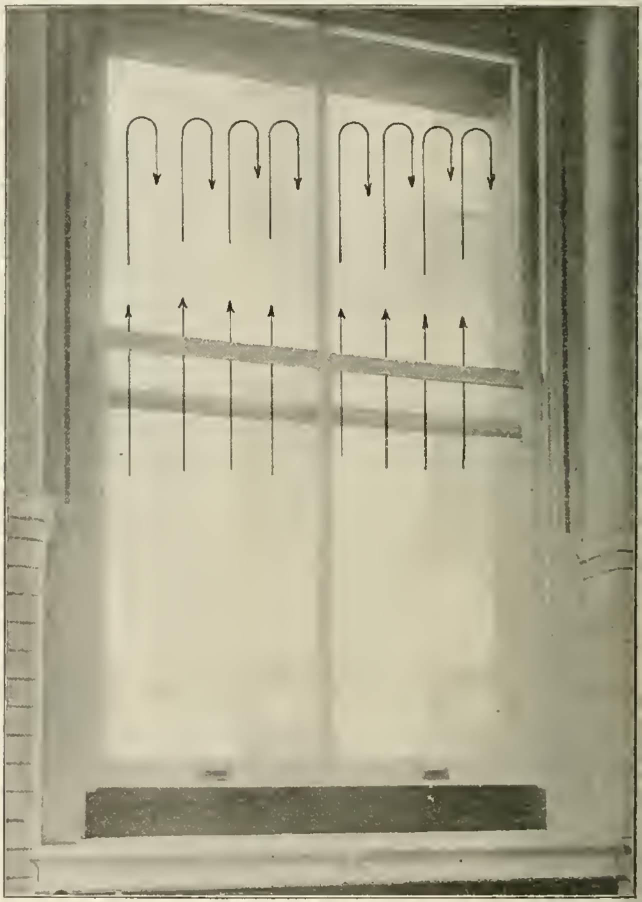

Fig. 2.—Ventilator in place with window closed, the air passing upward between top and lower window-sashes.

I have found this simple method, as constructed and in use in this office, to be most practical, cheap and effective. Any "handy man" about a factory or workshop with a saw, hammer, plane, a few nails, hinge and a piece of board may construct one of these ventilators at the cost of a few cents by following the directions given.

Measure the distance between window-frame from side to side, or flush with ends of window-sash that works up and down in the groove, or between the parting strip and window-frame; now select two boards not less than six inches in height and each half the length measured, and of the same thickness as the window-sash, or made so by piece of wood or cleats nailed to the ends of the boards making up for such thickness; bevel the under edges of the boards (AA, Fig. 1) to fit the window-sill; bevel the top edges of the boards (BB, Fig. 1) to fit the descending window-sash. Nail a piece of wooden moulding or a common lath (CC, Fig. 1) to the inner top of the edge of the board, within which the closed window-sash will rest as shown in Figure 2.

This joint (CC, Fig. 1) may be lined with felt, or tailors' woolen selvage edges that permit the window-sash to jam tightly into the joint, making it air-tight, if desired, and preventing direct draft on any person, no matter how cold it is or how high the wind is blowing.

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[1] Egbert: Hygiene and Sanitation.

A hinge, bending outward, is now placed at the point marked (D, Fig. 1). When putting the ventilator in position, pressure outward simply snapping it in place, ready for descent of window-sash; pressure inward "breaks" the board for removal.

Large thermometers, about two feet in length, are suspended from the ceilings of work-rooms during the winter season. The figures 70 and 80 on the scale, marking the extremes of healthful indoor temperatures during the season mentioned, have been enlarged to one inch in size, and are further distinguished by broad red arrows placed above and below the figures respectively. The scale is, therefore, readable from all parts of the room, and serves as a constant indicator or danger signal in a silent, effective manner.

Therapeutics

DIABETES

As is true of all diseases, this could be more successfully treated if we knew in each instance its exact etiology. It is not necessary to rediscuss the known disturbances that cause glycosuria, but Dr. Alfred King, of Portland, Me. (*New York Medical Journal,* July 3, 1909), terms this disease infectious, and states his excuse for such a classification to be the fact that he has found, in sixteen patients suffering with this disease, the yeast fungus (*Saccharomyces cerevisiæ*) in the blood. He takes a drop of blood from a finger which has been made sterile, and not only finds the yeast fungus under the microscope, but has been able to grow the fungus in culture fluids. His method may be learned from his article. He has also found by a study of the opsonic indices that when the patient is doing well his opsonic index is high; when the patient is debilitated, miserable, and losing ground, his opsonic index is low. He has also found that hypodermatic injections at intervals of from three days to a week of from 5 to 15 minims of the fluid produced by a twelve-hour growth of the fungus (of the strength of 100,000,000 of dead fungi in 15 minims of sterile salt solution) have raised the opsonic index and improved the condition of six patients.

King allows some starchy foods, as a little oatmeal, half a slice of bread, or a small potato, with each meal.

From his investigations King says: "Because diabetes is a disease of fermentation; because the yeast fungus is often found in the blood; because its actions explain all the symptoms as well as the pathologic conditions; because the patients show a disturbed power of resistance to this fungus; and because this lowered resistance is increased by treatment with vaccine, I believe this yeast fungus is the cause of diabetes, and that it should be treated as an infectious disease." He thinks this fungus may be removed by the use of antiseptics, but he has not yet learned how to do this.

His general treatment by diet, for the amelioration of symptoms, and the condition of acidosis are the same as are so well understood.

This interesting discovery by King should stimulate physiologists to a general study of the frequency and constancy of the yeast fungus in the blood of diabetics.

INTESTINAL OBSTRUCTION

It is not the purpose of this article to discuss all of the forms of obstruction that can occur in the intestine, but to offer a caution or two for the necessity of early diagnosis and immediate surgical consultation and early operation in all forms of absolute obstipation.

If obstruction is diagnosed or even suspected, cathartics must ordinarily not be administered. Also morphin, by masking the symptoms, is almost dangerous. As well pointed out by Dr. H. F. Waterhouse (*British Medical Journal,* May 29, 1909), the obscuration of the condition by one good dose of morphin may postpone a necessary operation until gangrene, septic exudate, or perforation and consequent peritonitis has made the prognosis fatal, and a favorable result from operation almost impossible.

While pain in the abdomen may be referred to any part, the diagnosis of localization is made by the region of tenderness, and the ability to find tender points and localized lesions becomes more and more difficult the later in the condition the attempt is made. In other words, very careful abdominal examination should be made whenever there is abdominal pain. Later, tenderness may be so generalized as to make a localization impossible.

The object of Waterhouse's paper is to show that in his experience volvulus, twisting of the intestine, is more frequent than has been supposed, and probably in many cases cured spontaneously. He finds that an elongated lower segment of the sigmoid part of the intestine is the most frequent position of such twisting. Prolonged constipation, and this in older and debilitated patients especially, elongates the lower part of the sigmoid of the intestine and the upper part of the rectum (this region being termed the omega loop), gives the excuse for this region being the region of most frequent twisting. Early examination of the abdomen will generally show that this is the part of the intestine in trouble. Pain, obstipation, and gas distension are the immediate symptoms. Vomiting, Waterhouse points out, may not be present in volvulus of this region.

High enemas of warm water, with the patient in the knee-chest position, will sometimes untwist this part of the intestine, and the symptoms may cease as quickly as they began. During the time of doubt and waiting before an operation is deemed advisable, all food should be absolutely withheld, although the patient may be allowed water by the stomach.

Waterhouse finds that the onset of gangrene of the twisted bowel is indicated "by the pulse becoming rapidly weak and quick, and by the septic appearance of the patient."

It must be emphasized that ordinarily to be successful operation must be done before such symptoms are in evidence.

Massage Best Remedy for Loss of Hair.—Ingenious men, says Dr. T. O. Cobb, in *New York Medical Journal,* are continually contriving new kinds of shoes, new suspenders, and hundreds of different kinds of braces, but so far no one has taken up the idea of making a hat which will hold on the head and not blow off, and at the same time not bind the head all around like a constricting band. Some one ought to invent a hat which will prevent baldness. Hundreds of remedies are on the market which are advertised as sure hair restoratives, but not one of them will bring back one hair once the hair follicle is atrophied and functionless; nor will any of these remedies prevent the falling of hair unless the habits of the sufferers are changed. At best these remedies are merely skin irritants, which promote a slightly increased flow of blood to the scalp. Dandruff cures are mostly fakes. The only good accomplished by these medications is the scalp massage indulged in while applying them, and the practitioner should make a fight against their use.

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SATURDAY, OCTOBER 16, 1909

THE PATHOGENESIS OF TYPHOID FEVER

The typhoid bacillus is one of that troublesome group of organisms which produce their effects through poisons which are liberated only when the bacteria are disintegrated—troublesome because the animal body seems to have little or no power to produce antitoxins for these "endotoxins." Hence the reason for the early abandonment of the once-cherished hope of universal antitoxin therapy for all infectious diseases. It also happens that the chief means of defense against the typhoid bacilli consists in the power of the blood serum to cause bacteriolysis, and as by this bacteriolysis the endotoxins are liberated but not neutralized, it results that the destruction of large numbers of typhoid bacilli in the blood may not always be an unmixed blessing. To illustrate by an experiment, if a large dose of typhoid bacilli be injected into an animal that has been immunized to this organism, and into another, nonimmunized, animal an equally large dose be injected, it may happen that the immune animal will die in a few hours while the normal control may live much longer. The reason for this is that the immune animal has acquired the power of destroying typhoid bacilli, and by producing the rapid disintegration of the injected organisms it causes their endotoxins to be liberated in a single large dose, against which the animal has no defense. Such an animal may die from the bacterial intoxication when cultures show that the blood is entirely free from living bacilli, while, at the same time, the control may live much longer with abundant living bacilli in its blood.

As in typhoid fever the bacilli are present in the blood almost constantly and continuously from the earliest stages, it is evident that this matter of the liberation of endotoxins by bacteria destroyed within the blood must be of much importance in the clinical manifestations of the disease. That the typhoid bacillus may be present in the body and not cause typhoid fever is well known, especially since the prevalence of bacillus-carriers has become recognized. It may even invade the tissues and cause extensive lesions, such as post-typhoid bone abscess, cholecystitis and pyelitis, without producing the features of typhoid fever. Therefore, it would seem that to produce typhoid fever the bacilli must grow in a situation where they have free access to the blood; entering the blood they cause the clinical condition of typhoid fever by becoming disintegrated and liberating their endotoxins.

From their studies of the bacteriology of the blood in typhoid, and experimental investigations on animals, Coleman and Buxton[1] have developed an interesting and plausible theory of the pathogenesis of the disease. They believe that the atrium of the infection is in the lymphatic structure of the intestinal wall; from here the bacilli reach the general lymphatic system and the spleen, where they seem able to grow, being here in a measure protected from the bactericidal power of the blood. After they have grown to a sufficient amount, corresponding to the period of incubation, they overflow into the blood, where, the bacilli undergoing bacteriolysis, the endotoxins are set free and cause the symptoms of the disease. It seems probable that in most cases of typhoid the bacilli do not multiply to any considerable extent in the blood stream, but are destroyed there; hence typhoid fever is not to be looked on as a septicemia, but a bacteriemia. When the endotoxins are liberated in the tissues, as in post-typhoidal suppurations, we do not get the typical symptomatology and pathology of typhoid; these result only from destruction of numerous bacilli in the blood stream.

Subsidence of the fever seems to depend on the cessation of discharge of bacilli from the lymph glands into the blood, probably because the immunity processes have succeeded in checking the multiplication of the bacilli in the lymphatic tissues. It is possible that those cases in which an intermittent temperature persists after the original febrile movement has subsided may be due to irregular discharge of bacilli from some lymphatic organ in which the bacilli still continue to grow. Relapses probably arise in this way, for it is known that the spleen sometimes remains large after subsidence of fever in patients who subsequently relapse, and it may well be that this enlargement indicates the local persistence of the infection, which may later flare up as the immunity reactions wane. That the resistance to the typhoid bacillus does wane, especially as regards local rather than systemic resistance, is shown by the frequency with which after recovery from systemic infection local infections appear in the form of abscesses, cholecystitis, etc.

This hypothesis not only has good experimental support, but it also is more easily accepted than the view which seemed to be becoming prevalent that typhoid fever is in reality a septicemia, for this latter view requires the assumption that the bacilli are multiplying in blood which, experiment shows, is strongly bactericidal. As support by analogy, Coleman and Buxton refer to the case of the related organism, *Bacillus paratyphosus*, which when infecting the intestines produces merely the clinical picture of a gastroenteritis, but when it has invaded the lymph glands and blood produces a disease clinically indistinguishable from typhoid fever.

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[1] Am. Jour. Med. Sc., 1907, cxxxiii, 896; Jour. Med. Research, 1909, xxi, 83.

The power of typhoid bacilli to persist in the lymphadenoid tissues long after they have disappeared from other organs may be considered to be another of the many examples of specific adaptation of bacteria to a special soil, a property of bacteria which was first made prominent by Welch.

THE PURIFICATION OF WATER WITH BLEACHING-POWDER

We have recently referred[1] to the use of ozone for the purification of drinking-water and have dwelt on the fact that the high or indeterminate cost of the various ozonization processes stands to some extent as a barrier to the general introduction of this method. It might be added further that ozone is not the only substance that can be employed for the "practical sterilization" of water, and that from a chemical point of view other substances are theoretically available for the treatment of large public supplies. Experiments lately conducted on the Jersey City water-supply appear to bear out this view.[2] Commercial bleaching-powder, an impure product the active ingredient of which is hypochlorite of calcium, has been used increasingly in the disinfection of sewage effluents during the last few years, and on at least one occasion (Maidstone, England, 1897) it has been used to disinfect a public water-supply suspected of carrying the infection of typhoid fever. Its use on a large scale in the Jersey City experiments is therefore only a further utilization of its already well-known germicidal powers. When calcium hypochlorite is added to a natural water, hydrogen oxychlorid or hypochlorous acid is released in the water. This compound is a very weak acid, but an extremely powerful oxidizing agent. The treatment is, therefore, in no sense a chlorin treatment, but purely one of oxidation quite comparable in this respect to the process of ozonization.

The bleaching-powder employed in the Jersey City experiments contained on the average about thirty-five per cent. of "available chlorin," equivalent to about seven and nine-tenths per cent. of "available oxygen." The powder was applied during the latter part of the experiments in the proportion of about five pounds per million gallons of the water treated. The bacterial results were very favorable, the total number of bacteria in the treated water averaging only fifteen and *Bacillus coli* being isolated only once out of 455 samples examined. The process has one important chemical advantage, namely, that it brings about a reduction in the amount of carbonic acid in the water (through action of the calcium) and hence lessens the incrusting and corrosive action on iron and steel pipe.

The total cost of the process is stated to be between twenty and twenty-five cents per million gallons, or only about one-twentieth the cost of the ozonization process, so far as the latter can be determined from available data. When water-power can be obtained without additional expense, available chlorin can be produced in the electrolytic cell and the whole process thereby considerably cheapened. It should be said that the water dealt with in the Jersey City experiments does not appear from the published analysis to be very highly polluted, the bacterial content of the raw water ranging as low as 30 per c.c. and rarely going above 1500. There seems indeed to be some question as to the necessity for disinfecting this particular water, and the matter is still before the courts. Further experiments under different conditions should throw more light on the real efficiency of bleaching-powder as an agent for the purification of water-supplies, and we shall probably not have to wait long before these are made.

DISSECTION THEN, VIVISECTION NOW

In the midst of the attention attracted by the recent meeting of the antivivisectionists in London we were reminded of a corresponding agitation against dissection at the beginning of the nineteenth century. Bodies were extremely difficult to obtain, and they were secured by all sorts of underhand and illegal means. A whole series of murders committed for the sole purpose of obtaining bodies to be sold to medical schools had been unearthed in England and Scotland, yet the opponents of dissection absolutely refused to listen to reason and allow the passage of an anatomy bill by which the bodies of the poor who died in charitable institutions were to be given to medical schools for dissection purposes. The bill met great opposition in parliament from men who sentimentally insisted that such a law would work great harm to the poor. In the course of the debate Lord Macaulay, better known for his essays than his speeches, delivered a short address on Mr. Warburton's anatomy bill which Mr. Hunt had attacked with great asperity. Because his speech contains the answer to some of the sentimental objections of the "antis" in our day and, above all, because it illustrates the fact that no great humanitarian movement ever makes its way without serious opposition on the part of people who think themselves humanitarians, we quote two of the passages:

"If we could do all that, in the opinion of the member for Preston, ought to be done, if we could prevent disinterment, if we could prevent dissection, if we could destroy the English school of anatomy, if we could force every student of medical science to go to the expense of a foreign education, on whom would the bad consequences fall? On the rich? Not at all. So long as there is in France, in Italy, in Germany, a single surgeon of eminent skill, a single surgeon who is, to use the phrase of the member for Preston, addicted to dissection, the surgeon will be in attendance whenever an English nobleman is to be cut for the stone. The higher orders in England will always be able to produce the best medical assistance. Who suffers by the bad state of the Russian school of surgery? The Emperor Nicholas? By no means. The whole evil falls on the peasantry. If the education of a surgeon should become very expensive, if the fees of surgeons should consequently rise, if the supply of regular surgeons should diminish, the sufferers would be not the rich, but the poor in our country villages, who would again be left to mountebanks, and barbers, and old women, and charms, and quack medicines. The honorable gentleman talks of sacrificing the interests of humanity to the interests of science, as if this were a question about the squaring of the circle or the transit of Venus. This is not a mere question of science; it is not the unprofitable exercise of an ingenious mind; it is a question between health and sickness, between ease and torment, between life and death. Does the honorable gentleman know from what cruel suffering the improvement of surgical science has rescued our species?"

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[1] The Journal, Aug. 21, 1909, liii, 636.
[2] Engin. News, June 24, 1909.

We feel sure that what Lord Macaulay said at the end of his speech with regard to dissection he would, if called on, repeat at the end of a corresponding speech in a vivisection discussion before the House of Commons at the present time. What he has to say, therefore, is of interest, especially because the two situations so nearly resemble each other:

"I think this is a bill which tends to the good of the people. and which tends especially to the good of the poor. Therefore, I support it. If it is unpopular, I am sorry for it. But I shall cheerfully take my share of its unpopularity. For such, I am convinced, ought to be the conduct of one whose object it is not to flatter the people, but to serve them."

SCORPION VENOM AND ANTIVENOM

The sting of such scorpions as are encountered in this country seems not to be usually serious, although extremely painful and sometimes followed by dangerous sloughing and infection. In Egypt, however, scorpions are encountered which cause no inconsiderable fatality in children under 12, though the sting is rarely fatal in adults. The reason for this limitation of fatalities to children has been shown by Wilson, of the Egyptian Government School of Medicine, to depend on the fact that the average amount of poison in the most venomous of the Egyptian scorpions is capable of killing but about thirty-five kilos. During seven years there were recorded 153 deaths from scorpion sting in Cairo, while the incidence of deaths from this cause is, naturally, much higher in the country districts. In Assouan scorpions caused 1.6 per cent. of the total death rate, according to government statistics.

Although the poison from the scorpion resembles in some respects the snake venoms, yet it differs in many important particulars, especially in that it is not hemolytic, and the symptoms in animals, as described by Wilson, resemble much more closely the symptoms observed in animals dying from anaphylactic intoxication with proteins than they resemble snake poisoning. Different species of animals vary greatly in respect to their susceptibility to scorpion poison, although nearly all animals are seriously poisoned by the venom of a single sting. An interesting exception was found by Wilson to exist in certain desert animals of Egypt, which live under conditions which bring them into frequent contact with scorpions. Such animals, including desert rats, hedgehogs and foxes, possess a high degree of immunity, and a native house mouse was found also to be immune, although the ordinary mice and rats are very susceptible. It is also reported that some people who live where scorpions abound are immune to their stings, and some of these persons claim to make themselves immune to the scorpion by repeated small doses of the poison administered by pricking the skin with the stings removed from scorpions. Todd takes pains to state, however, that the Arabs who exhibit scorpions in the streets of Cairo for the entertainment of tourists are not immunes, but protect themselves by cutting the points off the stings of the scorpions. The old tradition that when a scorpion is surrounded by a ring of fire it commits suicide with its own stings is entirely fabulous, for the scorpion, like other venomous creatures, is immune to its own poison; indeed the blood of the scorpion was found by Metchnikoff to have considerable antitoxic power against scorpion venom.

The mortality, not to mention the serious effects produced by non-fatal stings, from scorpions in Egypt is sufficient to make the preparation of an antitoxin desirable, and this task has been accomplished by Dr. Charles Todd,[1] of the public health department of the Egyptian government. Calmette asserts that his antiserum for cobra venom neutralizes the venom of certain scorpions, but Todd found it ineffective against the venom of the scorpions of upper Egypt. Antiserum prepared by immunizing horses with scorpion poison, however, was capable of neutralizing in 2 c.c. doses the poison of one scorpion, and had both prophylactic and curative properties. During last summer this serum was in use in Egypt, and the results, both as to mortality and reduction of pain, are said to have been favorable.

INSTITUTIONAL CARE OF THE TUBERCULOUS

The tuberculosis campaign has passed through several distinct stages, and with increasing experience new points of view demand a change of tactics. At one time the prohibition of the use of milk and meat from tuberculous cows assumed the prominent rôle. Again, the sanatorium has been expected to solve the problem by education and cure of patients in the early stages. This method has been successful only in a degree, new cases continually developing. The source of contagion in these new cases is generally to be found in the homes of patients in the advanced stages, whom it has not been thought worth while to admit to sanatoriums. To remove this source of the disease the visiting nurses' movement was instituted, whose aim was so to educate and to care for the advanced consumptive that he might no longer be a menace to his family and neighbors. Mary E. Lent,[1] head nurse of the Instructive Visiting Nurse Association of Baltimore, reviews the work of her association, and concludes that, while good has been done to individuals, the method, as a means of preventing the spread of tuberculosis, is a failure. She says: "As a matter of fact, the experience of four years of continuous work in the homes of tuberculous patients of the class under consideration has demonstrated to me that the results hoped for have not been obtained and, moreover, are not obtainable by this method." The principal reason for this failure is the poverty of the people, who are unable, for lack of means, of time and of proper surroundings, to give themselves or their friends proper care. Advanced patients lack the moral stamina to carry out strictly the hygienic instructions of the nurse. There is a great difference between the care which can be exercised even by a conscientious patient and the scientific application of the rules for prevention in a well-appointed hospital.

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[1] Jour. Hyg., 1909, ix, 69.

Segregation or isolation is the logical solution of the problem thus presented; but it must be borne in mind that we are dealing with independent citizens on whom the attempt to force segregation or isolation may react very unfavorably. In Germany great difficulty has been experienced in getting patients to go to hospitals for advanced cases on account of the feeling of the patients that the hospital is merely a place in which to die. The very terms "segregation" and "isolation" are objectionable, and our contemporary suggests that the term "institutional care" be used instead.

In removing the prejudices of the people and preparing patients for institutional care, the services of the visiting nurse are indispensable. While she cannot train patients to prevent the spread of the disease, amid the surroundings of poverty, she can by her investigations impress on the community the need of institutional care in these cases, and she can lead the patients themselves to see how much better it would be, both for themselves and for their family and friends, if they would accept the proffered institutional care. This much has been accomplished by the work in Baltimore, it seems, for it is stated that the patients there do not shun the hospital as patients do in Germany.

Whether institutional care will furnish a complete answer to the tuberculosis problem may well be doubted; but it has its important place in the agencies for controlling the disease, which has its roots deep in the social conditions which make for poverty, physical and moral degeneration. To remedy these conditions may be the task of more than one generation, but the urgent demand appears to be to extend the work of the visiting nurse and to supplement it by providing institutional care for such patients as she can induce to accept it.

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[1] Journal of the Outdoor Life, September, 1909.

THE SUSCEPTIBILITY OF RODENTS TO PLAGUE

It would be reasonable to expect that in communities where plague had long existed among rodents some would recover and in future be immune to the disease, and this has been shown to be the case with rats in India.[1] It is rather surprising, however, to learn that a large percentage of the rats (*Mus norvegicus*) in San Francisco are refractory to plague infection even when submitted to the rigorous test of inoculation with highly virulent cultures of the plague bacillus. McCoy,[2] of the Public Health and Marine-Hospital Service, during his investigations of plague in the federal laboratory at San Francisco, has found that from 20 to 70 per cent. of the large (old) rats experimented on were partially or entirely immune to laboratory infection. The percentage of immunity was found, however, to be not nearly so high among the smaller (young) ones. The arguments advanced to show that this immunity is natural and not acquired by reason of a previous attack of the disease are based on the high percentage of the immunity compared with the low percentage of rat plague in San Francisco, and the fact that some of the immune animals had been born after the subsidence of the plague. The question arises as to whether immunity to plague may be hereditary, as has been shown by Anderson[3] to be the case with immunity to diphtheria toxin. Experiments[4] made by McCoy with other rodents gave interesting results. He shows that field mice (*Microtus californicus*) are moderately susceptible to the disease and that gophers (*Thomomys bottæ*) are highly refractory to the infection. The most important fact brought out was that ground squirrels (*Citellus beecheyi*) seem to have no appreciable degree of resistance to the disease, as nineteen of these rodents were inoculated and all died of acute plague. This fact may be of some significance in connection with measures for the extermination of these rodents in California, where, according to reports, plague-infected squirrels are being found in considerable numbers. Laboratory experiments must, of course, be interpreted with considerable reservation, but those referred to would seem to indicate that there is small probability of the infection dying out spontaneously among these animals.

PHYSICIANS AND RAILROAD COURTESIES

It probably happens practically every day in the year that some physician somewhere in the United States is on a railroad train when an accident happens, and naturally offers to do whatever he can for the injured. Often it is imperative that such immediate service should be rendered to save a life in imminent danger, or to protect the sufferer from the hazards of bungling, inexpert interference. It is reasonably sure that a certain number of lives are saved by such unsolicited medical aid every year; and it is beyond all doubt that many persons injured in railway accidents are spared long convalescence, because through prompt medical aid they escaped the danger of meddlesome interference with their wounds at the beginning. In a certain number of these cases the injured persons are able and willing to pay for the physician's services; but such cases are extremely few. The services are rendered in any case; and the presence of the physician, especially if the injured persons are taken aboard the train to be carried to a more or less distant hospital, is a great saving of worry for patients, their friends and fellow-passengers and the employees of the railroad. But should this work be gratuitous? When the injured person himself is unable to pay, it would seem to be proper for the railroad company to make some compensation to the physician, even though his services may have been spontaneously offered. The railroad company is not a subject of charity. It is, as a rule, responsible for the accident; by prompt medical services it is frequently saved no inconsiderable sum in damages, because the patient recovers sooner and the consequences of his injury are not so serious. The present custom, however, is to allow no compensation to the physician and to consider that he has simply performed one of the acts of charity which are so common in his professional work. This policy is a relic of the old days when it was the custom for railroads to get as much out of the community as they could and to return just as little as possible. The modern railroad, however, is run on a much more liberal basis. There is a definite realization that duties are owed to all those with whom the railroad is brought in intimate relations. Apparently the physician is the only one who has not yet come within the purview of this new policy. Possibly it is the physician's own fault; possibly, if the profession would call the attention of railroad officials to the injustice of the present conditions, they would be remedied. Certain it is that every physician who gives of his time to the care of an injured passenger traveling with him should receive due compensation for what he does: and the railroad should not shirk its obligations in this matter.

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[1] Jour. Hyg., vi, 506.
[2] Jour. Inf. Dis., vi, No. 3, 289.
[3] Bull. No. 30, Hyg. Lab., P. H. and M.-H. S.
[4] Jour. Infect. Dis., vi, No. 3, 283.

Pancreatic Secretion.—P. T. Herring and Sutherland Simpson (*Quart. Jour. of Exper. Physiol.*, 1909, ii, 99), studied the pressure of the pancreatic juice in the pancreatic ducts of cats and dogs. In this connection the fate of the pancreatic secretion after the ligation of the duct was also investigated. It was found, as was shown by Langendorff, that the blood contains among other things, a larger amount of diastatic ferment after ligation of the duct. The proteolytic ferments of the blood were not increased. It then seems evident that the pancreatic juice, after the ligation of the duct, is thrown into the circulation. The proteolytic ferment does not make itself apparent in the blood, since the trypsinogen has no chance to be activated by the intestinal juice. "If the obstruction of the pancreatic secretion is a permanent one, the continual escape of pancreatic juice may be an important factor in the production of the fibrosis which follows ligature of the duct. This, indeed, is the explanation given by S. Pawlow of the ultimate changes which result from such a procedure. Atrophy of the gland substance itself may quite well be secondary to the outgrowth of connective tissue, and comparable to the atrophy of the parenchyma which occurs in cirrhosis of the liver." When the pancreatic duct or ducts are obstructed the pressure of pancreatic secretion rises to a height near to that reached by the bile in obstruction of the common bile duct. The intravenous injection of duodenal extract brings about a rapid rise of pressure in the pancreas after ligation of the duct.

Medical News

GEORGIA

Free Pasteur Treatment.—The Georgia State Board of Health reports that the free Pasteur treatment, which has been established in the state for the past year, has been employed in the case of 572 persons bitten by rabid animals, and that only one death has occurred.

Colleges Open.—Hospital Medical College, Atlanta, opened for its second annual term, September 21.——The fifty-fifth annual session of the Atlanta College of Physicians and Surgeons opened September 22.——The Atlanta School of Medicine opened for its regular session, September 14, with addresses by Dr. Thomas J. McArthur, Cordele, president of the Medical Association of Georgia, and others.

Personal.—Dr. George N. MacDonell has succeeded Dr. Odom O. Fanning, resigned, as superintendent of the Wesley Memorial Hospital, Atlanta.——Dr. James N. Brawner, head of the Atlanta Pasteur Institute, has started for Paris.——Dr. Charles J. Montgomery has been made professor of medical jurisprudence and hygiene in the Medical College of Georgia, Augusta, and Dr. J. A. Johnson has resigned from the faculty of the institution on accout of his removal to Nashville.

IOWA

Physician Wins Suit.—Dr. John D. Hullinger, Clinton, who was bound over to the grand jury in that city several weeks ago on the charge of having performed a criminal operation which resulted in the death of the patient, was freed from blame by the grand jury September 14.

Personal.—Dr. and Mrs. Frederick L. Appel, Muscatine, were painfully injured by the overturning of their automobile near Sweetland Center, September 21.——Dr. William Jepson, Sioux City, has returned from Europe.——Dr. Albert Chenoweth, Camanche, who has been ill with pleurisy, is reported to be convalescent.——Dr. George L. Everall, Clinton, is reported to be critically ill with cancer at Farmington, Ill.——Dr. and Mrs. Irenarch S. Buzard, Russell, start for Europe this month.

Health Boards to Meet.—The annual conference of state and local boards of health will be held at Des Moines, October 26 and 27. On the program appear the names of Clifford G. Roe, Chicago, assistant state's attorney, who will speak on the "White Slave Traffic," and Dr. Henry M. Bracken, secretary and executive officer of the Minnesota State Board of Health, who will present a paper on the "Quarantine of Smallpox." Dr. Fred Albert, Des Moines, secretary of the Iowa Association of Health Officers, requests that all local boards of health send their health officers to this meeting.

KANSAS

Physician Found Guilty of Contempt.—Dr. William S. Lindsey, Topeka, in charge of the cottages for the insane, adjacent to Christ Hospital, is said to have been found guilty of contempt of court by Judge A. A. Dana in the district court, October 2, for the violation of an injunction restraining Dr. Lindsey from receiving and treating insane patients at the cottages.

Contagious Diseases.—During August there was reported to the Kansas Board of Health, 294 cases of tuberculosis with 65 deaths, 351 cases of typhoid fever with 71 deaths, 54 cases of diphtheria with 7 deaths, 42 cases of scarlet fever with 4 deaths, 16 cases of smallpox with no deaths, and 35 cases of measles with 1 death. Tuberculosis, typhoid fever, diphtheria and measles were more prevalent, and scarlet fever and smallpox less prevalent than in the corresponding months of 1908.

KENTUCKY

Bequest.—By the will of the late Dr. William P. Wesselhoeft, Boston, Mass., Berea College receives a bequest of $5,000.

Personal.—Dr. John Todd has been elected a member of the Newport Board of Health.——Dr. Daniel J. Healey, Lexington, has been elected superintendent of the State Institution for Feeble-Minded Children, Frankfort, vice Dr. William L. Nuttall, Newcastle.

Physicians Organize.—At a meeting held in Covington, September 20, the Kenton-Campbell County Medical Examiners' Society was organized with an initial membership of ten. Dr. Charles E. Thompson, Covington, was elected president and Dr. William A. Young, Newport, secretary.

LOUISIANA

Sanatorium Notes.—Plans are being prepared by New Orleans architects for a new building for the Schumpert Memorial Sanatorium, to cost about $100,000, and to be located on the old Hicks homestead.——Dr. Charles Chassaignac has had plans prepared and has awarded the contract for the building of an annex to the New Orleans Sanatorium, to cost about $20,000.

Personal.—Dr. George Dock, New Orleans, has returned from Europe.——Dr. Charles M. Menville, Houma, has been elected president of the Terrebonne Parish Board of Health.——Drs. Walter F. Carstens and Warren G. Young have been appointed members of the New Iberia Board of Health.——Dr. Joseph J. Holt, New Orleans, has resigned as president of the Prisons and Asylums Commission.

Against Tuberculosis.—The Antituberculosis League of Louisiana has received a donation of $5,000 from an unknown individual. This will be used as the nucleus of a fund of from $40,000 to $50,000, to be used in establishing a shelter in New Orleans for consumptives.——Dr. Edward L. McGehee, New Orleans, president of the Antituberculosis League of Louisiana, gave an illustrated lecture at Garyville, September 14, at the close of which a branch of the state league was organized.

MARYLAND

Hospital Day.—Hospital Day, which was celebrated at Easton, September 30, was attended by about 4,000 persons. The proceeds go to the Emergency Hospital.

Charge Dismissed.—The charge of assault against Dr. R. Percy Smith, Pikesville, was dismissed at the trial, September 25, the plaintiff not appearing.

Financial Committee Appointed.—The Medical and Chirurgical Faculty of Maryland has appointed a committee to secure funds to pay off the debt on the building and also for its endowment.

One Instead of Two Boards.—Dr. John McPherson Scott, Hagerstown, secretary, and Dr. Herbert Harlan, Baltimore, president of the Board of Medical Examiners, suggest the advisability of having one board for the state instead of two, as obtain under the present medical law.

Baltimore

Library for Sale.—The library of the late Dr. Edward Z. Cole, which is said to be a unique collection, is offered for sale at public auction.

Fire in Hospital.—A fire occurred in the operating room of the Church Home and Infirmary, September 25, due to an explosion of chemicals, but the coolness and promptness of the physicians and nurses prevented panic, and confined the damage within small limits.

Jail Hospital.—A new hospital has been built, occupying three floors of the administration building at the jail, for the use of sick prisoners. It was opened October 1, and is well equipped, with one ward provided for tuberculosis patients, and one for infectious diseases. Dr. G. H. Waltereck, assistant to the jail physician, is in charge of the hospital.

Alumni Reunion Planned.—The delegates of Johns Hopkins Medical School to the Hopkins Alumni Council have appointed a committee composed of Drs. Thomas R. Brown, J. H. Mason Knox, Joseph H. Pratt, and J. Hall Pleasants to arrange plans for a reunion of the medical graduates some time during spring next year. It is intended to form an alumni association at this time.

Faculty Changes.—The following faculty changes in the Maryland Medical College are announced: Dr. Alexander D. McConachie has been made professor of diseases of the ear, nose and throat; Dr. William S. Love, professor of therapeutics; Dr. Irvin Ebaugh, professor of materia medica; Drs. Josiah S. Bowen and Frank J. Powers, associate professors of diseases of the ear, nose and throat, and Dr. A. C. Beethan, dispensary physician.

Home from Europe.—Drs. William H. Welch, Henry O. Reik, A. J. Neilson Reik, William S. Thayer, Lewellys F. Barker, Harvey W. Cushing, John S. Fulton, Thomas C. Worthington, William T. Watson and W. P. Miller have returned from Europe, where they attended the recent International Medical Congress at Budapest.——Drs. Harry Friedenwald, Frank Martin, Lillian Welsh, Mary Sherwood, Ridgeley B. Warfield, Thomas S. Cullen and William B. Wolf have returned from Europe.

Medical Colleges Open.—The Maryland Medical College, Baltimore, opened October 1. The opening address was delivered by Dr. E. Miller Reid on "The Age in Which We Live."——The University of Maryland, School of Medicine, opened October 1. ——The thirty-eighth annual session of the College of Physicians and Surgeons opened October 1.——The Woman's Medical College opened for its annual session October 1, and the Hospital of the Good Samaritan, which is connected with the institution, opened September 27, after having been closed for the summer.——Johns Hopkins Medical School opened for its annual session October 5.

Personal.—Dr. Adolph Meyer, professor of psychiatry in Johns Hopkins University, received the degree of LL.D. at the recent anniversary of Clark University, Worcester, Mass.——Dr. Felix S. Jenkins is seriously ill at the home of his daughter in Towson, Md.——Dr. B. Bernard Browne, professor of gynecology in the Woman's Medical College of Baltimore, has resigned.——Dr. B. Bernard Browne, professor of gynecology in the Woman's Medical College, has resigned.——Drs. William H. Welch, Henry O. Reik, J. Neilson Reik, William S. Thayer, Lewellys F. Barker, Harvey Cushing, John S. Fulton, Thomas C. Worthington, William T. Watson, Clements von Pirquet, and W. P. Miller have returned from Europe.——Dr. Samuel Wolman has been appointed by the faculty of Johns Hopkins Medical School to inspect the sanitary condition of the boarding-houses occupied by students of that institution.——Dr. Hyman M. Cohen, associate editor of the *Maryland Medical Journal*, has resigned to enter the medical reserve corps of the Army.——Dr. Ira Remsen, president of Johns Hopkins University, was given the honorary degree of LL.D. at the convocation of Harvard University, October 7.——Dr. George M. Smith underwent an operation at Johns Hopkins Hospital, October 8.

MASSACHUSETTS

New Hospital Opened.—The new hospital at North Reading, for the treatment of tubercular patients, was opened recently. The sanatorium is one of three to be established by the state in different sections.

Sanatorium Site Acquired.—The New Bedford Antituberculosis Society has acquired by purchase five acres of land in the north end of the city on which will be established a tuberculosis sanatorium.

Bequest.—By the will of the late Charles H. Draper, Brookline, $1,000 each is bequeathed to the Children's Hospital and the New England Hospital for Women and Children, Boston. ——By the will of the late Katherine T. Buttrick, Lowell, a bequest of $20,000 is made to St. Johns Hospital, Lowell, and also one of $6,000 to maintain a free bed.——By the will of the late Albert T. Whiting, the first health officer of Boston, who died October 1, $4,500 is devised to the Children's Hospital, Boston.

Council Meeting.—The stated meeting of the Massachusetts Medical Society was held in John Ware Hall, Boston Medical Library, October 6. Dr. J. Bapst Blake, Boston, was elected delegate to the American Medical Association in place of Dr. John L. Morse, Boston, who resigned, as he desired to be more nearly identified with section work. Dr. Charles H. Cook, Natick, resigned from the committee on state and national legislation on his appointment as a member of the Massachusetts Board of Registration in Medicine, and Dr. David D. Scannell, Boston, was selected to succeed him. The following delegates to the American Medical Association were appointed for 1910 and 1911: Drs. Horace D. Arnold, Boston; Homer Gage, Worcester; Orlando J. Brown, North Adams, and alternate delegates, Drs. Frederick J. Cotton, Boston, Francis W. Anthony, Haverhill, and William A. Dolan, Fall River; and the following delegates to state societies: To Vermont—Drs. James H. Higgins, Marstons Mills, and Granville S. Allen, Lawrence; to New York—Drs. Samuel B. Woodward, Worcester, Frank A. Hubbard, Taunton; to Maine—Drs. Edward W. Taylor, Boston, and George Z. Goodell, Salem; to New Hampshire—Dr. Ernest S. Jack, Melrose; and to Connecticut—Drs. Frederick S. Ward, Springfield, and George P. Twitchell, Greenfield. It was voted that all fellows of the society who are members of any standing committee of the American Medical Association or of the National Legislative Council, and delegates or alternates to the Association be invited to all meetings of the Council of the Massachusetts Medical Society. This vote was passed with the object of more closely cementing the business aims and methods of the state organization and those of the American Medical Association, bringing about better understandings and results. It was also decided that the annual discourse, when delivered, should be the property of the state society. The council, taking up the matter of minority and majority reports of the committee on contract work, voted that the matter be indefinitely postponed.

MICHIGAN

Sanitation on Trains.—Dr. F. W. Shumway, Lansing, secretary of the State Board of Health, announces that he is about to call a meeting of the representatives of all railroads doing business in the state to discuss the provisions of the new law giving the board authority to require sanitary precautions on passenger trains for the protection of the public.

Hospital Opens Outdoor Department.—On September 8, Butterworth Hospital, Grand Rapids, established a free medical dispensary in the basement of the institution, with six rooms. The dispensary will be open from 12:30 to 2 daily. Mondays and Thursdays will be devoted to diseases of the eye, ear, nose and throat; medical and surgical cases will be cared for Tuesdays and Wednesdays and Fridays, and skin diseases will be treated on Saturday.

NEW HAMPSHIRE

McCormack in New Hampshire.—Dr. J. N. McCormack, chairman of the organization committee of the American Medical Association, began a campaign in New Hampshire October 3, and will visit all counties in the state.

State Sanatorium Opens.—The first patients to be received at Glencliff, the State Sanatorium for Tuberculosis, arrived September 11. The present capacity of the institution is forty patients, and examinations for admittance are to be held in Manchester.

Society Meeting.—At the annual meeting of Sullivan County Medical Society, held in Claremont, the following officers were elected: President, Dr. Edwin C. Fisher, Sunapee; vice-president, Dr. Fred P. Claggett, Newport; secretary, Dr. Emery M. Fitch, Claremont; treasurer, Dr. David M. Currier, Newport, and censors, Drs. Albion S. Marden, Newport, Oscar C. Young, Charlestown, and Henry C. Sanders, Claremont.

Money for Hospitals.—A legacy of $5,000 to the Mary Hitchcock Hospital, Hanover, is contained in the will of the late Stephen M. Crosby, Boston. The bequest is to endow a bed in memory of the testator's father, Nathan Crosby, preference to be given, if possible, to graduates of Dartmouth College.——Proceeds of a tag day, held in Portsmouth, August 7, for the benefit of the Cottage Hospital, are expected to amount to $2,000.

Crisis in Hospital.—As the result of trouble at Elliot Hospital, Manchester, between the medical staff and the matron, Drs. William M. Parsons, L. Melville French, George D. Towne, Henry D. W. Carvelle, Hosea B. Burnham, William H. Pattee, Charles F. Flanders, George M. Watson, Clarence W. Milliken, J. Franklin Robinson, David W. Parker, Arthur F. Wheat, Henry W. N. Bennett, Frank N. Rogers, Clarence O. Coburn, Ezra A. Jones, John C. O'Connor, and Emdon Fritz have resigned from the staff. The trustees have placed Dr. George C. Wilkins in charge of the medical and surgical department of the hospital, and Dr. Charles A. Sturtevant at the head of the maternity ward. These gentlemen have been authorized to choose assistants.

NEW YORK

Medical College Opens.—Albany Medical College enters on its seventy-ninth year, September 21. The introductory lecture was delivered by Dr. Frederick C. Curtis.

District Society Meeting.—The Sixth District Branch of the Medical Society of the State of New York held its third annual meeting in Oneonta, September 28. Dr. Frank DeW. Reese, Cortland, was elected president, and Dr. Herbert W. Fudge, Elmira, was reelected secretary-treasurer.

Railway Surgeons to Meet.—The New York and New England Association of Railway Surgeons will hold its nineteenth annual meeting at the Academy of Medicine, New York City, November 16 and 17. A symposium will be presented on "Causes of Railway Accidents Individualized."

New Tuberculosis Hospital.—The committee on tuberculosis hospital of the Ontario County board of supervisors has recommended the approval of the plans for the hospital, which call for a central building with wings attached, with open-air sleeping quarters. The institution is to be known as Oak Mount.

Open-Air Schools.—Rochester (N. Y.) has opened an open-air school for children suffering from incipient tuberculosis. Twenty children have been enrolled. They will have desks in a big tent, will be wrapped up warmly and will have their legs in bags to protect them from the cold.——Buffalo is also contemplating a similar school. School No. 14 has been designated as a school where the children of different mentality from those in all other schools will be taught by teachers especially trained for this purpose.

New York City

Clinic for Naval Surgeons.—At the invitation of the trustees of Roosevelt Hospital the surgeons of the German, French, English and Italian visiting warships attended a surgical clinic in the Syms operating theater of the hospital. The visitors were entertained by Dr. George E. Brewer and his associate, Dr. Charles H. Peek.

Returned from Europe.—Dr. Alexis Carel of Rockefeller Institute arrived home from Europe on October 1. During his stay in Paris he delivered several lectures on surgery.——Dr. William J. Robinson, Dr. and Mrs. Ludwig W. Kast, Dr. Smith Ely Jelliffe and family, Drs. Frederick Peterson, Frederick Earle Beal, and Valentine Mott have returned from Europe.

The Milk Essay Competition.—The department of health has received nearly one hundred essays in the prize competition on the care of dairy cows and the preparation of milk for the New York city market. The prizes will be finely bred dairy cows. Dr. Darlington has taken this way of interesting the milk producers in the New York City production territory in the requirements of the City Health Board. The prize essays will be distributed among the dairymen.

Health Home Closed.—This home at Coney Island has closed for the season after having given outings to 720 mothers and 1,652 children and day excursions to 1,652 mothers and 2,351 children. The Chappaqua Convalescent Home, the Children's Summer Home at Bath Beach, the Boy's Camp near Stamford, and the Martha Home at Ossining swelled the number of those cared for to 11,530. In addition the Sick Children's Mission treated more than 2,000 children in their homes in the city.

Bequests.—The will of Miss Phebe Ann Thorne gives the Home for Incurables $10,000; the Woman's Hospital, $10,000; the Society for the Relief of the Ruptured and Crippled, $10,000; the General Memorial Hospital, $10,000; the Manhattan Eye and Ear Hospital, $5,000; the New York Eye and Ear Infirmary, $5,000; the New York Skin and Cancer Hospital, $10,000; and the Colored Home and Hospital, $5,000.——Mrs. Emily A. Gere has bequeathed $30,000 in trust to a servant and the testator's niece, who will receive the income as long as they live, and at their death this money is to go to the St. Rose Free Home, a cancer hospital.

Medical Schools Open.—The entering class of the University and Bellevue Hospital Medical College promises to be larger than that of last year. Chancellor Henry M. MacCracken made the opening address to the students and announced that the Carnegie Laboratory would be enlarged at a cost of about $100,000. He also announced that the college had been the recipient of a bequest of $25,000 in a will not yet probated.——The one hundred and first annual session of the College of Physicians and Surgeons of Columbia University opened September 23, with an enrollment of 279. President Nicholas Murray Butler delivered the address of welcome, and Dr. Christian A. Herter, professor of pharmacology and therapeutics, spoke on "Imagination and Idealism in Medical Science."

OREGON

Eastern Oregon Physicians Meet.—At the annual meeting of the Eastern Oregon Medical Association, held in Pendleton, September 28 and 29, the following officers were elected: President, Dr. Robert E. Ringo, Pendleton; vice-presidents, Drs. Frank B. Kistner, Heppner, and E. O. Logan, The Dalles; secretary-treasurer, Dr. Roy C. McDaniel (reelected), Baker City; and censors, Drs. Thomas M. Henderson, Pendleton, Jacob Prinzing, Ontario, and Oliver M. Dodson, Baker City.

PENNSYLVANIA

Physicians Violate Law.—Sixty physicians of Schuylkill county were placed under arrest October 2 by Dr. R. J. Brauner, State Health Inspector, charged with the violation of the act which requires the recording of births within ten days. The defendants are among the most prominent physicians in the county.

Memorial Addition to Hospital.—Mrs. John T. Dyer has planned to erect a new wing at the Charity Hospital, Norristown, as a memorial to her late husband. One section of the new building will be used for the treatment of diseases of the eye, ear, nose and throat, and the other section of the building will be used for the care of medical and surgical cases.

Railroad Fatalities.—The Pennsylvania Railroad issued on October 9, statistics showing that the number of deaths due to trespassing on railroad property in the United States in the last ten years reached 47,416. The report shows that the number of persons injured aggregated 50,000. In 1898, the number of trespassers who lost their lives on American railroads was 4,063, five years later the number was 5,000, and in 1907 the number killed reached 5,612, or more than 15 a day. In 1899, 465 trespassers lost their lives on the Pennsylvania lines; in 1904, the number killed was 781, while in 1907 the fatalities reached 915, an average of almost 3 for every business day in the year. In the ten years prior to

Jan. 1, 1909, 7,240 persons were killed on the Pennsylvania system, and during the first six months of the present year, 285 trespassers were killed. The report shows that it is not only tramps who are victims, but men of the laboring class, factory workmen, their wives and children, who use railroad tracks as thoroughfares.

Philadelphia

Officers Elected.—The following officers have been elected to serve during the ensuing half year of the Southwark Medical Society: President, Dr. Max Staller; vice-president, Dr. Aaron Bray; secretary, Dr. Maurice B. Cooperman; treasurer, Dr. Nathan Blumberg.

Loving Cup for Dr. Dixon.—In appreciation of his splendid work in the State Department of Health, Dr. Samuel G. Dixon, State Health Commissioner, was presented with a beautiful silver loving cup by the county medical inspectors of the state and chiefs of the state tuberculosis dispensaries, at a meeting held in this city, October 5.

To Enlarge Hospital.—A contract has been awarded for the erection of a five-story addition, 25x78 feet, to the Samaritan Hospital at the northeast corner of Broad and Ontario streets. The new structure will be a modern fire-proof building, provided with dispensaries, wards and operating-room, and will be erected at a cost of several thousand dollars.

Personal.—Dr. Gerald O'Farrell was thrown from his carriage and sustained a fracture of the collar-bone, October 5. ——Dr. William E. Robertson has been appointed professor of theory and practice of medicine in the Medical Department of Temple University, vice Dr. Samuel Wolfe, resigned.——Dr. Howard S. Anders has returned from Europe.

The New Home of the College of Physicians to Open.—The new building of the College of Physicians at Twenty-second and Ludlow streets will be dedicated with appropriate ceremonies on Wednesday, November 10. Delegates and guests are requested to register as soon after their arrival as possible. Guests, officers and fellows will assemble at the First Unitarian Church, Twenty-second and Chestnut streets, at 2 p. m., and candidates for associate fellowship, the guests of the occasion and the officers of the college are requested to appear in academic costume.

State Health Inspectors Meet.—The second annual meeting of the county medical inspectors and chiefs of the tuberculosis dispensaries of Pennsylvania was held in this city October 5 and 6. The conference was called by Dr. Samuel G. Dixon, Harrisburg, the State Health Commissioner. One hundred and fifty physicians were in attendance. Tuberculosis and the latest methods of fighting it was the main theme of the various meetings. Every phase of the work of the State Health Department was discussed at an assembly meeting held in the Academy of Natural Sciences. Among the speakers were: Commissioner of Health of the State of New York Dr. Eugene H. Porter and the Commissioner of Health of New York City, Dr. Thomas Darlington. The meeting was also addressed by Surgeon-General of the Marine-Hospital Service Dr. Walter Wyman. The program further included clinics on tuberculous meningitis, by Dr. Joseph Sailer, in the Philadelphia General Hospital; surgical tuberculosis, by Dr. Robert G. LeConte, in the University of Pennsylvania Hospital; visceral tuberculosis, by Dr. James M. Anders, at the Medico-Chirurgical Hospital, and tuberculosis of serous membrane, by Dr. James C. Wilson, at the Jefferson Hospital. The conference came to a close by a luncheon given by Dr. Dixon at his country estate, Black Rock Farm.

SOUTH CAROLINA

Improvements in Medical College.—The Medical College of the State of South Carolina, Charleston, opened for the year October 4. A special course of five lectures on "Uncinariasis" is to be delivered by Dr. Charles W. Stiles, U. S. P. H. and M.-H. Service, in December. The college building has been remodeled since the close of the session in last May. An assembly hall takes the place of the old amphitheater, two additional lecture rooms have been constructed and a new physiologic laboratory has been provided and equipped.

Faculty Changes.—The Medical College of the State of South Carolina announces the following changes in its faculty: Dr. A. Robert Taft, lecturer on materia medica; Dr. E. H. Sparkman, assistant to the chair of pathology; Dr. Daniel L. Maguire, assistant in surgery; Dr. Richard M. Pollitzer, instructor in laboratory physiology; Dr. Thomas W. Reynolds, assistant to the chair of obstetrics; Dr. Charles A. Speisseger, assistant to the chair of chemistry; Dr. Francis L. Parker, Jr., lecturer on medical jurisprudence; and Mr. J. B. Hyde, assistant to the professor of pharmacy.

SOUTH DAKOTA

Personal.—Dr. Charles F. Holmes, Hecla, who was seriously injured in an automobile accident recently, is said to be convalescent.

State Medical Society Meeting.—The twenty-eighth annual session of the South Dakota State Medical Association was held in Aberdeen, September 29 to October 1. The following officers were elected: President, Dr. Thomas B. Smiley, Mount Vernon; vice-presidents, Drs. Hans M. Finnerud, Watertown, and William G. Smith, Sturgis; and secretary-treasurer, Dr. Robert D. Alway, Aberdeen. The next meeting of the society will be in Hot Springs.

TEXAS

Adjudged Insane.—Dr. William R. Mercer, Galveston, is said to have been adjudged not responsible and requiring restraint, September 11.

Found Not Guilty.—In the case of Dr. Hake, Hubbard City, charged with the illegal writing of prescriptions for alcoholic liquors, the jury at Hillsboro returned a verdict of not guilty, September 14.

Healers Must Be Licensed.—The attorney-general has furnished a ruling to a firm of physicians in Killeen, holding that magnetic healers come within the provisions of the "one board" medical act, and that any one practicing through magnetic healing, massage, manipulation of the body, etc., with a view of curing diseases, must have a license.

Medical Colleges Open.—The State Medical College, Galveston, opened October 1. Dr. Arthur E. Austin delivered the opening address on "The Doctor in Fiction."——The Southwestern University Medical Department, Dallas, opened without formal exercises September 29.——Baylor University Medical College, Dallas, opened with informal exercises September 29. The college occupies new quarters in the science building.

UTAH

Automobile Accident.—Dr. Frederick Stauffer, Salt Lake, and Drs. Amasa S. Condon, Ezra C. Rich and Robert S. Joyce, Ogden, were seriously injured, at Ogden, September 21, by the overturning of an automobile in which they were riding.

Smallpox.—Reports sent in to the State Board of Health state that in one small town in Rich county there are more than thirty cases of smallpox. These yearly outbreaks are said to be due to the local prejudice against vaccination.

State Society Meeting.—The fifteenth annual meeting of the Utah State Medical Association was held in Ogden September 21 and 22. The following officers were elected: President, Dr. Joseph S. Richards, Salt Lake City; vice-presidents, Drs. Amasa S. Condon, Ogden; Walter T. Hasler, Lehi, and Ernest D. Hammond, Salt Lake; secretary, Dr. W. Brown Ewing, Salt Lake; treasurer, Dr. James N. Harrison, Salt Lake; councilor and delegate to the American Medical Association, Dr. A. C. Bailey, and alternate delegate, Dr. Robert S. Joyce, Ogden. Salt Lake City was selected as the place of meeting for 1910.

VIRGINIA

Changes in Examining Board.—The following changes in the membership of the State Board of Medical Examiners are announced: First district, Dr. Joseph N. Barney, Fredericksburg; third district, Dr. J. E. Wright, Brook Hill; fourth district, Dr. Otho C. Wright, Jarratt; sixth district, Dr. Henry W. Dew, Lynchburg; seventh district, Dr. Philip W. Boyd, Winchester; and tenth district, Dr. Robert Glasgow, Lexington.

Medical Society Meeting.—At the fortieth annual session of the Medical Society of Virginia, held in Roanoke, October 5 to 7, the following officers were elected: President, Dr. Elliott T. Brady, Abingdon; vice-presidents, Drs. Walter A. Plecker, Hampton, James S. Irvin, Danville, and R. H. White, of the University of Virginia; secretary, Dr. Landon B. Edwards, Richmond (reelected); treasurer, Dr. Robert M. Slaughter, Theological Seminary (reelected); delegates to the American Medical Association, Drs. John S. Horsley, Richmond, Thomas C. Firebaugh, Harrisonburg, and William E. Anderson, Farmville, and councilors at large, Drs. Edward McGuire, Richmond, Richard W. Fry, Roanoke, Stephen Harnsberger, Catlett, M. M. Pearson, Bristol, George J. Tompkins, Lynchburg; first district, Dr. Clarence P. Jones, Newport News; second district, Dr. Edward E. Field, Norfolk; third district, Dr. Alfred L. Gray, Richmond; fourth district, Dr. Samuel A. Hinton, Petersburg; fifth district, Dr. Jesse M. Shackelford, Martinsville; sixth district, Dr. Sparrell S. Gale, Roanoke; seventh district, Dr. William P. McGuire, Winchester; eighth district, Dr. Tunis

C. Quick, Falls Church; ninth district, Dr. John T. Graham, Wytheville; and tenth district, Dr. Samuel H. Burton, Parnassus. An interesting incident of the session was the presentation of a purse of $1,000 in gold to Dr. Landon B. Edwards, Richmond, who has been secretary for many years. The presentation was made by Dr. Paulus A. Irving, Richmond. It was decided to increase the dues of the society from $2 to $3 per annum. A resolution was passed endorsing the senate bill to increase the salary of the Public Health and Marine-Hospital Service. The next meeting is to be held in Norfolk.

WISCONSIN

Personal.—Dr. A. Hamilton Levings, Milwaukee, has returned from abroad.——Dr. J. M. Beffel, Milwaukee, secretary of the Wisconsin State Medical Society, who was arrested for leaving his automobile standing in front of his home in Milwaukee, in violation of a city ordinance, was found not guilty.

Pasteur Institution.—Final arrangements are being made by the State Board of Health to establish an institute for the treatment of hydrophobia in connection with the state hygienic laboratory, Madison. Treatment will be given free of charge to indigent persons, but a small amount will be charged persons who are able to pay for the treatment in order to make the work as nearly self-supporting as possible.

Antituberculosis.—The Antituberculosis Association of Wisconsin is thoroughly organized and promises a vigorous campaign on the lines of increasing membership, raising of funds, promoting bills in need of legislation, and direction of sanatoria in different parts of the state. Prof. W. D. Frost, Wisconsin University, who has written and lectured extensively on tuberculosis, is president of the association, and Lester W. Hutchcroft, of the State Board of Health, is secretary.

GENERAL NEWS AND COMMENT

Anderson Made Chief of Hygienic Laboratory.—Passed Assistant Surgeon John F. Anderson, P. H. & M.-H. Service, has been appointed director of the hygienic laboratory of the service, vice Surgeon M. J. Rosenau.

Personal.—Dr. C. A. Dawes, M. R. C. U. S. Army, was taken ill with appendicitis while on a practice march from Fort Perry, Ohio, to Fort Thomas, Ky., October 1.——Dr. John Mason Little, Jr., Boston, narrowly escaped death in the wreck of the Princeton mission boat, *Andrew J. McCosh*, in the straits of Belle Isle, Sept. 12, but was rescued by Dr. Grenfell.

Medical Officer May Command Ship.—The attorney general has handed down an opinion to the secretary of the navy that he has authority to assign a medical officer not below the grade of surgeon to the command of a naval hospital ship. This decision has been made in view of the expected commission of the hospital ship, *Solace*, for which the Chief of the Bureau of Medicine and Surgery desires to ask the detail of a member of the medical department as commanding officer.

Conference on Prevention of Infant Mortality.—The American Academy of Medicine, at the mid-year meeting, will hold a conference on the prevention of infant mortality at New Haven, Conn., November 11-12. The first session will consider the "Medical Prevention of Infant Mortality;" the second will take up the "Philanthropic Prevention of Infant Mortality;" the third will deal with the "Institutional Prevention of Infant Mortality:" and the fourth will be devoted to discussion of the "Educational Prevention of Infant Mortality."

Postponement of International Congress of School Hygiene.—The third international congress for school hygiene, which was to have been held next March, has been postponed until August 2 to 7, 1910, in order to give more importance to the exhibition to be attached to the congress. A pamphlet of 60 pages, giving the details of the congress, will be sent on demand to the secretary, Dr. Dufestel, 10 Boulevard Magenta, Paris, France. The honorary president of the committee of propaganda in this country is Dr. A. T. Cabot, of Boston, with Dr. J. H. Musser, of Philadelphia, as president, and Dr. T. A. Storey, of Boston, Mass., as secretary and treasurer.

Military Surgeons' Meeting.—At the eighteenth annual meeting of the Association of Military Surgeons of the United States, held in Washington, October 5 to 8, the following officers were elected: President, Colonel Joseph K. Weaver, N. G. Pa., Norristown, Pa.; first vice-president, Colonel William C. Gorgas, M. C., U. S. Army, Ancon, Canal Zone, Panama; second vice-president, Surgeon Charles P. Wertenbaker, P. H. & M.-H. Service, Norfolk, Va.; third vice-president, Surgeon William C. Braisted, U. S. Navy, Washington, D. C.; secretary, Major Charles Lynch, M. C. U. S. Army, Washington, D. C.; and treasurer, Major Herbert A. Arnold, N. G. Pa., Ardmore, Pa. It was decided to hold the 1910 meeting in Richmond, Va.

Prevention of Contamination of Vegetables.—It is interesting to note that supervision of vegetable gardens is suggested in San Francisco as necessary to prevent the contamination of their products with amebas from the human excrement used as a fertilizer by the Chinese gardeners. According to H. W. Austin (*Public Health Reports*, Sept. 24, 1909), of 55 cases of amebiasis occurring in the Marine Hospital at San Francisco from Dec. 1, 1908, to Aug. 9, 1909, 16, it is believed, originated in California. It has been decided by the San Francisco board of health to declare amebic dysentery an infectious disease and require it to be reported. The occasional occurrence of this disease in the Northern states indicates that precautions to prevent its spread would not be untimely.

Appeal for Data in Regard to Influence of Roentgen Exposures on Growth.—In experimentation on young animals, the Roentgen rays have displayed a detrimental influence on the growth, and the German Roentgen Society is now making a collective inquiry to determine whether this occurs also in children exposed to the rays. The question blank sent out by the society asks the number of children thus treated, age, region exposed, pathologic reason for the exposures, length of exposures, soft or hard tubes (5-7 Wehnelt or 7.5 to 9 Wehnelt), year of exposure, number of children examined since, and, if any evidence of interference with growth was detected, details of such influence. The interference with growth may not become apparent until after a number of years, so all children exposed at any time should be included in the investigation. On suspicion of checked growth of the extremities, comparative skiagraphs and measurements should be made. Replies may be sent to Dr. Försterling, Mors, Rheinland, Germany, chairman of the committee in charge of the inquiry, or to Prof. P. Krause, Bonn, president of the Röntgengesellschaft.

The Far-Eastern Association of Tropical Medicine.—The Far-Eastern Association of Tropical Medicine will hold its first meeting in Manila, March 14, 1910. This association was formed two years ago by representatives from Japan, China, Siam, the Straits Settlements, Ceylon, Hongkong, French Indo-China, and the Philippine Islands, present at a meeting of the Philippine Islands Medical Association. Dr. Paul C. Freer, of Manila, was elected president and Dr. Francis Clarke of Hongkong, general secretary. The Governor General of the Philippine Islands subsequently invited the representatives of the various governments within the territory of the association to send delegates to the first meeting to be held in Manila. Cordial adherence to the purposes of the association was expressed by all who were so addressed and active interest in the formation of the various sections was manifested. The government of the Philippine Islands made an appropriation to cover the expenses of the meeting and a preliminary program of sessions was issued. The sections are divided as follows: protozoology and helminthology; cholera, plague and leprosy; surgery and obstetrics; diseases of children; fevers in the tropics, including malaria, typhoid, etc.; dysenteries; beriberi; tuberculosis; climate, hygiene and sanitation. The first six sessions will be held in Manila, the remainder at Baguio, the summer capital of the islands, in the Benguet Mountains. The new government hospitals and the new buildings of the Philippine Medical School will be dedicated at the time of the meeting. The interest manifested by the various countries in the Far East, and the replies already received insure papers of the highest class and a large attendance. The meeting will be held during the best time of the year. The opportunity for seeing Manila and its various modern scientific institutions, as well as portions of our Philippine possessions under the best auspices, will be unexcelled. Physicians making the journey to Japan or around the world can easily arrange the short side trip from Hongkong to Manila. Steamship communication between the two ports is established by the regular Hongkong-Manila lines twice a week and by the vessels of the North German Lloyd's Australian line, the Nippon Yusen Kaisha and the China and India Navigation Company; the Australian boats are all of good size and of the best class. The large vessels of the Pacific Mail now also stop at Manila, going to the latter port direct from Japan. The workers in medical science in the Far East have made such rapid advances in the past few years that encouragement of their new venture, which has for its purpose the advancement of medical research in this most important area of the world, would most certainly reflect credit on the medical profession as a whole. Interest in tropical medicine is increasing rapidly in this country and the time is not far distant when chairs of Tropical Medicine will be established in some of our medical schools. There is no better way to acquire a knowledge of the work to be undertaken than by sending representatives to this meeting, and it is hoped that some of our larger institutions may be able to do this.

CANADA

Tuberculosis Sanitaria.—The Ontario government was recently asked to erect, equip and maintain, by a large provincial delegation of medical and laymen, sanitaria for indigent and other consumptives. In replying to the propositions of the delegation the premier, Sir James Whitney, stated he would be in favor of withdrawing the annual provincial grant to those general hospitals throughout the province which refused to take such patients. The premier thought that there was too much "scare" about consumption, but promised that the proposals of the deputation should receive the careful consideration of his cabinet.

Public Health in Montreal.—Montreal is engaged in municipal reorganization and there is now a movement on foot to have the department of health controlled by five physicians, who shall be paid an annual salary for their services. A health committee composed of aldermen, oftentimes new at that, is not by many considered satisfactory, as they have no knowledge of medical matters.——Public vaccination has been resumed in Montreal after a discontinuance of several days. Two children who had been vaccinated had died of tetanus and the provincial board of health were required to test the vaccine. Careful tests failed to discover anything wrong with the vaccine.

Hospital News.—The Protestant Hospital for the Insane at Verdun, Quebec, has just completed a new wing for the accommodation of 150 patients. There are at the present time 614 patients in this hospital.——The Montreal General Hospital will shortly commence the erection of a new pathologic department, which will not be surpassed by any similar one on this continent. A large addition to the main hospital building is also being projected. A bond issue of $200,000 for the purpose has been ordered. During the past six months 1.567 patients were treated indoors; in the outdoor, 25.063. During that period legacies had been received to the amount of $7,700. The income was $59,059 and the disbursements amounted to $65,245.

Interprovincial Registration.—This subject was discussed at a special meeting of representatives of the four western Canadian provinces, Manitoba, Saskatchewan, Alberta and British Columbia at Banff, Alta., on the 28th. Dr. Spankie, a member of the Ontario Medical Council, was present, which shows that the Ontario Medical Council is at last awake to the advantages of having interprovincial reciprocity with these provinces. A meeting of the executive council of the Canadian Medical Association is to take place at Toronto on the 11th inst., when a special committee will be appointed on dominion registration; and the provincial medical councils will be asked to appoint a representative on this special committee. The feeling is such amongst the medical profession of Canada at the present time, that it is thought that dominion registration will very soon be an established fact. It is expected that some new legislation will be enacted at the coming session of Parliament which will pave the way for dominion registration.

Personal.—Dr. Thomas G. Roddick, Montreal, sailed from Rotterdam on the 2d of October.——Drs. Alexander McPhedran, W. Henry B. Aikins, Herbert J. Hamilton and Herbert A. Bruce, Toronto, have returned from attending the International Medical Congress at Budapest.——Drs. Richard A. Reeve and Perry G. Goldsmith, Toronto, are in New York.——Dr. Robert H. Craig, Montreal, has returned from Europe.——Dr. Walter H. McKeown, Toronto, after attending the Canadian Medical Association at Winnipeg, returned home, going around via Vancouver, San Francisco, Denver and Chicago.——Dr. William A. Young, Toronto, managing editor of the *Canadian Journal of Medicine and Surgery*, whilst abroad in Europe, was elected president of the American Medical Editors' Association.——Drs. D. J. Gibbs Wishart (chairman). Allen M. Baines, James F. W. Ross, Charles J. Hastings, R. W. Bruce Smith, the president, Dr. Adam H. Wright, and General Secretary Dr. George Elliott are the committee of arrangements for the forty-third annual meeting of the Canadian Medical Association to be held in Toronto on the 1st, 2d. 3d and 4th of June, 1910.——Dr. John N. E. Brown, superintendent of the Toronto General Hospital, and Dr. R. W. Bruce Smith, inspector of hospitals for Ontario, have returned from attending the meeting of the American Hospital Association in Washington, D. C.——Dr. Brodie, the new professor of physiology in the medical department of the University of Toronto, delivered the opening lecture of the medical session this year.——Dr. W. O. Walker has been appointed associate professor in Queen's University, Kingston.——Dr. S. E. Wolbach has been appointed director of the histologic laboratory of McGill University.

FOREIGN

A Physician Made Governor in Siberia.—The large peninsula of Kamchatka, in northern Siberia, has recently been organized into a separate territory, and a physician. Dr. W. Perfiljew. installed as the first governor.

London School of Tropical Medicine.—This institution is to be formally opened Tuesday. October 26. The American ambassador has promised to preside at the opening meeting and an address will be delivered by Dr. Osler. At the school dinner which is to be held at the Savoy Hotel the same evening, Dr. A. G. Bagshawe, director of the Sleeping Sickness Bureau, will preside.

The International American Congress of Medicine and Hygiene.—This congress will be held at Buenos Ayres, May 25, 1910, during the celebration of the centennial of the independence of the Argentine Republic. An international exposition of hygiene is also to be held in connection with the congress, to remain open for six months. Details of the congress, rates, etc., may be obtained from the general secretary, Luis Agote, Medical Faculty, Buenos Ayres, Argentine Republic. There are nine principal sections, including one on sanitary technology, veterinary police, and dental pathology, in addition to the sections on medicine, surgery, biology and public hygiene. The dean of the medical faculty, E. Canton, is president of the organizing committee. Among the special subjects to be discussed are the raising of the standards for medical education, subtropical pathology, hygiene and prophylaxis, malaria and tuberculosis.

The Mexican Prophylactic Society.—The first anniversary of its foundation was recently celebrated by the Mexican *Sociedad Sanitaria y Moral de Profilaxis de las Enfermedades Venereas*, and the work of the year reviewed. A Spanish translation of Fournier's pamphlet, "For Our Sons When They Are 18," was published by the society and large numbers distributed; a second edition was published at the expense of the national army and navy department, and a third edition by the department of agriculture. Regular monthly meetings have been held at Mexico City and various problems of moral prophylaxis discussed, the reports with other original articles appearing in the *Cruz Blanca*, the organ of the society. A special free dispensary for men with venereal diseases has been opened, and lectures have been delivered in the law and engineering schools on the dangers of venereal disease. Dr. J. G. Uruena of the City of Mexico is secretary of the new society.

Prizes Awarded at the International Medical Congress.—As already mentioned, the trachoma prize was not awarded, but the $1.000 prize founded in 1897, by the City of Moscow, was given to O. Hertwig, professor of anatomy and comparative embryology at Berlin, and one of the publishers of the *Archiv für mikroskop. Anatomie und Entwicklungsgeschichte.* The City of Paris prize of $600 was awarded to the serologist, J. Bordet, of Brussels, of complement-deviation fame. The Lenval prize of $80 was divided between Prof. H. Neumann, of Vienna, and Dr. A. Grey, of Glasgow, at the international otology congress which also met at Budapest. It was decided that the international medical congresses should henceforth not be held oftener than once in four years, so that the next congress will not convene until 1913, when it will meet in London. The international committee appointed to prepare the preliminaries for the international medical congresses in future is to have its headquarters at the Hague, near which the secretary, Prof. K. Wenckebach, resides. The members of the committee are Professor Pavy of London, Blondel of Paris, as president and vice-president; the latter is also secretary of the International Medical Press Association. Maragliano of Genoa, Müller of Budapest, and Waldeyer of Berlin. An international association for the study of epilepsy was also organized before the close of the congress, about thirty members forming the provisional international board, including Obersteiner, Oppenheim, Tamburini, Donath and Turner.

LONDON LETTER

(From Our Regular Correspondent)

London, Oct. 2, 1909.

Campaign Against Nostrums

It seems that at last the government is waking up to the evils of the unrestricted sale of nostrums in this country. Some time ago, as reported in a previous letter, the General Medical Council appointed a committee to consider the question of unqualified practice, and this body began by investigating the regulations for the control of such practice which exist in other countries. A most valuable and exhaustive report on these regulations was presented to the privy council and the government has decided next session to appoint a royal commission to consider the sale of nostrums. It is thought that this commission is likely to recommend legislation similar to that which exists in many other countries, that the vendors of nostrums will be compelled to disclose on the label the ingredients which enter into their composition. For some time the *British Medical Journal* has been publishing in a series of articles the composition of all the nostrums in the market and the cost of the ingredients. Preparations which are claimed to be infallible cures for all sorts of ailments are shown to be composed of very ordinary ingredients which cost a minute fraction of the price asked. The extent of the nostrum evil in this country is shown by the following figures: Every article sold must bear a government stamp for the year ending March 31, 1908. The revenue derived from these stamps amounted to $1,600,000; the number of articles stamped was 41,757,575, for which it is estimated the public paid $12,000,000. The struggle is certain to be a long and difficult one. The large financial interests involved will obtain very powerful support in several directions. Extensive advertising has rendered the lay press very subservient; even leading journals are not ashamed to publish puffs disguised as editorials. In attacking the nostrum evil another form of opposition will also be encountered. All the various cranks—antivivisectionists, antivaccinationists, Christian scientists, etc.—who entertain extreme views on the liberty of the subject, will oppose any state interference with the sale of nostrums and will represent it as being purely in the interests of the medical profession.

Beriberi in England

At Newcastle-on-Tyne as many as 25 cases of beriberi have been reported. They occurred among the men of the Brazilian warship *Barossa*. One death has occurred, 4 patients have been discharged, and 20 remain in the hospital. The cases bear out the rice hypothesis of the disease, for the Brazilians are rice eaters and the patients had eaten this food three times a day. The health officer, Dr. Harker, has expressed the view that the spread of the disease was due to the sailors converting the forecastle into an incubator by closing the ventilators and lighting stoves.

Malaria Prevention in India

The government of India has decided to take vigorous steps for the prevention of malaria and has ordered a conference to be held on the subject at Simla on October 11. Discussing the question in the *Times*, Major Ross thinks that for rural areas quinin prophylaxis, assisted if possible by screening, is the best measure. For towns and crowded areas opinion is divided; some advocate the same measures here also but others prefer mosquito reduction. The latter has the great advantage that it tends to reduce other mosquito-borne diseases, such as filariasis, which abounds in parts of India. On the other hand, quinin prophylaxis has many disadvantages. Merely to sell or give quinin at dispensaries and post-offices is not sufficient, because the poor cannot afford the time to attend constantly for small doles of the drug. For this measure to be effective the drug must be distributed gratis from house to house for long periods and the occupants must be urged to take it. Some writers claim, however, that in India quinin prophylaxis is cheaper than mosquito reduction. But if this be true for rural areas it is not so for crowded ones.

Malaria Prevention in Sierra Leone

Sierra Leone, which well earned the sobriquet, the "white man's grave," is rapidly losing its reputation. Since the discovery that malaria is due to mosquito bites that scourge has considerably abated. Both Europeans and natives have taken the truth to heart and now take precautions against malaria and other tropical diseases, which were formerly undreamt of. The inhabitants of Freetown (which comprises about one-third of the population) view mosquitoes as bad animals like snakes. The housewife regards the health officer as a friend and does her best to keep her "compound" free from stagnant water. In 1907 the deaths in Freetown from malaria numbered only 202 and last year they dropped to 150. To stimulate the native chiefs to take an interest in sanitation the government offers the prize of a handsome sword to the two chiefs in each district which show the greatest improvement in sanitation. This has proved most effective.

Accident or Disease?

The Workmen's Compensation Act has caused many difficulties in deciding whether the disability of a workman is due to accident or disease. The following case is a new illustration: In 1907 a carpenter was awarded $5 a week compensation from his employer because of an injury to his left arm which was supposed to have produced dislocation of the ulnar nerve. About a year after the accident similar symptoms appeared in the right arm, and it was discovered that the case was really an example of syringomyelia. As medical opinion was given that the disease had nothing to do with the accident the employer applied to the court for an order to stop the payments. A physician at the hospital in which the patient was treated gave evidence in support of the application, but the resident medical officer of the same institution gave evidence that cases of syringomyelia due to injury had been recorded. In view of the difference of medical opinion the judge would not interfere with the award.

Health Visitors

A remarkable development in sanitary administration in recent years has been the appointment of women as sanitary inspectors and still more recently as "health visitors." Health visitors originated in the voluntary efforts of societies of philanthropic women to improve the sanitary condition of the poor by visiting their houses and instructing them in personal and domestic sanitation. The government has now decided to appoint paid health visitors and has issued regulations on the subject. A woman may qualify herself as a health visitor in five different ways, (1) as a qualified medical practitioner, (2) as a trained nurse, (3) as a certified midwife, (4) by undergoing a course of instruction in a hospital and holding in addition the certificate of certain bodies such as the Royal Sanitary Institute, or (5) by holding some post under a sanitary authority in which she has discharged duties likely to qualify her for the post of health visitor. Health visitors must submit their books when required to do so to the sanitary authority or health officer. The salary will be $500 per annum.

Health of the Navy

The reports on the health of the navy in 1908, which have just been issued, show continued improvement. Not only are the case, invaliding, and death rates lower than the average for the last five years, but the average loss of service per capita has dropped from 11.28 to 10.36 days. The total force was 109,210 and the total number of cases of injury and disease 75,608, which gives a rate of 692 per 1,000, being a decrease of 53 as compared with the average of the preceding five years. The conditions of work in the engine-rooms and stokeholds are the subject of an interesting report by Staff-Surgeon Rees. In regard to heat stroke, he finds that the negro not only has an advantage over the white man in the sun but also in the stokehold. In the sun the lesser diathermacy of his dark skin is an advantage; in the stokehold his skin radiates heat better than the white man's. It is curious that workers in the bunkers are not more liable to heat stroke than those engaged in firing the furnaces, for the bunkers are often much hotter than the stokeholds, while the air in them is often motionless. The explanation appears to be that the stoker working in the bunkers is at once covered with a layer of fine coal dust, which radiates heat much faster than the uncovered body. The best treatment of heat stroke is found to be iced baths.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Sept. 29, 1909.

Preserved Foods

At the annual session of the German Public Health Association (*Deutsches Verein für öffentliche Gesundheitspflege*), held at Zürich early in September, Professor Schottelius gave an address on "Preserved Foods as Popular Diet." While fully recognizing the value of preserved foods in cases in which suitable fresh nutriment cannot be procured or only with great difficulty, he laid great emphasis on the fact that fresh food is more wholesome and more nutritious. In the process of artificial preservation changes occur in the natural composition of the foodstuffs and constituents are lost that are of great importance for the digestion and utilization of the food in the body. In his opinion, preserved foods can be dispensed with in all civilized countries with a temperate climate, as at all seasons a sufficient supply of fresh and well keeping foods is available at low prices. Foods preserved in tins are not to be recommended for general consumption, as there is no sufficient security that they will always meet the demands of hygienic safety, especially as there is nothing to show when the goods were put up.

Night Prices of Druggists

Some time ago permission was given to pharmacists by the Department of Education to add 50 per cent. to the price of medicine delivered at night. At the meeting the German Pharmaceutical Association (*Apotheker-Verein*) held a week ago, it was proposed that this rule should be effective from 9 o'clock in the evening to 7 in the morning, instead of, as hitherto, till 6 a. m. In this way the pharmacist will be still further protected against disturbance of his night's rest. Besides this, an increase in the price of medicines corresponding to the cost of labor is demanded, as the prices heretofore in vogue are not sufficient to meet the demands of the steadily increasing cost of living.

Treatment of Hydrophobia

From a report of the Ministry of Education (*Kultusministerium*) it appears that in 1908 in Prussia 295 persons were injured by animals either rabid or suspected of rabies. Of these persons 279 submitted to the Pasteur treatment. (There is a Pasteur institute in Breslau and one in Berlin.) Of the 279 who were inoculated 2 died and of 16 who were not treated 1 died. In 1907, of 382 inoculated, 2 died; in 1906, 4 out of 342; 1905, 3 out of 322; 1904, 5 out of 330; 1903, 4 out of 281. If only those who were bitten by an animal known to be rabid are considered, 2 of 190 inoculated died in 1908, 2 of 266 in 1907, and 4 out of 236 in 1906.

Birth-rate of Various Nationalities

In an article awarded the prize and published by the Bavarian national statistical bureau on the fertility of different civilized countries, the following figures show a steady decrease in the fertility of married women during the three decades ending in 1905, and also for most countries a decrease in the number of illegitimate births. Among 1,000 married women of the ages from 15 to 50 there occurred of legitimate births:

	1876-1885	1886-1895	1896-1905
In the German Empire..........	268	258	243
In Prussia	273	265	250
In Bavaria	276	263	259
In Saxony	267	250	216
In Würtemberg	288	259	262
In Baden	266	248	251
In Austria	246	250	...
In Hungary	234	224	...
In Italy	248	249	232
In Switzerland	239	230	...
In France	167	150	134
In England and Wales...........	250	229	203
In Scotland	271	255	235
In Ireland	250	245	254
In Belgium	264	236	214
In the Netherlands..............	293	286	272
In Denmark	244	235	217
In Sweden	240	231	...
In Norway	262	259	...
In Portugal	...	235	...
In Finland	259	246	...
In Servia	...	237	...

The low birth-rate of France is remarkable, and in the last decade that of England and Wales has shown the nearest approach to it. The low figure for Belgium is in striking contrast to that of the neighboring kingdom of the Netherlands, where for the three decades the maximum of fertility among married women has been observed. In the German empire the legitimate fertility has been most reduced in Saxony, while, on the other hand, in regard to illegitimate births, Saxony has held the first place among the countries named, being passed by Hungary only in the decade 1886-95. If these countries are arranged according to the illegitimate births registered during the last decade (for every 1,000 unmarried women from 15 to 50 years) the order will be shown by the following table:

	1876-1885	1886-1895	1896-1905
In the Kingdom of Saxony.........	47	44	41
In the Kingdom of Bavaria........	42	39	37
In the German Empire............	28	27	26
In Würtemberg	29	27	25
In Denmark	26	24	23
In Prussia	25	24	22
In Baden	22	20	20
In Italy	24	24	19
In France	16	17	18
In Belgium	19	17	17
In Scotland	20	17	13
In England and Wales............	13	10	8
In the Netherlands..............	9	9	6
In Ireland	4	5	3

The Cholera Situation

Cholera in Holland is apparently extinguished. In Russia it has been greatly reduced, but is still present. According to the latest available official report, 858 persons were attacked in the week from July 5 to 11, of whom 384 died. Of these 493 were attacked and 229 died in St. Petersburg and its suburbs. That there is a certain danger for us is shown by the fact that a few days ago cholera appeared in a small place in East Prussia in a raftsman and his wife lately returned from Russia. The raftsman died but the wife is convalescing. Naturally the necessary preventive measures have been taken by the Prussian authorities. The change that has taken place in public sentiment in regard to cholera is shown by this circumstance. Twenty years ago these two cases would have created a panic, not only in Prussia but in the whole population of Germany, while now the report of such an attack of cholera is received with the same equanimity as if the cases were cases of typhoid or other infectious disease.

Painless Tooth Extraction

One of our dentists has recently learned that he cannot with impunity advertise to extract teeth without pain, as dentists are accustomed to advertise in the newspapers and on the billboards. He was convicted of an offense against the law regarding improper competition. The plea of the convicted man on appeal that it had not been shown that his patients felt any pain on extraction of teeth was rejected on the ground that, according to the opinion of experts, it was not always possible to guarantee a painless extraction of teeth.

Orthopedic Instruction in Public Schools

For the prevention of spinal curvature orthopedic instruction is to be introduced into the Berlin public schools for such children as show an improper carriage. If the trouble is more advanced the children must be transferred to an orthopedic institute. A commission composed of teachers and physicians is to determine the necessary means.

Distraining of a Patient by a Physician

In the last few days the distraining of a patient by a physician has become a cause célèbre. Both the public and the daily press have busied themselves with the affair. A very well dressed Russian lady entered the office of the well known ear specialist privat docent Dr. Jansen, and at the end of the consultation, in place of the usual fee of $5.00 (20 marks), expressed the wish to pay temporarily only $1.50 (6 marks), because, as she claimed, she had no larger sum with her. The doctor, irritated on account of previous unfortunate experiences, seized the valuable ear-trumpet of the patient, locked it in a closet and declared that she should recover it only on payment of the remainder of the fee. The public has become greatly excited at this alleged inhumanity of the doctor. Dr. Jansen has stated in an interview that he has been cheated out of about $12,000 (50,000 marks) by Russian patients. It has repeatedly happened to him that patients have acted as did the woman referred to; they have paid less than the usual fee as an installment and have disappeared, never to be seen again. It is easy to see that the doctor wished to make an example to guard himself against further imposition. It may be admitted that he could have chosen a more appropriate object to distrain but that is not essential. It may be assumed as very probable that this patient, instructed by her compatriots, had intended to plunder the doctors, for it is not to be supposed that a lady would go on the street in a foreign city with the small sum of 6 marks and further that the usual fee of a specialist should be unknown to her. While the whole affair, with its publicity, may be unpleasant to the doctor, it will have the desirable result for him that Russian ladies who visit his office in future will provide themselves with the necessary fee.

Occurrence of Epidemic Cerebrospinal Meningitis in Prussia in 1908

In 1908, 1,284 cases of epidemic cerebrospinal meningitis were reported as opposed to 2,591 in the previous year. The largest number occurred in the Rhine province (459), next in Westphalia (323), and in Silesia (177). The largest number occurred in spring (609), than in winter (353). Of those attacked in 1908, 738 (57.6 per cent.) were males, 544 (42.4 per cent.) females. 973 (76 per cent.) were children from one to fifteen years, and the mortality was 713 (56.2 per cent.). The mortality has steadily diminished since 1904, a fact which is attributed by the official report to the increased use of serum therapy. The highest per cent. died in the first week after the attack.

Severe Diabetes After Injury to the Head

Prof. v. Noorden has furnished to the imperial insurance office an interesting report on the etiologic connection between an injury and a severe diabetes mellitus which ran its course to a fatal termination in about ten months. A laborer received a severe blow on the head from a heavy piece of iron which was followed by a nosebleed, giddiness and temporary confusion. About three months after the accident a severe diabetes began which ran a very rapid and fatal course. The occurrence of nosebleed indicates, according to v. Noorden, an injury to the bones of the base of the skull. While the trauma was not great, concussions of the brain without anatomic lesion are, however, the most frequent causes for the origin of traumatic diabetes. In consideration of the fact that he has never seen a slowly developing and latent diabetes suddenly develop in an otherwise vigorous man to an especially severe diabetes, v. Noorden comes to the conclusion that the diabetes was produced by the accident. The imperial insurance office has therefore awarded to the survivors of the unforunate man the required income.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Oct. 1, 1909.

A Delicate Problem of Ethics Before the Society of Legal Medicine

During one of the last sessions of the Society of Legal Medicine (*Société de médecine légale*) Dr. Siredey, physician of the Hospitals of Paris, placed the following case before the society and asked its advice. A young physician had observed, within a very short period of time, two cases of poisoning of therapeutic origin, due to a single colleague, who, being very imperfectly acquainted with quantitative dosing, had prescribed 40 drops of tincture of digitalis for an infant of 4 months and 40 gm. (30 scruples) of syrup of narcein (one of the alkaloids of opium) for another of 7 months. In both cases death took place within twenty-four hours. It appeared that this physician ordinarily gave excessive doses to children and that the pharmacists of the quarter, for fear of accidents, generally replaced the drugs called for in the prescriptions by other anodynes. The physician in question had been warned of the results of his prescriptions and had replied that he knew what he was about and needed no advice.

What ought to be the conduct of the physician who had discovered these cases of poisoning? Did not his silence run the risk of making him an accomplice? Dr. Siredey did not wish to advise his young colleague to become an informer but he asked if the physician whose official duty it was to record deaths (*médecin de l'état civil*) should not be notified. It might also be asked whether, to prevent the recurrence of such accidents, the question should not be placed before the "family council" (*conseil de famille*) of the medical society of the *arrondissement* where the incidents occurred. This interesting case gave rise to very warm debates. According to Dr. Balthazard, professor *agrégé* at the Paris medical school (*faculté de médecine de Paris*) the physician who observed the poisoning ought to tell the family that the child was poisoned. If the fault had been committed by a charlatan, one would not hesitate to denounce him; and because a colleague is in question one has not the right to keep silence. Dr. Chassevant, another *agrégé* of the Paris medical school, thought that the physician who observed the mistake ought not to incite the family to prosecute his colleague, but should warn the *médecin de l'état civil* under sealed cover. This was the course proposed by Siredey and the president of the society and approved of by Dr. Granjux, who considered denunciation of the physician not only blamable itself, but also dangerous; for if the physician who caused the poisoning was acquitted by the courts, could he not then turn on his accuser and prosecute him in his turn? A third opinion recommended complete silence. Dr. Descouts believed that the physician who observed the poisoning ought not to warn the public physician, even indirectly, for according to law it is the duty of the latter to ascertain the cause of the death. He may, for example, demand that the prescriptions be furnished him, and thus he will be able to observe that excessive doses have been prescribed.

An interesting point to which Dr. Chassevant drew attention is the complicity on the part of the pharmacist in such cases. The latter is culpable in habitually replacing the dangerous prescription by anodynes which may have led the physician to persevere in his course by causing him to believe that what he was prescribing was not toxic. The duty of the pharmacist is to report to the physician his slips of the pen. Unfortunately, too many pharmacists turn the filling of prescriptions over to apprentices who are not competent to appreciate when a dose is excessive. Dr. Briand cited a case which well shows the unfortunate consequences which may result from the precaution taken by certain pharmacists of diminishing the prescribed dose. A patient was taking arsenic in pills. The pharmacist, finding the dose too strong, reduced it just in proportion as the physician increased it. One day a new apprentice filled the prescription according to order and the patient was poisoned.

Have Physicians the Right of Concerting to Refuse Their Care to a Patient?

In one of my preceding letters (The Journal, Jan. 16, 1909, lii, 223) I mentioned an interesting decision of the civil court of Châteauroux, to the effect that physicians had the right to refuse their attentions except when legally ordered and that such refusal gave no ground for an action for damages. But another question was also raised in this case—the physician's right to warn his colleagues that the patient did not pay his fees. The case was appealed, and the court of Bourges has just condemned Dr. Babon to pay $100 (500 francs) damages, on the ground that in warning his colleagues, Dr. Babon had performed an act of vengeance and had done a serious injury to his former patient. According to this decision, each physician may refuse his own services to any patient, but he cannot concert with his colleagues for the same purpose.

Sewage Disposal

Since the hygienists have definitely condemned the draining of sewage into running streams, the city of Paris faces an exceedingly complex problem. At great expense in the western suburbs, sewage fields have been created, where the ground, being particularly permeable, allowed the absorption of large quantities of liquid; but still the ground is to-day saturated to such a degree that leguminous vegetables grown on these fields have such a peculiar odor that they are not salable in the markets. It is even demanded that these products should bear a special label, in order that buyers may recognize them. The market-gardeners of the suburb naturally do not favor an increase of the sewage fields. Moreover, this system is now insufficient, not only because of the relatively rapid saturation of the ground, but still more because of the incessant development of the population of Paris. A few years ago, when a third great receptacle for sewage was opened, the administration required that not a drop of refuse water should be thrown into the Seine any more. Now the daily total of the sewage from public and private sources amounts to 206,032,180 gallons (780,000 cubic meters), and the various fields which receive the sewage absorb daily only about 145,272,050 gallons (550,000 cubic meters); there remains for each daily period of twenty-four hours 60,760,130 gallons (230,000 cubic meters) of sewage draining into the Seine. This situation is evidently intolerable, apart from the fact that the dwellers on the river banks are able to obtain large indemnities for the injury to their interests. The city of Paris, then, is compelled to put a stop to this state of affairs as early as possible. A sum of $3,000,000 (15,000,000 francs) has been set apart for this purpose, but the method to be employed has not yet been selected.

Measures Against Cholera

In accordance with instructions from the government, samples of waters of all the canals and rivers crossing the French frontiers on the north and northeast have been taken and submitted for bacteriologic analysis to the Pasteur Institute of Paris. This analysis has shown that there is no trace of the cholera vibrio in the waters examined. Although the sanitary situation along the frontiers is much more reassuring, the surveillance mentioned in my previous letter (The Journal, Oct. 2, 1909, liii, 1111) continues to be exercised throughout the north and northeast of France.

The Hygiene of Dwellings

The National Congress on Sanitation and Salubrity of Dwellings, which will be held next month in Paris, has an exceedingly broad program, the subjects being divided into three classes, as follows:

1. General: inquiry into the application of the law of 1902 for the protection of public health; modifications of this law; modifications in sanitary regulations; free spaces in cities.
2. Special: heating and ventilation of buildings; the education of the people in regard to the hygiene of the dwellings; sanitation of buildings occupied by working people who carry on their trades at home.
3. Military: installation of spray baths in barracks; installation of latrines in barracks, encampments and cantonments.

The organizing committee of the congress has addressed to a certain number of medical societies (*syndicats médicaux*) a series of questions in regard to the results of the law of 1902 in respect to the healthfulness of dwellings, unhealthful buildings and the sanitary records (*casiers sanitaires*). These last comprise records of hygienic conditions of each house, the deaths therein by transmissible diseases, disinfections carried out, dates and causes, etc. In Paris this service of the sanitary records has been in operation since 1894; it shows that certain houses constitute veritable hotbeds of tuberculous infection. There are, in fact, 820 houses which, out of a population of 106,300 tenants, have given, in ten years, 11,500 deaths from tuberculosis, more than 14 deaths per house. Unfortunately, the precise information contained in the sanitary records has had, up to the present, no particular results, for these notes are kept secret, in order not to damage the proprietors. The Congress of Tuberculosis, held in Paris in 1905, passed a resolution asking that the public authorities be given the right and the means of condemning all buildings dangerous for the health of the inhabitants, but this resolution has, up to the present, had no legislative sanction. Moreover, there may be some question whether the destruction of unhealthful buildings would in itself insure the hygiene of dwellings, for the building license, which in other countries, in England especially, is burdened with many restrictions in the public interests, is with us a mere formality, so that the buildings which replace the unhealthful ones destroyed may be just as defective. All our legislation on this point really needs thorough revision.

Sectarian Spirit and Medicine

There exists in France, in addition to the colleges and schools (*Facultés et Ecoles*) of medicine which depend on the government, an establishment which is independent of state control, that is the free or catholic school of medicine and pharmacy (*Faculté libre ou catholique de médecine et de pharmacie*) of Lille, whose pupils, however, pass their examinations before a special board determined by the law and receive a diploma from the government, for no one can practice medicine in France unless he is furnished with a diploma of doctor of medicine, given by the French government. Recently the administrative board of the hospitals of Dunkerque, a city in the same department as Lille, a physician decided to open to competition two new posts for medical men, but with the proviso that no candidate would be accepted except a graduate of the Catholic school of Lille. The medical society (*syndicat médical*) of Dunkerque, justly indignant, passed a resolution protesting against this ruling and demanding that the competition be thrown open to every French physician, on the ground that the diploma given by the French government should carry the right of competing on equal terms for public places and functions.

"The Practitioner's Sundays"

Under the title of "The Practitioner's Sundays" (*Dimanches du praticien*) some physicians have organized in Paris a series of lectures intended to keep practitioners informed in regard to scientific progress in all the branches of medicine. They will be held on Sunday, the only day on which many physicians are at liberty. Because of the lively interest felt in all questions in regard to radium and radiotheraphy, the first lectures will be on this subject. M. Matou, assistant at the Museum of Natural History, will speak on radiations and radioactivity. The following Sunday, Dr. Dominici will talk on the therapeutic application of radium.

The Physicians' "Salon"

A physician's artistic society, called L'Esculape, has just been founded. It has organized for next November an exhibition of works of art by physicians (painting, sculpture, engraving and decorative arts). This society, under the patronage of Drs. Gariel, Gilbert, Marcel Labbé, Richelot, Widal, and others, professors and *agrégés* of the Paris medical school, intends also to give literary, dramatic and musical performances.

Correspondence

Warning Against Impostor

To the Editor:—Kindly warn the profession against a dirty, ragged individual who at present is calling on physicians in Brooklyn, soliciting money to get a meal or two with.

The man is about 5 feet 8 inches tall, with light hair and slight cockney accent. He claims to know the physician's relative in England. He also says that he is going to work his way home on an Atlantic transport liner, but has no money.

He has called on two others besides myself in the past few days. I discovered the fraud by casually mentioning my experience to another physician, who immediately described the beggar.

The man will probably try to work other cities.

H. W. Boice, Brooklyn, N. Y.

X-Ray Examination.—The first and greatest value of the *x*-ray examination lies in the fact that it gives information regarding conditions existing in the sick or injured individual, which, in some instances, could not be obtained in any other way, or that it amplifies or confirms evidence obtained by the ordinary means of physical examination.—G. H. Stover, in *Denver Medical Times and Utah Medical Journal.*

Pharmacology

BYE CANCER CURE

Another Cruel Fraud Put Out of Business by the Postal Authorities

One of the most impudent quacks in the "cancer cure" business—B. F. Bye of Indianapolis—has just been officially denied the use of the United States mails. In the "Great American Fraud" the Bye "cancer curers" were shown up and the "piety" of Bye senior, who "founded a little church in Indianapolis with the money extracted from his dupes," was commented on. A few years ago the elder Bye ran a cancer cure fake known as the "Dr. D. M. Bye Combination Oil Cure Company" in Indianapolis, with his son-in-law, L. T. Leach, as manager. At the same time, one of the younger Byes—B. F. Bye—was operating a similar and rival concern in the same city. To quote from the "Great American Fraud":

> "Across the street from the Dr. D. M. Bye offices is the 'down-town office and laboratory' of Dr. B. F. Bye. In the circulars this is pictured as a large and commodious brick building, standing far back in an imposing shaded yard. The picture is purely imaginary. So is that of the doctor's 'Sanatorium' in the same pamphlet. The B. F. Bye outfit is ensconced in a shabby wooden house close to the street, and the 'office and laboratory' are little more imposing inside than outside. The younger Bye makes preposterous claims of 82 per cent. of 'complete recoveries.' . . . His treatment wouldn't remove a wart or cure a mosquito bite."
>
> "Dr. B. F. Bye's correspondence is replete with unconscious humor; *vide* this sample from his 'hurry-up' form-letter: 'When I pause and consider the amount of quackery and humbuggery practiced all over the country, it is not difficult to understand why the afflicted hesitate to accept new treatment, no matter how logical it may be.'
>
> "He belongs to most of the fake medical organizations in the country, whose diplomas (purchased) he proudly displays on his walls."

That useful and overworked department of the postoffice that investigates frauds finally notified Dr. B. F. Bye to show cause why a fraud order should not be issued against him and his "cancer cure" outfit. The facts in the case, as submitted to the Postmaster General by R. P. Goodwin, assistant attorney general, are in part as follows:

"Dr. Bye is engaged in treating persons, afflicted with cancer, through the mails. He has succeeded to the business of his father, who for a number of years was engaged in a similar practice at Indianapolis, Indiana. He is also a brother-in-law of Dr. L. T. Leach,[1] who conducts a similar business from Indianapolis and against whom this office has recommended the issuance of a fraud order. While Dr. Bye advertises to have a sanitarium at Indianapolis where he treats personally patients who come there, the fact is he has no sanitarium of his own and such few persons as do go to Indianapolis for sanitarium treatment he locates in boarding houses and such places.

"On receipt of an inquiry about his treatment, it is Dr. Bye's practice to send the correspondent a circular letter, a question blank, a sheet of testimonials and a booklet bearing the following title:

> Cancer, Its Etiology, Pathology and Treatment by Soothing Oils, by Benjamin F. Bye, M.D., Fellow of the American Association of Physicians and Surgeous; Member Indiana Association Physicians and Surgeons; Fellow of the Indianapolis Academy of Medicine; Member of the Incorporated Society of Science, Letters and Art of London, England; Physician to St. Luke's Hospital; Surgeon Hillsboro R. R.; Chief Surgeon Indiana 1st Regiment U. R. K. P.; Examiner of Northwestern Life Insurance Co., Etc., Etc., Etc. Office and Laboratory, Indianapolis, Ind.

MEMBERSHIP IN FAKE ORGANIZATIONS

"The inspector endeavored to ascertain the character of the above associations and societies, and from Dr. George H. Simmons, editor of The Journal of the American Medical Association, found that the 'American Association of Physicians and Surgeons' was in existence several years ago and that its business was in selling of diplomas to physicians and that it was made up of men not recognized by the medical profession as physicians of standing; that the 'Society of Science, Letters and Art of London, England,' was a 'fake diploma factory conducted by a man named Sturman,'[2] and that the same description was applicable to St. Luke's Hospital,[3] Niles, Michigan. As to the Indiana Association of Physicians and Surgeons and the Indianapolis Academy of Medicine, Dr. J. N. Hurty, secretary of the State Board of Health of Indiana, stated that he was unable to find any information concerning either of these societies. Dr. Bye admitted to the inspector that he has not been for some time chief surgeon to the Indiana First Regiment, U. R. K. P., or an examiner for the N. W. Life Insurance Company. It is thus seen that the pretense that Dr. Bye is a man who stands high in his profession and who is connected with recognized medical institutions of standing is false. Dr. Bye is a graduate of the American Medical School[4] of Indianapolis, 1896, and claims to have studied in the Kansas City Homeopathic School. He has never been in private practice, and his entire medical experience has been gained in this mail order cancer cure business.

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[1] The details of the government's action against Leach and his fake will appear in an early issue of The Journal.—Ed.

CLAIMS MADE

"The representations contained in the circular letter and the booklet are intended and calculated to lead the correspondent to believe that Dr. Bye has discovered a combination of vegetable oils which is most efficacious in the treatment of cancer and that it will cure practically every case. For this treatment $25.00 is asked. Some of the representations made are quoted below:

> A local treatment and the correct indicated remedy exhibited internally is the only rational one, and to be sure, safe and speedy, the local treatment must destroy the embryonic cells; also the foundation bed or "Stroma," and at the same time preserve the integrity of the surrounding healthy tissues. The combination of vegetable oils, where applied to these malignant growths, has accomplished what is so ardently desired.
>
> The oil soon has the growth under its influence, and the disease is soon absorbed, causing a radical cure without pain. In case the diseased parts have already broken down and we have an open sore, the wound will slough in a short time, then it will heal nicely.
>
> . . . we have found that where the patient will follow our instructions closely a rapid cure is the result.
>
> Don't be misled by the claims of irresponsible people as to their ability to cure cancer by the injection of a specific serum or other substances. . . . We have discovered a combination of oils, which in their effect upon the diseased tissues, approaches the miraculous. It is the only successful remedy known to medical science and has the highest indorsement from the medical profession, as well as from ministers and thousands who have been cured. . . . The Oils are soothing and balmy, safe and sure, and cure without disfigurement.
>
> The Combination Oil Cure does cure cancers and tumors to stay cured.

"The correspondent is also led to believe that Dr. Bye can properly diagnose the malady with which he is afflicted from the question blank.

"If the correspondent fails to purchase the medicines after this first solicitation it is the practice of Dr. Bye to write him another letter in which he states that 'from the information I have received I believe that I can effect a cure in this particular case.' In this letter the price of the treatment is reduced to $12.50; and if the treatment is not purchased pursuant to this solicitation, another letter is mailed the prospective patient in which he is asked to purchase a trial treatment which will last him several weeks for $3.00.

THE "CURE" ANALYZED

"The medicines were analyzed by chemists of the Department of Agriculture, and were found to amount to cotton seed oil and some ordinary tonics."

After giving the details of the analysis the government chemists make the following statement regarding the value of the "cure":

> "Analysis of the above treatment shows that it does not contain a single item which is considered of any special service for the cure or successful treatment of cancer, neither is the entire combination such as to warrant any representation to the effect that it is a cure for cancer."

As to the truthfulness of Bye's claim that he produces 82 per cent. of complete recoveries, the following is enlightening:

THE PERCENTAGE OF "CURES"

"The inspector procured from the post-office records the names and addresses of some twenty persons who have taken Dr. Bye's treatment and corresponded with the postmasters at the post-offices where these parties were located, with regard thereto. This correspondence shows that but one of these patients claims to have been cured, and in this case it develops that a surgeon had removed the growth before the Dr. Bye treatment was undertaken, and this surgeon reports that the growth removed was not cancerous."

In summing up, the assistant attorney-general makes the following statement:

"According to the evidence submitted the medical profession knows of no drug or combination of drugs which can be relied upon to cure cancer. That Dr. Bye has not succeeded where the profession has failed and that he is not honestly endeavoring to cure patients, but that his pretensions to have discovered a cure for this disease are false and fraudulent and asserted merely to deceive and defraud suffering humanity, is revealed by the analysis of his medicines and the finding that they are merely cotton seed oil and some ordinary tonics.

"I find that this is a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises, in violation of Sections 3929 and 4041, of the Revised Statutes, as amended, and therefore recommend that a fraud order be issued against the above named parties."

The order was issued.

MARMOLA

An Obesity "Cure" of the "Prescription Fake" Variety

To the Editor:—Can you give me any information regarding the composition of "Marmola," a remedy used to reduce flesh?

ROBERT S. MCCOMBS, M.D., Philadelphia.

COMMENT: Marmola belongs to a class of nostrums that has become very common since the passage of the national Food and Drugs Act and which descriptively may be called "prescription fakes." By this we mean that the "patent medicine" is advertised, not as such, but as an apparently innocent ingredient in a "prescription" which the reader is urged to have "filled" at the nearest drug store. Many of these advertisements are published in the form of reading matter, giving no indication of their real character. For example: we read in the *New York World* a short article by "Footlights," a supposititious theatrical press agent, who describes how a certain theatrical manager was able to reduce his "over-weight chorus." He did not "starve them into line, nor worry them verbally into shadows. . . . He simply hung up a new rule in the dressing-rooms, to the effect that every lady less than five feet seven who weighed in excess of 150 pounds must take a spoonful after each meal and at bedtime, of the following: One-half ounce Marmola, one-half ounce fluidextract Cascara Aromatic, and three and one-half ounces of Peppermint Water."

This is merely an example of the devious ways in which "patent medicine" vendors, aided and abetted by many newspapers, attempt to humbug the public. The Marmola Company has used the same methods of advertising its products in Great Britain, except that in the place of cascara and peppermint water, we find the prescription reads:

"One ounce of fluidextract of Glycyrrhiza, B.P., one-half ounce of Marmola, one ounce of pure glycerin, B.P., and three and one-half ounces of peppermint water."

More recently the concern has been varying its methods by advertising Marmola also in tablet form, giving the address of the company and the price of the preparation. The composition of Marmola was discussed in an article on "Commercial Thyroid Preparations" by Drs. Hunt and Seidell in THE JOURNAL, Oct. 24, 1908. It was there shown that the nostrum depended for its action on thyroid extract. Since that time the *British Medical Journal* has also analyzed the product. The results of this examination "showed the presence of (1) a large proportion of a powdered seaweed agreeing well in characters with the powder of *Fucus vesiculosus*, its identity being further indicated by the composition of the ash; (2) a substance of proteid nature, agreeing well in characters with the powder of dried thyroid gland, its identity being further indicated by the presence of iodin in organic combination; (3) phenolphthalein; (4) sodium chlorid (common salt); and (5) extractive." These ingredients, so far as could be determined, were present approximately in the following quantities, to each dose:

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[2] See THE JOURNAL, May 29, 1909, p. 1773, for a more extended exposé of this fake.—ED.

[3] Also exposed in THE JOURNAL, June 24, 1899; Oct. 21, 1899; Nov. 16, 1901; May 23, 1903, and June 6, 1903.—ED.

[4] Now extinct.—ED.

Dried thyroid gland	1.4 gr.
Phenolphthalein	0.4 gr.
Sodium chlorid	0.7 gr.
Powdered *Fucus vesiculosus* (bladderwrack)	5.0 gr.
Extractive	2.5 gr.
Oil of peppermint	trace

The danger of the indiscriminate use by the laity of such potent drugs as thyroid extract is evident, and yet we read: "A safer way of reducing fat cannot be imagined than by the use of this pure Marmola prescription."

Purgen Again

To the Editor:—Those who prescribe "Purgen" may be interested in knowing how its popularity is established in Germany. I am sending with this letter the tissue paper cover of a straw such as is furnished with cold drinks in hotels and restaurants. Printed on the tissue paper is the legend:

PURGEN
DAS IDEALE LAXATIVUM
FRAGEN SIE IHREN ARZT!

How many take the trouble to "ask a doctor" is, of course, a question. As these covers are made in Paris, the exploitation may be even more wide-spread.

GEORGE DOCK, M.D.

COMMENT: Purgen, it will be remembered, is one of the numerous proprietary names for phenolphthalein and already has been discussed in THE JOURNAL. In Europe advertisements of the preparation are to be seen in the street cars, daily press and even on toilet paper (THE JOURNAL, Nov. 2, 1907, p. 1541). In this country it is advertised—directly—only through the medical profession—which is cheaper.

Antidote to Hair Dye Poison

To the Editor:—During the past eighteen months I have seen four cases of poisoning caused by Mrs. Potter's Walnut-Juice Hair Stain, and I wish to offer a suggestion as to the treatment. The parts affected should be covered with gauze, saturated with a solution of sodium hyposulphite (sodium thiosulphate) 1 oz. to 4 oz. of water. This neutralizes the poison on the same principle as it acts when used for "fixing" photographic negatives. The relief from the burning, itching and pain, is almost instantaneous.

ALVIN S. STOREY, M.D., Cleveland, O.

COMMENT: The remedy suggested by Dr. Storey will, doubtless, prove of interest to a number of our readers. We have had reported to us no fewer than twenty-one cases of poisoning due to the use of Mrs. Potter's Walnut-Juice Hair Stain. This dye, which, according to published analyses, does not depend for its effect on walnut juice, has recently had its name modified—on the label and container. We see, however, in the daily papers, that the preparation is still advertised as a "Walnut-Juice Hair Stain," and the deception is carried still further by the picture of a woman with a basket on her arm and the legend, "Gathering Walnuts," under it. On the label, however, where direct lying has become illegal, owing to the Pure Food and Drugs Act, it has ceased to be "Walnut-Juice Hair Stain Compound" and has become "Walnut-Tint Hair Stain."

Eade's Gout Pills

To the Editor:—Can you give me any information about "Eade's Gout Pills?" B. S. DENZER, Baltimore.

ANSWER: This nostrum is made by a British firm, the agents for the United States being Fougera & Co., New York City. The pills are advertised to "Cure Gout, Rheumatism, Rheumatic Gout, Sciatica, Lumbago and all pains in the head, face and limbs." In the report of the Australian Royal Commission on Secret Drugs, Cures and Foods, a qualitative analysis of the nostrum is given as made by Robert Hutchison, M.D., F.R.C.P. According to this, Eade's Pills contain sodium salicylate, guaiacum and aloes.

Miscellany

Treatment of Hookworm Disease. As many patients can not afford to lose time from work, Dr. C. Wardell Stiles (*Public Health Reports*) advises the devotion of Sunday to the administration of thymol for the expulsion of hookworms. The friends should be warned that the patient is to receive no food containing alcohol, fats or oil, lest absorption of thymol occur. In one case serious thymol poisoning occurred after the patient took a copious drink of milk the day thymol was taken. On Saturday evening a dose of Epsom salts should be given to clear away mucus that surrounds the parasites. The details are as follows:

1. *Position of Patient.*—The patient should be instructed to lie on his right side immediately before taking the drug and to remain in that position for at least half an hour after. The reason for this is that many of these patients have enlarged stomachs, and if they lie on their right side, the drug has the benefit of gravity in passing rapidly from the stomach to the intestine; but if any other position is assumed, the drug may remain in the dilated cardiac portion of the stomach for some hours and result in considerable complaint on the part of the patient and delay of the drug in reaching the worms.

2. *Time of Dosage.*—The time of giving and size of dose should be arranged on one of two plans, depending on existing conditions,

(a) The plan usually followed is: At 6 a. m., one-half of the total dose of thymol; at 8 a. m., one-half of the total dose of thymol; at 10 a. m., Epsom salts (never castor oil).

(b) If the case is an especially severe one, or if the patient has, on the first Sunday's treatment, complained of burning or other effects of thymol, the following plan is adopted: At 6 a. m., one-third of the total dose of thymol; at 7 a. m., one-third of the total dose of thymol; at 8 a. m., one-third of the total dose of thymol (if unpleasant symptoms, as a sensation of severe burning in the stomach, have appeared this third dose should be omitted); at 10 a. m., Epsom salts (never castor oil).

3. *Food.*—No food is allowed until after the 10 o'clock dose of Epsom salts, but the patient is permitted to take a glass or so of water after the thymol, if he desires.

4. *Thymol.*—Finely powdered thymol in capsules, preferably in 5-grain capsules, should be used. Before being powdered the thymol should consist of colorless translucent crystals.

5. *Age.*—The dose should be adapted to the apparent age and strength of the patient. The following represent the maximum amount to be used during one treatment: Under 5 years old, 7½ grains; from 5 to 9 years, 15 grains; from 10 to 14 years, 30 grains; from 15 to 19 years, 45 grains; from 20 to 59 years, 45 grains; above 60 years old, 30 to 45 grains. Total dose to be divided as indicated in Paragraph 2.

Repetition of Treatment.—The foregoing treatment is repeated once a week, preliminary treatment Saturday evening and thymol on Sunday morning, until the patient is discharged.

Duration of Treatment.—To recognize whether the parasites are all expelled, and therefore to determine when to end the thymol treatment, either of two plans may be adopted, namely:

(a) Microscopic examination: On Saturday morning ten microscopic preparations of a fresh stool should be made. If eggs are still present the treatment is repeated; if eggs are not found the thymol is discontinued. It takes about forty to sixty minutes to make this examination of ten slides thoroughly.

(b) Cheese-cloth method: A much easier way of recognizing the completion of the treatment, and for practical results nearly as satisfactory as the microscopic examination, is to instruct the patient to wash all of his stools Sunday, Monday, and Tuesday, through a cheese-cloth and to keep the cheese-cloth moist and bring it to the office on Tuesday. While the fecal material will wash through, the worms will be retained in the cloth. Treatment is continued as long as worms are found in the cheese-cloth.

Other Treatment.—If desired, iron may be administered on the days on which the thymol is not taken. It is a good plan, however, not to give iron during the first week, for it is quite important to convince the patient that the thymol treatment is the one which is really accomplishing the lasting good. If the drug is taken Sunday, the patient is likely to begin to feel some benefit by Wednesday or Thursday; his family is likely to notice it on Thursday or Friday. If iron is given during the first week, the conclusion may perhaps be drawn by the patient that it is really the iron which is causing the improvement, and he may discontinue the thymol. Of the two, the thymol is, of course, the far more important, for it reaches the parasite, while the iron reaches only the patient.

Pellagra in Italy.—In spite of the philanthropic and scientific efforts made against pellagra the disease continues to spread in Italy, although the total number of cases is somewhat smaller than formerly. According to a report by Assistant Surgeon R. A. C. Wollenberg (*Public Health Reports*, July 23, 1909) the number of pellagrins in Italy has diminished from 97,855 in 1879 to 55,029 in 1905, and may be estimated as less than 50,000 at the present time. The total number of deaths has markedly diminished from 3,987 in 1898 to 376 in 1907. In 1902 a law was passed making it illegal to sell or to store for sale any immature, musty or spoiled corn. The law also provided government aid for those affected with the disease and authorized the distribution of food to poor pellagrins and their families. It is difficult to enforce the law fully and it is probable that meal made from defective corn or adulterated with such corn products is still sold to a considerable extent. Sanarelli recommends a municipal milling service to overcome this difficulty and the prohibition of milling of deteriorated maize for any purpose whatsoever. The geographic distribution of pellagra in Italy shows that it is spreading to the southern districts and is well established in central Italy, but during the last twenty years the extent of the disease has lessened considerably in the northern part of Italy. The reason for this better showing in the north is not altogether plain, but is partly attributed to the economic, social, and sanitary improvements that have been effected there in recent years. A hereditary predisposition to the disease has been shown. The investigations of Probizer among school children show the offspring of parents afflicted with pellagra to be quite generally of poor development, both physical and mental. In the treatment of the disease, Ghirardini has recently used atoxyl by injection. He states that it is well tolerated and improves the general nutrition, the psychic disturbances, and the ataxia. Gatti used serum from the recovered pellagrin in the treatment of two cases of typhoid pellagra. A general reaction appeared after one hour, with a rise in temperature. The fever was of short duration, defervescence lasting from one to three days, during which time there was a remission of all acute symptoms.

Hookworm Disease and the Negro.—The sociologic importance of hookworm disease is made prominent in a report by C. W. Stiles (*Public Health Reports*, July 30, 1909), who considers especially the relation of the negro to this disease. The worm has been named *Necator americanus*, which means "American murderer," on account of the great loss of life occasioned by it. The disease is known to exist in Africa and it is possible that it was brought to this country by the negro from his native home. The negro is partially immune, so that the symptoms of the disease are less manifest but investigation has disclosed a number of cases in a mild or latent form in the black race. The worm may enter the human system either with food and drink or through the skin and it is probable that the latter mode of entry is the more common. Unhygienic modes of living, especially when they lead to soil pollution greatly favor infection with this parasite. The negro is more likely to lack, or to fail to avail himself of proper privy facilities than the white and in accordance with this tendency it is found that in the southern states hookworm disease is more common in the negroes than in the whites. This is especially true of country districts, where not only farms, but even schools and churches are unprovided with privies. While the direct effects of the disease are less marked in the negroes than in the whites, yet long-continued infection induces anemia, makes the organism less resistant to disease and favors the occurrence of other infections. "In other words," says Stiles, "hookworm infection has an indirect effect in increasing the death rate from pulmonary tuberculosis." As the tuberculosis death rate is about three times as great in the negro as in the white, it is probable that the lessened direct mortality from hookworm disease is compensated for by the increase of tuberculosis as an indirect effect. Another important direct effect is the reduction of intellectual activity and learning capacity during the school period. Children so affected are apt to study and learn with difficulty; this is marked in negro children. The importance of properly constructed privies provided with means to protect soil from pollution and the feces from the access of flies is strongly urged by Stiles. The valuable influences to be exerted by preachers and teachers are thus summed up: "It lies within the power of preachers and teachers to play a very important rôle in reducing the death rate. They are the persons to whom many people look to set the example. If preachers and teachers themselves permit the yards of churches and schools to be defiled by soil pollution, it need not be thought strange if farmers permit soil pollution to occur around the homes. Further, it should be recalled that every church and every school around which soil pollution is permitted to occur may act as a disease-breeding center from which infection can be spread to the farms and homes. Further, also, not only can preachers and teachers do good by setting an example in preventing soil pollution, but if they will point out to their friends the dangers which this pernicious habit carries with it, they can be very important factors in inducing the public to institute more sanitary customs, and thereby they can be important factors in reducing the death rate."

Sense Culture.—P. W. Goldsbury (*Boston Med. and Surg. Jour.*, July 1, 1909), attempts to prove that nerve organs of the special senses, no less than the other organs and muscles, need for their healthful development adjustment of rest and stimulation, and that, as the brain must be rested somewhat by readjustment of energies within itself, the different sense organs may be refreshed by varying and qualifying forms of stimulation peculiar to themselves. Physical culture seeks to recreate by variations of the expressive or muscular activities. Why, asks Goldsbury, should not variations of stimulation for the avenues of impressions, the special senses, be used for their tonic effect? The eye may be rested after protracted use by merely closing the lid. But further rest may also be obtained by the playing off, so to speak, of one sense against another by diverting activity. For instance, if we stand and watch a circus parade for any length of time our eyes soon become tired by the "sights and features;" but the bursts of music from the bands, by stimulating the ear, relieve and freshen the eye. Musical comedy shows how the tax on the eye by the costumes, colorings and lights is relieved by the interpolation of music and songs. Even the popular concert where foods are served has a physiologic basis. The air, the water, and the mud baths peculiar to the famous health resorts called hot springs have a marvelous recuperative effect on tired minds and bodies. They stimulate the skin by drawing the blood to it; they give it healthful exercise and so rest and refresh the brain and eyes and ears that have been tortured by the incessant strain and noise and ugly sights and incidentally by the strenuous life. As the brain is refreshed by a different line of thought, or as the stomach and intestines may be improved by a readjustment of diet, so the senses may be recreated by a change of stimulus. The tired ear may be refreshed by simple variation in the sound it hears; that is, by being afforded stimulation in new directions.

Exercising the eye by change of focus seems to have a tonic effect. Looking from one object to another not only affords muscular but sensory exercise. A change of form affords a change of stimulus for the retina. Different colors may be said to afford qualitative variations in stimuli. The colors of the spectrum stand for a variation of wave length. Under ordinary conditions, red tires the eye sooner than green or brown. Goldsbury has a box with a series of small boards exhibiting different paint stains, and asks the patient to shuffle these over several times a day. For office workers whose eyes are so much on white paper and black ink, these varied tints of color and the grain of the wood afford a little soothing and diverting eye exercise, and occasionally this is found to relieve the headache of eyestrain.

The strong smelling-bottle when used is like a solar plexus blow; instead of this Goldsbury has a little case of four bottles containing mild selected odors. Occasional sniffs from these in turn result in a light form of gymnastics for the olfactory tract. To exercise this tract is to stimulate its circulation and this helps to relieve congestion in overstimulated adjacent tracts, as of the eye or ear, whether in the brain or outside of it.

As the skin is more or less susceptible to the feeling of all textures and dyes for clothing worn, there is plenty of opportunity for regulations as to changes at stated intervals of both inner and outer garments, shoes and stockings. Consideration should also be taken of the reactionary influence of the color of clothing on the eye. Air, water, and sun baths in all their various modifications are, in a way, subsidiary agencies of skin-stimulations. Taste must be indulged by being encouraged to choose more what it likes and by giving it more time to act. This would call for thorough mastication of food and the avoidance of flooding out the mouth when drinking. All the avenues for impressions in all their ramifications must be studied specifically and individually.

Stokes-Adams Disease and Lesions of the Bundle of His.—Vaquez and Esmein (*Bull. et mém. Soc. méd. d. hôp. de Paris*, December, 1908, No. 36) report several cases of Stokes-Adams disease, two of them with autopsy showing lesions (sclerogummous infiltration and old sclerosis) of the bundle of His.

In discussing these cases, besides pointing out its two types. they deduce some therapeutic conclusions of interest. Out of twenty cases of which they have found sufficient clinical and anatomic reports, syphilis was the certain etiologic factor in seven, and the probable one in a number of others. In the early stages of the disorder they advise therefore a resort, as quickly as possible, to specific medication, whether there is a history of luetic infection or not. By this means we have a chance to multiply the number of cases in which the condition does not progress until incurable sclerosis has occurred. In the same issue of the *Bulletin* and apropos to the communication of MM. Vaquez and Esmein, M. Louis Renon gives the history of a case of the disorder, seen in the first stages, with a syphilitic history dating back ten years. On the suspicion that he might have to do with a specific disease of the bundle of His, Renon treated the patient with antisyphilitic injections. These resulted in great amelioration of the patient's condition, although he can not call it a definite cure. The treatment has perhaps arrested the progress of the disorder and prevented its passing into the later stage characterized by permanent slow pulse, as pointed out by Vaquez and Esmein.

Building of Sanatoriums.—T. S. Carrington (*Journal of the Outdoor Life*, September, 1909) gives some suggestions as to the site and construction of sanatoriums. The sanatorium may do society harm if it places patients in luxurious surroundings and creates a mental state that will unfit them for the life to which they must return. Excellent results have been obtained by institutions providing only the actual necessities of life, and the observance of simplicity and economy in sanatorium construction avoids the danger of ruining the citizen while curing the individual. In selecting a site proximity, accessibility to friends and the former homes of the patients should be regarded as great advantages, but if the institution is to be a large one the climatic factor must be considered. It is well to remember that vastly differing climatic conditions are often found within a radius of a few miles. The southern exposure of a hill or mountain is usually to be preferred, and sites where strong prevailing winds exist during certain seasons of the year should be avoided. Some sort of an administration building should be provided and the lean-tos or cottages grouped about it; or if the institution is very large, separate groups of buildings should have separate local administration apartments in connection by telephone with a central administration building. Unless the climatic conditions necessitate corridors to connect the buildings, they may be omitted. Every effort should be made to give to the patients' quarters the most pleasant outlook possible. The lean-to style of building is at once the most economical and secures the best supply of fresh air, but even with one side of the room entirely open, ventilation must not be neglected or the air may become foul.

The Card Index System for Circularizing.—M. Perrin writes to the *Presse Médicale*, August 14, 1909, to suggest that persons advertising automobiles, sanatoriums, etc., should adopt the international card index form for their advertisements sent to individuals, which can then be readily classified like the card index in the libraries. These interchangeable cards for the international uniform index system are always 125x75 mm. (about 5x3 inches). He gives some examples and urges the great value of this method of advertising which would much facilitate ready reference, instead of the heterogeneous mass of circulars, pamphlets, etc., which now flood the mail and which it is impossible to preserve conveniently, much less to classify for ready reference.

Brain Storm.—At a meeting of the Chester County Medical Society, Dr. Frank Woodbury, secretary of the committee on lunacy in Pennsylvania, defined brain storm as a figure of speech used to express the idea of a sudden attack of mental perturbation. By analogy it graphically illustrates a psychic or mental commotion by calling to the mind of the hearer or reader the associated idea of a familiar physical phenomenon. Analogous terms used by writers in describing the same emotion have been "mental whirlwind," "maniacal explosion," "stormy irregularity of temperament attending maniacal outbursts," and "a hideous whirlpool of emotion." A summary of Dr. Woodbury's definition of "brain storm" is as follows: 1. Brain storm is a phrase familiarly used to describe brief states of mental emotion or perturbation without reference to their cause; it is a popular and not a scientific term. 2. Such attacks may be influenced by atmospheric and climatic conditions to an extent not usually known or suspected. 3. The presumed proximate causes in such cases are only incidental; they only lay the match to the mine which produces the explosion; the real causes lie deeper. Emotional, confusional conditions may occur in apparently normal persons, but are encountered more frequently among the insane. 5. Brain storms, so called, will be observed most frequently in persons who are neurasthenic and in a depressed vital condition; they are frequently epileptic or epileptiform. 6. Brain storms usually indicate pathologic conditions of the body or mind, but they are symptomatic of general conditions and are not of specific significance. Violent outbursts of rage or emotion have medical importance, and when of frequent occurrence should be investigated by a physician skilled in mental disorders.

Osteopathy Is Limited in New York.—We quote the following from an editorial in the *New York Commercial*, Sept. 21, 1909: "Not only the medical fraternity but the public as well will be deeply interested in the latest phase of the controversy over the legal and the medical standing of the osteopaths. One of the leading practitioners of this school in Brooklyn has just been denied by Justice Crane of the supreme court an injunction compelling the New York City authorities to grant him the same privilege of issuing death certificates for burial purposes as is enjoyed by regular graduate and licensed physicians. And the decision appears to be not only the only one that would be made under the circumstances, but also to be logical and eminently fair.

"It will be recalled that some months ago this same osteopath and his associates secured from the New York court of appeals an opinion that sustained them in their claims and contentions—that a licensed osteopath is not only a physician but under the sanitary code is also empowered to issue death certificates—but it plainly, although delicately, intimated that the code ought to be changed so as to make a distinction between the two classes of practitioners. This decision said in part:

"'Where death is caused by criminal means it usually occurs through external violence or from poison. The osteopath is precluded by the law from practising surgery or administering drugs, presumably for the reason that his education does not qualify him to practice where either drugs or surgery may be necessary. I am therefore not prepared to say that the board of health may not properly require that a certificate of death, which would exclude from the cause thereof either wounds or poison, be made by a physician who is competent to judge such matters. It is sufficient for the disposition of this case to say that the sanitary code now in force draws no such distinction between the two classes of physicians; but I think we should not intimate that the sanitary code may not properly be amended in this respect.'"

"The adroit use of negatives in this ruling is somewhat unique. The board of health understood the suggestion, however, and the change was promptly made—and with propriety, too. For how can a practitioner prohibited by law to practice surgery testify competently as to whether or not an apparently fractured skull is really fractured? Or how can one not permitted to administer drugs make oath that carbolic acid was the cause of a suicide's death?"

Treatment of Pleurisy.—A. Jacobi, in the *Monthly Cyclopedia and Medical Bulletin*, states that dry pleurisy with its excessive pain, demands morphin, never internally, but subcutaneously. Internally it will have no effect such as one wants; subcutaneously, that means locally over the seat of the pain, it will never fail. It will not cure the pleurisy, but will relieve and aid in curing the patient. Cough and sleeplessness caused by pain, must be relieved by an opiate. The physician may kill the patient by not relieving him. The fanatic interdiction of opium in the cases of infants is copied from one text-book into the next by those who treat people at their desks and not at the bedside.

A Longevity Trust.—The Metropolitan Life Insurance Company, in its campaign against tuberculosis, has issued for the instruction of its policy-holders, 3,500,000 pamphlets on the treatment and care of tuberculosis in the home, and proposes to establish a large sanitarium in the northern part of the State of New York, for the treatment of advanced tuberculosis among its policy-holders. The New York *Times*, commenting on this movement, says editorially that the term "life-insurance" never meant the insuring of lives until this year; that the agents of the companies "might easily be transformed into a militant body of health agents," armed with advice in regard to hygienic living for the benefit of the millions of policy-holders; and that "a staff of visiting physicians, specialists in the chief diseases," might be sent to treat policy-holders in each community who could not otherwise command skilled medical services. "By such work," continues the *Times*, "the companies would have fewer death claims to pay. They could promise larger benefits. But this, which has hitherto been a deciding argument in insurance competition, is only incidental to the added promise that the policy-holder's life, which is of quite inestimable value to his family, would be guarded. The competition of the life insurance companies, once started toward the prolongation of their patrons' lives, will not end until not only tuberculosis, but all the diseases that figure largely in the actuarial tables, become the subject of skilled attention. The lives of most men who can afford to employ a doctor are already 'insured.' Ultimately, we presume, those physicians not retained by the companies would be reduced to treating minor ills, or forced quite out of their profession. The organization of preventive medicine has reached startling proportions, but it has failed to keep pace with the progress of medical science. This progress is so rapid that the medical colleges complain that they can not catch up in their equipment. But if the new departure in life-insurance means anything, it means that the companies are beginning to resolve themselves into what they have an inherent right to be—companies of physicians—a longevity trust."

Cottonseed Oil Superior to Olive Oil.—So much emphasis has been placed on the fraudulent adulteration of olive oil by means of cottonseed oil that the impression has become very general that cottonseed oil was not suitable for the human stomach. The manufacturers of cottonseed oil in the south are evidently commencing a propaganda of education. If some of the statements we have seen are correct, cottonseed oil should be able to stand on its own merits as a food and to supplant olive oil to a certain extent. Because of the interest which attaches itself to this question, but without any investigation as to the accuracy of the statements, we abstract the following from an article which was published in *Life and Health* by Dr. O. C. Godsmark: The absolute purity and freedom from disease contamination, which obtain in the production of cottonseed oil, make this oil valuable as a food commodity. It is said to be more readily received and assimilated into the system than peanut butter, corn oil, or even the pure olive oil itself. Professor Moore of Arkansas State University states that of 100 parts of pure cottonseed oil, 93.37 parts are digested; of olive oil, 88.81 parts; of peanut oil, 85.87 parts; of corn oil, 86.47 parts; while of beef suet but 73.66 parts in 100 are digested. The substitution of the pure cottonseed oil in emulsions, in place of cod-liver oil, has been urged, and is even now being done. In the treatment of tuberculosis, when the emulsion is used, 25 out of 100 persons can use cod-liver oil emulsion, 75 out of 100 can take the emulsion when cottonseed oil is used, it being that much more easily assimilated by the weakened digestive organs of the patient. Dr. H. W. Wiley says that one unit of cottonseed oil will furnish over twice as much heat and energy as the same quantity of sugar or starch. When used with salt on bread, it makes a very acceptable substitute for cream and butter, and certainly is free from the diseases we contract from the animal world. Not only is cottonseed oil more easily digested than corn oil, peanut butter and even olive oil, but it also does not ferment in the stomach and bring on that long train of evils that have come from the too abundant use of some of the articles mentioned.

Book Notices

THE PSYCHOLOGY OF DEMENTIA PRÆCOX. By Dr. C. G. Jung, Privat-Docent in Psychiatry, University of Zurich. Authorized Translation with Introduction by Frederick Peterson, M.D., Professor of Psychiatry, Columbia University, New York, and A. A. Brill, Ph.B., M.D., Assistant in Psychiatry, Columbia University, New York. Paper. Pp. 153. Price, $2. New York: The Journal of Nervous and Mental Disease Publishing Co., 1909.

As a term of diagnosis "insanity" has become almost as meaningless as "paralysis," "apoplexy," "chorea" and "water on the brain." Even "mania," "melancholia," "paranoia" and "dementia" are fast losing their scientific significance, if indeed they ever had any. The word "psychosis," borrowed from psychology and applied scientifically, in modern psychiatry, to all states of unwonted mentalization, is coming more and more to stand for a particular class of phenomena, namely, individual psychophysiologic reaction to environment.

In consonance with the newer teachings of psychology it is beginning to be recognized that there are no mental diseases in the old sense, capable of classification as distinct and separate entities, but that there are merely broad and general groups of symptoms and strange mental exhibitions, each group indicating in a gross way the individual's bias or personal idiosyncrasy. Personality is a functional synthesis evolved under the influence of heredity and environment, a fact which explains why each patient has, so to say, his own psychosis or insanity.

In modern psychiatry, therefore, quite a new point of view has been assumed whereby more stress is laid on the cause, course and conclusion of the case than used to be done and far less on the mere strangeness and incongruity of the symptomatic display. Indeed, the symptoms of insanity are now regarded as quite unreliable for the purposes of diagnosis until they and the patient have been subjected to the closest sort of psychoanalysis. It has been more than once demonstrated that there is no more justification for the diagnosis of insanity on the strangeness merely of the patient's thinking and acting than there would be in making such a diagnosis on the strangeness of the thinking and acting of a savage.

So transcendingly important have become the patient's individual heredity and environment in modern psychiatry that these factors must be kept ever foremost in the mind of the examiner during a psychoanalysis. Not for a moment to-day will mere queerness and singularity of thought and action serve as conclusive evidence of mental aberration; only the relationship of the patient's thought and action to the thought and action of his previous state, his family, his neighborhood, race, and nation and all those elements and factors that fall within the sphere of his own heredity and environment, will finally determine whether he is, or is not, insane.

This new point of view of modern psychiatry, which unfortunately has not yet been fully recognized by the courts or the rank and file of the profession, and which will probably not be so recognized for a long time to come because of the almost universal lack of training in psychology and because of the great labor and skill required in the making of a thorough psychologic examination, is being taken by many of the more advanced thinkers. As a method of study it opens up quite a new field. Among the earlier pioneers to enter this field Breuer and Freud deserve great credit for their many exhaustive psychoanalyses and the brilliant light they have shed on the nature and symptoms of hysteria, dreams, and dream states. Recognizing this, Jung, another pioneer, has attempted to explain the general, indefinite form of mental aberration to which Kraepelin has given the name "dementia præcox" and of which he has so admirably described the clinical features, on the basis of individual psychoanalysis. Jung's dominant suggestion, running all through his book, is that a close psychoanalysis of each case of so-called dementia præcox ought to and does enable us to correlate all the clinical manifestations with the known data of the patient's particular personality as it has been elaborated by his known heredity and environment. In other words, dementia præcox is not to be regarded as a disease entity, but merely as a state of mind capable of analysis and explanation on a basis of individual and comparative psychophysiology.

Though "this work is the fruit of three years' experimental labor and clinical observation," Jung modestly disclaims having attempted more than to show how, by certain psychologic investigations, he reached views which he deems "fit for the stimulation of the problems of the individual psychologic basis of dementia præcox in a new and fruitful direction." In this, we think, he has succeeded admirably and with Dr. Peterson, who writes a most illuminating introduction to the book, we agree that Jung shows that just as in normal individuals and in hysteria the complex continues to play its part in dementia præcox, and as it does in dreams, the psychosis tends to actualize the repressed wishes from normal life;" and furthermore, that "the otherwise known absurdities and incomprehensibilities become quite clear," by reason of every case having "its special interests and its own individuality."

There are five chapters in the book. The first is devoted to a semi-historical and critical presentation of the earlier theories of the psychology of dementia præcox. The second is occupied with a study of the emotional complex and its general action on the psyche. "The essential basis of our personality is affectivity. Thought and action are only, as it were, symptoms of affectivity." In Chapter 3 the influence of the emotional complex on association is examined, with abundant illustration. In Chapter 4 an interesting parallel is drawn between dementia præcox and hysteria. "Between hysteria and dementia præcox there is only a resemblance of the psychologic mechanisms but no identity. In dementia præcox these mechanisms reach much deeper, perhaps, because they are complicated by toxic effects." And yet while there is no identity, it is nevertheless true, as Jung affirms, that "the psychologic mechanisms of dreams and hysteria are most closely related to those of dementia præcox. . . . The dreamer finds himself in a new and different world which he has projected out of himself. Let the dreamer walk about and act like one awakened and we have the clinical picture of dementia præcox." The entire fifth chapter, the longest and perhaps the most valuable, is taken up with the analysis of a case of paranoid dementia as a paradigm.

To those who would like to learn the trend of modern psychiatric investigation and to note the valuable contributions of the newer psychology to the solution of the intricate problems of mental disease we would urgently recommend the reading of Jung's work, both for its stimulating effect toward further thought and as an illustration of what a thorough psychologic analysis and diagnosis of a case of mental disease involves or presupposes in the examiner.

The translator and editor are to be highly complimented on the skill with which they have given to the American reader a correct and lucid presentation of one of that class of books usually considered the hardest to comprehend, namely, those devoted to the problems in abnormal psychology.

Infant Feeding. By J. S. Fowler, M.D., F.R.C.P., Physician to the Royal Hospital for Sick Children, Edinburgh. Cloth. Pp. 230, with illustrations. Price, $1.50. New York: Oxford University Press, 1909.

This very attractive little flexible-covered manual is a worthy companion to the many compact, simple and extremely lucid guides to infant-feeding that have come to us from time to time from English pediatricians. While in many ways following ideas current in England and the United States, it has a marked individuality and we find different methods giving a greater or less proportional value as a result of Dr. Fowler's own experiences. Thus he devotes ten pages to Budin's method of feeding undiluted sterilized (forty minutes) cow's milk to nearly all infants, and reports results but little less favorable than those of the French author himself. Relatively little is said of sodium citrate, and then it is recommended only to meet certain definite indications, and not as a sort of infant-feeding panacea, to which some of Dr. Fowler's countrymen have exalted it. Dr. Fowler is lukewarm in his attitude toward the percentage system, "a method still largely employed in America," and while he is unstinted in his commendation of the great work done by Rotch, he does not believe that the minute fractional elaboration of that system has any practical value. The book does not, of course, as yet reflect the recent German advances, but is an admirable, clean-cut, sane presentation of this complex subject up to that point.

Bacterial Food Poisoning. By Prof. Dr. A. Dieudonné, Munich. Translated and Edited, with Additions, by Dr. Charles Frederick Bolduan, Bacteriologist, Research Laboratory, Department of Health, City of New York. Cloth. Pp. 128. Price, $1.00. New York: E. B. Treat & Co., 1909.

Dr. Dieudonné maintains the position that most cases of food poisoning are due to the contamination of foods by certain specific bacteria. The *Bacillus proteus* in particular is incriminated; an arraignment not easy to understand in so far as the proteus bacillus is very extensively distributed, while typical cases of food-poisoning are very rare. *Bacillus enteritidis, Bacillus paratyphi* and the anaërobic *Bacillus botulinus* are all carefully discussed and their more or less hypothetical rôle in the production of various forms of food-poisoning explained. Ptomain poisoning by autolysis without the intervention of bacteria is not at all considered. Food intoxication by metallic poisons is declared to be much more rare than commonly assumed, but the facts adduced in favor of this view are rather scanty and the argument not altogether convincing.

Too much space is given to the purely bacteriologic aspect of the question, as for instance the cultural characteristics and the morphology of various well-known bacteria; not enough attention is bestowed on the finer details of symptomatology and diagnosis. The rules of prophylaxis are in some instances almost naive, as for instance, "meat showing evidence of putrefaction should not be eaten;" nearly all the other rules of prophylaxis are trite and essentially amount to a plea for cleanliness in the handling, preservation and preparation of foods. Here and there a suggestion is made in regard to serodiagnosis, but no definitely new facts are given; nor does it seem feasible from a clinical standpoint to attempt the serodiagnosis of a series of disorders, apparently of manifold origin, that either run a rapidly fatal course or quickly hasten to spontaneous recovery. The treatment advised is essentially eliminative and symptomatic. All in all, the book is an interesting review of the whole subject of food-poisoning, well classified and complete from the historic and casuistic standpoint; it is a convenient reference work for the bacteriologist and pathologist, but of relatively small clinical value to the practitioner. The translation is very good.

The Therapeutics of Radiant Light and Heat and Convective Heat. By William Benham Snow, M.D., Author of "A Manual on Electro-Static Modes of Application, Therapeutics, Radiography, and Radiotherapy." Cloth. Pp. 119. Price, $2. New York: Scientific Authors' Publishing Co., 349 W. 57th St.

This manual of 110 large octavo pages is devoted to the therapeutic application of the various forms of radiant energy. It is hard to classify some of the books on the therapeutics of radiant energy. They are not entitled to be classed as fiction; neither are they narratives of facts as the unenthusiastic observer sees them. The authors will assume some law of "harmonic vibration" or something of that kind, and then from such premises will by deduction arrive at a system of physical therapeutics. Pathology does not play a very important part in such systems, but they are strong on the influence of various "modalities" on molecules and cells and metabolism. The style usually suggests that in which other systems of therapeutics, most of them of lamented memory, were set forth with their enthusiasm, their innocent superiority to critical analysis, and their unbounded love for panaceas.

The book before us belongs in this class. "In accord with the law of harmonic vibration, it is probable that the tissues attune themselves from a source of mixed vibrations, as of the combined spectral vibrations of radiant light and heat, deriving therefrom by selection the kind of energy which sets up and restores functional activity. . . ."

"These higher frequencies of radiant energy conserve the chemical actions and the more gross and energetic mechanical agencies, as certain electrical modalities, mechanical vibration and exercise conserve the mechanical demands for relieving stasis and infiltration, and also increasing the activity of the grosser functions of the organism."

"From the point of view suggested by the above premises it will be recognized that the study of the application of these vibratory agents to therapeutics suggests the investigation of the principles of adaptation of external vibratory energy to the restoration of the body, properly sustained, to its normal vibration in all its parts, as evidenced by the revival of health with the restoration of functional activities." And there you are—a bit groggy, doubtless, but still conscious. Of course a book which starts off with such metaphysics can not be followed very far by one who keeps his feet on the earth.

The Elements of Hygiene for Schools. Compiled by Isabel McIsaac, Collaborator of the *American Journal of Nursing*. Cloth. Pp. 172. Price, 60 cents. New York: Macmillan Company, 1909.

This is a presentation of the subject of hygiene in such a way as to be of practical use to pupils in the public schools who will probably have no further opportunity to study the subject. The first chapter is devoted to bacteriology, not only in relation to disease, but to housekeeping, farming and various industries. The hygiene of occupation is discussed at some length. A chapter is devoted to food and in it are discussed the composition of various animal and vegetable foods and the methods of preparing them. Subsequent chapters deal with air, climate, ventilation, etc.; heating and lighting; purification of water; care of sewage and garbage; causes and dissemination of disease; personal, household and school hygiene; disinfection and quarantine. The book is a valuable one and to be commended.

Self-Help for Nervous Women. By John K. Mitchell, M.D., Fellow of the College of Physicians of Philadelphia. Cloth. Pp. 201. Price, $1.00. Philadelphia: J. B. Lippincott Co.

This is a reprint, as stated in the preface, of a series of articles published in 1901 in *Harper's Bazar*, but added to and amended from the suggestions given in the numerous communications received by Dr. Mitchell from correspondents since the first publication. It is not intended for physicians, but it has the medical interest of being the advice to the laity of an experienced practitioner in the treatment of these nervous disorders. There is little or nothing in it that can be criticized by any physician, and some of us might perhaps profit by some little practical hints here and there in its pages. Dr. Mitchell has added his opinion of the so-called Emmanuel movement and of the therapeutic efforts of clergymen in general to the original material of his chapters. He says, in this connection, that while, in his experience, their efforts to afford assistance, in cases in which the nervous sufferers have been referred to them, have as often as not been unsuccessful, the only religious sect in which he has not met these cases is that of the Quakers. This, considering the opportunities for observation he must have had, is of interest. He attributes this to the cultivation of emotional control among Quakers, but it may also be due, it seems to us, to a natural and artificial selection process that has weeded out those who would be most subject to the forms of abnormal mentality here described.

Treatment of the Diseases of Children. By Charles Gilmore Kerley, Professor of the Diseases of Children in the New York Polyclinic Medical School and Hospital. Edition 2. Cloth. Pp. 629, with 78 illustrations. Price, $5. Philadelphia: W. B. Saunders Co., 1909.

The natural assumption of meritorious qualities in a book which has reached a second edition will not be reversed by an examination of this work. It is intended especially for practitioners and is full of suggestions and details which can not fail to make it useful to every one who has to deal with children, either sick or well.

Nicholas Senn. An Appreciation. Published under the auspices of the Nicholas Senn Club of Chicago. By S. M. Wylie, M.D., Paxton, Ill. Cloth. Pp. 27.

This little book was written, says Dr. Wylie, "in fulfillment of a promise made to him [Senn] many times, a compact, mutually agreed on, whereby one of us, God alone knew which, was to perform this service for the other." While in no sense a biography, yet many interesting facts of a biographic nature are given touches that make the dead surgeon live again. By those who, like Dr. Wylie, were close personal friends of Dr. Senn as well as by those who, while unacquainted with him, yet entertained the highest respect for him both as a man and as a surgeon, this little "appreciation" will be read with pleasure and interest.

Festskrift vid Tuberkulos-Konferensen i Stockholm, 1909. Paper. Pp. 136, with illustrations. Utgifven af Svenska Nationalföreningen Mot Tuberkulos.

Although this pamphlet has a Swedish title, not difficult to understand, that language is entirely avoided in the text; the articles being printed in German, French or English. They cover a considerable number of subjects, relating to the campaign against tuberculosis in Sweden. The first is a general review of the activity of the Swedish National Association against Tuberculosis from 1904 to 1908, in German, by B. Buhre. Next follows an account of the institutional treatment of tuberculosis, comprising two articles, one in French by J. G. Edgren, and the other in English by S. Carlsson. Other articles deal with the sale of charity stamps, the occurrence of tuberculosis in public schools, social hygienic experiments, bovine tuberculosis, and an epidemic of consumption in the commune of Orsa. The book will prove of great interest to those engaged in the campaign against tuberculosis.

Medical and Surgical Report of the Presbyterian Hospital in the City of New York. Vol. VIII, December, 1908. Edited by John S. Thacher, M.D., and George Woolsey, M.D. Boards. Pp. 371, with illustrations.

This report consists mainly of papers by members of the hospital staff, usually reprinted from medical journals. An interesting feature described by W. P. Northrup is the open-air roof-wards which have been established through the generosity of Mr. and Mrs. W. K. Vanderbilt. Experience has shown that for day and night continuous treatment the open roof-wards have done better service than balconies. The volume contains a number of valuable papers which reflect credit on both authors and the institution.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

BARTLETT METHOD OF PREPARING CATGUT

To the Editor:—Please publish in The Journal the formula used in preparing catgut by the Bartlett method.

P. H. Provandie, Melrose Highlands, Mass.

Answer.—The following is the method advised by Dr. Willard Bartlett:

The strands are cut in convenient length, say 30 inches, and made into little coils about as large as a silver quarter. These coils are then strung like beads on a thread so that the whole quantity can be conveniently handled by simply grasping the thread. The string of catgut coils is dried for one hour at a temperature of 180 F. and then for a second hour at 220 F., the change in temperature being accomplished gradually. The catgut is then placed in liquid petrolatum, where it is allowed to remain until perfectly clear, in the sense that the term is used in the preparation of histologic specimens. This is usually accomplished in a few hours, though it has been Bartlett's custom to allow the gut to remain in the oil over night. The vessel containing the oil is next placed on a sand-bath and the temperature raised during one hour to 320 F., and this temperature is maintained for a second hour. By seizing the thread with sterile forceps the catgut is lifted out of the oil and placed in a mixture of iodin crystals, 1 part, in Columbian spirits, 100 parts. In this fluid it is stored permanently, and is ready for use in twenty-four hours; the thread is then cut and withdrawn. Thorough preliminary drying is essential; success is only possible when this is carried out in a very dry room and preferably in dry weather. Dr. Bartlett now stores it in a 1 to 1000 iodin solution in Columbian spirits (methyl-alcohol, 97 to 98.5 per cent.).

UHLENHUTH'S METHOD OF BLOOD DIFFERENTIATION

To the Editor:—Please inform me through the columns of The Journal, the full technic of Uhlenhuth's method of blood differentiation, as used in medicolegal work. B. R. LeRoy, Athens, O.

Answea.—The following is the technic as described by Peterson and Haines, in their "Text-Book of Legal Medicine and Toxicology," Vol. ii, p. 751: The method of humanizing a rabbit is to inject into the peritoneal cavity about 10 c.c. of human blood serum at intervals of two or three days until the rabbit has received 6 or 8 injections. The rabbit should be allowed to rest about a week after the last injection. The blood serum for performing the test may then be obtained either by killing the animal by bleeding it from one of the large vessels, or without killing the animal by removing a little blood from one of the large veins of the ear. The blood thus collected should be placed in a cool place and allowed to coagulate. The serum that separates from the clot may be used for performing the test.

The blood to be tested should be prepared as follows: If it be fresh blood, it should be diluted about 1 to 100 with normal salt solution. Thus diluted, it should have a light-pink color, and this diluted solution, if not perfectly clear, should be allowed to settle until it is clear, and the clear, supernatant fluid decanted into another test-tube. If the blood to be tested is a dry blood-stain, a little of it may be scraped off with the point of a knife on to a watch-glass, if the stain be on some hard surface so that the blood has not penetrated into the substance of the material. If the blood-stain be on cloth into which the blood has soaked, it is necessary to cut out a few threads and transfer them to a watch-glass. These fragments of dried blood should then be treated with two or three drops of distilled water until the soluble portion of the dried blood has been dissolved. The clear solution should then be transferred carefully to a very narrow test-tube, and to this should be added an equal volume of double normal salt solution. The clear fluid thus obtained either by diluting fresh blood or by dissolving the blood serum from the dried blood-stain is then tested by adding to it a few drops of the serum obtained as above described from the humanized rabbit. If the solutions contain human blood serum, there will occur an immediate cloudiness that gradually increases, so that there is a distinct precipitation within one-half hour after the addition of the serum from the humanized rabbit. It is better often to allow the antiserum to flow down the side of the test-tube, so as to form a separate layer under the solution to be tested, in the same way that we add nitric acid to urine in testing for albumin. In this case the cloudiness and precipitate may be seen very distinctly in the zone at the point of contact of the two fluids. The precipitate occurs best when the mixture is kept at a temperature of about 37° C.

Ewing has shown that, in applying the serum test, it is important that the solution of the blood under examination be not too strong; if it is too concentrated, the blood of some of the lower animals may react to a greater or less degree. At a dilution, however, of at least 1 to 50 the blood of lower animals fails to give a reaction, and the test becomes a specific one for human blood. Dilution of the serum is even better than dilution of the blood.

TUBERCULOSIS OF FEMALE GENITALIA

To the Editor:—Please give me references to literature on tuberculosis of the female genitalia. A. BELITZ, Milwaukee, Wis.

ANSWER.—The following articles may be referred to:

Martin, A. Genital Tuberculosis, *Berl. klin. Wchnschr.*, Jan. 30, 1908; abstr. in THE JOURNAL, Feb. 22, 1908, p. 650.

Baisch, K.: Ultimate Results of Treatment of Genital and Peritoneal Tuberculosis, *Arch. f. Gynäk.*, lxxxiv, No. 2; abstr. in THE JOURNAL, March 14, 1908, p. 922.

Clark, S. M. D.: Tuberculosis of the Female Genitals, *New Orleans Medical and Surgical Jour.*, July, 1908; abstr. in THE JOURNAL, Sept. 5, 1908, p. 868.

Stone, I. S.: Tuberculosis of the Female Generative Organs, THE JOURNAL, Oct. 31, 1908, p. 1539.

Simmonds, M.: Tuberculosis of the Female Genitalia, *Arch. f. Gynak.*, lxxxviii, No. 1; abstr. in THE JOURNAL, May 22, 1909, p. 1725.

Blau, A.: Origin and Spread of Tuberculosis in the Female Genital Tract. (Ueber die Entstehung und Verbreitung der Tuberkulose im weiblichen Genitaltrakte.) Verlag von S. Karger, Karlstrasse 15, Berlin, Germany.

TRAUMATIC NEPHRITIS

To the Editor:—Please give references to literature on traumatic nephritis (Bright's disease).

A. J. CROWELL, Charlotte, N. C.

ANSWER.—The following articles have appeared since 1904:

Oberndorfer, S.: Post-Traumatic Nephritis, *Münchener medizinische Wochenschrift*, l, No. 50; abstracted in THE JOURNAL, Jan. 16, 1904, p. 210.

Klippel and Chabrol, E.: Traumatic Nephritis with Unilateral Edema. *Presse Médicale*, April 14, 1909; abstracted in THE JOURNAL, May 29, 1909, p. 1799.

ACETONE TREATMENT OF INOPERABLE CANCER OF THE UTERUS

To the Editor:—Please give me reference to the acetone treatment of inoperable cancer of the uterus.

M. IVERSON, Stoughton, Wis.

ANSWER.—The acetone treatment for inoperable cancer of the uterus is described by G. Gellhorn, St. Louis, in THE JOURNAL, April 27, 1907, p. 1400. Further reports by him have appeared in the *St. Louis Medical Review*, November, 1907, and in the *Münchener medizinische Wochenschrift*, Dec. 17, 1907.

The same treatment is referred to favorably by F. J. Taussig of St. Louis, in the *Interstate Medical Journal*, February, 1909.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, November 9. Sec., Dr. F. T. Murphy, Brinkley.

CONNECTICUT: Homeopathic, New Haven, November 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.

CONNECTICUT: Regular, City Hall, New Haven, November 9-10. Sec., Dr. Charles A. Tuttle, 196 York St.

FLORIDA: Jacksonville, November 10-11. Sec., Dr. J. D. Fernandez.

ILLINOIS: Coliseum Annex, Chicago, October 20-22. Sec., Dr. J. A. Egan, Springfield.

LOUISIANA: Homeopathic, New Orleans, November 1. Sec., Dr. Gayle Aiken, 1102 St. Charles Ave.

MAINE: Portland, November 9-10. Sec., Dr. Frank W. Searle, 806 Congress St.

MASSACHUSETTS: State House, Boston, November 9-11. Sec., Dr. E. B. Harvey, Room 159, State House.

NEBRASKA: Senate Chamber, State House, Lincoln, November 10-11. Sec., Dr. E. Arthur Carr, 141 South Twelfth St.

NEW JERSEY: State House, Trenton, October 19-20. Sec., Dr. E. L. B. Godfrey, Camden.

NEVADA: Carson City, November 1. Sec., Dr. S. L. Lee.

TEXAS: Levy Bldg., Greenville, November 9-11. Sec., Dr. M. E. Daniel, Honey Grove.

WEST VIRGINIA: Chancellor Hotel, Parkersburg, November 9-11. Sec., Dr. H. A. Barbee, Point Pleasant.

WYOMING: Laramie, October 20-22. Sec., Dr. S. B. Miller.

Better Conditions at the University of Vermont

The University of Vermont College of Medicine, Burlington, hereafter will be entirely under the control and management of the trustees of the university, according to an editorial in the *Vermont Medical Monthly* for August. There has been a partial control by the university for several years, but all financial obligations had to be met by the faculty of medicine. At the last meeting of the Vermont legislature an annual appropriation of $10,000 was voted to the university in aid of medical education, which made it possible for the university to assume the financial responsibility of the department, collecting all fees and paying all bills, including salaries. The College of Medicine of the University of Vermont well deserved this additional assistance and it means better things for medical education in that state. The medical faculty has voted to increase the preliminary requirement to one year of college work, including courses in physics, chemistry and biology, the increase to become effective in 1912.

Damages Awarded Against a Medical College

It is reported in the *Texas State Journal of Medicine* that Dr. R. L. Charlton was lately awarded judgment in the district court of Dallas county, Texas, for $1,000 damages against the College of Physicians and Surgeons, formerly the Bell Medical College, but in attempting to enforce the order the sheriff could find no property out of which to obtain the money. This information is interesting since it confirms the Texas State Board of Medical Examiners in their withdrawal of recognition from this medical college on the ground that it was not properly equipped to furnish medical education.

University of Southern California Has a New Medical Department

When the former College of Medicine of the University of Southern California became the Los Angeles Medical Department of the University of California the former university was left without a medical department. Recently, however, the College of Physicians and Surgeons of Los Angeles was taken over and made an integral part of the University of Southern California. It is stated that an enlargement of the medical course will follow the merger.

Texas June Report

Dr. M. E. Daniel, secretary of the Texas State Board of Medical Examiners, reports the written examination held at Cleburne, June 22-24, 1909. The number of subjects examined in was 12; percentage required to pass, 75. The total number examined was 175, of whom 150 passed, 19 failed, and 6 withdrew. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, San Francisco	(1902)	80.6
Birmingham Medical College	(1908)	77
University of Arkansas	(1901)	83.9
Arkansas Industrial University	(1891)	75
Georgia College of Eclectic Medicine and Surgery	(1889) 75; (1890) 76.5; (1902) 75.	
Atlanta College of Physicians and Surgeons	(1909)	83.4, 85.6
Jenner Medical College	(1899)	76.5
Rush Medical College	(1895)	75
College of Medicine and Surgery, Chicago	(1909)	80.6
College of Physicians and Surgeons, Chicago	(1903)	91.3
Physio-Medical College of Indiana	(1906)	84.5
University of Louisville	(1879) 75; (1896) 75; (1907) 84.7; (1909) 80-1, 82.5.	
Louisville Medical College	(1906)	86.3
Tulane University of Louisiana	(1893) 80.5; (1891) 75; (1901) 80.5; (1905) 86.6; (1909) 79.7, 80.8, 80.8, 81, 82.6, 82.8, 83.5. 84.2, 84.5, 85.2, 88.1, 88.4, 91.3, 92.5.	
Johns Hopkins University	(1909)	92.5
University of Maryland	(1905)	83.2
Baltimore University	(1902)	81.7
Baltimore Medical College	(1909)	80.1, 86.9
College of Physicians and Surgeons, Baltimore	(1891)	75
Boston University	(1902)	76.3
Kansas City Medical College	(1897)	75
Missouri Medical College	(1879)	76.9
Barnes Medical College	(1909)	76.4
University Medical College, Kansas City	(1904)	82.8
St. Louis College of Physicians and Surgeons,	(1883) 75; (1889) 77.9; (1909) 77.1.	
Eclectic Medical College of New York	(1879)	75
Jefferson Medical College	(1907)	86.2
Memphis Hospital Medical College	(1901) 80.2; (1903) 77.2; (1904) 82; (1908) 79; 1909) 75, 75.2, 80.3, 85.9.	
Vanderbilt University	(1909)	78.3, 80.5, 81.3, 81.4, 84.2, 85, 85.3
University of Nashville	(1908) 78.9; (1909)	83.3, 87.8
University of Tennessee	(1909)	81.5, 81.9, 82
Meharry Medical College	(1909)	75, 77.2, 80.4
College of Physicians and Surgeons, Memphis	(1909)	88.2
University of the South	(1908)	83.2
Chattanooga Medical College	(1905)	76.4
Southwestern University Medical College, Dallas	(1908) 81.6, 82.3; (1909) 79.1, 80.4, 81.7, 84.7, 86.3.	
Baylor University	(1909) 76.9, 78.2, 79.9, 81.6, 81.7, 82.5, 82.5, 84.3, 84.3, 87.4, 87.8, 89.3, 89.9.	
Fort Worth University	(1909) 75.4, 78.3, 78.3, 80.6, 82.8, 83.4, 86.4, 87.5, 89.6, 91.1, 95.9.	
University of Texas	(1908) 84, 93.4; (1909) 81, 81.7, 84.2, 84.3, 84.4, 84.7, 85, 85.5, 85.5, 85.7, 86, 86.6, 86.7, 87.1, 87.7, 87.8, 88, 88.1, 88.1, 88.2, 88.9, 89, 89.3, 89.6, 89.7, 90, 90.1, 90.1, 91.2, 91.3, 92.7, 93.3, 94.	
University of Vermont	(1895)	75
National Medical College, Mexico City	(1901)	85.4
University of Heidelberg, Germany	(1904)	95

FAILED

College	Year Grad.	Total No. Exam'd.
Illinois Medical College	(1903)	1
Tulane University of Louisiana	(1909)	1
St. Louis College of Phys. and Surg.	(1908) 2; (1909)	3
North Carolina Medical College	(1909)	1
Memphis Hospital Medical College	(1901) 3; (1909)	4
University of Nashville	(1904) (1909)	2
Vanderbilt University	(1909)	1
Chattanoga Medical College	(1901)	1
Meharry Medical College	(1908) 2; (1909)	3
Southwestern University Medical College, Dallas	(1909)	1
Dallas Medical College	(1903)	1

Maryland June Report

Dr. J. McP. Scott, secretary of the Maryland State Board of Medical Examiners, reports the written examination held at Baltimore, June 22-25, 1909. The number of subjects examined in was 9; percentage required to pass, 75. The total number of candidates examined was 121, of whom 100 passed and 21 failed. Twenty-two candidates were licensed through reciprocity and 5 under exemption clauses and by special examination. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
George Washington University	(1908) 80; (1909)	80, 81, 83
Howard University	(1908)* (1908) 81; (1909)	77, 81
College of Physicians and Surgeons, Baltimore	(1907)* (1908) 81; (1909) 79, 83, 85, 86, 86, 87, 88, 88.	
Johns Hopkins University	(1904) 83, 87; (1905) 88; (1906) 90; (1908) 86, 88; (1909) 77, 78, 79, 82, 83, 84, 84, 84, 89.	
Baltimore Medical College	(1906)* (1909) 75, 75, 75, 77, 78, 80, 81, 81, 85, 87.	
Maryland Medical College	(1905)* (1908)* (1909)	75, 79, 80, 82, 83
University of Maryland	(1907)* (1907) 80; (2, 1908)* (1909) 75, 75, 76, 76, 77, 77, 78, 79, 80, 80, 81, 82, 82, 83, 84, 84, 84, 85, 85, 87, 87, 87, 88, 88, 89, 89, 91.	
Baltimore University	(1907)*	
Woman's Medical College of Baltimore	(1908) 85; (1909)	79
Leonard School of Medicine	(1909)	76
Jefferson Medical College	(1908) 76; (1909)	83
University of Pennsylvania	(1908) 82; (1909) 76, 81, 81, 81, 82, 85, 88, 88, 89.	
Medico-Chirurgical College, Philadelphia	(1908)	80
University of the South	(1908)	75

FAILED

College	Year Grad.	Per Cent.
University of Maryland	(1908)* (1909)	69, 70
Woman's Medical College of Baltimore	(2, 1908)* (1909)	74
Baltimore Medical College	(2, 1906)* (1909)	66, 68
Maryland Medical College	(1906)* (1907)* (1908)* (1908) 67; (1909) 63, 69, 72.	
University of Pennsylvania	(1909)	73
University of the South	(1904)* (1908*	
University College of Medicine, Richmond	(1909)	70

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Howard University	(1907)	S. Carolina
George Washington University	(1900) Ohio; (1903)	Virginia
Rush Medical College	(1897)	Illinois
Georgetown University	(1891) (1893)	Dist. Colum.
Hospital College of Medicine, Louisville	(1898)	Ohio
University of Maryland	(1906) Virginia; (1904)	Dist. Colum.
Baltimore Medical College	(1903) Indiana; (1907)	W. Virginia
Johns Hopkins University	(1906) Virginia; (1908)	Michigan
College of Physicians and Surgeons, Baltimore	(1897)	Missouri
Maryland Medical College.	(1907) (1908) Georgia; (1907)	W. Virginia
Baltimore University	(1897)	Wisconsin
Tulane University of Louisiana	(1901)	Texas
Woman's Medical College of Pennsylvania	(1904)	Missouri
Medical College of the State of South Carolina	(1902)	S. Carolina
Medical College of Virginia, Richmond	(1898)	W. Virginia

LICENSED UNDER EXEMPTION CLAUSE AND BY SPECIAL EXAMINATION

College	Year of Grad.
College of Physicians and Surgeons, Baltimore	(1882) (1888)
University of Maryland	(1888)
University of Budapest, Hungary	(1869)
University of Palermo, Italy	(1908)

* Re-examined.

Virginia June Report

Dr. R. S. Martin, secretary of the Medical Examining Board of Virginia, reports the written and oral examination held at Richmond, June 22-25, 1909. The number of subjects examined in was 9; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 132, of whom 112 passed and 20 failed. Four reciprocal licenses were issued. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University	(1909)* (1909)	81, 83, 85
Georgetown University	(1907)*	
George Washington University	(1894)* 1908)	80
University of Louisville	(1906)	77
Kentucky School of Medicine	(1907)*	
Tulane University of Louisiana	(1908) 79; (1909)	78
Baltimore Medical College	(1907) 75, 76; (1909)	77, 79
Johns Hopkins University	(1909)	82
University of Maryland	(1903) 75; (1909)	77, 79, 83, 85
College of Physicians and Surgeons, Baltimore	(1882)* (1908) 79; (1909) 82.	
Maryland Medical College	(1902)* (1905) 77; (1909)	75, 82, 82
New York University Medical College	(1891)*	
Leonard School of Medicine	(1906) 75; (1908) 75; (1909) 75, 75, 80, 80.	
University of Pennsylvania	(1907)* (1909)	82
Woman's Medical College of Pennsylvania	(1907)	82
Jefferson Medical College	(1908)	75
Medical College of the State of South Carolina	(1901)*	
University of the South	(1908)	75
University of Nashville	(1909)	77
University of Virginia,	(1907) 78; (1908) 76, 80; (1909)* (1909) 77, 78, 78, 85.	
University College of Medicine, Richmond	(1907) 79; (1909) 76, 76, 76, 77, 78, 79, 79, 79, 80, 80, 80, 80, 80, 80, 80, 80, 81, 82, 82, 82, 82, 83, 83, 83, 84, 84, 84, 85, 85, 87, 90.	
Medical College of Virginia	(1907) 83; (1998) 81; (1909) 75, 75, 76, 77, 77, 77, 77, 77, 78, 78, 78, 79, 79, 79, 79, 80, 81, 81, 82, 82, 82, 83, 84, 84, 84, 85, 87.	

FAILED

College	Year Grad.	Per Cent.
Kentucky School of Medicine	(1887)* (1908)	71, 73
Maryland Medical College	(1904)* (1908) 73; (1909)	72, 72, 72
University of Maryland	(1909)	71
Baltimore Medical College	(1909)	72
College of Physicians and Surgeons, Boston	(1907)	72
Leonard School of Medicine	(1906) 68; (1908)	71
University of the South	(1907) 69; (1909)	72
Chattanooga Medical College	(1905) 46; (1907)	70
Memphis Hospital Medical College	(1909)	66
Medical College of Virginia, Richmond	(1907)	72
University College of Medicine, Richmond	(1909)	73

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Maryland Medical College	(1904) West Virginia; (1904)	Maryland
University of Maryland	(1906)	Maryland
Medical College of Virginia, Richmond	(1906)	W. Virginia

* Took oral examination.

Wyoming June Report

Dr. S. B. Miller, secretary of the Wyoming State Board of Medical Examiners, reports the written examination held at Laramie, June 23-25, 1909. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 6, all of whom passed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1908) 79.5; (1909)	90.2
Tulane University of Louisiana	(1887)	79
Beaumont Hospital Medical College	(1893)	75.1
Nebraska College of Medicine	(1909)	78.6
Creighton Medical College	(1909)	81.8

New Mexico July Report

Dr. J. A. Massie, secretary of the New Mexico Board of Medical Examiners, reports the written examination held at Santa Fe, July 12, 1909. The number of subjects examined in was 12; total number of questions asked, 100; percentage required to pass, 75. Only one candidate, a graduate of the University of the South, 1899, was examined, and he passed with a grade of 84.4 per cent. Twenty-one candidates were licensed on presentation of satisfactory credentials. The following colleges were represented:

LICENSED ON CREDENTIALS

College.	Year of Grad.
Northwestern University Medical School	(1898)
College of Physicians and Surgeons, Chicago	(1902)
Bennett Medical College, Chicago	(1889)
Illinois Medical College	(1899)
University of Colorado	(1896)
Drake University	(1903)
Louisville Medical College	(1871)
Kentucky School of Medicine	(1889)
Hospital College of Medicine, Louisville	(1902)
University of Louisville	(1888) (1904)
University of Maryland	(1896)
Barnes Medical College	(1897) (1904)
University Medical College, Kansas City	(1908)
Missouri Medical College	(1898)
Washington University, St. Louis	(1905)
Ohio Medical University, Columbus	(1880) (1896)
Medical College of Ohio	(1892)
University College of Medicine, Richmond	(1898)

Arkansas July Report

Dr. F. T. Murphy, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, July 13, 1909. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 85, of whom 39 passed, including 17 non-graduates, and 46 failed, including 36 non-graduates. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Alabama	(1893)	86.4
College of Physicians and Surgeons, Little Rock	(1909)	81
University of Arkansas	(1909)	76
Howard University, Washington	(1909)	79.2
Rush Medical College	(1889)	83.8
College of Physicians and Surgeons, Keokuk	(1899)	78.7
University of Iowa, College of Medicine	(1897)	90.2
University of Louisville	(1909)	78.2
Tulane University of Louisiana	(1890) 88.8; (1908) 86.6; (1909)	85
Ensworth Medical College	(1909)	82.8
Barnes Medical College	(1908)	83.2
Meharry Medical College	(1908) 75; (1909)	78, 75.4
Memphis Hospital Medical College	(1909)	81.4
University of Tennessee	(1909)	80.6, 84.86.6
University of Nashville	(1909)	88.1
University of Toronto, Ontario	(1890)	91.4
FAILED		
University of Arkansas	(1909)	62.1, 68.2, 69.1, 70.4
Medical College of Georgia	(1908)	53.8
St. Louis College of Physicians and Surgeons	(1908)	66.6
University of West Tennessee	(1909)	60.8
Meharry Medical College	(1908) 63.6; (1909)	63, 67.6

Vermont July Report

Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, reports the written examination held at Burlington, July 13-15, 1909. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 28, all of whom passed. Three were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
George Washington University	(1906)	80.3
Bennett Medical College, Chicago	(1909)	81.6
Baltimore Medical College	(1906)	82.5
College of Physicians and Surgeons, Boston	(1899)	80
Cornell University Medical College	(1900)	86.6
Long Island College Hospital	(1879) 75; (1906)	84.1
University and Bellevue Hospital Medical College	(1905)	96.6
University of Vermont	(1897) 75; (1906) 78.2; (1907) 82; (1909)	79.4, 79.8, 81.1, 81.1, 82.1, 82.9, 82.9, 85.3, 87.1, 87.8, 88.1, 89.1, 89.1, 90.1, 90.1.
McGill University, Montreal	(1907) 92.6; (1908)	89.9

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Tufts College Medical School	(1907)	New Hamp.
Albany Medical College	(1896)	New York
Columbia University, Coll. of P. & S.	(1883)	New Jersey

Massachusetts July Report

Dr. E. B. Harvey, secretary of the Massachusetts Board of Registration in Medicine, reports the written examination held at Boston, July 13-15, 1909. Practical laboratory tests were also required. The number of subjects examined in was 13; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 109, of whom 75 passed and 34 failed, including 7 non-graduates. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University	(1884) 85; (1887)	75
Georgetown University	(1908)	75.8
Yale University	(1907) 75.9, 77.2; (1909)	75
Medical School of Maine	(1908) 75.5, 78.2; (1909)	75.5, 81
Coll. of P. & S., Baltimore	(1907) 82.5; (1909)	75.6, 78.5
Baltimore Medical College	(1907) 75; (1909)	77.5
Johns Hopkins University	(1897)	85
Boston University	(1908) 79.3; (1909)	75.2, 75.5, 75.8, 76.9, 77.2, 77.6, 77.6, 80.4.
Tufts College Medical School	(1902) 82.8; (1908) 75.2; (1909)	75, 75, 75, 75, 75.2, 75.3, 75.5, 75.5, 75.7, 75.7, 76.3, 77.2, 77.8, 78.2, 78.5, 78.4, 78.6.
Harvard Medical School	(1907) 81.7; (1908) 75.7, 81.2; (1909)	75, 75.5, 77, 79.4, 79.5, 79.7, 79.8, 80.2, 80.5, 81.1, 81.2, 82.2, 84.2.
College of Physicians and Surgeons, Boston	(1909)	77.4
Columbia University, Coll. of P. & S.	(1902) 83; (1905)	76.2
Syracuse University	(1907)	77.5
Albany Medical College	(1909)	79.2
University and Bellevue Hospital Medical College	(1908)	78.4
Woman's Medical College of Pennsylvania	(1892)	75
Jefferson Medical College	(1881)	85
University of Vermont	(1891) 75; (1899)	77.3
Medical College of Virginia, Richmond	(1908)	78.8
McGill University, Montreal	(1900) 77.2; (1908)	83.3
University of Toronto, Ontario	(1908)	77
University of Naples, Italy	(1900)	75
FAILED		
Medical College of Georgia	(1906)	43.9
Baltimore Medical College	(1905) 66.2; (1908)	69.2, 70.2, 70.4, 70.7; (1909) 68.2.
Maryland Medical College	(1909)	66.7
Tufts College Medical School	(1908) 63.7, 69.7; (1909)	67, 69.5, 69.7, 70.6.
College of Physicians and Surgeons, Boston	(1908) 54.2; (1909)	61.8, 63.5, 68.
Harvard Medical School	(1909)	61.8
Dartmouth Medical School	(1899)	61
Albany Medical College	(1898)	64.8
Columbia University, College of P. & S.	(1907)	70.4
University College of Medicine, Richmond	(1906)	61.8
Laval University, Quebec	(1905) 52.5; (1909)	66.5, 70.8
Medico-Chirurgical College, Lisbon, Portugal	(1902)	39.2

The Public Service

Medical Department of the Army

Changes for the week ended Oct. 9, 1909:

Duncan, W. A., capt., granted an extension of 10 days to his leave of absence.

DeWitt, Wallace, capt., ordered for examination at Washington, D. C., instead of San Francisco, Cal.

Church, J. R., major, granted leave of absence for 1 month.

Raymond, H. I., lieut col., granted an extension of 1 month to his leave of absence.

Smart, W. M., capt., granted leave of absence for 4 months, when relieved from duty in the Philippines Division.

Grubbs, R. B., capt., granted leave of absence for 1 month.

Walkup, J. O., M. R. C., ordered to active duty; will proceed to Fort Snelling, Minn. for duty.

Holland, J. H., M. R. C., ordered to active duty; will proceed to Fort Barrancas, Fla., for duty.

Sanford, J. L., M. R. C., relieved at Fort Barrancas, Fla., and ordered to Fort Caswell, N. C., for duty.

Enders, W. J., M. R. C., relieved at Fort McKinley, Me., and ordered to Fort Greble, R. I., for duty.

Gibson, P. W., M. R. C., ordered to active duty; will proceed to Fort Yellowstone, Wyo., for duty.

Pargon, J. A., M. R. C., relieved at Fort Yellowstone, Wyo., and ordered to proceed to his home.

Stallman, G. P., M. R. C., granted an extension of 15 days to his leave of absence.

Hereford, J. R., M. R. C., granted leave of absence for 1 month and 7 days.

Foley, T. M., M. R. C., granted leave of absence for 14 days.

Penrose, T. W., M. R. C., ordered to active duty; will proceed to Plattsburg Barracks, N. Y., for duty.

Medical Corps of the Navy

Changes for the week ended Oct. 9, 1909:

Tolfree, H. M., P. A. surgeon, ordered to the Naval Magazine, Iona Island, N. Y.

Allen, A. H., asst.-surgeon, ordered to the Naval Recruiting Station, Pittsburg, Pa.

Oursler, J. T., pharmacist, discharged from treatment at the Army and Navy General Hospital, Hot Springs, Ark., and ordered to the Naval Academy.

Smith, H. W., P. A. surgeon, detached from the Navy Yard, Boston, Mass., and ordered to duty in the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

Eytinge, E. O. J., P. A. surgeon, detached from the *Wolverine*, and ordered to the Naval Hospital, Norfolk, Va.

Reed. T. W., asst.-surgeon, ordered to the *Wolverine*.

Shipp, E. M., surgeon, detached from the Naval Recruiting Station, New York, N. Y., and ordered to duty at the Naval Hospital, Philadelphia, Pa.

Raison, T. W., asst.-surgeon, ordered to duty at the Naval Hospital, Navy Yard, N. Y.

Public Health and Marine-Hospital Service

Changes for the seven days ended Oct. 6, 1909:

Bauks, Charles E., surgeon, granted 1 day's leave of absence, Oct. 3, 1909.

Rosenau, M. J., surgeon, granted 2 days' leave of absence from Sept. 29, 1909, without pay.

Rosenau, M. J., surgeon, relieved as Director, Hygienic Laboratory, to take effect Oct. 1, 1909.

Anderson, John F., P. A. surgeon, detailed as Director Hygienic Laboratory, to take effect Oct. 1, 1909.

Billings, W. C., P. A. surgeon, granted 5 days' leave of absence from Oct. 6, 1909.

Holt, J. M., P. A. surgeon, granted 6 days' leave of absence from Oct. 4, 1909.

Boggess, J. S., P. A. surgeon, leave of absence for 7 days from Sept. 24, 1909, amended to read 6 days from Sept. 24, 1909.

Sweet, E. A., P. A. surgeon, leave of absence granted Sept. 9, 1909, for 21 days, amended to read 22 days from Sept. 9, 1909.

Guthrie, M. C., P. A. surgeon, granted 30 days' leave of absence from Oct. 10, 1909.

Wood, C. E., asst.-surgeon, granted 16 days' leave of absence from Oct. 5, 1909.

Lyon, R. H., asst.-surgeon, granted 2 days' leave of absence in September, 1909, under Paragraph 191, Service Regulations.

Altree, G. H., acting asst.-surgeon, granted 30 days' leave of absence from Oct. 2, 1909, without pay.

Cleborne, A. B., acting asst.-surgeon, granted 7 days' leave of absence from Oct. 2, 1909, under Paragraph 210, Service Regulations.

Deerhake, William A., acting asst.-surgeon, granted 1 day's leave of absence in September, 1909, under Paragraph 210, Service Regulations.

Gleason, C. M., acting asst.-surgeon, granted 15 days' leave of absence from Oct. 1, 1909.

Gregory, G. A., acting asst.-surgeon, granted 10 days' leave of absence from Oct. 1, 1909.

Hume, Lea, acting asst.-surgeon, granted 10 days leave of absence from Sept. 30, 1909.

Hunter, W. R., acting asst.-surgeon, granted 14 days' leave of absence from Oct. 5, 1909.

MacCaffry, W. B., acting asst.-surgeon, granted 2 days' leave of absence in September, 1909, under Paragraph 210, Service Regulations.

Onuf, B., acting asst.-surgeon, granted 2 days' leave of absence from Sept. 21, 1909, under Paragraph 210, Service Regulations.

Sinclair, A. N., acting asst.-surgeon, granted 15 days' leave of absence from Sept. 5, 1909.

Walker, R. T., acting asst.-surgeon, granted 9 days' leave of absence from Oct. 18, 1909.

Wetmore, W. O., acting asst.-surgeon, granted 1 day's leave of absence, Sept. 20, 1909, under Paragraph 210, Service Regulations.

Health Reports

The following have been reported to the Public Health and Marine-Hospital Service, during the week ended Oct. 8, 1909:

SMALLPOX—UNITED STATES

District of Columbia: Washington, Sept. 18-25, 2 cases.
Georgia: Macon, Sept. 15-21, 1 case.
Illinois, general, Aug. 1-31, 40 cases; Danville, Sept. 18-25, 1 case; Peoria, Aug. 1-31, 9 cases.
North Dakota, general, July 1-31, 27 cases.
Texas, general, July 1-31, 92 cases; San Antonio, 2 cases.
Utah, general, Aug. 1-31, 101 cases; Salt Lake City, 17 cases.
Washington: Seattle, July 1-31, 2 cases.

SMALLPOX—FOREIGN

Chile: Valparaiso, Aug. 21-28, present.
China: Hankow, Aug. 18-25, 1 case.
Egypt: Cairo, Aug. 26-Sept. 2, 1 case, 1 death.
France: Paris, Sept. 4-11, 1 case.
India: Bombay, Aug. 18-31, 6 deaths; Madras, Aug. 14-20, 1 death.
Italy, general, Sept. 5-12, 7 cases, 5 deaths.
Java: Batavia, Aug. 14-21, 2 cases.
Mexico: Monterey, Sept. 12-19, 2 deaths.
Persia: Mazanderan, July 1-31, epidemic.
Portugal: Lisbon, Sept. 4-11, 1 case.
Russia: Moscow, Aug. 28-Sept. 4, 7 cases, 2 deaths; Riga, Sept. 4-11, 2 cases; St. Petersburg, Aug. 21-Sept. 4, 25 cases, 8 deaths.
Spain: Barcelona: Aug. 28-Sept. 11, 5 deaths; Valencia, 1 case; Vigo, Sept. 4-11, 2 deaths.

YELLOW FEVER

Brazil: Para, Aug. 28-Sept. 7, 9 cases, 6 deaths.

CHOLERA—INSULAR

Philippine Islands: Manila, Aug. 14-28, 3 cases, 2 deaths; Provinces, 342 cases, 246 deaths.

CHOLERA—FOREIGN

China: Amoy, Aug. 14-28, 39 deaths; Hankow, Aug. 18-25, 2 deaths
India: Bombay, Aug. 18-31, 92 deaths; Calcutta, Aug. 7-21, 11 deaths; Madras, Aug. 14-20, 1 death; Rangoon, 6 deaths.
Japan: Karatsu, Sept. 1, 2 cases, on steamship Tain Maru; Mitajiri Aug. 22, 21 cases.
Korea: Sept. 2, epidemic in the northern part.
Manchuria: Liaoyang, Aug. 10-14, 1 death; Mukden, 1 death; Tashichlao, 1 death; Yinkou, 6 cases, 1 death.
Russia, general, Sept. 3-10, 716 cases, 257 deaths, Sept. 11-17, 946 cases, 251 deaths; St. Petersburg, Sept. 3-10, 167 cases, 45 deaths, Sept. 11-17, 246 cases, 87 deaths.

PLAGUE

Chile: Iquique, Aug. 18-Sept. 5, 6 cases in lazaretto.
China: Amoy, Aug. 14-28, 105 deaths; Hongkong, Aug. 14-21, 1 case, 1 death
India, general, Aug. 14-21, 1,821 cases, 1,376 deaths; Bombay, Aug. 18-31, 64 deaths; Calcutta, Aug. 7-21, 31 deaths; Rangoon, Aug. 14-21, 28 deaths.
Japan: Kobe, Aug. 29-Sept. 4, 5 cases, 2 deaths.
Peru, general, Aug. 28-Sept. 4, 13 cases, 9 deaths.
Zanzibar: Zanzibar, July 23-24, 2 deaths.

Marriages

George A. Downs, M.D., to Mrs. Ella Thomas Seiling, both of Spokane, Wash., September 18.

Horace L. Husted, M.D., Muscatine, Iowa, to Miss Mabel Merritt, of Iowa City, September 22.

Herman Winford Bundy, M.D., Sadorus, Ill., to Miss Edith Stone of Tolono, Ill., September 29.

William James Swift, M.D., Chicago, to Miss Florence Josephine Lang, of Berlin, Ont., October 6.

Albert V. N. Hennessy, M.D., to Miss Marie Cornelius, both of Council Bluffs, Iowa, September 29.

Edward E. Nathan, M.D., Chicago, to Miss Julia Goldberg, of Deadwood, S. D., in Chicago, October 1.

Alfred Nicholas Murray, M.D., to Miss Edna Auretta Schmidt, both of Chicago, September 30.

Louis Edmunds Guy, M.D., to Miss Anna Thea Louise von N. Rosenegk, at Richmond, Va., September 28.

Archibald G. Thomson, M.D., to Mrs. Mary L. W. Wanamaker, both of Philadelphia, September 29.

Lansing Y. Lippincott, M.D., Metuchen, N. J., to Miss Louise W. Cragin, of New York City, September 22.

Sims Seward Hindman, M.D., Glen Olden, Pa., to Miss Anna Maryland Larimore, of Seaford, Del., October 2.

Rogers M. McCowan, M.D., Knoxville, Tenn., to Miss Nellie Tittsworth, of Jefferson City, Tenn., October 5.

Edgar Hall Hand, M.D., to Miss Nannie Williamson, both of Pineville, N. C., in Charlotte, N. C., September 22.

T. Flournoy Worthington, M.D., Myrtle Grove, La., to Miss Celeste Scudder, of Vicksburg, Miss., September 22.

Edgar Clyde Jones, Medical Reserve Corps, U. S. Army, to Miss Anne Katherine Laughlin, of Silver City, N. M., September 16.

Henry Arthur Cassebeer, Jr., M.D., to Mrs. Eleanor Genevieve Paeake, both of New York City, in London, England, September 29.

Deaths

Harry Dorr Niles, M.D. Medical College of Ohio, Cincinnati, 1880; a member of the American Medical Association; in 1907, president of the Utah Medical Society; formerly president of the Western Surgical and Gynecological and Rocky Mountain Inter-State Medical associations; chief-of-staff of the Holy Cross Hospital, Salt Lake City; Utah; an honorary member of the state associations of Colorado and Idaho; died at his home in Salt Lake City, September 28, from cerebral hemorrhage, aged 53. The Salt Lake Medical Society, Salt Lake County Medical Society, and medical staff of the Holy Cross Hospital, at special meetings, adopted resolutions of regret and condolence.

George Edward Post, M.D. New York University, New York City, 1850; dean of the faculty of the Syrian Protestant College, Beyrout, Syria, Asia Minor; professor of surgery in the Syrian Protestant Hospital; and surgeon of the Johanniter Hospital, Beyrout; whose work in the medical missionary field won for him the decoration of the Osmanieh from the Sultan of Turkey, and of the Red Eagle and Knights of Jerusalem from Germany; author of text-books on botany, zoology, physiology, surgery, and materia medica, primarily for the use of his students; died in Beyrout, September 30, aged 70.

Christopher James Cleborne, M.D. University of Pennsylvania, Philadelphia, 1860; rear admiral U. S. Navy, retired; who entered the Navy in May, 1861, served through the Civil War, and during the Spanish-American War was in command of the U. S. Naval Hospital, Norfolk, Va.; served on sea duty for ten years and eight months, and on shore duty for twenty-five years and five months; was retired November 10, 1899 for incapacity resulting from incident of service; died at his home in Washington, D. C., October 2, aged 71.

Pasquale DeCunto, M.D. University of Naples, Italy, 1898; a member of the Colorado State Medical Society; a prominent Italian physician of Denver; who on account of his work in behalf of his fellow-countrymen was made a chevalier of the Order of the Crown of Italy by the King; died at the home of his mother-in-law in Brooklyn, N. Y., October 6, from bronchitis, aged 43.

John Joseph Quirk, M.D. Rush Medical College, Chicago, 1888; a member of the American Medical Association; adjunct professor of skin and venereal diseases in the College of Physicians and Surgeons, Chicago, and the Chicago Clinical School, secretary of the local board of U. S. Pension Examining Surgeons; died at his home in Chicago, October 4, aged 44.

John Newton Gregg, M.D. University of Michigan, Ann Arbor, 1862; of Whittaker, Mich.; professor of anatomy in his alma mater from 1862 to 1864; surgeon of the Twenty-fifth Volunteer Infantry during the Civil War; died at the home of his nephew in Fond du Lac, Wis., September 28, from heart disease, aged 73.

Daniel A. Smith, M.D. Eclectic Medical Institute, Cincinnati, 1855; surgeon of the Twenty-second Georgia Infantry, C. S. A., during the Civil War; mayor of Butler, Ga., and afterward state senator; later mayor of Anthony, Fla., and a member of the legislature; died recently at his home in Anthony, aged 79.

Henry A. Eidson, M.D. Rush Medical College, Chicago, 1880; a member of the Illinois State Medical Society; and of the local board of U. S. pension examining surgeons; died suddenly, while making a professional call at his home in Willow Hill, October 7, from hemorrhage, aged 62.

Charles Horace Evans, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1869; of Chicago; from 1897 to 1904, lecturer on materia medica in Hahnemann Medical College; died in Union Hospital, Chicago, October 4, after an operation for carcinoma of the stomach, aged 62.

Harold Verne Noyes, M.D. Medical School of Maine, Brunswick, 1881; a member of the York County (Maine) Medical Society; for many years superintendent of schools of Berwick; died at his home in Berwick, January 25, from cirrhosis of the liver, aged 50.

Charles Alonzo Cordiner, M.D. Baltimore (Md.) Medical College, 1901; of Portland, Ore.; formerly of Astoria, Ore., and secretary of the Clatsop County Medical Society; died in the Good Samaritan Hospital, Portland, September 25, from spinal meningitis, aged 29.

James Fulton, M.D. Jefferson Medical College, Philadelphia, 1859; a member of the Medical Society of the State of Pennsylvania; one of the oldest practitioners of Chester county; died at his home in New London, September 28, from angina pectoris, aged 77.

Edward Pierson Nicholson, M.D. University of Nashville, Tenn., 1861; a member of the Medical Association of the State of Alabama; died at his home in Valley Head, September 29, from the effects of aconite, taken by mistake for cough syrup, aged 74.

Ludwig Kohn, M.D. University of Vienna, Austria, 1887; a member of the Medical Society of the State of New York; died at his home in New York City, October 4, from the effects of carbolic acid, taken in mistake for a nerve tonic, aged 45.

Charles Parsons Beaman, M.D. New York Homeopathic Medical College, New York City, 1882; a member of the American Medical Association; physician to Cornell University Athletic Association, Ithaca, N. Y.; died October 6, aged 49.

Junius Kincaide Battle, M.D. Tulane University, New Orleans, 1883; a member of the Medical Association of the State of Alabama; city physician of Eufala, Ala.; died at his home in that city, September 28, from cerebral hemorrhage, aged 48.

Otto Frankenberg, M.D. Starling Medical College, Columbus, Ohio, 1870; for twenty years a member of the faculty of his alma mater; died at his home in Grand View, Columbus, September 29, from disease of the bladder, aged 63.

Julian Branch, M.D. Detroit (Mich.) College of Medicine, 1905; of Otisville, Mich.; a member of the Michigan State Medical Society; died in Harper Hospital, Detroit, after an operation for appendicitis, September 30, aged 32.

Charles Frederick Ferguson, M.D. Queen's University, Kingston, Ont., 1859; formerly member of Parliament for Leeds and Grenville, Ont.; died suddenly at his home in Kemptville, Ont., October 1, aged 76.

Riley S. Lycan, M.D. Homeopathic Hospital College, Cleveland, Ohio, 1880; a member of the Illinois State Medical Society; died at his home in Paris, October 2, from pulmonary tuberculosis, aged 54.

Russell Clute, M.D. Albany (N. Y.) Medical College, 1903; of Maplewood, N. J.; physician to Christ's Hospital, Jersey City; died at the home of his sister in Amsterdam, N. Y., September 24, aged 33.

William Alexander Brooks, M.D. Jefferson Medical College, Philadelphia, 1850; a retired practitioner of San Antonio, Texas; died at a local sanitarium, September 18, from senile debility, aged 84.

Ernest Clark Gwinn, M.D. College of Physicians and Surgeons, Chicago, 1906; formerly of Sadorus and Paris, Ill.; died in Monrovia, Cal., from pulmonary tuberculosis, September 9, aged 28.

Joseph S. Biggart (license, Tenn., 1889); an eclectic practitioner of Carroll county, Tenn.; died at his home near Carter's Chapel, recently, and was buried September 26, aged 63.

Isaac M. Mulholland (license, Ohio, years of practice, 1896); for sixty-two years an eclectic practitioner; died at his home in Toledo, June 21, from edema of the lungs, aged 85.

H. F. McCoy, M.D. Columbus (Ohio) Medical College, 1879; formerly of Chauncey, Ohio; died at his home in Harper, Kan., from disease of the kidney recently, and was buried October 3.

William Turner Nolen, M.D. Hospital College of Medicine, Louisville, Ky., 1890; a member of the New Mexico Medical Society; died at Los Tanos, July 14, from tetanus, aged 40.

William A. Childress, M.D. Medical College of Georgia, Augusta, 1858; a Confederate veteran; and a pioneer citizen of Atlanta, Ga.; died at his home, October 1, aged 73.

James Lawson Davis, M.D. University of Alabama, Mobile, 1874; postmaster of Lafayette, Ala.; died at his home, September 12, from strangulated ventral hernia, aged 63.

Jabez Parkhurst Bidwell, M.D. Albany (N. Y.) Medical College, 1860; died at his home in Morrisonville, N. Y., March 17, 1908, after an illness of twelve years, aged 71.

Edmond B. Towne (license, practitioner, Iowa, 1887); since 1876 a practitioner of Coon Rapids, Iowa; died at the home of his son in that city, September 9, aged 80.

John Campbell Buell, M.D. University of Michigan, Homeopathic College, Ann Arbor, 1892; died at his home in Rives Junction, Mich., September 25, aged 39.

Albert Thibodeau, M.D. Laval University, Montreal, 1881; of Escanaba, Mich.; died in the Delta County Hospital, February 13, from carcinoma, aged 49.

Lewis E. Powell, M.D. Atlanta College of Physicians and Surgeons, 1899; died at his home in Waynesboro, Ga.; September 26, from heart disease.

George Harold Grigsby, M.D. University of Louisville (Ky.), 1909; died at his home in West Baden, Ind., September 11, from typhoid fever, aged 26.

Henry B. C. Harris, M.D. New York University, New York City, 1848; died at his home near Wallace, Mo., May 1, from senile debility, aged 83.

Isaac W. Lewis, M.D. Castleton (Vt.) Medical College, 1848; died at his home in Apalachian, N. Y., September 19, aged 88.

Lute B. Irwin, M.D. University of Louisville, Ky., 1858; died at his home in Savannah, Tenn., September 29.

Joseph Francis Xavier Poitras (license, Mass.); died at his home in Brockton, Mass., October 3.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Dr. McCormack's Meetings Resumed

The public education work carried on by Dr. McCormack was inaugurated this fall with a number of meetings in Kentucky, followed by an address at Marion, Ind., on September 23. The Marion *News-Tribune* says: "The auditorium of the Presbyterian Church . . . was crowded last night with people who appreciated the privilege of hearing Dr. J. N. Mc-

Cormack of Kentucky as well as the fact that his talk did not abound in technical allusions beyond the layman's power of comprehension. The doctor told of what was being done by health boards and physicians generally and referred to the work which remained to be done, but which could not go on without the state's cooperation."

On his way east Dr. McCormack spoke at Greensburg, Pa., on September 25. Extended accounts of the meeting appeared in the local papers. The *Morning Review* says editorially: "His message is one that is clear and truthful and the manner in which he presents it is entertaining and convincing, with good hard facts to back his arguments." The Greensburg *Daily Tribune* says: "An audience entirely satisfactory with regard to size heard the lecture. . . . Fired by intense conviction in all he said, Dr. McCormack made a profound impression as he cited instances of widespread disease and infection resulting from lack of prevention." Dr. James P. Strickler of Scottsdale, secretary of the Westmoreland County Medical Society, writes regarding the meeting: "The society feels that great good has been accomplished. Dr. McCormack's talk in the afternoon to physicians was especially helpful."

The week of September 26 to October 2 was devoted to work in Vermont, meetings being held at Rutland, September 27, Burlington, September 28, St. Albans, September 29, Montpelier, September 30, St. Johnsbury, October 1, and Brattleboro, October 2. The Burlington (Vt.) *Free Press* says, regarding the meeting held at that place: "The address was one of the most interesting and important that has been delivered in this city for a long time." Arrangements have been made for meetings in New Hampshire, North Dakota, Minnesota and Wisconsin during the remaining months of the year.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Second Month—Third Weekly Meeting

DISEASES OF THE BRAIN

Cerebral Hemorrhage

Pathology: Changes occurring in arteries, leading to formation of aneurisms. Hemorrhages may be (a) meningeal, (b) intracerebral, (c) ventricular. Degenerative changes in clot, in gray and white matter.

Intracerebral Hemorrhage (Cerebral Apoplexy)

Primary Symptoms: Onset unusually abrupt. Prodromata infrequent. Loss of consciousness, cyanosis, inactive pupils, stertorous breathing, relaxed sphincters, motor loss, conjugate deviation of eyes and head. Development of hemiplegia, sensory disturbances, reflexes, trophic changes. Diagnosis of lesion at (a) cortex, (b) internal capsule, (c) crus, (d) pons, (e) cerebellum.

Secondary Symptoms: Muscular rigidity, contractures, increased reflexes, atrophy, athetosis, arthropathies, characteristic attitude and gait. Course of disease and prognosis.

Cerebral Embolism and Thrombosis (Cerebral Softening)

Embolism: Etiology, sex, age, endocarditis, atheroma of aorta, in puerperium.

Thrombosis: Etiology, age, sex, infections, cerebral embolism, arteritis and aneurisms.

Symptoms of Cerebral Softening: Onset sudden (embolism) or gradual (thrombosis). Symptoms due to blocking (a) of vertebral or basilar artery, (b) posterior cerebral, (c) internal carotid, (d) middle cerebral, (e) anterior cerebral. Differential diagnosis in cerebral hemorrhage and thrombosis.

Society Proceedings

COMING MEETINGS

Amer. Association of Railway Surgeons, Chicago, October 20-22.
American Public Health Association, Richmond, Va., October 19-22.
Hawaiian Territorial Medical Society, Honolulu, November 19.
Kentucky State Medical Association, Louisville, October 19-21.
Medical Association of the Southwest, San Antonio, Tex., Nov. 9-11.
Nevada State Medical Association, Goldfield, November 2.
Southern Medical Association, New Orleans, November 9-11.

INDIANA STATE MEDICAL ASSOCIATION

Sixtieth Annual Session, held at Terre Haute, Oct. 7-8, 1909

The President, Dr. George D. Kahlo, French Lick, in the Chair

Officers Elected

The following officers were elected for the ensuing year: President, Dr. T. C. Kennedy, Shelbyville; first vice-president, Dr. E. M. Van Buskirk, Fort Wayne; second vice-president, Dr. Eugene Hawkins, Green Castle; third vice-president, Dr. Theodore Potter, Indianapolis; secretary, Dr. F. C. Heath, Indianapolis; treasurer, Dr. David W. Stevenson, Richmond; delegates to American Medical Association, Dr. A. C. Kimberlin, Indianapolis, and Dr. C. H. McCully, Logansport; alternates, Dr. Fred A. Tucker, Noblesville, and Dr. J. Rilus Eastman, Indianapolis.

Fort Wayne was selected as the place for holding the next annual meeting.

Defense of Malpractice Suits

A committee of three was appointed for the purpose of thoroughly considering and investigating from a legal standpoint if it is feasible to establish a fund for the purpose of defending malpractice suits.

Pure Food and Drug Legislation

The following preambles and resolutions were adopted:

Whereas, The Indiana State Medical Association recognizes the great work that is being done in protecting the health of the people and preventing the fraudulent sale of foods and drugs by the enforcement of the Food and Drug Laws; and

Whereas, It is apparent that certain manufacturing interests are endeavoring to nullify such legislation, and to harass and hinder the officials in the enforcement of the law; therefore, be it

Resolved: That the Indiana State Medical Association expresses its confidence in the Indiana State Board of Health to resist any effort made by manufacturers or others, which may in any way weaken the efficiency of the pure food and drug law, or restrict the scope of its operation; and be it

Resolved: That the Indiana State Medical Association does not accept the decision of the Referee Board appointed by ex-President Roosevelt as final, and that it recommends to the President of the United State and the Secretary of Agriculture that further investigations conducted on the broadest lines be continued, that the people and the food producer may know the value, the necessity or harmfulness of any or all food preservatives; and, be it further

Resolved: That the Indiana State Medical Association recognizes and emphatically endorses the work of its fellow-citizen, Dr. Harvey W. Wiley, in his untiring efforts extending over many years to obtain for the people pure foods and pure food legislation, and that it expresses its appreciation of his work by sending him a copy of these resolutions.

Estivoautumnal Malaria

Dr. G. D. Marshall, Kokomo: Seventy-five per cent. of the applications for pensions made by the Spanish-American War veterans were for disabilities due to malarial infections received while in the service, diarrhea and gastrointestinal troubles with nervous breakdown being the alleged causes of disability, which really was a chronic malarial manifestation. I have examined a number of these men and found plasmodia in the blood and obtained a history of recurring attacks once or twice a year ever since the original infection was received while in the service. The burden of diagnosis in these cases rests on a microscopic examination of sputum and blood and the value of these is a matter of individual skill and sincerity. If one has not the technical skill to make the microscopic examination, the chances are that blood films will be so poorly made that examination by an expert would be very unsatisfactory. Quinin is a specific for this disease and will give relief from the symptoms in less time than any other drug if given in sufficient dosage and in a form in which it is absorbed. From 10 to 80 grains should be given daily in combination with an acid to render it soluble. There is usually a severe reaction in the chronic patient who has not received antimalarial treatment. The rapid destruction of the parasites and the breaking down of the corpuscles that contain them cause the formation of enormous quantities of bile, and bilious vomiting is very likely to follow unless the bowels are moved freely. Calomel and phenolphthalein serve this purpose. Iron and quinin should be given for the color test, for hemoglobin may show from 80 to 100 per cent., but this does not signify that the cells are rich with hemoglobin, as there are so many crippled cells that the available oxygen-carrying power of the blood is diminished, giving rise to shortness of breath. Quinin tablets are so insoluble that they should not be depended on. Treatment should be continued for months, especially in severe chronic cases. Recurrent and primary attacks are much easier controlled. I do not make any restrictions in diet, but encourage the patient to take nourishing food whenever the stomach will tolerate it. Cupping or the local application of solidified liniment in which camphor and menthol are incorporated gives relief from the pains due to the neuritis.

DISCUSSION

DR. W. T. S. DODDS, Indianapolis: It is impossible to find the malarial parasites in the peripheral circulation in the estivoautumnal cases after any considerable length of time with any decided determination. From observations which I have been able to make, dating back to 1898, the time when the soldiers returned from the south, as well as the observations of Craig, of the Public Health and Marine-Hospital Service, on the Pacific Coast, I am led to believe that one dose of quinin will drive the parasites from the peripheral circulation, so that they would not be found once in a thousand cells thereafter, unless puncture of the spleen is made. The difficulty of diagnosing malaria from the blood, especially stained blood, is very great. It is particularly difficult in the dry specimen and it requires several examinations before one can prove or disapprove malarial fever, particularly of the estivoautumnal variety. Perfectly normal blood will give one observations which are distinctly disturbing, and repeated examinations are required. While Wright's stain for blood is admirable, at the same time it does not fulfill all the requirements of a blood stain. As to the question of the breeding of mosquitoes in malaria, there is no doubt about that, but there seems to be some question with regard to previous infection. All cases of chills and fever accompanied with gastrointestinal disturbances are not malaria by any means, even if the fever disappears under quinin. A fever which does not respond to large doses of quinin in two or three days is not malarial.

DR. SIMONS, Indianapolis: I agree regarding the difficulty of diagnosing malaria with the stained specimen. Fresh blood, when it can be properly obtained, is much more reliable and much more satisfactory to the man who is making the examination than a stained specimen. One who has examined a great many smears can acquire a degree of aptitude in that kind of work, so as to be able to recognize the parasites without any great degree of error. One should get acquainted with the stain. The form of the organism and the manner in which the blood was taken have a great deal to do with the difficulty. This summer, at the state laboratory, we had seventeen samples of blood that showed the malarial parasite, but only two could be diagnosed as estivoautumnal. Only two showed the crescent form and both of these patients came from outside of the state; one from Arkansas and the other from St. Louis. About twelve out of the seventeen obtained their infection, according to the statements of their physicians, in the state of Indiana, and most of them came from along the Wabash River. For some reason or other there seems to be an increase in the amount of malaria that has occurred in Indiana during the past summer and just why that is I hardly know.

DR. HUGO O. PANTZER, Indianapolis: It takes a courageous spirit nowadays to assert that malaria is still prevalent to any great extent in Indiana. I have found malaria all these years and have contended for its presence and have encountered denial and ridicule. I wish to speak in support more particularly of cases of malaria that are distinctly of the estivoautumnal type. When the malarial parasites are in possession of an individual, they are commonly entrenched with him. I mean by this that when the malarial plasmodium of the estivoautumnal type is once entrenched in the ordinary case, they will continue through life. The estivoautumnal type of fever is present with us almost all the time in those individuals who had it in their youth.

DR. B. W. RHAMY, Fort Wayne: The only cases of malaria, with the exception of one, that I have found have come from out of the state; as, for instance, from Missouri and Mississippi or from the Spanish-American War.

DR. G. D. MARSHALL, Kokomo: The Wright stain is recommended by all authorities that I have read on blood examinations for staining purposes in cases of malaria. As to finding the parasites in the peripheral circulation, they are expected to be found there. I do not recall having read any authority on this subject who would hazard the puncturing of the spleen to obtain blood, as it is too dangerous an operation and is so considered by men who have written on the subject. I believe the parasites can be found in the peripheral blood.

Value of the Leucocyte Count

DR. B. W. RHAMY, Fort Wayne: A differential count is of much more value than a total count. The differential and total count, taken together, may, and often do, give much valuable diagnostic and prognostic aid. The differential count gives an index of the amount of toxic absorption. A high neutrophile count, with a high total count, indicates either an acute systemic infection, a gangrenous process, or suppuration. A neutrophile count above 80 per cent. usually means suppuration. A low polynuclear or total count, in the presence of a severe process, denotes low resistance, proportionate to the decrease. An increase of large lymphocytes, accompanied by an eosinophilia, is presumptive evidence of syphilis in a suspected case. An increase of large lymphocytes and transitional cells, with a diminution of neutrophiles, small lymphocytes and eosinophiles, in the presence of a continued fever, is strong evidence in favor of typhoid. Leucocytic crises may occur in typhoid. Typhoid usually has a leucopenia during the first week; after the first week, leucocytosis is common. A small lymphocytosis may be part of the early pathological changes in thyroidism. The rôle of the transitional cells seems to favor the theory that the large mononuclear cell is the common origin of all forms of leucocytes.

DISCUSSION

DR. H. R. ALBURGER, Bloomington: I wish to call attention to the fact that the average physician must depend on the laboratory worker to make these compilations and do this work for him. In the first place, in making a blood count I find in my laboratory work that a great many practicing physicians, skilful men, do not realize that blood counting cannot be done in a laboratory one hundred miles away from the case. It requires technical skill and rapid careful technical work to make a good blood count, and the physician who intends to follow up his cases to the ultimate clinical analysis should familiarize himself with the technic for making blood counts.

DR. H. H. THOMPSON, Noblesville: Those of us who make our own smears are apt to find the blood at one end of the slide thicker than the blood at the other end of the slide, and I wish to emphasize this fact in the differential count, and how much it means to any one that will take the least time and trouble to look into the matter. Lymphocytes in excess are an indication of resistance. They are an indicator of whether or not the body will be able to survive the infection. When we go into the matter of the differential count we are able to make a better prognosis in the disease with which we have to deal.

DR. A. C. KIMBERLIN, Indianapolis: The numerical count is not reliable unless one is able to estimate correctly the amount of resistance or vital force of the patient himself.

DR. B. W. RHAMY, Fort Wayne: Ordinarily a specimen is sent to the laboratory with the request for a blood examination and report. The laboratory man should have at all times a history of the case and be enabled to confer with the clinician with regard to his findings and the clinical findings in order to do good and satisfactory work.

The Treatment of Pulmonary Hemorrhage

Dr. Theodore Potter, Indianapolis: The first and most important thing to secure in the presence of pulmonary, as of other hemorrhages, is rest and quietude of body and mind. The patient, except in the unusual cases of profuse bleeding from a ruptured large vessel or aneurism, may be assured that there is little danger; that the loss of a few ounces or a pint of blood will of itself do little harm and may be beneficial in relieving congestion. Thus the fright may be allayed and nervous excitement lessened. If the bleeding may be in any degree profuse, or be continuous or recurrent, absolute bodily quietude should be enjoined. What are the other things which may help to arrest bleeding? They lie chiefly in four directions: to lower the blood pressure in the lungs; to divert the blood from the lungs on the principle of revulsion, to immobilize the bleeding lung as far as practicable, and to use such artificial measures as are safe to promote the general and local quietude. The last indication is best met by opium.

DISCUSSION

Dr. G. T. McCoy, Columbus: Some hospitals report as high as 10 per cent. of fatal cases of tuberculosis terminating by hemorrhage, and others as low as 1 per cent. of fatal cases. One cannot always determine the location of the hemorrhage, and the condition of the patient forbids anything but a very slight examination, confined to auscultation only for fear of adding to the seriousness of the case. Hemorrhage may be the first indication that any lesion of the lungs exists, but it does not in any manner indicate the extent or duration of the disease. It may come from a tuberculous infiltration of the vessel wall, or a destruction of tissue immediately surrounding the vessel and be the only part of the lung diseased. When it is the first manifestation of a lung lesion a serious hemorrhage need not be expected. When called to a case of pulmonary hemorrhage the physician should at once attempt to gain the confidence of the patient, allay his fears, and obtain quiet not only of the patient but of his surroundings. Quiet of mind and body is essential. The lowering of the blood pressure is of prime importance. This I generally secure by the administration of nitroglycerin in 1/100 grain tablets, dissolved on the tongue, or one minim of a 1 per cent. solution of nitroglycerin administered hypodermically. I follow this with veratrum viride until a marked impression is made on the pulse and seek to maintain this condition for several hours. If there is evidence of collapse, this treatment is not indicated. I seldom recommend opiates.

Dr. Joseph Collins, New York City: It has been my practice in hospital work, where I see a large number of cases of tuberculosis, to do nothing in the treatment of hemorrhage from the lungs save to give a dose of nitroglycerin, and if there is any considerable stress of mind or body in the shape of cough or physical agitation to combine the nitroglycerin with small doses of morphin. In the practice of internal medicine ergot has done more harm than good. In the past it has been used as a remedy for almost every spinal cord disease, and I hope it will be abolished except for use in bringing about contraction of the uterus.

Dr. F. B. Wynn, Indianapolis: I believe that generally we can tell where hemorrhage comes from in these cases. In the first place, the type of hemorrhage may be noted often times in the sputum in which the masses are simply tinted, pin-head sized or larger masses of blood than the mucus. Such minute hemorrhages may come and generally do come from the bronchial tubes; that is to say, in conjunction with any pulmonary condition in which there is a paroxysm of coughing, with prolonged effort and inducing passive congestion of the mucosa of the bronchial tubes, tiny capillaries may rupture and minute hemorrhages of this character occur. These paroxysms occur when there is associated laryngeal tuberculosis, with prolonged whooping cough-like paroxysms. The hemorrhage the essayist discussed is a hemorrhage *en masse*, and such hemorrhages must come when there is destruction of lung tissue. These big hemorrhages generally mean abscess or necrosis of lung tissue. In the treatment quiet and rest are very essential. This can be induced by morphin and other measures.

Dr. T. Potter, Indianapolis: I should have said something about the use of the nitrates in my paper, as they seem to be coming into use more of late than formerly. A great many practitioners speak of them in reducing blood-pressure, and they are especially noted for their quick action; yet from my experience, where there are no contraindications to their use, I am inclined to believe that such drugs as aconite and veratrum are valuable.

(*To be continued*)

AMERICAN ROENTGEN RAY SOCIETY

Tenth Annual Meeting, held in Atlantic City, N. J., Sept. 23-25, 1909

The President, Dr. George C. Johnston, Pittsburg, Pa., in the Chair

Officers Elected

The following officers were elected for the ensuing year: President, Dr. George E. Pfahler, Philadelphia; vice-presidents, Drs. Vernon J. Willey, Rochester, Minn.; C. E. Coon, Syracuse, N. Y.; R. D. Connell, St. Louis, Mo.; and R. D. Hammond, Providence, R. I.; secretary, Dr. Percy Brown, Boston: treasurer, Dr. Charles F. Bowen, Columbus, Ohio.

Detroit was selected for the next place of meeting, time of meeting to be decided later.

Journal to Be Established

It was decided to substitute for the annual volume of transactions a quarterly journal, to be devoted entirely to the use of the Roentgen ray in medicine. The first issue of the journal will appear about December 1. The editor is Dr. P. M. Hickey, Detroit, Mich.

Roentgen-Ray Examination of Mastoid Region

Dr. Sidney Lange, Cincinnati, Ohio: A skiagraphic examination of the mastoid region is very valuable as a means of diagnosis in mastoid disease. The skiagraph is made with the patient lying on the side, the rays being projected from above and behind, and pointing toward the mastoid of the opposite side. An exposure of from five to ten seconds is made, both sides being skiagraphed for purposes of comparison. The most reliable results were obtained in chronic cases, the skiagram usually showing more or less marked sclerosis with haziness or obliteration of the mastoid cells. In several instances the skiagraphic diagnosis was confirmed by operation. Only a small number of acute cases were examined, and no conclusions could be drawn. Severe acute cases, accompanied by extensive bone destruction, were easily recognized. In two cases, abscess of the mastoid was diagnosed and verified by operation. There must be cooperation between radiographer and otologist for the purpose of comparison and verification of the findings.

DISCUSSION

Dr. Charles F. Bowen, Columbus, Ohio, cited an instance in which a skiagraphic examination would have aided the operator to avoid entering an anomalous lateral sinus during an operation, thus obviating a second operation.

Dr. W. F. Manges, Philadelphia, pointed out the advantage of stereoscopic radiography in this connection, and exhibited skiagraphs of a number of cases.

Relations Between Bodily Deformity and Gastrointestinal Irregularities

Dr. Percy Brown, Boston: Two classes of cases may be considered under this head: (1) the class in which an apparent postural deformity, overtops in importance subjective signs; (2) a class in which gastrointestinal symptoms continue to exist because of failure to recognize the real cause of the trouble. The Roentgen method of diagnosis is applicable in each class. Etiologically, there must be considered (1) accidental deformities, and (2) wilful disfigurement of the body. For instance, in cases of lateral spinal curvature, the stomach may be so outlined as to make it appear almost inconceivable that ordinary peristalsis was not interfered with seriously, in kyphotic asymmetries of the spine, especially of tuberculous origin, no appearances in the shape and position of the stomach was found differing from those in scoliotic cases. It would seem, therefore, that the torsion of the stomach commonly seen in the scoliotic cases has a certain bearing on the malposition of the stomach. Other cases in which alimentary imperfections are often found are those in which occupation postures and other postural habits are the cause of the trouble, but in which the perversion had not become structural. In this class are the milder types of postural lateral spinal curvature, round back, etc. The wilful disfigurements of the body leading to visceral ptoses are the result of tight lacing, etc.

DISCUSSION

Dr. Charles M. Hazen, Richmond, Va., pointed out that in most of these cases there is a lack of tone in the spinal column which he thought had been overlooked as a cause of ptosis.

Roentgen-Ray Diagnosis of Achondroplasia and Cretinism

Dr. Henry K. Pancoast, Philadelphia: I found striking characteristic radiographic features in a case of achondroplasia which I had the opportunity of observing. There was decided deficiency in the epiphyseal development of the shafts of the extremities, making them appear short, both actually and relatively, in comparison with other long bones. They also appeared to be too thick for their length. There is an abrupt expansion of the diaphysis in the neighborhood of the diaphyso-epiphyseal junction, a rather abrupt bowing of the lower end of the femur, and the upper end of the tibia, with a fairly well-developed head of the femur, a poorly developed short, thin neck, and a far better relative development of the trochanter. The appearance of the hands and feet is also characteristic, the bone being exceedingly cancellous in structure. There was also a tendency to symmetrical osteomatous growths on the long bones of the upper extremities, and a deficient and irregular ossification and growth at the epiphyseal ends of the diaphyses, particularly in the knee joint. Cretinism, on the other hand, does not present any characteristic radiographic features.

DISCUSSION

Dr. Charles Lester Leonard, Philadelphia: I examined a case of cretinism about eight years ago in which I found distinct and separate foci of ossification in the ends of the tibia and the femur. There appeared to be three rings of ossification in the small bones of the hands and feet. This might be a point of differentiation between cretinism and rickets, and cretinism and achondroplasia.

Dr. P. M. Hickey, Detroit: I have found a corresponding lack of development in the bones and in the mental capacity of the patient, so that a patient with the bones of a 5-year-old child also cerebrated like a child of that age.

(*To be continued*)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Fifty-ninth Annual Session, held in Philadelphia, Sept. 27-30, 1909

(Continued from page 1217)

Resolutions Adopted at the Busineess Meeting

CONDEMNATION OF PRESERVATIVES IN FOODS

The following resolutions were unanimously adopted by the Medical Society of the State of Pennsylvania on September 30, having been introduced into the house of delegates two days previously and considered on three separate days:

Whereas, Public opinion has become much aroused over food adulteration; and

Whereas, Diverse opinions have been expressed concerning the use of preservatives in the manufacture of foods; and

Whereas, Certain preservatives make possible the use of foods that have begun to decay; be it therefore

Resolved, That the Medical Society of the State of Pennsylvania, in convention at Philadelphia, declares that it condemns the use as food preservatives of benzoic, boric and salicylic acids and their compounds, and all other similar chemicals, as, in the opinion of this society, such preservatives are unnecessary and are detrimental to the public health; and be it further

Resolved, That this society is opposed to adulteration of food of any kind whatsoever; and be it further

Resolved, That this society indorses the stand taken by the American Medical Association in its fight against food adulteration, and indorses its action in appealing to Congress for immediate amendment of the national Food and Drugs Act; and be it further

Resolved, That this society indorses the stand taken by Dr. Harvey W. Wiley in his campaign for pure food and pure food legislation; and be it further

Resolved, That the society commend the daily newspapers and individuals who have taken a stand against artificial food preservatives and give them added encouragement to continue their fight.

NOSTRUM ADVERTISING

The following resolution was passed:

Whereas, It is the unanimous opinion of the medical profession that the disuse of nostrums and "fake cures" of incurable diseases can be accomplished only by the education of the public against their use; be it

Resolved, That the Medical Society of the State of Pennsylvania highly commend those newspapers and journals who refuse all nostrum advertisements and condemn such so-called remedies in their news columns.

Fourth of July Celebration Condemned

The report of the Committee on Independence Day fatalities contained the following recommendations:

Legal control of the importation, manufacture and sale of explosives used only for purposes of celebration; municipal control of the use of firearms and explosives and of fireworks during the Fourth-of-July season; municipal participation in substitution methods; the organization of societies for both control and substitution purposes; the most complete possible systematic use of tetanus antitoxin and other medical measures in both the prevention and treatment of tetanus and sepsis; the setting apart of a day in all public schools, academies and colleges during the last days of the session before the summer holiday, to make all possible provision against the evil; the allusion to the matter in all churches on the last Sunday preceding Independence Day; the continuance and increase of the agitation in the newspapers; the continuance of the work by this society.

Approval of Board of Public Instruction

The Committee on Scientific Business recommended endorsing the work of the Board of Public Education of the American Medical Association, and the formation of a committee to cooperate in the undertaking.

Venereal Diseases

Dr. Lawrence Litchfield, Pittsburg: It is probable that in this country the percentage of the population infected with venereal diseases does not vary greatly from that in Germany, where on any single day about 100,000 people are under treatment. The state or municipality has the same moral obligation and the same financial interest in the control of venereal diseases as in the control of any other contagious disease. Any attempt at police control of prostitution without the European system of registration would be futile and impracticable for our American cities. This may not be a misfortune for it is not yet demonstrated that better results cannot be obtained by social organization against the social evil. All who have given much thought to the subject agree that the only efficient method consists in the education of the public, the establishment of free dispensaries for the treatment of venereal diseases with every possible inducement to get the infected to accept the treatment thus offered, the repeal of bad laws and the adoption of new ones which work only for the desired end. I urge the organization, from our present local societies, of an American association for the prevention of social diseases, with branches and dispensaries in all our cities.

DISCUSSION

Dr. Ella N. Ritter, Williamsport: This subject is one of the last that we as physicians have earnestly considered. Eighty per cent. of children are born blind and a large number are stillborn from this disease. Education is the specific at our hand and we should make a better attempt than in the past to do something along this line.

Dr. S. Nelson Wiley, Norristown: I have it on the authority of one of the greatest gynecologists in this city that the great mass of gynecologic abdominal work is due to gonorrhea. If we know that a man is not fit to marry a pure girl it is our business to say so. For a number of years, in the few cases I do treat, I have made it a point to say to the patient that he must not marry until he has the very best evidence of cure. Some of them say: "I will marry when I please." "No," I say, "you will not." The preacher, when performing the ceremony, asks if any one knows any reason why the marriage should not take place. I have a threat standing over four men to-day that I will stand up in any house or any church and say that they are not fit to marry.

Dr. A. E. Roussel, Philadelphia: After a rather extensive observation of the methods employed abroad, more particularly in Paris, in the registration of cases of venereal diseases, I can not but believe that those methods possess advantages over the ones in this country. I hope the time is not far distant when cases of this kind will be required by law to be reported, and I am persuaded that such requirement will aid greatly in the suppression and diminution of this terrible infection. I take it that on the man about town, or the younger man, the possibility of having his name noted on the books of the board of health, would have a very deterrent effect.

Dr. C. L. Stevens: Do I understand that Dr. Roussel favors police regulation of prostitution in this country?

Dr. Roussel: I do.

Dr. Stevens: Would you limit that to the female prostitute, or would you include the male prostitute?

Dr. Roussel: I think the first step in this direction will be on the side of the weaker sex; ultimately I should be in favor of the registration of both sexes.

Dr. Stevens: Have you the statistics in this country where police supervision has been attempted?

Dr. Roussel: I will not say of this city, but I fail to imagine that conditions are so different that the results obtained abroad should not be obtained here.

Dr. Lowell M. Gates, Scranton: I imagine that if the method suggested by Dr. Roussel were carried out it would drive these people for treatment to the illegitimate practitioner, who would shield them from report. In the matter of education I believe we should make the symptoms and consequences of this disease so plain that every woman would know the cause of her trouble in less than a month after marriage, and be in a position to charge her husband as the cause of the infection. For fear of causing trouble we have been too timid in advancing facts. In addition to this we should be willing to stand up and threaten these men. Let us protect humanity!

SYMPOSIUM: THE PROBLEM OF THE PUBLIC SCHOOL FROM THE MEDICAL POINT OF VIEW

The Studies and Their Effects on the Nervous System

Dr. Lawton M. Hartman, York: 1. The subject of nervous diseases among the school children has not received sufficient attention. 2. There is now no definite knowledge of the part played by any particular study or group of studies or any school occupation in the development of nervous affections among school children. 3. There is a large and varied group of nervous manifestations occurring among school children, the development and continuation of which alterations from the normal are attributed to school work and especially to school overwork. 4. Before the age of puberty overwork at school is not a large factor. 5. After the age of puberty, especially among girls, in schools where strong efforts to excel are expended, overwork at school plays a much more definite part. 6. The importance of medical inspection of schools is becoming universally recognized. 7. Broader legislation should be urged for more accurate and more powerful medical inspection. 8. The introduction into the higher educational institutions of departments for the study of the child as an entity has and will produce results most practical, valuable and interesting. 9. The earlier recognition of variations from the normal existing among school children with the institution of medical and educational treatment would accomplish much. 10. The individual management of those pupils nervously affected is the only rational way of providing for the proper and continued education and supervision of the health of the school youth.

School Houses and School Habits and the Development of the Body

Dr. Thomas Grier Simonton, Pittsburg: Physical culture in the school should be taught so that it will become the habit of adult life. Posture, study habit, and concentration are affected by physical culture and correct breathing. The best results are to be obtained by promoting the action of the lungs and digestion and the function of the skin. A foot tub, or wash basin with warm or cold water, soap and a rough towel are procurable in nearly every home, and the pupils should be taught that a daily sponge bath, followed by friction of the skin with a towel, is what is required of them at home, while deep breathing and physical culture is taught them at school. Warden Lewis of the Allegheny county jail at Pittsburg recently inaugurated daily open-air physical exercise for his 800 prisoners. Asked what has been the result, he replied, "better discipline, better digestion, more contentment, less medicine." The best results are obtained only when the physical instructors of the children are living examples of the system employed. Catch-penny stores near schools, with their cheap cakes and candy, their obscene postal cards and literature, are grave dangers. Statistics show the relative ratio between cigarette users and non-users in standing, truancy and juvenile court subjects.

Medical Oversight

Dr. H. Herbert Herbst, Allentown: The paper is a treatise on medical oversight of the public schools, not so much a detail and description of the method itself, but a plea for more interest and a larger introduction of this work into the public schools of this country. The latest reports show the growing sentiment in favor of this work, its importance, and its appreciation by the general public. The measure is not, however, growing throughout the United States in proportion with the amount of good that has been accomplished.

The Knowledge of Most Value to School Children

Dr. George W. Wagoner, Johnstown: The common school system of education is the most important element in the nation's life, providing the only education the vast majority can hope for. Ten years is the limit of time most children have to devote to school. Advanced education and college training can be enjoyed by only a very few. In considering the knowledge which is most valuable, the first and most essential is a thorough knowledge of the alphabet. There are few who leave school and enter on the active duties of life with a working knowledge of the possibilities, the flexibility, and the limitations of the alphabet as a whole, or the correct sounds of its individual elements. The next essential elementary knowledge is spelling. The next is reading—the ability to read with the spoken voice in a clear, distinct and orderly manner so as to convey to the listener the full meaning and beauty of the printed page. Writing is the fourth essential. Arithmetic, the art of reckoning, is another of the elementary essentials of all knowledge. By its principles we reckon the relations between all material objects, we define space, and comprehend time. The development of these units with the subsequent addition of the dependent units, history, grammar, literature, civics, and geography gives a coherent fund of knowledge which is called elementary education. Such education the child has the right to receive from the state. If each pupil is well-grounded in all these branches he has what democratic society undertakes to give him, the essential elements of all human culture, and with them the door is opened and he is at the threshhold of every department of human activity.

Discussion on the Public School Problem

Dr. Charles P. Stahr, Lancaster: Medical men can do much toward furthering the work of medical inspection in schools, and it is to them that the children of the state must look for benefit in physical, mental and medical ways. I believe that chorea among school children is attributable to an inherited, unstable nervous temperament coupled with the desire to outrank other children rather than to the school curriculum. Dr. Hartman's idea of a sort of clearing-house for deficient children coincides with a pet theory of mine. If we had such a psychologic laboratory under the care of persons trained in child study we could help those children who never get beyond the primary grades for five or six years.

Dr. Edward B. Heckel, Pittsburg: As has been mentioned, the school boards are absolutely supreme. They fix the tax rate and spend the money as they please, and it is usually spent in putting up very fine buildings which are pointed to with pride as the standard of the education in that community. The public school teacher receives too little compensation. No attraction is offered to young men and young women as teachers. Much of the teaching is faulty and the child, who is an adept in discerning faulty teaching, loses respect for the teaching and the teacher. Especially is this true relative to the evil effects of tobacco and alcohol as taught in the public schools. It would be easy for the teacher to teach that tobacco is always a poison; that though some people stand it very well, others stand it very badly; that it sometimes produces blindness. These are facts which will bear the closest scrutiny.

Dr. Walter S. Cornell, Philadelphia: The medical inspection of school children rests on three facts: It is important to the teacher because it has a direct relation to the child's education; to the physician, because the health of the child largely determines the health of the adult afterwards; to the state, because the efficiency of the citizens depends largely on their health and physique. In the nervous conditions of school children I agree that the school curriculum is of minor importance compared with other factors. The example of New Jersey should be followed in having a conference between the educational authorities and the medical profession to determine a proper balance.

Dr. E. Bosworth McCready, Pittsburg: That the medical inspection of schools will soon be universal is the wish of every one with the welfare of humanity at heart. There should also be provision for taking care of the child which may be backward after the physical defect has been remedied.

Dr. Batten: In the education of our young people we should ascertain to what they are adapted and educate them along those lines.

Dr. Harold B. Wood, Philadelphia: Inspection of boarding schools should not be overlooked and physicians should help to patronize those schools in which health conditions are known to be good.

Dr. Gump, Bedford: It is impossible for children at the early age at which they are sent to school, to study as they are expected without being overtaxed. If they were allowed to run wild until 8 years of age before entering a schoolroom, until then being taught by their parents, they would be better mentally and physically.

Dr. Heffner, Pottstown: In the cities there are all sorts of attractions that affect the children more than study. Not many children are made sick by overstudy. I am the father of six boys, and none of them ever suffered from overstudy, but I must also say that most of those boys were raised in the country.

Dr. John C. DeVenney, Harrisburg: The dosing of children with "patent medicines," laudanum, and all sorts of anodynes, has much to do with the condition of the eyes. In a case under my observation it was thought when the children started to school that there was a brain condition which prevented them from learning. Correction of the eye defects removed the difficulty.

Dr. Brooks, Wilkes-Barre: We should instruct our house of delegates to confer with the lawmakers on school hygiene, letting it be known that we are desirous of having medical inspection in the cities of Pennsylvania.

Oration on State Medicine: Control of Disease

Dr. Arthur B. Moulton, Camp Hill: Frequently the cause of disease is almost within one's grasp and yet the significance of the facts may pass for centuries unnoticed. The idea of segregation is mentioned in the books of Moses. It is presumed that smallpox existed in China more than a thousand years before the Christian era, and scarlet fever nearly 500 years before. No quarantine restrictions were established in England until 1348. The first attempt at the centralization of health authority was made at Venice in 1495. During the first two centuries after this country was discovered no health laws were passed. Probably the first restrictive measures adopted by any central health authority on the American continent was the order issued by court in Massachusetts during 1647. In 1700, a quarantine law was passed in Massachusetts and also in Pennsylvania. All regulations enforced for the control of communicable diseases during the past can be classed under three heads: (1) that which has to do with commercial interests as prompted by the commercial spirit alone; (2) class legislation to protect the rich and cultured from the diseases of the poor, which is purely selfish; (3) the one on which we have entered at the present time for the protection of the people at large.

(To be continued)

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Twenty-Second Annual Meeting, held at Fort Wayne, Ind., Sept. 21-23, 1909

(Concluded from page 1220)

Four Hundred and Forty Operations on the Appendix

Dr. Edward J. Ill, Newark, N. J.: I deplore the late diagnosis and the too-frequent use of the hypodermic syringe, but for these the general results would be much better. Of the 440 patients operated on, 40 per cent. were males and 60 per cent. females. In 81 women the appendix was removed incidentally, while other surgical conditions prevailed and many were shown to be normal by the pathologist. I deplore the frequency with which the appendix is removed, simply because the abdomen is opened, and believe that no operation should be done except for the express purpose of removing symptoms of disease for which the patient seeks advice. Any prolongation of the operation may add to the patient's danger and certainly to his discomfort during convalescence. The youngest person operated on was 5 years old, and the oldest was 65 years. In 43 per cent. of the cases there was suppuration. Among the 189 septic cases there was localized abscess in 109, and diffuse suppurative peritonitis in 70. What seems to be a general peritonitis is recorded in 8 cases, and 2 patients had septicemia. The total number of deaths was 32, or 7.2 per cent. Increased experience shows a marked reduction in the death rate. Thus, in the first 100, it was 18 per cent.; the second 100, it was 6 per cent; in the third 100, it was 5 per cent., and in the fourth 100, it was 3 per cent. The total number of deaths in the non-suppurating cases was 2, to 0.8 per cent. The percentage of deaths in the suppurating cases was 14.3 per cent. Late and hopeless cases accounted for this high death rate. An interesting fact in the death rate was the personal one in the after-treatment. Thus, in 198 patients who were looked after personally by me, the death rate was 3.6 per cent., while in 185 patients looked after by the attending physician, the death rate was 10.3 per cent., or nearly three times as great. The death rate in the cases of diffuse suppurative peritonitis was 10 per cent. I have collected from various hospital reports throughout the country 7,833 reports of operations for appendicitis. The death rate in the non-suppurating cases was 3.7 per cent., while the suppurating cases showed a death rate of 26 per cent. I am never obliged to reopen the abdomen for late symptoms or adhesions. I advise the removal of the appendix in all cases if it can be done in a reasonable time, depending on the conditions of the patient. I urge the use of absorbable suture material in all septic cases. I have used most of the technics recommended for the removal of the appendix, but have always returned to the cautery above the ligature and the purse-string suture. I insist that much mischief has been done by not draining septic cases. In these cases I have adopted the right lateral semi prone posture, in such a way that the opening in the abdomen is in the most dependent part of the peritoneal cavity. The drain can be brought out through the upper end of the incision, thus reducing to a minimum the danger of hernia, of which I have seen less than 1 per cent. in my cases, and this also does away with the stab incision in the loin. The position is kept up for twenty-four hours.

A New Point in Diagnosis Between Appendicitis and Tubal Diseases

Dr. Robert T. Morris, New York: Hypersensitiveness at the site of the right group of lumbar ganglia indicates that the appendix alone is the center of irritation. Hypersensitiveness of both right and left groups of lumbar ganglia indicates that some pelvic structure is the center of irritation. In cases in which there is a question if the appendix or some pelvic structure is causing local or reflex disturbance, we can commonly make a differential diagnosis at once by making deep pressure over the sites of both groups of lumbar ganglia, and noting whether these groups, or only the right group, are sensitive to an important degree.

Is the Routine Administration of the Preoperative Purge Defensible?

Dr. Edwin Walker, Evansville, Ind.: Purgatives can do harm and should be given only when the indications are clear. The profession should abandon the slipshod routine methods now in vogue, and should teach the laity, both by precept and example, the evils of the purgative habit. The practice of purging all patients before surgical operations is unnecessary and injurious; they are made more uncomfortable, are weakened, and the condition of the intestinal canal is not rendered more favorable, but, on the contrary, germ activity is stimulated, just as it is in enteritis, thus increasing the probability of infection when the gut is opened, and there is in addition to this more postoperative tympany. A diet of digestible food for twenty-four hours or more and a fast of eight or twelve hours before operation will put the intestine in the best possible condition for any operation, especially on the intestinal canal, except when obstructive lesions exist, and for these purgatives are worse than useless and other measures are required. In a few cases of milder fecal stasis a purgative several days before operation, followed by enemas, is of service. These cases, however, are extremely rare. The routine use of any powerful drug is to be deplored, and the habitual, preoperative purge is indefensible. The continuance of this practice indicates mental stasis of the surgical mind.

Cesarean Section, Abdominal and Vaginal, Compared and Contrasted

Dr. Miles F. Porter, Fort Wayne, Ind.: (1) With a living and viable child the abdominal is the operation of choice. (2) The vaginal operation is probably never indicated in placenta prævia. (3) In cases demanding quick delivery in which the only obstacle is an undiluted os, the vaginal operation should be done. (4) Infection should not decide us in favor of either operation, but the fact that its existence adds to the mortality of both should admonish us that neither is to be regarded an operation of *dernier ressort*. (5) With a dead or dying mother, and a living, viable child, the abdominal operation should be done. (6) Better knowledge of the indications for these operations and a timely resort to them will materially reduce both the maternal and fetal mortality and morbidity. Too little attention is paid to the life of the unborn child and too little to the morbidity of both child and mother. Obstetric procedures should be conducted with a view to perfect the recovery of the mother and the normal development of the child. The term, vaginal Cesarean section, is a misnomer. Owing to the contracted and badly lighted field, obscuration of the field by blood, difficulty of attaining and maintaining perfect asepsis and difficulty of delivering the child, the vaginal operation is the more difficult. The only obstacle to delivery which is removed by the vaginal operation is the cervix. The placenta is avoided by the vaginal operation except in cases of placenta prævia. The wound is nearer the ideal after the abdominal operation. There is greater likelihood of infection after the vaginal operation, but if infection occurs the danger would be greater after the abdominal operation. Patients are more likely to object to the abdominal operation. Previous infection increases the danger of both operations. Remote dangers, such as rupture of the uterus, are about equal and very slight in both operations. Abdominal operation offers the child the best chance, the maternal mortality is about 1.58 per cent. that of the vaginal varies from 0 to 6.5 per cent. The maternal morbidity is less after the abdominal operation.

Methods of Drainage in Abdominal and Pelvic Surgery

Dr. James F. Baldwin, Columbus, Ohio: In this paper I urge the more frequent resort to vaginal drainage in pelvic cases, in which pus is present, or extensive adhesions, and drainage through a stab incision in certain cases of appendicitis. I advise the use of gauze, not so much for real drainage as to keep the intestines from contact with raw or infected surfaces. The use of the word "fluffage" would be more appropriate than "drainage" in these cases for the purposes intended. The gauze is passed through an incision in the vaginal vault from above down, the opening in the vault being of ample size, and the gauze being then so placed as lightly to fill the pelvis. In this way the gauze keeps the intestines out of the pelvis and at the same time absorbs all discharges. The gauze is left in place one week and then withdrawn. Sterile douches are then used until the cavity thus left becomes obliterated. I have used this method for many years, and in a large number of cases, with satisfactory results, both immediate and remote.

How Can We Best Educate Women to Seek Relief Early from Carcinoma of the Uterus?

Dr. C. C. Frederick, Buffalo, N. Y.: The statistics of operations done for carcinoma of the uterus are much better from German clinics than in this country, not because Germany has more skilful operators but because the women are operated on earlier, having been taught to consult the surgeon early when they have symptoms of malignant disease of the uterus. I think there is a belief among general practitioners in this country that hysterectomy for carcinoma of the uterus is an unsuccessful operation, in so far as it prevents recurrence. Such has been the case and will continue to be so long as women so suffering are not operated on earlier than they have been in the past. Early radical operations give good results, and they ought progressively to give better and better results. Hysterectomy for carcinoma of the body of the uterus gives notably better results even in late cases than when the cervix is involved. Women should not only be taught that early operation gives better results, but also that the severity of the operation and the mortality and the morbidity are decreased thereby.

Phlegmasia Alba Dolens

Dr. William A. B. Sellman, Baltimore, reported a case of this nature in connection with an ovarian tumor. He presented photographs showing the size of the tumor, the amount of abdominal distention, and the swollen limb. He considers that the phlegmasia alba dolens in this case was due to pressure on the iliac vessels on the left side, and that this pressure was immediately relieved with removal of the tumor. The patient was fortunate in the rapid restoration of the circulation and in not having had a clot form, which might have destroyed life by the entire clot, or a portion passing to the heart.

Removal of Upper Portion of Rectum and Sigmoid

Dr. Thomas B. Noble, Indianapolis, related the case of a married woman, thirty-three years of age, in whom he extirpated the upper portion of the rectum and sigmoid for cancer. In connection with this case he showed an instrument which will be helpful in this class of cases. It is the result of a study and use of Murphy's button. It has some advantages, he asserted, over the button in this class of work, in that it can be introduced more quickly; it serves as a splint to the soft parts; admits of irrigation of the colon, and the prevention of impaction, and by continuous drainage keeps the bowel quiet, thereby favoring prompt and perfect union. He believes that it is a useful means to the ideal end, namely, an intact abdomen, intact intestine, and competent anal sphincters.

Malignant Tumor of Undescended Testicle

Dr. O. G. Pfaff, Indianapolis: The patient was a man of 38. Examination disclosed a tumor the size of a fetal head, occupying the left lower abdomen and pelvis. The tumor was freely movable within moderate limits, but was apparently attached by a pedicle to a point near the internal inguinal ring. The mass was diagnosed as a malignant tumor of the undescended left testicle, and three days later the man submitted to operation. Through an incision made to the left of the median line, the relationships of the mass were easily made out. The pedicle was attached at the internal ring, and there were some recent adhesions to the bladder, which were easily broken up, the pedicle ligated, and the mass removed. The man made an uneventful recovery from the operation, but within five months died of malignant disease. I did not see him after he left the hospital, and did not learn the location of the later growth, other than that it seemed to affect both the bladder and the bowels. The microscopic examination of the growth showed it to be a large round-celled sarcoma.

Terminal Events in Gall-Stone Disease

Dr. Charles N. Smith, Toledo, Ohio: That gall-stone disease is extremely prevalent, afflicting from 7 to 10 per cent. of adults dying in the public hospitals of England, Germany and America, is a contention apparently substantiated by the records of thousands of post-mortem examinations. Rupture of the suppurating gall-bladder into the general peritoneal cavity is by no means an unusual terminal event, having occurred five times in my own experience. Of these five patients, four made a complete recovery after operation, while in the remaining case, a desperate and delayed one, with widespread peritonitis, the patient died on the table as the abdominal incision was completed. From observation of these and other cases, and from a study of the literature, I am convinced that the frequency with which rupture of the gall-bladder occurs as a terminal event in gall-stone disease is scarcely appreciated. These cases are commonly diagnosed as peritoneal infection from appendicitis, operation done on this diagnosis and the case so recorded unless gall-stones, correcting the diagnosis, are found in the peritoneal cavity. One of my patients, a few months before coming to me, had been operated on for a supposed appendicitis and the appendix removed. When a gauze drain was being removed, following the operation, a gall-stone escaped from the cavity and others were expelled at subsequent intervals. Pus was discharging from the incision when the patient consulted me, and several gall-stones were removed from the sinus by the scoop. The gall-bladder, containing one immense stone, and a number of small ones, was removed and recovery followed. Two other patients were brought for operation with a diagnosis of appendicitis, because of pain, tenderness, and swelling in the right half of the abdomen. Correction of the diagnosis prior to operation was not difficult. Free incision, removal of gall-stones, cleansing of the cavity, abundant drainage, with the patient in the Fowler position, were followed by slow but eventful recovery. Of the many terminal events of gall-stone disease, malignancy is without question the most hopeless from the standpoint of cure. That primary malignant disease of the gall-bladder and ducts is preceded by gall-stones in practically every instance, is the experience of surgeons and pathologists. It would seem that a due appreciation of the frequent occurrence and the serious import of these complications must lead to the surgical removal of gall-stones as a conservative and prophylactic measure, long before the opportunity is given for the onset of these terminal events. That this may be done will require a more general recognition of the initial symptoms of gall-stone disease, with diagnosis based thereon, rather than on the symptoms produced by these same terminal events.

DISCUSSION

Dr. Miles F. Porter, Fort Wayne, Ind.: I wish to emphasize the author's statements regarding the relative frequency of the terminal events of gall-stone disease and the consequent importance of operating on patients with gall-stones before these more serious end-results occur. I was interested in Dr. Smith's remarks on posterior gastroenterostomy in cases in which the pylorus is obstructed because of adhesions about it, or the gut below, or because, on the other hand, of adhesions that are hard to break up which hang the pyloric orifice up under the liver. This has occurred a number of times, and in some of the cases the separation of the adhesions has not only been difficult, but accompanied by considerable trauma of the liver, and it is not unattended by danger. In many cases after these adhesions have been liberated there is a still greater difficulty to overcome, namely, their reposition as they were before, and I am therefore impressed with the fact that many of these can be better treated by posterior gastroenterostomy, in so far as the relief of this feature is concerned. I rarely do a cholecystectomy; it seems to me that the gall-bladder should be preserved as long as it is functionating and communicates with the liver.

Dr. Thomas B. Noble, Indianapolis: I wish to refer to that condition in which by pericholecystitis we have changes occurring in the stomach due to engorgement by the inflammatory exudate on the pyloric area. In such conditions we will have gastric neuroses, as well as true anatomic disturbances following. Dr. Smith has advised gastroenterostomy in such conditions. I prefer the Finney operation. I do not favor establishing an artificial opening between the intestine and stomach unless every other procedure fails; but the Finney operation maintains the normal route, makes drainage free and perfect, and in the five cases in which I have practiced it I have had satisfactory results.

Phases of Puerperal Sepsis

Dr. Hugo O. Pantzer, Indianapolis: The morbidity and mortality attending obstetrics in private homes as contrasted with the results obtained where confinements have occurred in hospitals, should be a convincing argument in favor of the latter practice. The dislike of midwifery by medical men who seek to limit their practice to a specialty, and the displeasure with which the general practitioner attends obstetric cases have deprived this branch of medicine of the growth and efficiency characterizing other branches of medicine. The acme of the present hospital movements will not have been reached until each community has ample hospital provision for its maternity cases. With the public won over to this innovation, it may be hoped that the old-time natural and happy union of obstetrics and gynecology in one specialty, as still generally maintained in old countries, may again become established with us. Without a specialist in obstetrics in most fields, the practitioner in time of need is driven to accept the service of a man no more skilled than himself. The gynecologist, who avowedly has discarded obstetrics, reasonably enough is called on in these emergencies in few cases and then often too late to give effective succor. This unfortunate situation demands relief. Review of recent literature shows that fuller recognition is taken of the differential pathology of parturient patients, and that skepticism of therapy, at times bordering on nihilism, is the dominant note. The routine treatment of various measures, such as curettement, antiseptic douches, etc., is receiving equally wholesale condemnation by some writers. Interesting statistics show conclusively that a let-alone policy is far superior to the indiscriminate medical and surgical practices of a recent past. Serology is not yet of much practical use, and surgery is indicated in comparatively few cases.

Other Papers Read

"Operative Enlargement of the Pelvis of the Non-Pregnant Woman," by Dr. John N. Bell, Detroit; "Artificial Anus Following Operation for Intussusception," by Dr. John Young Brown, St. Louis; "Gilliam Operation for Retrodisplacements of the Uterus," by Dr. W. H. Humiston, Cleveland.

SIXTEENTH INTERNATIONAL MEDICAL CONGRESS

Held at Budapest, Hungary, Aug. 29—Sept. 4, 1909

(Concluded from page 1228)

Total Extirpation of the Bladder

Professor Verhoogen and Dr. de Graeuwe, Brussels, Belgium: Total cystectomy has been followed by a death rate of 31 in 59 cases collected from literature—i.e., a mortality percentage of 53.4. This serious result of surgical intervention does not depend directly on the removal of the bladder, for it is a simple operation. The danger results from the difficulty of ensuing the free escape of the urine coming from the kidneys and of preventing their infection. It is still more difficult because the ureters are generally already distended and the kidneys affected before operation. The methods which have given the most serious results are those in which the ureters have opened on to the skin (30 per cent.) or left free in the wound (13 per cent.). When one or both of the ureters have been carried into the bowel the death rate becomes formidable (66 per cent.), even when precautions have been taken to have a valve at the ureteral orifice, or to exclude the portion of bowel into which the ureters open. The advantages of the two methods can be combined by performing first a double nephrostomy and then a cystectomy with ureterostomy into the excluded cecum. If the ureterostomy works well, the renal fistulas may be allowed to close. Total cystectomy is indicated: (1) malignant tumors of the neck of the bladder or in the neighborhood of the ureteral openings; (2) malignant tumors elsewhere in the bladder too extensive for a partial operation; (3) recurrent malignant growths; (4) papillomata too numerous to be removed in any other way; and (5) involvement of the bladder to a great extent by neighboring malignant growth.

Results of the Treatment of Exstrophy of the Bladder

Dr. E. Ester, Montpellier, France: Among the harmful results caused by exstrophy of the bladder, three are of especial importance; they are incontinence of urine due to the absence of a sphincter, pain, and suppuration resulting from chronic inflammation of the mucous membrane of the bladder exposed as it is to many irritating and infective causes. The best treatment is that which deals with these especially: (1) None of the methods employed gives an entirely satisfactory result; (2) the methods which aim at a plastic restoration of the bladder or the suture of its edges should be abandoned because they do not cure the incontinence of urine; (3) among the many methods of derivation of the course of the urine there are two which give good results, and which prevent incontinence, these are Maydl's method and Soubbotine's method; and (4) the cases reported are not sufficiently numerous to enable a decided opinion to be given as to which is the better. Nevertheless, the following opinions may be expressed: (1) Soubbotine's method protects more thoroughly against ascending infection than does Maydl's method; (2) from the point of view of technic Soubbotine's method, because of its complexity and the length of the treatment is inferior to Maydl's method; and (3) to appreciate the results obtained by these two methods it is necessary to follow up the cases for a number of years, for it might happen that the anal sphincter might be sufficient to retain the urine at first, but later it might allow a certain amount of incontinence.

The Affections of the Urinary Tract by Colon Bacilli

Dr. Thorkild Rovsing, Copenhagen: In most cases the *Bacillus coli* reaches the urinary organs by way of the blood-stream, and the bacilli give rise to a diffuse nephritis, generally slight but occasionally acute. Often the nephritis gets well rapidly and only a bacteria remains. Frequently the bacilli are introduced into the urinary passages by instruments, or they may wander in owing to a paralysis of the sphincter, but this can never occur if the sphincter is efficient. Occasionally infection occurs from the spreading of inflammation from neighboring organs. Since 1897, I have treated 285 cases of *Bacillus coli* infection of the urinary passages. In 180, the disease arose as an acute nephritis or pyelitis in patients who had never been catheterized. Some of the starting points were tonsillitis, cholecystitis, acute enteritis, appendicitis, colitis, cancer of the colon, and typhoid. Clinically, the hematogenous nephritis frequently commenced with febrile symptoms and hematuria. The blood soon disappears from the urine but albuminuria remained, often with pus and casts. Many miliary abscesses may be present in the kidney, and microscopically there can be seen minute centers of inflammation caused by bacillary emboli. Pyelitis and pyelonephritis may be temporary or chronic; when chronic they are chiefly associated with calculous pyelitis. Cystitis is the rarest manifestation of infection by the colon bacillus, for it does not possess the power of attaching the intact mucous membrane of the bladder. In treatment operative interference is never necessary in uncomplicated infection by the *Bacillus coli*, but if complications are present which hinder recovery operation may be necessary; for instance, if calculi and stricture of the ureter are present. The rational treatment of uncomplicated *Bacillus coli* infection is by flushing out the urinary passages by a free stream of fluid. This can be done by leaving a catheter in the bladder and giving the patient three or four liters of distilled water to drink in the 24 hours. Salol, 1 grain three times a day, is useful. When the urine has become free from bacteria 20 c.c. of a 1 per cent. solution of nitrate of silver are injected into the bladder and the catheter is withdrawn. There is no object in washing out the renal pelvis through a ureteral catheter.

Indications for the Operative Treatment of Secondary Suppurative Labyrinthitis and Method of Treatment

Dr. E. Schmiegelow, Cophenhagen: The paper is based on the observed results of 42 cases of labyrinthitis following purulent conditions of the middle ear. In ten cases the labyrinthitis was either of the partial circumscribed or else of the serous type, and the patients all recovered after opening and emptying the cavity of the middle ear. The remaining 32 cases consisted of diffuse purulent conditions of the labyrinth with complete deafness. An operation on the labyrinth itself was not indicated in all the cases of secondary lesions of the labyrinth; the indications for this operation were not derived solely from the results of functional exploration, but also from the progress of the illness and the direct examination of the wall of the labyrinth after the radical operation. The treatment of secondary labyrinthitis consisted sometimes in efficient prophylaxis and sometimes on making an opening into the cavity of the labyrinth. The labyrinth may be opened in various ways. The method recommended by Jansen and Neumann ought not to be the principal one. This operation is deep and difficult, and is only justifiable when there is reason to suppose that in addition to the disease of the labyrinth there is suppuration in the posterior cranial fossa. The labyrinth may be opened with a drill (*fraise*), but the chisel and hammer are safer and enable the direction to be judged better. The method suggested by Uffenorde avoids accidental injuries to the facial nerve, which is exposed by carefully opening the aqueduct of Fallopius, and after this the semicircular canal, the vestibule, and the cochlea are opened. In this manner the facial nerve can be preserved during the complete removal of the labyrinth. At the end of the operation the nerve can be seen descending freely through the cavity which is left. In 22 of the 32 cases of purulent diffuse labyrinthitis the treatment consisted only in performing the radical operation on the middle ear. Of these 22 patients 2 died from complications existing previously to the operation. Of the remaining 20 patients 2 died, while 13 (i.e., 65 per cent.) recovered.

Infantile Types of the Temporal Bone and Their Surgical Importance

Mr. Arthur H. Cheatle, London, Eng.: By infantile type is meant the persistence in an exaggerated degree throughout life of the anatomic conditions of the outer wall of the antrum and mastoid mass as seen in infancy. In the adult the mastoid mass is generally diploetic but very rarely dense; the outer wall of the antrum is always dense and thick and lined internally by the cells which form before birth ("fetal cells"), and a layer of dense bone separates the cavity of the antrum from the mastoid mass. The types are found in about 20 per cent. of normal bones. The lateral sinus is usually forward. The density of the outer antral wall so frequently found in chronic suppuration in the antrum is a factor in producing chronic suppuration and is not an osteosclerosis.

Nasal Asthma

Dr. M. Grossmann, Vienna: Experimental researches undertaken in the hope of explaining the phenomena of nasal asthma have shown that electrical or mechanical irritation of the nasal mucous membrane leads to a notable disturbance of the cardiac function, followed by a considerable engorgement of blood in the pulmonary circulation and by an increase in the external dimensions of the lung. In curarized animals this increased volume of the lung causes a rise of pressure in the intrathoracic space and a depression of the diaphragm. This effect of nasal irritation is absent if either the second branch of the trigeminus nerve or the two vagus nerves are previously divided. There is, therefore, reflex action in a curved path the centripetal portion of which is formed by the vagus. This enlargement of the lung is not caused exclusively by the accumulation of blood, but also by the fact that the pulmonary capacity—i.e., the available pulmonary area—is increased in direct proportion to the engorgement with blood. The lung becomes larger not only as regards its external dimensions, but also as regards its intrapulmonary capacity. In accordance, herewith, the intrapulmonary pressure, unlike the pressure in the intrathoracic space, falls when the pulmonary circulation is engorged with blood. This enlargement of the lung is accompanied by rigidity which seriously interferes with respiration.

Treatment of Chronic Glaucoma

DR. FELIX LAGRANGE, Bordeaux, France, reviewed all the means, medical, surgical, and operative, which have been employed in the treatment of glaucoma, and laid particular stress on operations designed for lessening ocular tension. He dealt with iridectomy and sclerotomy as well as section of the sympathetic, and gave it as his opinion that all the intraocular operations only succeeded imperfectly in attaining the object of the perfect operation—namely, a fistulous or filtration cicatrix by which evacuation can be effected when the tension is too high. He described his operation for this end in precise terms. It consists essentially in a sclerectomy made at the level of the canal of Schlemm, and comprising all the thickness of the sclerotic. The incision should be made in such a way as to cut the insertion of the ciliary muscle, by which means the choroidal space will be brought into communication with the anterior chamber. The section of the sclerotic opens a free passage for the intraocular fluids, which can thus drain out under the conjunctiva. Dr. Lagrange added that in eyes with permanently increased tension sclerotomy should be followed by an iridectomy in order to avoid the inclusion of the iris. In cases of simple chronic glaucoma in which the increase in tension is intermittent or very slight, simple sclerotomy should suffice to produce an effective filtration cicatrix.

Postoperative Inflammations of the Eye Caused or Prompted by Autoinfection

DR. ANGELUCCI, Naples: It is an axiom of the present time that autointoxication and autoinfection are able to initiate inflammatory processes in the eye. Morbid conditions, often obscure and sometimes inappreciable to the patient, may cause postoperative inflammation in the eye. 1. Diseases of metabolism—(a) Albuminuria: Sclerosis of the renal vessels in old people and the arthritic kidney, accompanied by a slight excretion of albumin, have no deleterious effect on the postoperative course in cataract extraction. In Bright's disease iritis occurs almost always, sometimes after simple iridectomy, especially if the disease is advanced. (b) Diabetes: Cataract extraction may be free from inflammatory complications and consecutive hemorrhage in diabetics of good constitution. In the late dystrophic stages, usually associated with albuminuria, even if the sugar excreted in the urine shows diminution in quantity untoward results are to be anticipated. (c) Gout: This disease affords no contraindication to cataract extraction. Gouty attacks occurring during the period of convalescence do not appear to exercise any malign influence. When gout is accompanied by constipation or other disturbances of the intestinal tract there is not the same immunity from inflammation. 2. Diseases of the mouth.—In these cases iritis is common after extraction of cataract and may eventuate in suppuration. 3. Affections of the gastrointestinal tract.—Constipation and disorders of digestion are a potent cause of postoperative iritis. It occurs from the fourth to the eighth day and is ushered in by increased conjunctival secretion, often affecting both eyes. 4. Diseases of the bladder.—Two cases of iritis in iridectomy were associated with chronic vesical catarrh in spite of minute precautionary measures. Extraction of cataract has been followed by hyperemia of the iris although serotherapy was employed. 5. Influenza. A case of cataract extraction during an attack of influenza resulted in the loss of eye from panophthalmitis. 6. Furunculosis and abscesses.—Hypopyon ulcer supervened on an iridectomy in a patient with boils, and the eye was lost from panophthalmitis in an old man who had an abscess and was operated on for cataract.

Prevention of Infection in Operations on the Eyeball

DR. ELSCHNIG, Prague, Bohemia: Investigations have led to the conclusion that in spite of careful antiseptic or aseptic precautions postoperative infection originates exclusively in the conjunctival sac, with the sole exception of rare endogenous infections. In all cases, therefore, in which the globe is to be opened the bacteria of the conjunctival sac should be examined and operation undertaken only if pathogenic organisms, especially streptococci and pneumococci, are absent. The most reliable methods are by culture experiments on both solid and fluid media, such as serum bouillon and serum agar plates. The use of pyocyanase and perhaps mercury oxycyanate is most to be recommended for the elimination of pathogenic organisms. Immunization procedures and even disinfection of the field of operation have little or no value, but general infection and disease of other organs must be treated. When infection of the conjunctival sac is suspected, the greatest care must be exercised as to the exact mode of operative procedure. All wounds should be situated in the conjunctival area, and wounds of the sclerotic with scissors—e.g., subconjunctival cataract extraction—should be avoided.

Eye Symptoms in Disease of the Pituitary Body and Acromegaly

DR. W. UHTHOFF, Breslau, Prussia: Cases of hypophyseal tumors with and without acromegaly were distinguished for purposes of differential diagnosis. The results given are founded on 328 necropsies. Temporal hemianopia is the most constant symptom; typical choked disc and slight papillitis each occurred in about 5 per cent. of the cases, simple atrophic pallor of the discs in 20 per cent. and central scotoma only in occasional cases. Paralysis of ocular muscles, generally affecting the oculomotor nerve, occurred in 10 per cent. of cases, and nystagmus in 6 per cent.

Sanitary and Hygienic Organization of Armies, with Especial Relation to the Spanish Army

DR. LARRA Y. CEREZO, Madrid, Spain: Each division of the Spanish army will take into the field a complete hospital with every necessary appliance for 200 beds, distributed among 16 tented-wagons. As a complement to this hospital installation the division is further equipped with 4 wagons, each containing surgical and medical appliances, each with 300 dressings, and the pharmaceutical necessities and material for clinical investigation in the hospital; 4 wagons of appliances, a food-supply wagon, which provides food for the hospital of 200 cases for six days; and 24 ambulance wagons. These units correspond to the divisional field ambulance and the divisional hospital. The latter has also at its disposal a disinfecting stove, bath, apparatus for sterilization by heat and by ozone, a reservoir wagon of water with a filter, and another for chemical and bacteriologic analysis and for radiographic investigation. In the regiments the material for sanitary service include the following sealed patterns: (1) A first field dressing for each man; (2) an emergency knapsack for each company; (3) a medical saddle-bag or wallet, for each squadron or battery; (4) a medical haversack; (5) a medical chest per battalion; (6) a reserve chest for each battalion; (7) a medical vehicle for each battalion; (8) a case of surgical instruments (9) a case of amputation instruments for mounted corps; (10) a service stretcher; (11) a Swedish chair; (12) an ordinary litter. Each army corps has a hospital train. Spain has three large establishments to provide the raw material, and sealed patterns of material, including vaccines, prophylactic and therapeutic serums, drugs, etc. These establishments are: The Military Health Park, the Central Medical Laboratory, and the Institute of Military Hygiene. All the sanitary units assigned to each division in time of war are calculated to provide the division with about 46,000 to 49,000 dressings—that is, 3 per head, 1 first field dressing, and 2 for secondary treatment.

Intestinal Parasites in the Tropics

Dr. Debayle, Nicaragua, dwelt on the extreme frequency of diseases due to such parasites in tropical countries, particularly the ankylostoma, the *Ascaris lumbricoides*, the *Trichocephalus dispar* (the serious effects of which are often not sufficiently recognized), and the various forms of tenia. The symptoms are protean in their character, they result from a severe toxemia; the hemolytic effect of the toxins was specially dwelt on. There is the real need for energetic measures in destroying these parasites; the people must be educated, an active propaganda is essential.

Epidemics of Dysentery in the Mussulman Pilgrimage

Dr. Armaud Ruffer, president of the Maritime, Sanitary, and Quarantine Board of Alexandria: At the Egyptian lazaret of El Tor from 400 to 600 individuals with dysentery are treated each year among the returning pilgrims, and of these some 150 die. As the pilgrims at El Tor represent only a portion of the whole number, it is evident that the deaths from dysentery during these pilgrimages must be enormous—perhaps from 3,000 to 15,000 per annum. It is unfortunate that the same attention has not been paid to this disease by the European powers as to plague, or cholera, or yellow fever; the international sanitary conventions deal only with the latter diseases. There are two main forms of dysentery, the amebic and the bacillary, and not infrequently a mixed infection is encountered. From observations made at El Tor conjointly with Dr. Zirolia, it was found that the majority of the patients gave no serum reaction with the Shiga-Kruse bacillus; in fact, only 2 per cent. of the whole gave such reaction. In some of the cases the Flexner organism was present, in others the pseudodysenteric bacilli, A and D, of Kruse, were found. Each of these organisms was absolutely distinct, and gave reaction specific to itself but not to the others. In a number of patients another bacillus was found, to which the name of the Tor bacillus, No. 1, has been provisionally given. All these organisms presented the general characteristics of the pseudodysenteric bacillus D of Kruse, but their serum reaction was entirely different: they agglutinated neither that nor any other of the above-named bacilli. Briefly, the forms of dysentery encountered in the pilgrims are due to at least nine different micro-organisms, and at least six bacilli are more or less clearly and distinctly differentiated. In cases due to the Shiga-Kruse bacillus most excellent results have been obtained by serotherapy; indeed, in few other diseases are the results of serotherapy so brilliant. In the Tor cases there was practically no effect, which is further evidence that they are due to some other micro-organism.

Yellow Fever Prophylaxis in Cuba

Professor Agramonte, Havana: The topography and geographical position of Cuba and its large, non-immune population render it, if not less liable to invasion by the disease, at least more favorable to its extinction than some other regions. In 1901 the infection completely disappeared, as the result of a campaign based on the doctrine of mosquito transmission, and carried out by Colonel Gorgas. Between February, 1901, and October, 1905, only a few cases of the disease, imported from Mexico or South America, occurred and none of these gave rise to secondary cases. In May, 1902, the republic was inaugurated; the flow of immigration, especially from Spain, increased twofold, and the new railroad brought one end of the island into rapid communication with the other. New towns were established and trade and industrial enterprise increased proportionally. Three unfavorable results followed: An unwarranted sense of security was brought about, the non-immune population was increased, and the *stegomyia* mosquito was spread from the coast to the interior, where it did not exist before. Consequently, the yellow fever epidemic of New Orleans in 1905 crept into Cuba in October of that year, and from that time till Dec. 24, 1908, 405 cases of the disease developed in the island. None has occurred since. The measures employed to deal with this outbreak were indirect and direct. Quarantine appears to be of small value in the prevention of yellow fever, if the certificates of immunity presented by passengers be relied on. In 1905 close quarantine was in force against the southern states of America, and yet the infection, which was waning in New Orleans, entered the island. An absolutely closed quarantine might be effective, but it would cause great inconvenience to commerce and to travelers. The isolated and complete defense against mosquitoes of all imported cases, on the other hand, are effective, as shown by the occurrence of more than 30 imported cases from Mexico and the United States, without any secondary cases developing. The patients were all isolated in the Las Animas Hospital, where the most minute precautions are taken to prevent the spread of infection by mosquitoes. Every hospital in the island is provided with yellow fever wards. A system of registration of non-immunes has also been most useful. Some 60,000 men are registered as members of various five specially equipped hospitals. These 60,000 men are under Spanish clubs or societies in Havana; and for these there are special sanitary control, and any suspicious illness among them is at once dealt with. As the total number of white foreigners in Havana is 74,000, it will be seen how valuable a measure this is. Similar societies exist in other towns. Spanish immigrants rarely fail to inscribe their names with one or other society. A large staff of sanitary commissioners has been formed, and these investigate any suspicious case in any part of the island. Among the direct measures in the control of yellow fever one of the most important has been a house-to-house inspection carried out by trained men every ten days. The removal of breeding-places for mosquitoes, the oiling of pools and other collections of water and the provision of metallic gauze coverings to water-tanks and barrels, have been extensively carried out. Another useful measure has been the free distribution of fish to be put into such barrels and tanks in order to destroy the larvæ. Fresh supplies of fish are furnished as required. The destruction of mosquitoes by fumigation or other means is also extensively applied.

Etiology and Prophylaxis of Bacterial Dysentery

Dr. Galli-Valerio, Lausanne, Switzerland: The disease is caused not by one bacillus but by many bacilli belonging to the Shiga group of such organisms. The terms paradysentery and pseudodysentery should not be used, as they tend to cause neglect of measures of prophylaxis. The disease is spread mainly: (1) by personal contagion either from sick persons or from healthy "carriers" of the bacilli, and either directly or through fomites; (2) by water, which plays a most important rôle in the spread of the disease; (3) by means of flies, as proved by experiments; (4) by milk, which may be infected by flies or by the addition of infected water, or the washing of vessels with such water; (5) by vegetables, for similar reasons; (6) by the soil and dust. The main prophylactic measures recommended are grouped under the following headings: (1) as rapid as possible a diagnosis of the first cases; (2) compulsory notification of all cases; (3) strict isolation of the sick; (4) disinfection of the excreta, of linen and other fomites, and of the room occupied by the sick. Immediate and compulsory notification, at present in force in few countries, is an absolute necessity. Thorough sanitation is also, of course, of prime necessity; and finally, the public must be actively educated in the need of strict measures. Vaccination has hitherto given uncertain results.

Pathology of Secretion and Motility of the Intestinal Canal

Dr. A. Bickel, Berlin: Disturbances of the glandular activity in the intestine can be either quantitative or qualitative in their effects, the former depending on alterations in the production of the secretions, and the latter on their composition. The disturbances may therefore be distinguished respectively as parenchymatous or neurogenous. In the first named the morbid process affects the gland cells or the surrounding tissues; in the second form the nervous mechanism of the gastro-intestinal tract is the seat of the disturbance. Further, the alterations in the secretion of mucous must be distinguished from that of the secretion of the digestive juices. With regard to the former an excessive secretion only is of importance; this is due to some fault in the parenchyma; the nervous supply may also have an influence through a less powerful one.

Medicolegal

Power of School Boards to Enact and Enforce Rules to Prevent Appearance of Smallpox in Schools and Especially Requiring External Vaccination

The Supreme Court of Missouri says, in the case of State, on the relation of O'Bannon vs. Cole and others constituting the School Board of Sedalia (119 S. W. R. 424) that the board, on Dec. 4, 1908, made an order that it had come to the knowledge of the board that smallpox existed within the school district, the board deemed it necessary that all children attending school, who had not been vaccinated, must be vaccinated within 30 days. On Jan. 8, 1909, the board adopted the following additional resolution: The board will not accept a certificate of vaccination unless the physician does state that the child has been vaccinated with vaccine virus, and all children who have had smallpox must bring a certificate from the physician in attendance to that effect; and, where such certificate can not be procured, then the parent or guardian must make affidavit that such child has had the smallpox, etc. The records of the board showed a called meeting held on January 12 for the purpose of taking further action on the question of vaccination, the president stating that he had been informed that certain physicians had been vaccinating school children by giving powders internally and giving them certificates that they had been vaccinated internally with vaccine virus. A physician present asked to be heard on the subject and stated that such treatment would render the patient immune from smallpox. A resolution was then passed: That no certificate of vaccination shall be received unless the same states that the person was vaccinated externally with vaccine virus.

O'Bannon's two children were excluded from the schools of the district in January, 1909, under the above rules, and because they had not been vaccinated as required by the rules. Then this suit was brought. The trial court granted the writ desired, and declared said rules void. The Supreme Court holds that such judgment was erroneous, and reverses it.

The Supreme Court agrees with the board of directors that under the general statutory provisions they had the inherent right to promulgate and enforce the orders and rules in question. The precise question, the court says, has never before been before it, but has been before the St. Louis Court of Appeals in the case of the matter of the application of Rebenack for a writ of mandamus against the board of education of the city of St. Louis, 62 Mo. App. 8, which has been cited with approval in Indiana, Massachusetts, Minnesota, North Carolina and Utah cases.

The Supreme Court has no doubt that, in the event of a threatened epidemic of smallpox, boards of school directors can pass a rule excluding all pupils who have not been vaccinated. That a person who has never been vaccinated is subject to the contagion of smallpox is general knowledge. That vaccination has reduced the ravages of this disease is also general knowledge. That the appearance of unvaccinated pupils in a public school at a time of a smallpox epidemic would tend to break up and disorganize a public school is unquestioned. That the school board has the power to absolutely suspend the school during epidemics of contagious or infectious diseases, the court thinks can hardly be questioned. No court would compel the opening of a school under such circumstances. The power here exercised was a very similar power, and, if these rules were reasonable, this court sees no reason why their enforcement should be prohibited.

The Illinois rule does not go to the extent of holding that a board of education, in case of a threatened smallpox epidemic, could not exclude pupils who had not been vaccinated.

The courts may be somewhat divided on the question as to whether or not vaccination, under all conditions and at all times, may be made a condition precedent to a child attending a public school; but the courts are practically a unit in holding that in the event of a present or threatened epidemic, such rules are reasonable and should be upheld by the courts. And such has been the rule in states where there is no express authority requiring vaccination. Many states have passed laws requiring vaccination of pupils before entering schools, and these have been generally upheld, and that, too, in the face of statutory and constitutional provisions making such schools open to all pupils within the required ages.

This court will not go further on this branch of the case. Nor will it go beyond the case in question. For years there had been smallpox in Sedalia. Within two weeks of the trial in the lower court there were yet cases there. At the promulgation of the rules in question, there were a number of cases, so there was not only a threatened epidemic of the disease, but an epidemic itself. This court is of opinion that school boards in Missouri, in the event of a smallpox epidemic, or a threatened smallpox epidemic, have the right to enforce such rules as were enforced in this case, unless they are precluded therefrom by other statutes now to be considered.

It was contended that, by reason of the compulsory school act, the rules in question would enforce this parent to violate that law, and that under that law the rules enforced by the school board were void. That act, however, in no way affects these rules. In the first place, there can be no prosecution of a parent for failing to send his child to school under that act until after an officer of the school district has notified him to send such child, and then, if he fails, a prosecution can be had. This parent was in no danger of violating that law. The act makes it a misdemeanor to violate its provisions, and this court has yet to hear of a criminal case wherein a defendant was convicted of willfully violating a law, when in fact he has manifested the disposition that this parent had to comply with the strict letter of the law; but, laying aside all levity, the act of the school board, whose officer must initiate the prosecution by giving notice, would be an absolute defense. Beyond all this, the compulsory school act must be construed with the whole body of the school law, and when so construed, it can be made to harmonize therewith to the end that there would be no violation of the law. The court is of the opinion that there is no real conflict between rules of the character involved in this case and the compulsory school act.

But Section 9765 of the Revised Statutes of Missouri of 1899 was chiefly relied on as the battering ram by which these rules of the school board were to be demolished. An analysis of that section shows: (1) It prohibits a child afflicted with a contagious or infectious disease, or one exposed to such a disease and liable to transmit the same, from attending a public school; (2) for determining either its diseased or exposed condition, either the teacher or school board may require the child to be examined by a physician; (3) such child may be excluded so long as there is danger of transmitting such disease; (4) a refusal on the part of the parent or guardian to permit such child to be examined authorizes the exclusion of such child from the school; and (5) if the parent or guardian shall persist in sending such child to the school, such act is made a misdemeanor and a punishment is affixed. This analysis of the section shows that it is dealing wholly with a case where a child is actually diseased, or has been exposed to a disease of the character named. The statute does not undertake to abrogate the general power to control the school given to the board of directors, nor does it undertake to deal with the subject of needful rules. One main purpose of this Section 9765 is to provide a punishment for that class of either careless or persistent parents who are willing to inflict on others the diseases and troubles of their own children. The first part of the statute, as said, deals with a concrete case of a diseased or exposed child; but by no maxim, or other rule of construction, can this court see how it can be said that in the enactment of that statute there was a legislative intent to preclude a school board from enacting reasonable rules to prevent the appearance of contagious or infectious diseases in the schoolroom. The rules in question in this case were enacted to prevent the appearancce of disease in the school. This the school board can do, so long as its rules are reasonable, under the general power.

This court is, therefore of the opinion that the school boards of Missouri have the right to enact and enforce rules of the character here in question at all times whenever there is either a smallpox epidemic in the district or whenever there is a threatened smallpox epidemic. The very purpose of such regulations might be thwarted were the epidemic itself to be actually awaited.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

September 30

1 *A Practical Diet Chart. H. D. Arnold, Boston.
2 Nasal and Nasopharyngeal Conditions as Causative Factors in Middle-Ear Disease. G. A. Leland, Boston.
3 Diagnosis of Phthisis and Its Association with Certain Simulating Diseases. C. Floyd and W. W. Barker, Boston.
4 *Distinction Between the Psychoneuroses not Always Necessary. G. L. Walton, Boston.
5 *The Ocular Tuberculin Reaction. F. P. McCarthy, Ancon, Canal Zone.
6 *Modification of the Thomas Wrench for the Treatment of Rigid Valgus. R. O. Meisenbach, Buffalo, N. Y.

1. **Practical Diet Charts.**—In the preparation of these charts Arnold has aimed to give on one sheet of paper all the data necessary for arranging and calculating the nutritive value of a diet, and to furnish a convenient means of recording the results. The feature which makes these charts practical for use is the information given as to the nutritive value of food in measures such as are used in everyday life. A fairly accurate record may thus be obtained with very little inconvenience to the patient. The tables give the composition of ordinary articles of food. The values are approximate only, but are sufficiently accurate for practical use. The tables are based chiefly on Atwater and Bryant's statistics. Arnold shows that scientific work in connection with the diet must be based on the caloric value of foods, and the amount of each of the three ingredients (protein, fats and carbohydrates) contained in the food. The quantitative regulation of food is as important as its qualitative regulation. These charts give all the data needed in the practical regulation of the diet in such a form that calculations can readily be made and the results can be conveniently recorded.

4. Abstracted in The Journal, July 24, 1909, p. 317.

5. **Ocular Tuberculin Reaction.**—In a series of cases at the Colon Hospital in which the ocular reaction was tried by McCarthy, the test was applied to various diseases besides tuberculosis. Two hundred and sixty-three cases were tested, and the results have been satisfactory as compared with the reports of other observers. Sixty-four cases of pulmonary tuberculosis were tested, with 54 positive reactions and 10 negative. In the first stage of the disease 22 cases were tested and all were positive, 100 per cent. In the second stage, 12 were tested, with 11 positive and 1 negative reaction. In the third stage, 30 were tested, with 21 positive and 9 negative reactions. Forty-five patients had positive sputa. Fifteen patients had negative sputa, and 4 raised no sputum. Of 3 cases of miliary tuberculosis tested, 2 gave positive reactions and 1 negative. Of 20 cases of clinically suspicious tuberculosis, 12 gave positive reactions, with 8 negative ones. Most of these patients had suspicious physical signs in the chest, some had slight rise of temperature, emaciation, night-sweats and cough. In 25 patients not considered tuberculous, but with obscure temperatures and no signs of tuberculosis clinically present, 21 were negative and 4 positive to the test. Of 8 cases of acute bronchitis and 6 of chronic bronchitis, no positive reactions occurred. Of 9 patients with pleurisy with effusion and 7 with pleuritis sicca, 1 of each failed to react, showing 14 positive reactions out of 16 cases. There was 1 positive reaction in 3 cases of bronchial asthma tested; 2 cases of pneumothorax reacted positively. Fourteen cases of lobar pneumonia were tested, 4 of which were unresolved; negative results were obtained in every case. One case of bronchopneumonia in an old man gave a positive reaction, although the sputum was negative. In 16 cases of malarial fever, all complicated with bronchitis, amebiasis, uncinariasis and other conditions, 14 patients failed to react, with 1 positive result. Of 19 cases of typhoid fever, 8 gave positive reactions and 11 negative. Of the 8 positive cases there were 3 blood cultures taken, all showing the *Bacillus typhosus;* in the other 5 no blood cultures were taken. In the 11 negative cases of typhoid, all had blood cultures, 3 showing the paratyphoid bacillus, 3 the para-colon bacillus, 1 the *Bacillus typhosus* and 3 bacilli in the typhoid group. In 4 cases of tuberculous bone disease, 2 of Pott's disease, 1 each of tuberculous knee and tuberculous elbow, there were four positive reactions. Of 3 cases diagnosed as tuberculous adenitis, 2 cervical and 1 inguinal, all gave positive reactions.

In a group of miscellaneous diseases the following were negative: 1 tabes dorsalis, 1 syphilitic periostitis, 2 chronic nephritis, 1 cirrhosis of liver (with chronic diarrhea), 2 gonorrheal arthritis, 1 filariasis with chronic nephritis, 1 hemoglobinuric fever, 1 empyema, 1 chronic heart, 1 traumatic rupture of lung with hemorrhage, 3 epidemic cerebrospinal meningitis, 1 leprosy, 1 syphilis (secondary), 3 acute nephritis, 3 amebic dysentery, 1 relapsing fever, 1 cystic kidneys, 2 chronic diarrhea, 4 uncinariasis, 4 liver abscess, 1 ulcer of foot, 2 arthritis (obscure), 1 each of alcoholic neuritis with rise of temperature, T. B. kidney, chronic nephritis, pericarditis and perinephritic abscess—42 cases in all.

Five miscellaneous cases gave positive reactions: amebic dysentery with temperature, posttyphoid arthritis, blastomycosis dermatitis, hematuria, aortic aneurism with bronchiectasis. Nine normal individuals gave negative reactions.

6. **Modification of the Thomas Wrench.**—For cases which do not yield to either manual force or the ordinary wrench, Meisenbach has devised a modification of the Thomas wrench whereby the os calcis, as well as the tarsal bones, are under the control of the operator and by means of which force can be exerted with as great accuracy and precision as is desired. The wrench is applied in a similar way to the Thomas instrument, but, before the force is exerted, the strap is wound around the external aspect of the os calcis and tensely adjusted to the hook on the opposite arm of the wrench. The wrench is applied from the external aspect of the foot, when external force is desired, and vice versa when internal force is the object. In applying the wrench, it should be approximated firmly to the foot, and care should be taken to fasten the strap firmly before any force is applied. The wrench itself is made similar to the Thomas wrench, to the lower arm of which is attached a strap about 60 cm. long with holes. On the corresponding arm there is a hook whereby the strap may be attached at any length desired. The author has used this wrench with great success in obstinate cases that have not yielded to other methods.

New York Medical Journal

September 25

7 Abrus Precatorius in Epithelioma. J. V. Shoemaker, Philadelphia.
8 Prevention and Cure. B. Robinson, New York.
9 Symphysis by Immediate Prothesis. C. J. Koenig, Paris, France.
10 Plea for the Advancement of the Study of Medical History. H. Pomeranz, New York.
11 *Uncontrollable Uterine Hemorrhage. A. Samuels, Baltimore.
12 Tetanus with Recovery Following Injection of Antitetanic Serum into the Sciatic Nerve. C. M. Stimson, Philadelphia.
13 Perforating Ulcers of the Feet in Two Brothers, Caused by Productive and Obliterative Endarteritis. W. E. Sanders, Alta, Iowa.
14 Physiology and the Second Law of Thermodynamics (concluded). F. H. Garrison, Washington, D. C.

October 2

15 *Persistence of the Gonococcus in the Prostate. G. A. De S. Saxe, New York.
16 *Treatment of Locomotor Ataxia by a Modification of the Re-Educational Exercises. E. A. Fruchthandler, New York.
17 Diagnosis of Incipient Pulmonary Tuberculosis. W. J. Pulley, New York.
18 Few Points on the Early Diagnosis of Tuberculosis. L. S. Peters, Silver City, N. M.
19 Postoperative Suppression of Urine. A. B. Cléborne, Savannah.
20 *Pathogenesis of Round Ulcer of the Stomach. J. A. Work, Elkhart, Ind.
21 Operation for Brain Tumor with Occurrence of Hitherto Unrecognized Circulatory Phenomena. P. Zenner and S. P. Kramer, Cincinnati.
22 Determination of the Hepatic Area by X-Rays and by Auscultatory Percussion and Allied Methods. Echinococcus Disease. A. L. Benedict, Buffalo.

11. **Uncontrollable Uterine Hemorrhage.**—Samuels reports two cases of uncontrollable uterine hemorrhage in which hysterectomy was performed.

15. **Gonococcus in Prostate.**—Of 150 cases of chronic gonorrheal infection of from 6 months to 18 years' duration, 6 per cent. showed prostatitis. The older the infection, the more frequent was the prostatitis. Of the 108 cases of prostatitis studied by Saxe, 31, or 28.7 per cent. showed gonococci in the prostatitis secretion. The older the infection the less probable was the finding of gonococci in the prostate. After three

years, gonococci were found rarely, even after most persistent efforts. Many and thorough examinations are needed before it is at all certain that the gonococcus is absent from the prostate. Mixed infection occurred in 86 per cent. of the cases studied. The gonococcus alone occurred in only 5 cases of 108, and all 5 were cases of less than one year's duration. The older the case the more prevalent was the mixed infection. Staphylococci occurred in 74 per cent., bacilli in 28 per cent., Gram positive diplococci in 10 per cent., and streptococci in 7.6 per cent. of cases with mixed infection. The absolute need of microscopic examinations of prostatic secretion was shown by the fact that palpatory signs were absent in 38 cases (35 per cent.), while 13 cases (12 per cent.) showed absolutely clear urine, although the smears showed prostatic infection. Saxe claims that gonorrheal prostatitis is curable by proper treatment in the great majority of cases.

16. **Treatment of Locomotor Ataxia.**—Fruchthandler describes fully a method of treatment based on the Frenkel method, but without the use of complicated devices. His results have been gratifying to him. For details the reader is referred to the original article.

20. **Round Ulcer of Stomach.**—Work claims that in the causation of the typical round ulcer of the stomach there is: (1) A neutralization of the natural protective bodies current in the blood stream and tissues; (2) the elaboration of either an endogenous or exogenous cytolytic poison which is specifically toxic for gastric mucous membrane; and (3), as a result of these factors, a neurosis and desquamation of actual glandular tissue of the stomach takes place which is accompanied by a lack of gastric mucus and a large increase in the hydrochloric acid.

Medical Record, New York

September 25

23 Clinical Experience with Calcium Lactate in Hemorrhages of the Upper Air Tract. W. K. Simpson, New York.
24 The Therapeutics of Calcium Sulphid in Relation to Surgery and Contagious Diseases. G. D. Ussher, Van, Turkey.
25 The Clinical Side of Disease in the Philippine Islands. T. W. Jackson, U. S. Army.
26 *Simpson and Chloroform. V. Robinson, New York.
27 The After-Care of the Insane. G. H. Williams, Columbus, Ohio.
28 *Tonsil Removal, Opsonic Index and Immunity. B. D. Sheedy, New York.

October 2

29 *The Adverse Influence of Diabetes in Certain Operations on the Eye. C. S. Bull, New York.
30 Joint Tuberculosis: Special Reference to Its Pathology. L. W. Ely, New York.
31 *Tuberculin for the Diagnosis and Therapy of Renal Tuberculosis. W. Karo, Berlin, Germany.
32 The Traumatic Neurosis and Babinski's Conception of Hysteria. T. A. Williams, Washington, D. C.
33 The First American Hospital. J. J. Walsh, New York.
34 *The Staining of Blood Films. J. W. Fisher, Middletown, Conn.
35 Stenosis of Vesical Outlet Following Prostatectomy. J. B. Squier, New York.

26. **Simpson and Chloroform.**—Robinson gives a graphic account of the surroundings and birthplace of James Simpson, who first made use of chloroform in labor.

28. **Removal of Tonsil.**—Sheedy says that tonsils in the young serve an important purpose and should not be removed unless they are so far diseased that their normal function is interfered with. In such cases they no longer act as a fortification and protection against bacteria, but may become the means of entry of these enemies to health. Immunity is produced by the tonsils; natural immunity is caused by inflammations, and artificially acquired immunity is produced in the tonsillar crypts by agglutination and the development of opsonic power.

29. **Influence of Diabetes in Operations on Eye.**—Of 115 operations, 62 were cataract extractions, 40 were preliminary iridectomies, 9 were iridectomies for optical purposes, owing to the presence of central corneal opacities, and 4 were iridectomies for chronic glaucoma. Of the 62 cataract extractions, 40 were senile cataracts in diabetic patients, and all the patients were 65 years of age or over. These were all extractions with iridectomy, and all the patients recovered without any serious complications, though the wound healed slowly in 11 cases. There were no hemorrhages and no sign of infection in any of the cases. Ten cases showed slow healing of the wound, and all gave evidence of arterial degeneration and a high intravascular tension. The remaining 22 cases were all pure diabetic cataracts; that is, they were cortical cataracts, bluish-white in color, and somewhat swollen. The patients' ages varied from 36 to 40 years. In each case, before operation, care was taken to reduce the percentage of sugar to a minimum and, so far as possible, to eliminate the abnormal products, acetone, diacetic acid and oxybutyric acid. In 6 of the 22 there was a somewhat profuse hemorrhage into the anterior chamber, which recurred several times. In 2 cases there were retinal hemorrhages, which did not recur and were slowly absorbed. In 6 cases the operation was followed by iritis, without much exudation, which was obstinate in resisting treatment, and a discission of the opaque capsule was necessitated in 2 cases. In the remaining 8 cases there were no complications, either at the time of the operation or following it, and the wounds healed promptly with excellent results as to vision. In 14 of the 22 cases there were signs of arteriosclerosis in the conjunctival vessels, and after the extraction of the cataracts the same condition was found in the retinal arteries. In the remaining 8 cases arterial degeneration was demonstrable. In the second list of operations 40 cases of preliminary iridectomy in cataract patients, 22 were senile cataracts in diabetic patients, whose ages varied between 60 and 68, and 18 were true diabetic cataracts in patients under 40 years. In the 22 cases of senile cataracts no case of iritis occurred after the iridectomy, but in 3 cases there was an annoying hemorrhage into the anterior chamber and the external wound healed very slowly, and in these 3 the signs of arteriosclerosis were present. In the 18 cases of true diabetic cataracts iritis occurred in 4 cases, but owing to prompt treatment no permanent synechiæ were formed. In the third list of operations there were 9 iridectomies for optical purposes, owing to central corneal opacities. There were no anterior or posterior synechiæ and no signs of intraocular irritation. They were all young diabetics, under 40, and with one exception, all did well, the wounds healing promptly. In all 9 patients the fellow eye was normal. In the fourth and last class of operations there were 4 iridectomies for chronic glaucoma performed before the field of vision was much contracted. All 4 patients did badly, and 1 patient fell into collapse and nearly died. Three were men and 1 was a woman. Profuse hemorrhage into the anterior chamber occurred in all 4 cases, and recurred several times, but there were no retinal hemorrhages. In the fourth case, a woman aged 59, there was a profuse hemorrhage into the anterior chamber. Eight months later the patient succumbed to an attack of diabetic coma.

31. **Tuberculin in Renal Tuberculosis.**—Karo says that tuberculin is of great value in the treatment of renal tuberculosis, and that no such patient should be operated on until this treatment has proved a failure. Even after the operation the tuberculin treatment is of utmost importance.

34. **Staining of Blood Films.**—The most uniform results have been obtained by Fisher from a slight modification of Jenner's stain, which requires the use of no other apparatus than the staining solution and slide, and is prepared after the following formula: Take 200 c.c. of a 1.25 per cent. solution of yellow aqueous eosin in distilled water and mix with 200 c.c. of a 1 per cent. solution of methylene blue, medicinally pure, Grübler, in distilled water. Allow this mixture to stand in an uncovered shallow porcelain evaporating dish for from 24 to 36 hours, protected from dust, then filter through a fine-grained filter paper; dry the residue in the incubator or oven at from 55 to 60 C. This powder is shaken up with cold distilled water, filtered through fine paper, and washed with distilled water until the washings are a thin, dirty, purplish color. Dry the precipitate on the paper, either in the air or in the oven, not above 60 C., then scrape off the powder and store in a bottle. This gives enough powder for from 300 to 400 c.c. of stain. Take the above powder, 0.2 gram, and of methyl alcohol (acetone free), 100 c.c. Rub up in a mortar, adding the alcohol to the powder, a drop at a time, allow to stand for 3 or 4 days in a bottle, then filter and add 25 c.c. of methyl alcohol. The bottle should be corked tightly to avoid evaporation and consequent concentration of the stain, but the solution may be diluted later with another 25 c.c. of methyl alcohol if necessary. Make blood films on slides, dry quickly in the air, and cover with a thin layer of the staining solution without previous fixation. Stain

the slide for from one to three minutes, then wash with some of the original solution, removing any possible precipitation and intensifying the stain. Next wash in running water until film is a mahogany color. Dry with filter paper. It is impossible to overstain. The red cells are stained a terra cotta; stippled cells are easily detected by the minute bluish markings; nuclei are blue and sharply defined; blood platelet in clumps are a paler blue, but quite distinct; granules of the polymorphonuclears are a dull mahogany; granules of eosinophiles, a brighter mahogany; basophilic granules are bluish violet; malarial parasites are stained a greenish blue; the pigment of the pigmented forms is unaltered, and the ordinary bacteria are stained blue. This method of staining is used in counting bacteria for vaccines and the opsonic index.

Lancet-Clinic, Cincinnati

September 25

36 Criminal Abortion. A. B. Davenport, Columbus, Ohio.
37 The X-Ray in Diagnosis of Pulmonary Tuberculosis. S. Lange, Cincinnati.
38 The Sanatorium Treatment of Tuberculosis. L. B. Morse, Chimney Rock, N. C.
39 Abscess and Acute Softening of Brain. P. Zenner, Cincinnati.

October 2

40 Genitourinary Diseases. E. O. Smith, Cincinnati.
41 The Therapeutics of Belladonna. W. E. Bloyer, Cincinnati.

Kentucky Medical Journal, Bowling Green

September 15

42 The Evolution of the Anesthetist. W. H. Long, Louisville.
43 Turbinectomy as a Remedy for Adenoids and Nasal Obstruction. D. S. Reynolds, Louisville.
44 Cardiospasm. G. A. Hendon, Louisville.
45 Excision of the Gasserian Ganglion. A. Schachner, Louisville.
46 *Unusual Case of Infantile Paralysis. B. C. Frazier, Louisville.
47 Floating Cartilage in the Elbow Joint. R. L. Ireland, Louisville.
48 Postoperative Insanity. I. Abell, Louisville.

46. **Infantile Paralysis.**—About the middle of July, 1909, Frazier saw a young girl, 14 years old, who, about five or six days before, had suffered from a mild digestive disturbance. She had a temperature of 99 F. and it ranged from that up to 101; no diarrhea and no vomiting. Five or six days later she had become paralyzed. The history was that during the night this girl had awakened her mother and asked the latter to take her hand out from under her, as she had lost the power to do so. In the morning it had extended to the left leg and foot, and a few hours later she could not move the right hand or foot. One unusual feature of the case was in connection with the family history. The mother was 49 years of age when the child was born and the father was about 58 or 60. This was the first and only child. The child had been healthy, had grown rapidly, and had gotten along well at school; had none of the usual diseases of childhood. When this attack begun it was thought to be a spell of indigestion. The girl was menstruating at the time, this being her third period, the interval between periods being several months. A diagnosis of anterior poliomyelitis was made.

Another point of more than ordinary interest was the fact that the patient was exceedingly sore and complained on being moved or handled. She had an unusual degree of insomnia. She slept scarcely at all during the first two weeks, and when moved would ask to be moved back again in ten or fifteen minutes. After the first few days she could draw her right hand up and take hold of an object, or when her foot was drawn up she could push it down, but it was weeks before she could sit alone. She is now able to sit up in a chair and can even hold a book in either or both hands. She can get her hand up to her head by putting it up backward, and can even stand alone when her father stoops down and places her knees together, but she cannot take a step with either foot yet. She can work her left foot along a little, and can raise one of her legs up straight; she can just bend her thigh, not the hip. She cannot turn over in bed unassisted. Occasionally she asks to have her legs crossed, and when she desires to have them uncrossed some one has to do it for her. She is well nourished and has a good appetite, and the condition of the bowels and kidneys is all right.

Medical Fortnightly, St. Louis

September 10

49 Prehistoric Syphilis in America. A. S Ashmead, Canadensis, Pa
50 A Reason Why. G. L. Servoss, Fairview, Nevada.

Northwestern Lancet, Minneapolis

September 15

51 Purification of Drinking Water. G. F. Ruediger, Grand Forks, N. D.
52 Water Supply of Minneapolis. R. O. Beard, Minneapolis.
53 Physicians' Investments—Bonds. E. M. Stevens, Minneapolis.

Virginia Medical Semi-Monthly, Richmond

September 24

54 Pellagra—Report of Fourteen Cases. W. F. Drewry, Petersburg, Va.
55 Public Schools and Public Health (concluded). C. G. Kerley, New York.
56 Communicable Disease, the Health Officer, Physician and People. T. L. Richardson, Baltimore.
57 Analysis of Eighty Cases of Labor. K. P. B. Bonner, Morehead City, N. C.
58 Intestinal Irritation—Treatment. G. L. Servoss, Fairview, Nevada.
59 *Dyspepsia—A Misnomer. W. B. Stewart, Atlantic City, N. J.

59. Abstracted in Society Proceedings in The Journal, August 7, 1909, p. 477, and published in the *Journal of the New Jersey State Medical Society*, for September, 1909.

New York State Journal of Medicine, New York

September

60 Relative Values of the Fowler and Clark Positions. H. B. Delatour, Brooklyn.
61 Internal Secretions and Animal Therapy. W. Browning, Brooklyn.
62 *A Year's Experience with Rubber Gloves. R. S. Fowler, Brooklyn.
63 Roentgen Rays in Diagnosis. E. W. Caldwell, New York.
64 Principles of Obstetric Practice, Based on 2,000 Cases in the Low Maternity. F. H. Stuart, Brooklyn.
65 *Untoward Results from Diphtheria Antitoxin with Special Reference to Its Relation to Asthma. H. F. Gillette, Cuba, N. Y.
66 Neurasthenia and Psychasthenia. N. A. Pashayan, Schenectady, N. Y.
67 Considerations of Senescence. W. M. Gibson, Utica, N. Y.

62. **A Year's Experience with Rubber Gloves.**—As the result of his experience, Fowler claims that gloves do not reduce the number of postoperative infections; the wound must be somewhat larger to allow of at least occasional visual direction; the tactile sense is decidedly interfered with, nor does the continued use of gloves educate the tactile sense anywhere near that of the bare hand. In his own case there was no difference as regards the condition of the skin of the hands. Manipulations are rendered slower and in some cases decidedly dangerous. The length of time of operation is decidedly increased, and, hence, there is added danger and shock to the patient. Assistants and nurses should wear gloves, as they are not so accustomed to preparation of the hands.

65. Abstracted in Society Proceedings in The Journal, Feb. 13, 1909, p. 580, and published in the *Therapeutic Gazette*, March, 1909.

Journal of Experimental Medicine, Lancaster, Pa.

September

68 Studies in Edema: Influence of Calcium Chlorid, Adrenalin, Myocarditis and Nephrectomy on the Dilution of Blood During Intravenous Injection of Sodim Chlorid Solution. M. S. Fleisher and L. Loeb, Philadelphia.
69 Idem: Effect of Calcium Chlorid, Adrenalin and Myocarditic Lesions on the Blood Pressure in Animals Injected Intraveuously with Sodium Chlorid Solution. M. S. Fleisher and L. Loeb, Philadelphia.
70 *Influence of Concentration (Gibson's Method) on the Presence of Tetanus Toxin in Blood Serum. J. F. Anderson, Washington, D. C.
71 *Relations of the Thyroid Glands to Glycosuria. E. G. Grey and W. T. de Sautelle, Baltimore.
72 *Influence of the Thyroid on Carbohydrate Metabolism. J. H. King, Baltimore.
73 *Effect of the Injection of Bile on the Circulation. J. H. King and H. A. Stewart, Baltimore.
74 *Enzymes of Tuberculous Exudates. E. L. Opie and B. I. Barker, New York.
75 Auto-Antibody Formation and Antihemolysis. C. E. Simon, E. Melvin and M. Roche, Baltimore.
76 *Proteolytic Enzymes and Antienzymes of Normal and Pathologic Cerebrospinal Fluids. A. R. Douchez, New York.
77 *Experimental Studies of Pneumococcus Infections. S. Strouse, Baltimore.

70. **Influence of Concentration.**—Anderson shows that concentration of antidiphtheritic serum by precipitation with ammonium sulphate and acetic acid, followed by dialysis, does not remove all the toxic impurities that may be in such serum, and that the foreign toxin is probably carried with the antitoxin in the globulin fraction.

71. **Relation of Thyroid Glands to Glycosuria.**—After thyroidectomy, the glycosuria produced by ether or adrenalin in the normal animal is greatly reduced. Thyroidless dogs fed with powdered thyroid gland show a return of the glycosuria

more or less proportional to the amount ingested when treated with ether or adrenalin. As the thyroids regenerate the ether or adrenalin glycosuria increases similarly. The experiments indicate that the secretion of the thyroid is connected directly or indirectly with the metabolism of the sugar in the body.

72. **Carbohydrate Metabolism.** King finds that the thyroid retards the destruction of carbohydrates in the body and that iodothyrin, the active principle of the gland, exerts this influence even more strongly than the whole gland.

73. **Effect of Injection of Bile on Circulation.** In experimental jaundice there is an increase of calcium in the blood; and the authors, finding that bile pigment in combination with calcium and sodium, is less toxic than uncombined pigment, are of the view that increase in calcium is a protective mechanism against the bile pigments of obstructive jaundice.

74. **Enzymes of Tuberculous Exudates.**—The observations here recorded show, as previously indicated, that the mononuclear epithelioid cells of tuberculous tissue contain an enzyme which digests protein actively in an acid and slightly less actively in neutral medium, being wholly inactive in the presence of alkali. Unlike the enzyme of the polynuclear leucocytes, this enzyme is not inhibited by the serum of tuberculous exudate obtained by injecting tubercle bacilli into the pleural cavity of a dog, although it is inhibited by the blood serum. The serum of such an exudate, unlike the serum of the blood, is capable of digesting denaturalized protein. The power of digesting protein has not been demonstrated in the serum of human tuberculous exudates.

76. **Proteolytic Enzymes and Antienzymes.**—The spinal fluid was found to contain normally neither proteolytic enzyme nor antienzyme. In pathologic conditions, however, enzyme and antienzyme may make their appearance in the spinal fluid. In inflammations of other serous cavities the antienzymes of the exudated serum as a rule is sufficient to restrain the activity of the proteolytic enzyme freed from the leucocytes, but in infections of the meninges with pneumococcus and *Streptococcus mucosus* free proteolytic enzyme was found in four of five cases. Free proteolytic enzyme has not been found in the spinal fluid in epidemic meningitis; antienzyme was found to have a tendency to disappear more rapidly than in other inflammatory exudates. In subdural non-inflammatory transudates the inhibitory element of the blood serum accumulates, suggesting an interference with the elimination of the antibody from the spinal fluid. In tuberculous meningitis the spinal fluid showed various degrees of antienzymotic action.

77. **Pneumococcus Infections.** Strouse finds that phagocytosis of pneumococci *in vitro* runs parallel with phagocytosis *in vivo* and that the virulence of pneumococci depends not only on the results of phagocytosis but also on the ability to grow in the body of the animal. The immunity of the pigeon to pneumococcal infection is ascribed to its high normal temperature.

Surgery, Gynecology and Obstetrics, Chicago

September

78 *Treatment of Sepsis with Bacterial Vaccines. H. F. Hartwell, E. C. Streeter and R. M. Green, Boston.
79 Membranous Pericolitis. J. N. Jackson, Kansas City.
80 *Case in which Both Patellæ Were Sutured on the Same Day for Double Fracture. R. Morison, Newcastle-on-Tyne, England.
81 *Direct Blood Transfusion by Means of Paraffin-Coated Glass Tubes. G. E. Brewer and N. B. Leggett, New York.
82 Treatment of Inoperable Carcinoma of the Uterus. G. A. Martin, Berlin, Germany.
83 Late Manifestations of Intracranial Hemorrhage of Traumatic Origin. D. P. Allen, Cleveland, Ohio.
84 Hemorrhagic Uteri: Myopathic Uterine Hemorrhage. B. M. Anspach, Philadelphia.
85 *Rôle of the Lymphoid Tissue in Inflammatory Conditions of the Alimentary Canal. R. V. Dolbey, Vancouver, B. C.
86 The Hormone Theory and the Female Generative Organs. E. Novak, Baltimore.
87 Tait's Operation for Complete Laceration of Perineum. H. Banga, Chicago.
88 Accidental Perforations of the Uterus and Vagina. H. G. Wetherill, Denver, Colo.
89 Symphysiotomy. T. M. Burns, Denver, Colo.
90 *Accidental Implantation of an Epithelioma -Shoulder-Girdle Amputation. J. C. Hubbard, Boston.
91 *A Rapid Interlocking Suture. M. R. Bookman, New York City.
92 *A New Tube and Valve Device for Expanding Collapsed Lung. J. S. Dean, Wheatland, Iowa.
93 Sarcoma of the Cecum. C. A. Hamann, Cleveland, Ohio.
94 Penetrating Wound of the Abdomen. J. L. Wilson, Alexandria, La.

78. **Treatment of Sepsis.** The 97 cases which form the substance of this report have been infections, mostly acute, with various bacteria, the ordinary pyogenic organisms. They form a miscellaneous collection which can best be described under the general term of "surgical sepsis," and include such diverse cases as septic fingers and hands, septic laparotomy wounds, and septicemia. In every case, the pathogenic organism was determined by culture, and in the majority an "autogenous" vaccine was used. In some cases two different vaccines were employed when it seemed probable that there was more than one offending bacterium. The vaccines were made up according to the method devised by Sir A. E. Wright, somewhat modified according to Mallory and Wright.

The amount of inoculation varied with the micro-organism and with the nature of the infection. The initial dose was from 5 to 25 millions, and this amount was gradually increased at each successive inoculation, as it is assumed that an increasing tolerance was attained. The maximum amount given was usually 100 million, although this was sometimes exceeded. In all cases, except the general infections, an arbitrary interval of three days was made between each two inoculations, that is, they were given every fourth day. Other spacing may be more effective, but this was followed in the boils and carbuncles, and seemed to afford the most satisfactory results. Eighteen patients with puerperal infections recovered. In some of the cases of puerperal infection the effect of vaccine on the temperature and general condition was less striking than in others. These were cases in which an abscess had formed, probably in the tubes, and they did not clear up until the pus was discharged by vagina.

Besides these puerperal patients, 9 general infections were treated: 4 were *Staphylococcus aureus* and 5 were streptococcus; 4 of these 9 progressed to a fatal termination. In the patients who recovered, the authors do not think the vaccine can lay claim to any further share in the successful outcome than the complete surgical treatment which was followed.

The second group, septic laparotomy wounds, comprise 22 cases. Nine of these were clean cases, which were infected secondarily; the remainder were septic and were drained from the beginning. *Bacillus coli* and *Staphylococcus aureus* were the organisms most frequently found, streptococcus came next, while one showed the pneumococcus. When the *Staphylococcus aureus* was found, a "stock" vaccine was used, with the others an "autogenous" vaccine. In some of these cases, when the wounds had remained stationary for some time, improvement seemed to follow immediately after vaccination. Not one patient of this group was dangerously ill, and they were all discharged from the hospital in good condition. In the third group there were 41 cases, largely septic fingers and hands, with some of the lower extremities, including the groin, and a few of the head and neck. These cases represent a class of varying degrees of sepsis. The patients all recovered, some after extensive incisions and some after mutilating operations.

The authors conclude therefore: 1. That bacterial vaccines should be further employed in puerperal infections which do not immediately respond to routine treatment. 2. That bacterial vaccines are of much value in that type of sepsis which has remained stationary for some time. 3. That in the remainder of the cases of this series they were not able to see that the vaccines were of any apparent help.

80. **Double Fracture of Patellæ.** Morison emphasizes the desirability of using absorbable material in these cases rather than wire or other non-absorbable material. He says that with the patella sutured with catgut it would not be safe to allow movement of the knee in less than from four to six weeks. Morison has never seen permanent stiffness of the joint after this operation in any of his cases, though some of the patients were over 60 years old.

81. **Direct Blood Transfusion.** The object of this communication is to record the results of some experiments undertaken with a view to finding some simple method of direct blood transfusion. A set of glass tubes were made, some of which were straight, with a uniform caliber, others bayonet-shaped, and still others somewhat tapering in shape and caliber, to be

used when transfusion was attempted from a large adult artery to the small vein of a child. Each extremity of the tube is notched to allow of a ligature being applied after the tube is introduced into the lumen of the vessel. These tubes should be sterilized in a steam autoclave or by boiling, and afterward dropped into boiling paraffin, and the excess of melted paraffin removed by shaking the tube in the air. This also results in rapid drying of the paraffin leaving a thin film on both the inner and outer surfaces of the tube. The paraffin adherent to the outer surface of the tube then is removed to allow more ease in handling.

Of 31 experiments only 3 animals died, each from a too-rapid transfusion of the blood, causing distention of the right heart. This accident occurred when the largest tubes were used, through which the flow was very rapid. In some of the later experiments this accident was avoided by gently compressing the arterial trunk with the finger, reducing thereby to a considerable extent the rate of the flow. On one occasion only did the blood apparently clot in the tube, and that was undoubtedly due to the very small caliber of the tube used. In one other experiment clotting occurred in the vein near the extremity of the tube, due to an accidental separation of the paraffin coating. In one other case the blood did not at first flow through the tube, but the arrest of the circulation was found to be due to a clot in the artery from a wound of the intima due to a too vigorous application of the preliminary clamp. When the injured part of the artery was cut away, blood flowed through the tube as in the other experiments. The authors believe that this is the simplest method proposed; that it can be carried out by any surgeon of ordinary experience without the necessity of previous training. They also believe that considerable time may be saved by its employment, in that it requires a shorter exposure of the vessels than is necessary to effect union when the methods by direct contact are employed. The method has been employed to effect transfusion in a patient at the Roosevelt Hospital, who was suffering from acute anemia due to repeated profuse gastric hemorrhage. In this instance blood flowed for nineteen minutes through a medium sized tube without clotting. The patient rallied well. The hemoglobin rose from 30 to 70 per cent. during the progress of the operation, but he died the following day from a recurrence of the hematemesis.

89. **Inflammatory Conditions of the Alimentary Canal.**—Dolbey suggests that a very close analogy may be drawn between inflammation of the tonsil and other inflammatory conditions of the intestines; that the tonsil is the type on which we found a basis of our understanding of inflammatory conditions of the lymphoid tissue of the alimentary canal. The fact that there is normally no lymphoid tissue in the stomach of the new-born infant, and that gastric lymphoid tissue increases in amount up to middle life, and tends to disappear entirely in the later years of life, gives us an easy, if rather superficial, explanation of the rarity of acute inflammatory ulcerative conditions in children or the aged. The absence of lymph tissue in those individuals above 50 will supply a pathologic basis for the well-known clinical findings in gastric conditions in this age. Thus we obtain pathologic support for the dictum that if a patient develops gastric symptoms for the first time after 50, it is more than probable that we have carcinoma of the stomach to deal with rather than ulceration. The incidence of lymphoid tissue at the pylorus and on the lesser curvature explains why chronic ulcers of the stomach are so much more common in those situations.

90. **Accidental Implantation of Epithelioma.**—The clinical points of interest in Hubbard's case may be summarized as follows: 1. The change of an ulcer of the right forearm, which had been for years simple in character, into an epithelioma of marked malignancy. 2. The breaking down of the tissues after an operation following directly on numerous exposures to the *x*-ray and radium. Was it ordinary sepsis, or were the tissues so altered that they could not withstand the added irritation of an operation? 3. The direct inoculation of the breast with the epithelioma. 4. The case emphasizes, in general, the importance of removing cancer with an area of healthy tissue about it. It illustrates the possibility of spreading the disease by bringing the cancer in contact, by instruments or otherwise, with the wound.

91. **Rapid Interlocking Suture.**—To make the suture described by Bookman no special instruments are necessary, only several self-threading, calyx-eyed needles and a spool of Pagenstecher celloidin linen thread or plain silk (preferably the former). The needle used had better be of the long, round, half-curved kind which is easier to handle, and the suture material should be wound on a spool in one continuous length of from ten to twelve yards. After the bowel has been resected, the cut ends are caught in traction sutures so that the mesenteric triangle is situated from one-half to three-fourths of an inch inside the left traction suture. When only a few stitches are required and the suture material used is catgut it is better not to use a self-threading needle lest it tear the strand, but to thread a number of needles on the catgut beforehand and slide them along as required. For a detailed description, the original paper should be consulted.

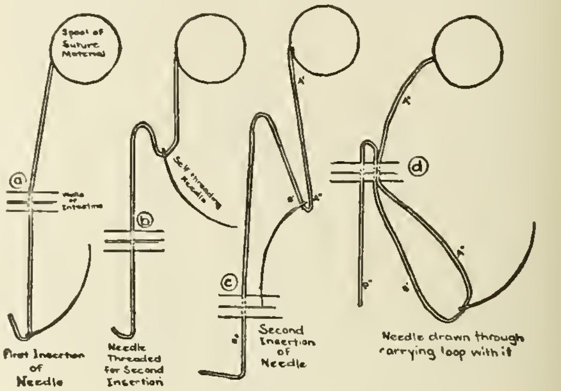
Spool of Suture Material
a
Walls of Intestine
Self threading Needle
b
A'
B'
A''
c
d
A'
A''
B''
B'
First Insertion of Needle
Needle Threaded for Second Insertion
Second Insertion of Needle
Needle drawn through carrying loop with it

Fig. 1

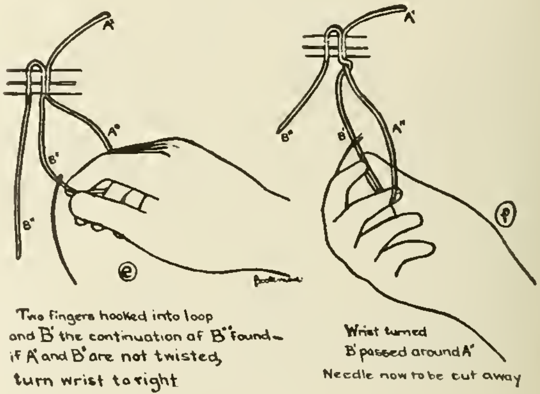
A'
A''
B'
B''
e
A'
B'
B
A''
f
Two fingers hooked into loop and B' the continuation of B'' found— if A' and B' are not twisted, turn wrist to right
Wrist turned B' passed around A'
Needle now to be cut away

Fig. 2.

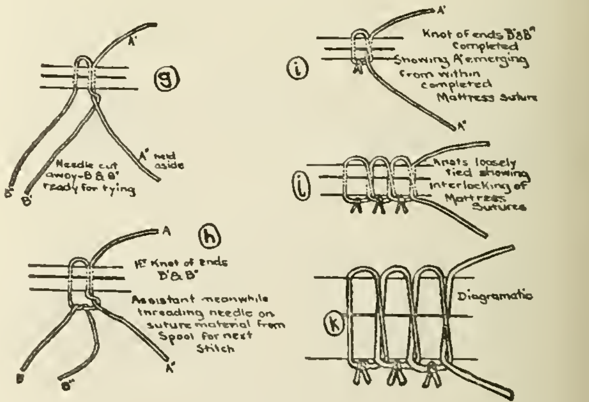
A'
g
A'' held aside
Needle cut away—B & B' ready for tying
B
B'
h
A
1st Knot of ends B' & B''
Assistant meanwhile threading needle on suture material from Spool for next Stitch
B
B''
A''
i
A'
Knot of ends B' & B'' completed
Showing A' emerging from within completed Mattress suture
A''
j
Knots loosely tied showing interlocking of Mattress Sutures
k
Diagramatic

Fig. 3.

92. **Tube and Valve Device for Expanding Collapsed Lung.**—The device consists of an ordinary soft-rubber drainage tube of any size desired, and a valve made of oiled silk, any

flexible waterproof material or of aluminum; a flexible shield for protecting the valve from interference from the external dressing and to hold the tube in a pivotal manner, thus maintaining it in the chest wall without bending or causing lateral pressure on the tissue. The elastic wing of the shield under body bandage with appropriate pressure, holds the shield in coaptation to the chest, both in inspiration and expiration. A secondary specially devised bandage, over the base of the shield, prevents later movement, hence the combination of the pivotal hanging of the tube, the elastic wing of the shield under appropriate pressure, and the secondary body bandage maintains the tube in absolutely perfect position, leaving the patient free to move as he pleases, in bed or out. The manner of attaching the tube to the shield also prevents the discharge from regaining access to the pleura, as it at once drops away from the end of the tube as soon as it leaves the pleural cavity.

Air is prevented from gaining access to the pleura around the drainage tube by winding the distal end of the tube with 5 per cent iodoform gauze. It does not need to fit the opening overly tight to serve this purpose in practice. As to the valve, in cases of moderate collapse, the tube is used with the end cut at a right angle. This valve closes instantly at the beginning of inspiration, and enables the full atmospheric pressure to act inside the lung. While negative pressure is ordinarily understood, it is not produced within the pleural space by this method. Rarification in sufficient degree is produced to cause rapid expansion of the lung.

Military Surgeon, Washington, D. C.

September

95 Hygiene of the Preventable Diseases. F. M. Munson, U. S. Navy.
96 Ambroise Paré—The Romance Side of His Career as Army Surgeon. A. McGlannan, Medical Corps, N. G., Maryland.
97 Disease—A Conservative Instrument of Nature. P. C. Kalloch, P. H. and M.-H. S.
98 Treatment of Appendicitis Under Conditions Incident to the Naval Service. C. F. Stokes, U. S. Navy.
99 Insolation Followed by Amnesia and Exhaustion. C. N. Fiske, U. S. Navy.
100 The Work of the Board for the Study of Tropical Diseases in the Philippines. J. M. Phalen and H. J. Nichols, U. S. Army.
101 Plague-Like Bacillus Causing Epizootics Among Alaskan Dogs. F. Schmitter, U. S. Navy.

Journal Tennessee State Medical Association, Nashville

September

102 *Epidemic Meningitis. J. Overton, Nashville.
103 Coccidioidal Granuloma and Blastomycosis in the Central Nervous System. N. Evans, Nashville.
104 *Cancer of the Stomach, Including Statistics of the Sites and Frequency of Cancer in the Entire Digestive Tract. C. P. McNabb, Knoxville.

102. **Epidemic Meningitis.**—Overton studied records of 17 patients. Of these 3 were untreated, and all died; of the 12 treated, 7 died; but of these 7, 2 were practically moribund at the time of injection, and 1 died in less than twenty-four hours after the first injection. Five recovered, 4 of these by crisis and 1 by lysis. Recovery was complete in all but 1, and this 1 has still internal squint in one eye. Of the treated patients who died, all died within the first week. Of the 17 patients 5 were white and 12 colored. There was one child 2 years old and one 7; there were 3 men over 50, and the other patients were between 10 and 30. There was a history of premonitory symptoms in 3, and history of recent intoxication in 3. The symptoms noted were: Headache, rigidity and tenderness in neck, and Kernig's sign, in all; Babinsky's sign in 4; herpes in 4; internal squint in 2; paralysis of external rectus in 2; haziness of vision in 2; diplopia in 1; irregular pupils in 4; conjunctivitis in 2, and photophobia in 1; facial paralysis in 3; convulsions only in 1, a child of 2 years; chill in 9; vomiting in 4; typical attitude in 2; irrational state of mind from that of mild degree to active delirium, requiring watching and restraint, in all but 1; albumin in urine in 3; retention or incontinence early in all but 4, present before death in all; sweating free in 5; typical rash in 1; and urticarial rash in 1; in 4 emaciation before death was extreme; there was deafness in 2; there were 2 instances of associated cases; 1 case was complicated with pneumonia; 1 was of the subacute form; the pulse in the bad cases was irregular and slow or running; the temperature was not continuous, and was not above 104, except in one case; there was Cheyne-Stokes respiration in 2. In all who died the leucocyte count remained high, and polynuclears were increased in some to as high as 95 per cent. In the patients who recovered, as a rule, the count gradually fell. The fluid was cloudy in all, purulent in most, and in a few so thick that it would hardly run through the needle. The largest amount of fluid withdrawn from any one case was 270 c.c., and the most serum injected was 210 c.c. The usual dose of the serum was 30 c.c., but on several occasions it was 45 c.c. The effect of the serum on the fluid was generally to increase phagocytosis, to decrease number of diplococci, to lessen their viability as shown by cultures, and to cause a clearing of fluid in most cases of recovery after two or three doses. In patients dying the last cultures were negative in all but one. In those recovering the last cultures were negative in all but one, and in this one the growth was very slight.

104. Abstracted in The Journal, May 1, 1909, p. 1452.

Providence Medical Journal

September

105 The Problem of Centenarianism. F. C. Clark, Providence.
106 Clinical Pathology of the Endometrium. H. G. Palmer, Providence.
107 Sudden Death Following Lavage of the Stomach. C. H. Bailey, Providence.

Northwest Medicine, Seattle

September

108 General and Metatastic Infections Due to the Gonococcus. J. B. Herrick, Chicago.
109 Intravesical Operations with the Aid of the Cystoscope. H. Meyer, San Francisco.
110 Etiology of Cholecystitis. J. E. Pullman, Wash.
111 *Constipation and Resection of the Colon. C. W. Sharples, Seattle, Wash.
112 *Ophthalmoplegic Migraine Involving the Abducens Nerve. C. A. Veasey, Spokane, Wash.
113 Gangrene of the Ischiorectal Fossæ Caused by Spirillum. A. S. Monro, Vancouver, B. C.
111 Significance of Pain in Women. W. C. Smith, Salem, Ore.

111. **Constipation and Resection of Colon.**—Sharples reports one case in which he employed successfully the procedure advocated and first described by Lane—resection of the colon with anastomosis between the sigmoid and small intestine.

112. **Ophthalmoplegic Migraine.**—Veasey's patient was perfectly well, except for violent attacks of headache, which began in her fourth year of age, and which had recently become of more frequent occurrence. These attacks always began with violent supraorbital and temporal pain on the left side, lasting for an hour or two, and were always followed by nausea and vomiting. Occasionally the first vomiting relieved the pain, but more frequently the vomiting was followed by violent retching which usually continued until after the child had secured some sleep. Marked photophobia was usually present during the attacks. Following one attack there was observed a squint in the left eye, the latter turning toward the nose and the patient complaining of diplopia. After a week or two the squint disappeared. A few days before Veasey examined the patient she had an unusually violent attack, followed by prolonged vomiting and retching, and on the following day again complained of diplopia. At the time of his examination there was a distinct internal squint of the left eye, due to the almost complete paralysis of the external rectus muscle.

Examination of the eyes showed the vision in each to be 6/9, and the refractive error to be a compound hyperopic astigmatism. Each optic nerve presented the appearance of the so-called pseudo-optic neuritis. In ten days' time the paresis had entirely disappeared and the patient fitted with glasses. Under treatment the migrainous attacks became somewhat less frequent, but in October, 1907, there were three very violent attacks within ten days' time, all on the left side, the last of which was again followed by paresis of the left external rectus muscle. The paresis of the muscle this time lasted three weeks, after which it had entirely disappeared. Shortly after this attack the patient passed from under observation, so that the subsequent history is not known.

Memphis Medical Monthly

September

115 Limitations of the Clinical Laboratory. W. Krauss, Memphis.
116 Observations on the Arylarsonates. C. H. Martin, Hot Springs, Ark.

117 Lesions of the Spinal Cord, with Report of Cases. G. G. Buford, Memphis.
118 Analysis of 1,300 General Anesthesias. W. C. Campbell, Memphis.

Medical Herald, St. Joseph, Mo.

September

119 *The Mastoid Operation. C. Williams, St. Paul, Minn.
120 *Osteomyelitis. F. H. Clark, El Reno, Okla.
121 Injury of the Ureters During Abdominal Operations. W. T. Elam, St. Joseph, Mo.
122 Aconite Poisoning. J. D. Seba, Bland, Mo.
123 Treatment of Gonorrhea and Cystitis. W. T. Marrs, Peoria Heights, Ill.

119, 120. Abstracted in The Journal, May 8, 1909, p. 1536.

Ophthalmic Record, Chicago

September

124 Congenital Absence of Abduction and Adduction: Voluntary Recession of the Globe with Simultaneous Contraction of the Lid Fissure. A. Murray, Chicago.
125 Modification of the Usual Method of Dividing Strictures of the Canaliculi and Lachrymal Ducts: Modification of Dr. Agnew's Canaliculus Knife. H. W. Wendless, New York.
126 Experiences with Dr. Sutcliffe's Keratometer. G. Young, New York.
127 *An Ophthalmologic Phase of the Dangers of Consanguineous Marriages. W. C. Posey and A. C. Sautter, Philadelphia.

127. Published in the *Pennsylvania Medical Journal*, June, 1909.

The Therapeutic Gazette, Detroit

September

128 The Methods for the Relief of Organic Stricture of the Urethra in the Genitourinary Surgical Department of the Jefferson Hospital. O. Horwitz, Philadelphia.
129 The Value of Phenolphthalein from a Therapeutic Standpoint. A. L. Benedict, Buffalo, N. Y.
130 Personal Experience with Acute Anterior Poliomyelitis. R. T. Barnett, Lewistown, Pa.

Woman's Medical Journal, Cincinnati, Ohio

September

131 The End-Results in Six Hundred Cases of Chronic Middle-Ear Suppuration. J. E. Sheppard, Brooklyn.
132 Instrumental Injury of the Urinary Tract. J. F. Todd, Brooklyn.
133 Pellagra: Report of Nine Cases. E. D. Bondurant, Mobile, Ala.

Southern California Practitioner, Los Angeles

September

134 The Necessity for Correct Refraction. M. M. Cloud, U. S. Army.
135 Appendicitis—Its Surgical Treatment. E. A. Bryant, Los Angeles.
136 The Economies of Ophthalmia Neonatorum. G. H. Kress, Los Angeles.
137 Ophthalmia Neonatorum Complications and Treatment. F. D. Bullard, Los Angeles.
138 The Prophylaxis of Ophthalmia Neonatorum. E. M. Lazard, Los Angeles.
139 A Glance at the Past and a Glimpse of the Future. E. S. Godfrey, Phoenix, Ariz.
140 United States Camp of Instruction for National Guard Medical Officers, Presidio of San Francisco, July 29 to Aug. 11, 1909. C. W. Decker, Los Angeles.
141 The Physician and His Duty to Himself. E. B. Ketcherside, Yuma, Ariz.
142 The Gastroscope. H. H. Souttar, London, England.
143 The Use of the Gastroscope. T. Thompson, London, England.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

September 18

1 *Abscess of the Brain in Association with Pulmonary Disease. G. I. Schorstein.
2 The Temperature as a Guide to the Treatment and Prognosis of Pulmonary Tuberculosis. S. V. Pearson.
3 Clinical and Pathologic Aspects of a Series of "Doubtful" Tumors of the Breast. T. B. Henderson.
4 **Peau D'Orange* in Acute Mammary Carcinoma: Cause and Diagnostic Value. A. Leitch.
5 Gangrenous Femoral Hernia with Secondary Resection of Bowel and End-to-End Anastomosis: Recovery. R. D. Mothersole.
6 Scarlet Fever or Influenza? A. Dunlop.
7 Open Method of Treating Wounds After Skin Grafting for First Twenty-four Hours. G. W. Davis.

1. **Abscess of Brain.**—In this paper are recorded 19 cases of cerebral abscess in association with pulmonary disease which have occurred at the Brompton Hospital for Diseases of the Chest during twenty-two years (1882-1904), and at the London Hospital during ten years (1894-1904). It is interesting that in the enormous number of post-mortem examinations at the London Hospital, considerably over 10,000 in the last ten years, there were only 2 cases of cerebral abscess in association with lung disease (apart from pyemia), 1 following on bronchiectasis and 1 on empyema. The 19 cases of cerebral abscesses occurred in association with the following pulmonary diseases: bronchiectasis, 14 cases; empyema, 3 cases; abscess of lung, 1 case; emphysema and bronchitis, 1 case.

4. **Peau D'Orange in Acute Mammary Carcinoma.**—The name *peau d'orange* is descriptive enough to one who has seen it, but to those who have not noticed the condition it may not convey much impression, for orange skin is very variable and the irregular pitting and puckering of the latter might very well describe the fairly common appearance of the skin in cancer of the breast when it is affected by contraction of a growth underneath. In acute carcinoma, on the other hand, the skin has minute pits occurring very regularly, about a quarter of an inch apart, giving the appearance as if the skin had been jabbed with a blunt pin. The thickening of the skin is due to changes in the corium. These changes are the results of lymphatic permeation and consequent lymph stasis. The corium is expanded and the overlying epithelium is raised above its normal level by the pressure, except at those places where it is bound down by the insertion of a hair follicle deep in the corium, where it is moored, as it were. Taking into consideration the already known cause of pitting in brawny arm and this same explanation advanced for the similar condition, *peau d'orange*, in the breast, it seems reasonable to Leitch to argue that where we get the condition it must be due to lymph stasis caused by blockage of the lymphatics. There is no disease of the breast at all likely to produce this appearance other than cancer. Thus even in the absence of other signs a diagnosis of acute mammary cancer from this alone would practically be certain.

British Medical Journal, London

September 18

8 Syringomyelia (Sacrolumbar Type), Occurring in Brother and Sister. J. M. Clarke and E. W. H. Groves.
9 *Oral Sepsis with Peculiar General Symptoms. C. W. Smith and A. E. Barnes.
10 Apparently Acute Simple Febrile Erythema. D. S. Davies.
11 Facial Wrinkles and Character Expressions. W. A. Hollis.
12 *Facial Paralysis. H. H. B. Cunningham.
13 *Multiple Plexiform Neuroma Associated with Brown Pigmentation of the Overlying Skin. C. E. Reynolds.
14 So-Called Delayed Chloroform Poisoning. C. De L. Carey.
15 Treatment of the Small Intestine in Operations for Intestinal Obstruction. C. H. Whitford.
16 Functional Neuroses of Children. J. A. Cotts.
17 The Surgery of Infancy. J. H. Nicoll.
18 *Myxosarcoma of the Prostate in a Child. G. H. Edington.
19 Pneumococcal Peritonitis: Study of Twenty Cases. E. S. Carmichael.
20 Early Radical Operation in Exomphalos. M. Smith.
21 The Association of a Patent Funicular Process with Certain Forms of Hydrocele. R. C. Dun.
22 *Madelung's Deformity. A. MacLennan.
23 Median Harelip. R. C. Dun.
24 *Abdominal Tuberculosis in Young Children. A. Dingwall-Fordyce.
25 *Value of New Tuberculin (T. R.) in Surgical Tuberculosis. D'A. Power.
26 Persistence of Protozoal Tropical Diseases in Man. C. W. Daniels.
27 Feeding and Treatment of Children in the Tropics. W. C. Brown.
28 Treatment of Chronic Dysentery with Special Reference to Surgical Treatment. J. Cantlie.
29 Life-History of Ankylostoma Duodenale. A. T. Ozzard.
30 Etiology and Pathology of Endemic Funiculitis. A. Castellani.
31 Is Punos Kala-Azar? G. A. Williamson.
32 Bronchial Spirochetosis. A. Castellani.
33 Pathology of the Blood in Verruga. P. W. Bassett-Smith.
34 Spinal Anesthesia. G. Chiene and D. W. Buxton.
35 Elimination of Stovain After Spinal Analgesia. A. E. Barker.
36 Action of Cresotinic and Toluic Acids. R. May.
37 The Quack Medicine Traffic. J. C. McWalter.

9. **Oral Sepsis with Peculiar Symptoms.**—The patient presented symptoms which strongly suggested quartan malaria, infective endocarditis and Henoch's purpura; but on the extraction of several teeth promptly recovered. A suppurative gingivitis, to which attention was directed by a toothache, was responsible for the entire disturbance.

12. **Facial Paralysis.**—Subsequent to chronic otorrhea, Cunningham's patient developed facial paralysis, first on one side, then on the other, at an interval of almost twelve months. A complete postaural operation on both sides was productive of cure.

13. **Multiple Plexiform Neuroma.**—A female child, aged 5 years and 4 months, presented a swelling of the left side of the neck behind, extending from the left superior curved line of the occiput above, down over the complexus as far as the level of the first dorsal spine below, and extending round in front as far as the anterior border of the left sternomastoid muscle at the middle of its length. Posteriorly, the swelling was limited to the left side of the neck by the ligamentum nuchæ. Soft and semisolid to the touch over the occipital bone, the tumor below was found to consist of firm masses, feeling like glands, ranging in size from a hazel nut to a pea, and more or less bound together by adhesions. The growth was thickest between the posterior border and the upper third of the sternomastoid and the outer border of the complexus. The skin over the entire tumor, with the exception of the occipital part, was stained brown. This stain was most marked over the prominent belly of the complexus, but extended as far as the middle line of the neck in front and also lower than the tumor below, becoming fainter and mottled at the edges. The opposite side of the neck was faintly pigmented. The pigmentation was first definitely noticed at the age of 2 years. (The mother was clear on this point, as friends used to remark that she had omitted to wash the child's neck.) It began at what is now the upper part of the stain behind, and extended slowly downward and forward. It was not until more than a year later that a swelling was noticed to commence beneath the upper part of the pigmented skin. There was no pain, but slight tenderness, which increased, neither had the child suffered in general health. The child had enlarged tonsils, but no other physical signs to aid or complicate diagnosis. The family history was negative. At operation the tumor was seen to consist of lobulated masses of fibrous tissue held together by strands, and almost inextricably mixed up with the muscle fibers. Microscopic sections showed bundles which resembled normal nerve bundles.

18. **Myxosarcoma of Prostate.**—Edington's patient, a boy, was only 1 year and 9 months old. He was admitted to the hospital on account of retention of urine of a few days' duration. The abdomen was swollen generally, but markedly in the hypogastrium. Between the umbilicus and the pubes was a mass. Examination by the rectum showed that the mass occupied the pelvic cavity in front of the bowel. It was firm, resistant and smooth, and the finger could be swept all round it, except anteriorly; it was also tender. There was slight reddening of the glans and foreskin. The left thigh and knee were edematous. At the post-mortem the mass was found to be a myxosarcoma of the prostate.

22. **Madelung's Deformity.**—According to MacLennan, Madelung's subluxation is not a true subluxation, but is a distortion of the joint. It is due to irregularity of growth at the lower radial epiphysis. The radius is curved either outward and backward, or forward and inward (2 cases), giving rise, respectively, to a forward or backward displacement of the hand. It affects both wrists in about 70 per cent. of the cases. It occurs most commonly in females (about 85 per cent.) during the period of most active growth. The deformity is occasionally present at birth. The irregularity at the epiphysis may be due to a variety of causes, such as trauma, rickets or disease of the central nervous system. Such lesions may occur during intrauterine life. The malady is frequently inherited and may be associated with other deformities. Secondary changes occur in the various structures at the wrist after the disease has been present for a long time. The correct treatment is a cuneiform osteotomy when the deformity is fully developed and the epiphyseal line may with advantage be included. The ulnar metaphysis should be destroyed. The slighter cases which could be righted by a simple osteotomy operative treatment is not necessary.

24. **Abdominal Tuberculosis in Children.**—An analysis of 137 cases of well-marked abdominal tuberculosis made by Dingwall-Fordyce shows that the characteristics of this condition are as follows: In a majority of cases the period of the onset of symptoms is prior to the fourth year of life. The disease is of more serious prognosis the earlier in life its incidence, and the earlier its incidence the more acute its nature. When death supervenes it usually does so within eighteen months of the incidence of symptoms, but in a small proportion of cases a fatal issue is much longer deferred. The mortality from this condition among children fed entirely on the bottle (46 per cent.) is higher than among children wholly or partially nursed at the breast for at least three months (28 per cent.). Free fluid in the peritoneal cavity is a relatively uncommon sign in patients under 3 years of age. Only in cases with free fluid in the peritoneal cavity, plus palpable abdominal masses, is an elevated temperature more common than a practically normal one; when free fluid only is detected, marked elevation of temperature is uncommon. The prognosis is most unfavorable in cases with free peritoneal fluid, plus palpable masses (67 per cent. mortality), and it is hardly less so in cases with masses or marked matting (64 per cent.). In cases with free fluid only (29 per cent.) or discrete glands (18 per cent.) the prognosis is much more favorable. A high swinging temperature, whatever the age and whatever the physical signs, is of very small evil omen; a slight elevation of temperature is of more evil omen the younger the child; absence of rise of temperature—whatever the physical signs—is usually associated with a fatal result only in younger children.

25. **New Tuberculin in Surgical Tuberculosis.**—Power's results point to the conclusion that new tuberculin, given by the mouth in small doses, is useful in the slighter cases of surgical tuberculosis. It is often sovereign against the chronic sinuses which are so often formed after operations on tuberculous tissues—troublesome cases in which the wound nearly heals but not quite, and in which it breaks down time after time on the smallest irritation. It is valuable in enlarged cervical glands which have not undergone extensive caseation or suppuration. It has failed in this crude form in Powers' hands to give any relief to patients suffering from tuberculous peritonitis, tuberculous disease of the joints, and from inflammation of the bones due to tuberculous infection.

Practitioner, London

September

38 Cancer of the Breast: Its Early Diagnosis. A. A. Bowlby.
39 Diseases of the Blood. H. B. Shaw
40 The Serodiagnosis of Syphilis. J. E. R. McDonagh, R. Müller and G. Morawetz.
41 Vaccine Therapy in General Practice. J. C. MacWatters.
42 *Etiology of Hernia. W. Sheen.
43 Rheumatoid Arthritis: Its Clinical Aspects, Diagnosis and Treatment. E. A. Dent
44 Chronic Indigestion Considered as a Surgical Disease. R. C. Ellsworth.
45 *Primary Lymphadenoma of the Small Intestine. W. Fletcher.
46 Acid Intoxication. T. G. Moorhead.
47 Mental Deficiency in Children. J. Dundas.

42. **Etiology of Hernia.**—Sheen discusses injury as a factor in the causation of oblique inguinal hernia, considering the question mainly from the medicolegal standpoint.

45. **Lymphadenoma of Small Intestine.**—A man, aged 30, had suffered from pain in the abdomen for two months, with occasional vomiting. His bowels had not moved for seven days. On examination of the abdomen, a sausage-shaped tumor was found in the right iliac fossa. Its lower, outer and inner edges were sharply defined, but above, toward the right hypochondriac region, the belly muscles were rigid, and the upper edge of the mass could not be determined. The tumor was not absolutely dull. It was rather tender and felt doughy. The abdomen was not distended, and was rigid only over the right side, especially just below the costal margin. By rectum the tumor could be felt by the finger. There were no physical signs of disease elsewhere. An enema was administered and a large quantity of hard feces was evacuated. The tumor did not diminish in size. On the following day the patient vomited, and the pulse became rapid and small. An examination of the blood was made, which showed a slight polymorphonuclear increase. No leucocytosis was noticed. A diagnosis of appendicitis was made and laparotomy performed. The tumor was then found to be a large intussusception; the intussusceptum was gangrenous and the sheath perforated. It was removed and the gut united by end-to-end approximation over a bone tube. The patient died two hours after the operation. The intussusception was found to consist of jejunum. There was a second smaller intussusception in the ileum. The

apex of each intussusceptum was formed by a sessile flattened plaque-like tumor. There were six of these growths in the lower jejunum and four in the upper part of the ileum. The tumor at the apex of the jejunal intussusceptum was the largest. There was one small plaque about 10 inches higher up, and the others were contained in the succeeding 6 feet of intestine. The tumors projected into the lumen of the gut from its mucous surface; their edges were covered by mucosa. The flat surfaces of the plaques were uncovered by mucosa, and the centers of the larger tumors were umbilicated. The growths varied in size from that of a shilling to that of a crown piece. They were oval in shape, their long axes being at right angles to that of the intestine. They were not situated at the mesenteric attachment of the gut, nor directly opposite to it, but were found at the side thereof. Peyer's patches were not enlarged, and there was no enlargement of the mesenteric or of other lymph glands. Microscopically, the plaques were found to consist of lymphoid tissue.

Glasgow Medical Journal

September

48 Schools for the Deaf in Scotland and Ireland. (continued). J. K. Love.
49 Extrinsic and Intrinsic Conditions Affecting School Children: Study of Schools and School Children in Glasgow. D. M'Kail.
50 *Treatment of Quinsy. D. J. Guthrie.
51 Tabes Dorsalis in a Female in which Laryngeal Crisis, Ocular Paralysis and Vasomotor Phenomena were Early Symptoms. G. A. Allen.

50. **Treatment of Quinsy.**—Guthrie reports a case to illustrate a method of treatment which has proved successful in his experience. The supratonsillar swelling was opened in the usual way with bistoury and sinus forceps, and a quantity of blood-stained pus evacuated. A tent was erected over the bed, and inhalation of steam with compound tincture of benzoin was given constantly—a measure which afforded the patient much relief—and a calomel purge was administered. Toward evening the swelling had slightly diminished, but swallowing was still impossible and speech thick. Ice was ordered to be sucked at intervals, and instructions given that 2 drams of brandy be administered every three hours as soon as the patient was able to swallow. On the following morning the patient could swallow with little difficulty and the edema had diminished. Temperature was 99; pulse, 85. The tonsil of the opposite side was found to be covered with yellowish spots (follicular condition). A throat spray of peroxid of hydrogen was recommended and the steaming discontinued. A mixture containing 5 minims of liquor strychninæ and 15 minims liquor ferri perchloridi to each (B. P.) dose was prescribed. Following this, the condition rapidly improved, edema and swelling diminished and the patient made an uneventful recovery.

Indian Medical Gazette, Calcutta

August

52 Melancholia in Its Relation to Homicide. G. F. W. Ewens.
53 Indian Snakebite Records in Calmette's Recent Work. F. Wall.
54 Experiences in Tuberculous Disease. J. R. Roberts.
55 Plague Pneumonia. W. A. Hossack.
56 *Operation for Total Excision of Tonsils. H. B. Mylvaganam.

56. **Total Excision of Tonsil.**—Mylvaganam draws the tonsil forward with a pair of small vulsellum forceps toward the middle line, then detaches the anterior pillar from the underlying tonsil with a blunt-pointed curved scissors and the whole tonsil is removed.

Annales de Médecine et Chirurgie Infantiles, Paris

September 1, XIII, No. 17, pp. 577-612

57 *Tuberculosis in Infants. (Tuberculose des nourrissons.) H. Barbier.
58 *Isolation of Contagious Cases in Children's Hospitals. (Isolement des maladies contagieuses dans les hôpitaux d'enfants.) L. Baumel.

57. **Tuberculosis in Infants.**—Barbier states that whatever the predominating anatomic form of the tuberculosis, atrophy and dyspeptic disturbances are constant, with marked involvement of the liver in the latter and their resistance to the best planned diet. These children are particularly sensitive to dietetic errors, especially the abuse of cows' milk, or there may be anaphylaxis for this. There may be also other general or functional signs, inflammation of the glands, enlargement of the spleen, anemia and fever—the picture is completed by the discovery of a bronchial glandular process or of involvement of the lung, especially frequent on the right side. These atypical forms of tuberculosis, inherited or not, are an overwhelming factor in infant mortality, and, with syphilis, they are the most certain and most frequent cause of atrophy of the viscera, especially of the liver, as also of many deformities of the bones which are generally ascribed to rachitis. He describes the typical and atypical forms, the latter being most frequent in the inherited variety, the nutritional disturbances possibly proving fatal without a single tuberculous lesion discoverable at autopsy. Acquired tuberculosis in infants runs a typical course similar anatomically to that in adults.

58. **Isolation of Contagious Diseases in Children's Hospitals.**—Baumel describes the favorable experiences at Montpellier with a series of interchangeable, single-bed, isolated rooms on each side of a corridor. At the other end of the corridor are rooms with three or four beds for convalescents; the two series are separated by a corridor at right angles. Around the outside of the pavilion is a broad piazza or terrace on which each room opens with glass or wire-netting doors. It is thus possible for the parents on the piazza to visit with the sick children in the isolated rooms without direct contact, and this humane provision has proved extremely successful. Another point important in prophylaxis is that the children are taken to the isolation rooms without the necessity for passing through other wards. The toilet, disinfecting rooms, dishes, etc., and the attendants of the isolated single rooms are entirely distinct from those of the convalescent rooms—the aim being to prevent contact in any way. The gate admitting to this ward from the street is entirely separate from the general entrance. Another point on which he insists is the necessity of keeping the little patient the entire period required for isolation: 45 days for diphtheria, scarlet fever and smallpox; 25 days for measles, and 15 days for mumps, chicken pox, etc. The schools, clinics, day nurseries, and other public places where children are assembled should not admit a child after an absence of several days until it presents a medical certificate and the required period of isolation for the disease in question has fully elapsed, counting from the beginning of the disease. He presented this article at the international medical congress, urging the adoption of a resolution protesting against any lack of individual hygiene in carrying out these measures of public prophylaxis, citing as an example a case in which a child with measles was called for by a city ambulance and taken out of bed on a winter night. Instead of compelling the patient to get up and dress, he should have been taken on the mattress, which could have been disinfected and returned. The pediatrist can never be too much on the alert, or too precise in his directions to avoid all chance for dangerous contacts; this is more important and more difficult than to disinfect, but it is the only safe prophylaxis.

Presse Médicale, Paris

September 11, XVII, No. 73, pp. 641-648

59 Congenital Cysts in the Neck. (Kystes congénitaux du cou à paroi dermo-lymphoide.) A. Broca and Masson.

Revue de Chirurgie, Paris

September, XXIX, No. 9, pp. 413-570

60 *Treatment of Hemorrhoids by Ring Excision. (Traitement des hemorroides par l'excision circulaire totale.) E. Villard and L. Desgouttes.
61 *Tetanus of the Head. (Considérations sur le tétanos céphalique.) Binet and Trénel.
62 *Subphrenic Abscess. G. Piquand. Commenced in No. 1.
63 *Review of End-Results of Operative Treatment of Megacolon. P. Duval.

60. **Treatment of Hemorrhoids by Total Circular Excision.**—Villard reports 24 cases in which the patients were promptly and permanently cured by the method of which an illustrated description is given. The anus is widely dilated thus bringing the ring of hemorrhoids outside; this ring is excised, the parallel circular incisions being carried along as the varicose strip is dissected. The mucosa is detached in the direction of the circular fibers of the sphincter, thus utilizing the plane of cleavage. The vessels are ligated above and the mucosa is easily sutured over the ring of raw surface left by this excision.

61. **Tetanus of the Head.**—Binet reports a case of cephalic tetanus, symptoms of paralysis and of contracture occurring together. The treatment is the same as for generalized tetanus. The mortality of this form is still 38 per cent. and it is liable at any moment to become transformed into generalized tetanus. The prognosis is graver, the shorter the incubation after the traumatism. Spasm of the glottis may prove fatal and general symptoms may develop as late as the fiftieth day after the first manifestations of the cephalic tetanus. His patient was a young man and the head tetanus developed six days after a contusion of the face. He recovered under bromid. chloral and serotherapy. No attempt was made to cauterize the wound.

62. **Subphrenic Abscess.**—Piquand here concludes his long monograph on this subject which is based on 890 cases in the literature. He discusses the history and details of the various kinds of subphrenic abscesses, classifying them according to their origin, with source, concluding with his own experience. The tuberculous subphrenic abscess is rare and is generally consecutive to tuberculous lesions of adjacent organs. In 7 cases the primary affection was in the liver; in 4 in the kidneys; in 3 the subphrenic peritonitis was the result of a tuberculous intestinal process. No examples were encountered of subphrenic abscess resulting from tuberculosis of the pancreas or spleen, but 3 authors have reported some from pulmonary tuberculosis; tuberculosis of the walls of the chest is a frequent cause of subphrenic abscess. In 5 cases the subphrenic abscess was merely one localization of a diffuse tuberculous peritonitis. In others it is possible that the subphrenic lesion constituted the primary manifestation of tuberculosis. In 31 tuberculous subphrenic abscesses only 8 of the patients recovered. In 17 cases no operation was attempted and all these patients died, while 8 recovered out of 14 operative cases.

63. **Results of Operative Treatment of Megacolon.**—Duval reviews 94 operations on record in treatment of this condition. The mortality was nearly 75 per cent. in 59 cases under medical treatment, while it was 34.2 per cent. in 35 operative cases. Eight different technics were followed in the various cases, and he compares the ultimate outcome with each. Resection of the colon has always given the best results; it is the logical treatment of these segmental lesions of the colon, but even this fails in the cases in which the dilatation recurs in another segment of the intestine, in which case all therapeutic measures are futile. In Richardson's case, the entire large intestine became dilated after three operations.

Archiv für Kinderheilkunde, Stuttgart

LI, Nos. 1-4, pp. 1-320. Last indexed July 31, p. 418

64 Histologic and Pathologic Study of Familial Amaurotic Idiocy. H. Vogt.
65 Infant Mortality at Mannheim. (Säuglingssterblichkeit in Mannheim.) S. Felsenthal.
66 Shape, etc., of the Thorax in its Relation to the Apex of the Heart in New-Born Infants. (Zur Morphologie und Semiotik des Thorax in seiner Beziehung zur Herzspitze beim Neugeborenen.) G. Berti.
67 *Gastrointestinal Functional Weakness and Functional Disturbances in Children. (Functionsschwäche und Functionsstörungen des Verdauungsapparates im Kindesalter.) P. Selter.
68 Case of Complex Heart Disease in an Infant. (Fall von combinierter Herzerkrankung bei einem Säugling.) L. Baron.
69 *Acute Bone and Joint Disease in Infants. (Zur Kenntnis der acuten Knochen- und Gelenkentzündungen im Säuglingsalter.) J. Trumpp.
70 Living Child Born without Arms or Legs. (Lebende Amelosmissbildung, zugleich ein Beitrag zu ihrer Aetiologie.) H. Rosenhaupt.
71 Epidemic of Varicella. (Eine Windpockenepidemie.) B. Bosse.
72 "Psychic" Gastric Secretion in Infants. (Zur Frage der "psychischen" Magensaftsecretion beim Säugling.) H. Nothmann.
73 Case of Fetal Chondrodystrophy. H. Weinzierl.
74 Differences in Stomach Digestion during Natural and Artificial Feeding. (Unterschiede der Magenverdauung bei natürlicher und unnatürlicher Ernährung.) A. Aurnhammer.
75 Relations between Production of Milk and Fat Content. (Beziehungen zwischen Milchproduction und Fettgehalt der Milch.) Id.

67. **Gastrointestinal Functional Weakness and Functional Disturbances in Young Children.**—Selter emphasizes the importance of investigating the functioning of the digestive apparatus when children show that they are not thriving. For this, examination of the stools is imperative. He examines some of the stool obtained when the child is first seen, and from the findings in this specimen orders a test diet regulated to exclude the articles which the stool showed were imperfectly digested. Comparison of a specimen of the stool about the third day with that of the first day gives an instructive oversight of gastrointestinal functioning. He gives full details for examination of the feces and interpretation of the findings, especially insufficient mastication; excess of fat; the "carbohydrate stool" with its foamy, acid, fermentation, scraps of potato, etc., and other findings; the "meat stool" showing defective pancreatic or intestinal secretion; the "connective tissue stool," indicating impaired gastric digestion; the "constipation stool" and the catarrhal, and combinations of any of the above. Treatment based on the findings in the feces is generally successful. The aim is merely to arrange the diet so that none of the food escapes digestion, restricting or dropping entirely the substances which the child is transiently or permanently incapable of assimilating. In constipation he has obtained good results with plenty of fat and agar-agar in the form of a pudding or added to milk. The total amount of food should be limited to that strictly necessary. Rest and warmth are the main other factors, letting the child sleep late and take a nap in the day, with thermophore or hot bran cushion for local application of heat for two hours after each meal. Even when the child is up and about, he has the hot cushion worn in a pocket made for it in the waist or shirt. Abdominal massage with a wooden ball (250 gm. in weight) for ten minutes in the morning is a useful adjuvant. In the mild cases a complete cure follows but in others a certain functional weakness may persist for a long time and the diet may require this individual regulation for years to permit the child to develop normally.

69. **Acute Bone and Joint Diseases of Infants.**—Trumpp cites five examples of bacteriogenic and traumatic epiphysitis in infants.

Archiv für klinische Chirurgie, Berlin

XC, No. 3, pp. 265-542. Last indexed Sept. 4, p. 822

76 Transplantation of Joints. (Gelenktransplantation.) E. Lexer.
77 How Long after Death or Amputation can Bone be Kept for Transplantation Purposes? (Wie lange nach dem Tode oder nach der Amputation bleibt der Knochen bezüglich seiner Keimfreiheit transplantationsfähig?) W. Bergemann.
78 Operating under First Whiffs of Ether (Stellung des Aetherrausches unter den Methoden der Anästhesirung.) P. Sudeck.
79 Experiences with Fulguration Treatment of Cancer. (Erfahrungen über die Fulguration von Carcinomen nach de Keating-Hart.) Abel.
80 Serotherapy of Tetanus. (Zur Serologie des Tetanus: Complementbindungs- und Antilysinversuche.) Kreuter.
81 Experimental Research on Spinal Anesthesia. (Rückenmarksanästhesie.) Rehn.
82 *Present Status of Lumbar and Local Anesthesia. A. Bier.
83 Seventh Case on Record of Successful Operative Treatment of Duodenojejunal Hernia. (Ueber eine operativ geheilte Hernia duodenojejunalis Treitzii.) E. Heller.
84 Suture and Skewering of Bones. (Knochennaht und Knochenbolzung.) A. Hoffmann.
85 Experimental Research on the Sensitiveness of the Abdominal Cavity. (Sensibilität der Bauchhöhle.) C. Ritter.
86 Arthrodesis by Skewering the Bones. P. Frangenheim.
87 Histology of Transplanted Bone. (Zur Histologie des frei transplantirten periostgedeckten Knochens beim Menschen.) A. Läwen.
88 Chronic Inflammatory Tumors after Abdominal Operations. E. Haim.
89 Infection of Gunshot Wounds and Their Treatment with Peruvian Balsam. (Infection der Schussverletzungen und ihre Behandlung mit Perubalsam.) Vollbrecht.
90 Experimental Study of Bactericidal Properties of Peruvian Balsam. (Bakterienfeindliche Eigenschaften des Perubalsams.) Jander.

82. **Present Status of Lumbar and Local Anesthesia.**—Bier states that in his last series of 339 cases of spinal anesthesia vomiting occurred in only 5 per cent. and pallor, nausea and brief disturbance in the pulse in only 9 per cent. Headache was noted in 6 per cent., but exclusively in women who were subject to headache. Spinal anesthesia he regards as indicated only when local anesthesia is inadequate and general anesthesia is contraindicated. He adds that the combination with the scopolamin-morphin "twilight sleep" has been applied often with good results in his clinic, although the lumbar anesthesia alone has proved sufficient even for removal of the rectum.

Klapp and Ehrhardt's suggestions have not yet led to unobjectionable results. His method of vein anesthesia, he asserts, has proved its usefulness and enables operations on the limbs to be performed absolutely painlessly. (It was illustrated in The Journal, May 1, page 1466.) The secret of success in ordinary local anesthesia for large operations, he says, lies in waiting for fifteen minutes at least before commencing. He reviews the various methods of local anesthesia, remarking that Braun's subcutaneous perineural injection on the nerve leading to the hernia has supplanted Cushing's method. The "twilight sleep" is sometimes useful as a preliminary to local anesthesia, especially for excited patients with exophthalmic goiter.

Deutsches Archiv für klinische Medizin, Leipsic

XCVII, Nos. 1-2, pp. 1-200. Last indexed Sept. 4, p. 823

91 Transient Albuminuria Following Palpation of Abdomen. (Ueber abdominell-palpatorische Albuminurie.) J. Schreiber.
92 Atherosclerosis of Gastric Arteries. (Zur Atherosklerose der Magenarterien.) W. W. Hamburger.
93 Acute Addison's Disease after Thrombosis of Both Suprarenal Veins in Patient with Gastric Cancer. (Akuter Morbus Addisonii nach Thrombose beider Nebennierenvenen.) H Straub.
94 The Capillary Pulse. (Klinische Untersuchungen über den Kapillarpuls.) K. Glaessner.
95 Influence of Congestion in the Heart on Distribution of Blood in the Organs. (Einfluss cardialer Stauung auf die Blutverteilung in den Organen.) H. C. Thacher.
96 *Clinical Importance of Changes in the Circulatory Apparatus with Change of Position, Standing or Reclining. (Ueber die klinische Bedeutung der Veränderungen am Zirkulationsapparate, insbes. der wechselnden Herzgrösse, bei verschiedener Körperstellung: Liegen und Stehen.) H. Dietlen.
97 *Treatment of Severe Anemia with Transfusion of Minute Amounts of Human Blood. (Behandlung schwer Anämien mit Menschenbluttransfusionen.) A. Weber.
98 The Work of the Heart and the "Beat Volume." (Kritik des Albert-Müller'schen Schlagvolumens.) T. Christen. A. Müller.

96. **Changes in the Circulatory Apparatus with Change of Position.**—Dietlen tabulates the details of 66 cases in which the change in the size of the heart was most striking as the individuals reclined or stood. The normal heart grows smaller as one stands, while the pulse increases. But these changes are not observed in the elderly and in those with heart affections. It is evident that auscultation of the heart may be misleading unless the patient is examined both reclining and standing.

97. **Treatment of Severe Anemia with Transfusion of Small Amounts of Human Blood.**—Weber reports 7 cases from Voit's medical clinic at Giessen in which threatening anemia was influenced to a remarkable extent by transfusion of only 5 c.c. of human blood. No benefit was observed in a number of cases of leucemia. The transfusion of this small amount, he states, is simple and generally harmless, but in a few cases there were signs of mild disturbances after the transfusion. It seems as if the blood from certain persons displayed more toxicity than from others, three patients injected with a certain blood all presenting the same transient disturbances. It was never noticed that when two or more patients received blood from the same source, that one presented disturbances and the other did not.

Deutsche medizinische Wochenschrift, Berlin

September 9, XXXV, No. 36, pp. 1553-1592

99 *Autogenic Puerperal Infection. (Selbstinfektion in der Geburtshilfe.) B. Krönig.
100 Occurrence of Vibriones in Small Intestine and in Stool. (Vorkommen von Vibrionen im Dünndarminhalt und in den Darmentleerungen des Menschen.) Rothe and Meinicke.
101 *Hypophyseal Tumors. (Zur Diagnose und Therapie der Hypophysisgeschwülste.) Z. Bychowski.
102 *Determination and Significance of Tubercle Bacilli in the Blood Stream. (Nachweis und Bedeutung der Tuberkelbazillen im strömenden Phthisikerblut.) Schnitter.
103 Granular Form of Tuberculosis Germs in Sputum. (Granuläre Form des Tuberkulosevirus im Lungenauswurf.) E. Schulz.
104 Radical Operation for Inguinal Hernia. (Zur Radikaloperation der Leistenhernien nach Kocher.) K. Hugel.

99. **Autoinfection in Obstetrics.**—Krönig applies the term "autogenic infection" to that resulting from the bacteria physiologically present in the vagina and vulva, not brought by the obstetrician or nurse. His experience indicates that fully half of the cases of infection soon after delivery are due to aseptic or saprophytic infection of the endometrium; a very small proportion to infection of deep lacerations, and the others are due to extragenital causes. Comparison of the cases in these categories shows that as a rule the septic puerperal affection of autogenic infection runs a mild and brief course. When it is severe there is generally some special local or general predisposition. During a protracted birth the tissues may be so injured that severe infection may result, even when of autogenic origin. With transverse presentation or contracted pelvis if aid is not rendered artificially, the woman may succumb to sepsis from the autogenic infection. He ascribes the difference between the course of autogenic and exogenic infection to the difference in the virulence of the germs. Those physiologically present have been leading a saprophytic existence and their virulence has become attenuated. In exogenic infection the germs brought have generally been living as parasites in some infectious focus and this parasitic existence has enhanced their virulence. He denounces any attempt to disinfect the vagina and vulva as sure to interfere with the physiologic local defensive processes.

101. **Hypophyseal Tumors.**—Bychowski reports a case of tumor in which the bitemporal hemianopsia, the adipose and congenital dystrophy and the abnormal shadow cast by the sella turcica confirmed the assumption of a tumor of the hypophysis. The patient was a young woman and the first symptoms were impaired vision, headache and uncontrollable vomiting. Seven illustrations are given of the findings before and after removal of the tumor by way of the nose. It proved to be a cyst containing two teaspoonfuls of a brown fluid. Recovery was delayed by acute transient meningitis, but the patient was dismissed in two months and a half, entirely free from symptoms, vision 2/3 and 1/10. In all the cases on record the immediate subsidence of the apathetic depression was marked and this was also observed in the present case. The hemianopsia develops first in one eye, which aids in differentiating a tumor in the hypophysis. The development of the genital organs is also liable to be defective with hypophysis tumors, while with tumors of the pineal gland the sexual organs show a tendency to premature development. In Marburg's case the menses dated from the age of eight. Bychowski reviews the experiences of others with hypophyseal tumors and urges prompt operation as soon as the diagnosis is established.

102. **Tubercle Bacilli in the Blood.**—Schnitter has found the Stäubli technic useful for determining the presence of tubercle bacilli in the blood, and tabulates the findings in 34 cases. They were positive in 50 per cent. of 4 cases of tuberculosis outside of the lungs; in none of the 8 cases of pulmonary tuberculosis in the first stage; in 22 per cent. of 9 cases of the second stage, and in 47 per cent. of 17 cases of advanced tuberculosis. Stäubli's method was described in The Journal, Jan. 30, 1909, p. 426. He dissolves the red corpuscles of the blood by adding 10 or 15 times the amount of 3 per cent. acetic acid and then centrifugating. Schnitter obtains the blood by venesection, adds twice the amount of the 3 per cent. acetic acid solution and then centrifugates.

Deutsche Zeitschrift für Chirurgie, Leipsic

July, XCIX, Nos. 3-6, pp. 201-583

105 Congenital Habitual Dislocation of the Patella. E. Hoffmann.
106 Aneurism of the Axillary Artery After Dislocation of the Humerus. (Fall von Aneurysma der Arteria axillaris nach Luxatio humeri.) Id.
107 *Epigastric Hernia without Palpable Tumor. H. Mohr.
108 Extension in Treatment of Fractures. (Beiträge zur Extensionsbehandlung.) A. Wildt.
109 Lowering the Pelvis for Operations. (Ueber Beckentieflagerung und Schrägstellung des Operationstisches.) Id.
110 Operative Treatment of Large Inguinal Hernia in Children. (Neue Operationsmethode bei abnorm grossen angeborenen Leistenbrüchen im Kindesalter.) A. Thiel.
111 Operative Treatment of Reducible Inguinal Hernia in Children. (Chirurgische Behandlung reponibler Leistenbrüche im Kindesalter.) Castenholz.
112 *Gangrene from Local Anesthesia. (Zwei Unglücksfälle bei Anwendung der örtlichen Betäubung.) H. Strohe.
113 Varices of Anterior Abdominal Wall. (Varicen der vorderen Bauchwand.) W. Lossen.
114 Injuries of Vertebræ. (Ueber Wirbelverletzungen.) G. Berghausen.
115 Training in Speaking after Laryngectomy. (Stimm- und Sprachübungen nach Kehlkopfausrottung.) E. Hopmann.
116 *Operative Gastric Disease. (Ueber die operativen Magenerkrankungen.) Rondorf.

117 Treatment of Primary Radial Paralysis in Fractures of the Upper Arm. (Zur Behandlung der primären Radialislähmung bei Oberarmbrüchen.) Krabbel.
118 Three Cases of Gunshot Wounds of the Skull. (Zur Kasuistik der penetrierenden Schädelschussverletzungen.) H. Luxembourg.
119 Unusual Injuries of Epiphyses. (Zur Kasuistik seltener Epiphysenverletzungen.) Id.
120 *Nephropexy. Sonnenschein.
121 Fracture of Condyle of Humerus. (Ueber Condylenbrüche des Humerus und ihre Behandlung.) H. Landwehr.
122 Dislocation of the Head of the Radius. (Luxation des Capitulum radii.) F. Lohmüller.
123 Operative Treatment of Oxycephalus. (Zur Frage des operativen Eingriffs bei Turricephalie.) Vorschütz.
124 Freund's Operative Treatment of Emphysema of the Lung. (Zur Freundschen Thoraxoperation beim Lungenemphysem.) C. Rath.
125 *Castration in Treatment of Mammary Carcinoma. F. Cahen.
126 Experimental Deforming Arthritis. F. Kroh.
127 Isolated Fractures of Great and Lesser Trochanter. J. Feinen.
128 Congenital High Scapula. (Ueber angeborenen Schulterblatthochstand.) W. Junger.
129 Treatment of Fractures of the Leg. (Zur Behandlung der Unterschenkelbrüche.) Schrecker.
130 Resection in Treatment of Tuberculosis of the Ankle. (Die Resektion bei Fussgelenkstuberkulose nach Bardenheuer.) F. Frank.
131 Diagnostic Importance of Roentgen Examination in Ear and Nose Disease. (Was leistet das Röntgenverfahren auf otiatrischem und rhinologischem Gebiete für die Diagnose?) Jansen.
132 Experimental Research on Incarcerated Hernia including Two Loops. (Tierversuche zur der Frage der "zwei Darmschlingen im eingeklemmten Bruch," der retrograden Darmincarceration, der "Hernie en W," der Gangrän der Verbindungsschlinge.) C. Lauenstein.
133 Rupture of Right Parovarian Cyst, Simulating Syndrome of Acute Appendicitis. H. Matti.
134 Ganglioneuroma of the Knee. E. Hagenbach.

107. **Epigastric Hernia Without Palpable Tumor.**—Mohr has had two cases of this kind in the last few years and describes the difficulty in diagnosing the true cause of the stomach disturbances which were long ascribed to nervous dyspepsia, gastric ulcer, gall-stones or neurasthenia. The patients were men of 34 and 40 and one had had two previous operations performed for supposed abdominal hernia, but the pains soon returned. They seemed to radiate from a certain spot behind the old cicatrix, and at this point the omentum had been drawn out into a peak, the tip of which had grown to the abdominal wall in one case without actual hernia. This peak was resected and the patients' disturbances were cured. The diagnosis is suggested by the history of the disturbances and exacerbation of the pain with certain movements, bending over, sneezing, etc. Stomach disturbances with localized tenderness in the median line should always suggest hernia in men whose occupation requires rapid bending and stretching of the trunk or lifting weights. These repeated traumatic injuries predispose to hernia but are seldom heard of in connection with true stomach affections. It is difficult to distinguish between an epigastric hernia and gastric ulcer, but the lack of connection of the pain with the taking of food, the unimpaired appetite during the intervals of freedom from pain, speak in favor of the former as also the localized center for the radiating colicky pains, the aggravation of the disturbances by physical effort, and their subsidence on reclining. The hernia occurs most often in hard-working men while gastric ulcer is most frequent in anemic girls. An exploratory laparotomy is indicated on suspicion of hernia with severe disturbances, and the prompt cure of the trouble by the operation confirms the diagnosis even if no actual hernia is discovered.

112. **Gangrene After Local Anesthesia.**—In the first of the two cases reported, the great toe became gangrenous four days after an operation under local anesthesia for an ingrowing nail. In the other case a hydrocele was operated on under novocain-adrenalin and gangrene of the scrotum developed. Both patients were elderly and there was a suspicion of arteriosclerosis. The salt solution used was unusually strong, owing to a mistake, and experiments with this solution showed that the addition of the adrenalin favored the production of gangrene. Strohe warns that the salt solution should never be stronger than 0.9 per cent., approximately the same osmotic tension as that of the blood.

116. **Operative Stomach Disease.**—Rondorf expatiates on the advantages of an exploratory operation in obscure gastric affections and relates the good results of operation in 5 cases of gastric ulcer, 7 of gastroptosis or gastrectasia, and 2 of inoperable carcinoma treated by anterior gastrostomy. His experience shows that an apparently inoperable tumor may prove to be operable when exposed, while some which seem to be insignificant are found inoperable. Radical resection is preferable to gastroenterostomy for cancer of the pylorus, he thinks, as this gives a chance for permanent cure while with gastrostomy the patients are still tormented with pains. Resection is indicated, he declares, whenever no metastases can be discovered elsewhere. The size and extent of the tumor are no contraindication, but the operation should not be deferred, even if the patient seems to be doing well under internal measures, until he becomes too debilitated for successful intervention. The surgeon should not hesitate to operate even in advanced and apparently desperate cases, as he can do much good with extensive resection; gastrostomy alone is merely a kind of protracted euthanasia.

120. **Nephropexy.**—Sonnenschein describes the technic which Bardenheuer has been applying during the last ten years with good results. Seven of the twenty patients thus treated have been under observation for three years or more and the kidney still maintains its normal position with the cure of the previous disturbances. He aims to fasten the kidney as high up as possible, making an ample recess for it, and fastening it there by the adhesions that result when the adipose and fibrous capsules have been slit over the convexity of the kidney and drawn together again. Granulation is stimulated by a tampon below and the whole is strengthened by a muscular support made from the half of the quadratus lumborum which is turned over upward and on which the lower pole of the kidney rests. An important factor in the complete cure is the strict bed rest imposed for six weeks.

125. **Importance of Castration in Treatment of Mammary Carcinoma.**—Cahen has applied this measure in 7 cases of mammary carcinoma as he relates in detail. In the first case a woman of 27 had noticed a hardening of the right breast for a year before it was removed with the enlarged adjoining glands. A month later castration was done, after which the enlarged glands in the axilla subsided spontaneously to normal size and the patient gained 22 pounds in weight and a robust appearance, but succumbed to a recurrence by the end of the year. The results of the castration were equally marked in two other cases and the patients are still in good general health to all appearances, although excision of a recurring nodule was required in these cases. All these patients were young women with extensive cancers. He urges experimental research to determine the influence of castration on mammary cancers. The carcinoma in the breast in all his cases was differentiated with the microscope, and his experience to date has convinced him that castration should be regarded with favor as an adjuvant to local operative measures for mammary carcinoma in young women. Survival of the patient for three and a half and over five years to date in some of the cases seems to confirm this.

Jahrbuch für Kinderheilkunde, Berlin

September, LXX, No. 3, pp. 253-390

135 *Pyloric Stenosis in Infants. (Zur Frage der "Pylorusstenosen" im Säuglingsalter.) M. Pfaundler.
136 *Concentration of the Blood in Infants. (Untersuchungen der Blutkonzentration des Säuglings.) E. Reiss.
137 Action of Gastric Juice on Human and Cow's Milk. (Zur Kenntnis der Einwirkung des Magensaftes auf Frauen- und Kuhmilch.) C. Lempp and L. Langstein.

135. **Stenosis of the Pylorus in Infants.**—Pfaundler presents 57 pages of evidence to show that the clinical signs of stenosis of the pylorus may occur both with and without an actual organic basis.

136. **Concentration of the Blood in Infants.**—Reiss gives the details of twenty-one cases, mostly of gastrointestinal disturbances in infants, to illustrate the assumption that the severe syndrome in gastrointestinal catarrh in infants is in large part due to the loss of fluids in the diarrhea and, in consequence, the suffering of the tissues from the lack of water. This may be severe while yet the child shows no direct signs indicating the source of the trouble. The somnolency

and convulsions, etc., in acute gastroenteritis are mainly due, he thinks, to the abnormal concentration of the blood and other organic fluids. The only reliable means of determining the actual concentration of the blood is with the refractometer. This reveals the condition without fail even when the freezing-point of the blood proves a misleading guide owing to the constant tendency of the organism to maintain its molecular concentration. In many cases in which refractometric examination showed extreme concentration of the blood, the freezing-point was approximately normal.

Mitteilungen aus den Grenzgebieten der Med und Chir., Jena

XX, No. 3, pp. 377-564. Last indexed July 24, p. 331.

138 *Gastric Sarcoma. (Sarkom des Magens.) H. Ziesche and C. Davidsohn.
139 *Nature and Importance of Cammidge Pancreas Reaction. J. E. Schmidt.
140 Sensibility of Certain Internal Organs. (Experimentelle Untersuchungen über die Empfindungen in der Schlundröhre und im Magen, in der Harnröhre und in der Blase und im Enddarm.) R. Zimmermann.
141 Measurement and Clinical Significance of Muscle Tonus. A. Exner and J. Tandler.
142 *Symptoms in Incipient Pneumonia Simulating Appendicitis. (Ueber perityphlitische Symptome — Pseudoappendicitis — im Beginne der Pneumonie.) E. Melchior.
143 *Treatment of Spastic Paralysis by Resection of Posterior Spinal Nerve Roots. (Behandlung spastischer Lähmungen mittels Resektion hinterer Rückenmarkswurzeln.) O. Foerster. (Die Technik der Foersterschen Operation.) A. Tietze.

138. **Gastric Sarcoma.**—In this communication from Breslau 3 cases are reported in detail and compared with 146 collected from international literature which are tabulated in 14 groups. Operative treatment was applied in 52 cases and the ultimate outcome was about the same as with carcinoma. The course of a gastric sarcoma seems to be rather shorter than that of a carcinoma, averaging not over 17 months and still less for the spindle-celled and round-celled varieties, although for the less malignant myosarcoma it averages 3 years and 4 months. The tables and bibliography include 3 cases published in The Journal (Baldy, Dock and Howard), 1898-1902.

139. **The Cammidge Pancreas Reaction.**—Schmidt applied this test in 14 cases of gastric cancer or pancreatitis, the findings in some having the value of an actual experiment on account of the pancreas having been injured in operating on other organs. In addition to this he conducted research on cats and dogs and gives the details of 29 different series of tests. His conclusions emphasize the importance of this test, although his research has shown that the reaction is not specific for pancreatic affections, but occurs as the result of destruction of substances with nucleoglycoproteid content. The pancreas being richest in pentoses gives the reaction the most readily, but it may be observed also in other affections accompanied by considerable destruction of tissue and especially of nuclei. A single negative response should not be regarded as conclusive, and a positive response does not indicate exclusively a pancreatic affection. But as those affections which are also liable to give a positive reaction (pneumonia, appendicitis with diffuse peritonitis) are generally so readily differentiated from pancreatic disease there need be little confusion on this account. A positive response with suspicion of a pancreatic disorder is strong corroborative evidence. (The technic for the Cammidge pancreatic reaction was published in The Journal, Aug. 22, 1908, page 691.)

142. **Appendicitic Symptoms in Incipient Pneumonia.**—Melchior differentiates the condition by the incongruence between the slight objective signs in the region of the appendix in comparison to the intensity of the general malaise, the high fever, spontaneous pain in the chest, headache, flushed face, rapid breathing and relatively good pulse. A little cough confirms the diagnosis of pneumonia even before any physical signs in the lungs can be detected. Herpes and a preceding chill are additional evidence. He discusses further the differentiation of typhoid commencing with symptoms simulating appendicitis. A number of persons have been operated on by mistake on this account. Both typhoid and pneumonia are accompanied by prodromal discomfort, headache and slight heaviness. Dicrotism is the rule in the typhoid pulse which is relatively low, an important differentiating sign in comparison with the findings in appendicitis. The number of leucocytes is also abnormally low in typhoid in comparison to the hyperleucocytosis of pneumonia and appendicitis. Melchior does not ascribe any special prognosis to the pneumonia commencing with abdominal symptoms. In the 10 cases on record in which the appendix was operated on by mistake, only 2 of the patients died, showing the tolerance of pneumonia patients for a laparotomy. In more than half of the cases on record the rapid breathing attracted attention from the first even before the pneumonia was differentiated. The respirations increase in frequency outside of affections of the respiratory apparatus only with severe generalized peritonitis or when the diaphragm is pushed up by tympanites or effusions. An initial chill was observed in only 4 of the cases. In some on record the onset was sudden and acute; one patient collapsed on the street and was operated on at once on suspicion of perforated gastric ulcer. The prodromal discomfort which is the rule with pneumonia is seldom observed with appendicitis; here the symptoms are generally limited to the abdomen. Vomiting was a frequent early symptom in these pneumonia cases: some of the adult patients vomited several times during the first few days—a rare occurrence with pneumonia in adults, although common in children.

143. **Treatment of Spastic Paralysis by Resection of Posterior Spinal Nerve Roots.**—Foerster here presents a monograph on the causes of spastic paralysis and effects of operative treatment by resection of three or four of the posterior roots. He reports with illustrations two cases of congenital spastic paralysis of both legs with slight paresis of the arms, a case of tuberculous cervical spondylitis and another of multiple sclerosis, both with total spastic paraplegia of the legs and one of right hemiplegia, in all of which he tried this method of operative relief. In the first three cases the spastic contraction of the muscles was materially improved or entirely remedied. The results were pronounced even directly after the operation, the exaggerated reflexes being reduced to normal with cessation of the reflex movements associated with the voluntary movements. By severing the roots it was seen that the corticogenic excitability of the different muscles was still retained, so that volitional movements then became possible. After the operation the patients must be trained to use their limbs properly and they must be controlled with orthopedic appliances to prevent the limbs from assuming abnormal positions until volitional control is fully regained. The last two cases are instructive from several points of view: they show among other things that this method of operative treatment is less promising for the arms than for the legs, while it offers an encouraging outlook for severe spastic paralysis of the legs of either spinal or cerebral origin. For the present he operates only in cases in which there is nothing to lose, although he does not forget that in exceptional cases Little's disease has been known to improve spontaneously. Compression myelitis, multiple sclerosis, etc., also justify this measure, but he does not advise it in cases of mere hemiplegia except for a hemiplegic arm with pronounced spasmodic contraction and reflex comovements, especially in cases of infantile hemiplegia in which the spastic trouble is pronounced while the paretic is comparatively slight. Such cases are particularly promising. No sensory disturbances were noted in his patients after the operation nor decided ataxia, except that in one instance a pre-existing ataxia persisted to some extent. The technic is described by Tietze in detail; it does not differ essentially from any laminectomy, but is best done at two sittings. He commends the intervention as a great onward stride in the treatment of spastic paralysis. It does not restore normal conditions, but it is surprising to behold how the theoretical premises are confirmed by the effect of the operation. It is remarkable to see how a child previously entirely helpless, unable to take a step, can be put on his feet and enabled to walk after a fashion, without any direct surgical intervention on his legs. The success attained is due in large measure, Tietze declares, to Foerster's patience and perseverance in training the patients afterward to use their limbs. In one case a secondary local operation for contracture was necessary. The illustrations "before and after" show the previously helpless child now walking up-

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

August, XXX, No. 2, pp. 137-260

144 *Transverse Presentation, Version and Extraction. (Ueber Querlage, Wendung, Extraktion.) B. S. Schultze.
145 Stenosis of Cervix Cured by Supravaginal Resection without Disturbing Connection with the Vagina. (Fall von erworbener hochgradiger Stenose des Cervicalkanals geheilt durch supravaginale Cervixresektion mit Erhaltung der Portio.) R. Werth.
146 Significance of Glandular Hyperplasia and Hypertrophy of the Endometrium. K. Himmelheber.

144. Transverse Presentation, Version and Extraction.—A recent German article stated that about 2,000 children and 400 mothers lost their lives annually in Germany in consequence of transverse presentation, and these figures were denounced as excessive. Schultze here presents detailed statistics which show that the number is actually twice as high, fully 4,000 children not surviving birth on this account. Few succumb to the transverse presentation itself; the trouble is in the extraction by the foot before dilatation is complete. He urges that if the cervix is not sufficiently dilated, operative delivery by some method of Cesarean section should be given the preference. Version does not avert the danger that threatens the child, and extraction is dangerous both for mother and child. By waiting until the os is completely dilated, if the transverse presentation of the child is the only indication for version, and by patiently waiting for spontaneous foot delivery, so long as there are no indications for immediate extraction, he is positive that many of the 4,000 children who now die during delivery from transverse presentation would certainly survive. He adds that no attempt should be made to loosen the cord as this is entirely unnecessary and liable to harm the child.

Münchener medizinische Wochenschrift

September 7, LVI, No. 36, pp. 1825-1872

147 Reaction-Inducing Properties of Pure Neutral Lipoids. (Nastin, ein reaktiver Fettkörper, im Lichte der Immunitätswissenschaft.) H. Much.
148 Serodiagnosis of Hydatid Disease. (Zur Serodiagnostik der Echinokokkusinfektion.) Kreuter.
149 *The Senile Type of Epidemic Cerebrospinal Meningitis. (Der senile Typus der übertragbaren Genickstarre.) F. Reiche.
150 Histologic Study of the Hypertrophied and Insufficient Heart Muscle. M. Lissauer.
151 Camphor and Pneumococci. (Kampher und Pneumokokken.) A. Seibert.
152 Effective Element in Scarlet-Red Salve that Promotes Granulation in Wounds. E. Hayward.
153 Induced Insanity. (Ueber psychische Infektion.) C. Hermkes.
154 Typhoid Agglutination Test in Paratyphoid Infection. (Mitagglutination für Typhus bei Infektion mit Bac. enteritidis Gärtner.) W. Rimpau.
155 Extraperitoneal Cesarean Section. (Zur Frage des extraperitonealen Kaiserschnitts.) O. Kneise.
156 Endemic of Gonorrhea among Children taking Baths at a Health Resort. (Eine Gonorrhoeendemie bei Schulkindern in einem Solbad.) P. Bendig.
157 Diastolic Murmurs in Third Left Interspace Sign of Dilatation of the Aorta. (Bedeutung diastolischer Geräusche im dritten linken Interkostalraum für die Diagnose von Erweiterungen der Aorta.) P. Stein.

149. The Senile Type of Epidemic Meningitis.—Reiche's experience in 2 cases confirms Schlesinger's statement, based on 5 cases, that epidemic cerebrospinal meningitis runs a peculiar course in the elderly, affecting a senile type. The Kernig symptom was always pronounced, but there was slight or no opisthotonos. The latter may also be absent in cases in children under three. There was little tendency to fever in these elderly patients; in some the temperature never rose above normal. The importance of differentiating meningitis is evident not only on account of prophylaxis for others, but also on account of the prompt benefit liable to follow intraspinal injections of a curative serum. In 1 of the cases hemiplegia was almost the first symptom to call attention to the disease, and Schlesinger has reported a case in which the onset of the meningitis simulated apoplexy. One patient was a man of 61 who had fallen down-stairs and the meningitis developed after the trauma, but was not discovered until autopsy. Leyden and others have reported trauma and contusion as the exciting cause of epidemic meningitis during an epidemic. In this sporadic case, however, there must have been some intermediation of a "meningococcus-carrier." There was no herpes in either case.

Virchows Archiv, Berlin

August, CXCVII, No. 2, pp. 193-384

158 Congenital Soft or "Gap" Skull. (Der angeborene Weich- oder Lückenschädel.) Wieland. Concluded.
159 Cancer of the Thyroid. (Zur Frage der bösartigen Epithelgeschwülste der Schilddrüse.) M. Zehbe.
160 Origin of Vesicular Cells in Spleen Nodules. (Herkunft der blasigen Zellen in Milzknötchen.) S. Itami.
161 Comparatively Slight Resistance of Bones to Action of Cold. (Verhalten des Knochens gegenüber Kälteeinwirkung.) H. Kleinschmidt.
162 Peripheral Spread of Inflammations of the Spinal Meninges. (Peripherische Ausbreitung der Entzündungen der Rückenmarkshäute.) O. Appelius.
163 Research on Postmortem Burns. (Studien über Verbrühung.) O. Leers and R. Raysky.
164 Complications of Pulmonary Tuberculosis, and Distribution of Tubercle Bacilli in the Organs and Blood of the Tuberculous. (Komplikationen der Lungentuberkulose und über die Verbreitung der Tuberkelbazillen in den Organen und im Blut der Phthisiker.) G. Liebermeister.

Wiener klinische Wochenschrift, Vienna

September 9, XXII, No. 36, pp. 1227-1256

165 *Technic for Anaphylactic Seroreaction with Cancer. (Versuchstechnische Bemerkungen zum Nachweis des anaphylaktischen Temperatursturzes.) H. Pfeiffer.
166 Serodiagnosis of Syphilis in Obstetrics. (Zur Serodiagnostik der Lues in der Geburtshilfe.) E. Bunzel.
167 Portable Extension Apparatus for Fractures. (Portative Extensionsverbände für Frakturen an der oberen Extremität.) R. Frank.
168 Influenza Bacillus as Causal Agent of Choledystitis. O. Kuina.

165. Diagnostic Cancer Anaphylaxis.—Pfeiffer here gives the details of his technic for the anaphylactic seroreaction with cancer, described in THE JOURNAL, August 28, page 752. His experience confirms, he says, its differential importance.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXV, No. 1, pp. 1-282. Last indexed July 24, p. 333

169 Physiology of Embedding of Ovum. (Zur Physiologie der Eieinbettung.) E. Gräfenberg.
170 Growth and Proportions of the Fetus. (Wachstum und Proportionen des Fötus.) C. H. Stratz.
171 *Convulsions in New-Born Infants of Eclamptic Mothers. (Eclampsia neonatorum.) P. Esch.
172 Differential Diagnosis of Liver Cystadenoma and Ovarian Tumors. (Beitrag zu den grossen multilokulären Cystadenomen der Leber, unter Berücksichtigung der Differentialdiagnose gegenüber von Ovarialtumoren.) E. Weishaupt.
173 Ovarian Papillary Adenocarcinoma with Polypous Metastasis in Uterus. L. Arzt
174 Rubber Gloves in Obstetrics. (Die Gummihandschuhprophylaxe in der Geburtshilfe.) W. Hannes.
175 *Permanent Operative Cures of Cancer of Cervix. (Zur Frage der Dauerheilung des Collumkarzinoms durch die Operation.) P. Reinecke.
176 Bacteriologic Study of Puerperal Fever. (Bakteriologische Untersuchungen beim Kindbettfieber.) E. Sachs.

171. Eclampsia in New-Born Infants. Esch discusses the condition of children born to women in eclampsia, stating that in many cases on record the organs showed the same characteristic changes as those of the mother. Convulsions in the new-born can be ascribed to eclampsia only after exclusion of all other causes, intracranial hemorrhage, intoxication from morphin previously taken by the mother, etc. He has encountered 3 cases in which both the mother and infant presented the typical syndrome of eclampsia. This brings the number on record in accessible literature to 32, except that in 6 cases the mothers presented albuminuria alone, without actual eclampsia. The first convulsion occurred in the infants from a few minutes to forty-six hours after birth, and the convulsions lasted from thirty seconds to ten minutes. The intensity of the convulsions did not seem to parallel the severity of the eclampsia in the mothers, the opposite being rather the case. The infants were all at or near term, but the mortality of children of women with eclampsia is generally high; it was 22.7 per cent. in 234 cases in his own experience. Treatment of eclampsia in the new-born can be only symptomatic, avoiding irritation from without, giving small doses of bromid or chloral by the rectum, with saline infusion and fluids to promote diuresis, and warm baths to aid in the elimination of toxins.

175. Permanent Cure of Cervix Carcinoma.—Reinecke calls attention to the fact that the recurrences in his experience were almost always in women who had had severe hemorrhage or prolonged suppuration during or after the operation. Out of 399 patients only 153 were in an operable condition, and recurrence followed in 76, while 42 have been completely cured for from five to seventeen years. All the recurrences developed within three years.

Zentralblatt für Chirurgie, Leipsic

September 11, XXXVI, No. 37, pp. 1283-1312

177 *Search for Perforated Gastric Ulcer. (Ueber die Aufsuchung des durchgebrochenen Magengeschwürs.) C. Ewald.

177. **Search for the Perforation of Gastric Ulcer.**—Ewald states that the perforation is almost invariably located close to the pylorus, above or below, so that it is almost always found inside an area of about 2 square inches, and this region is readily reached by lifting up the margin of the liver concealing it. The easiest mode of access he has found to be by an incision, not through the epigastric line, but parallel to it, through the right rectus muscle, pushing the longitudinal ligament toward the center. The finger is then introduced and as it pushes the longitudinal ligament toward the median line the peritoneum is incised under the guidance of the finger. The margin of the left lobe of the liver is then lifted up and the perforation generally presents; it is unnecessary to draw out the stomach in the search. Only in the rarest cases will the perforation be found elsewhere. He adds that his patients were almost all men between 30 and 50, mostly drinkers, but the few women formed no exception to this rule.

Zentralblatt für Gynäkologie, Leipsic

September 11, XXXIII, No. 37, pp. 1283-1312

178 *Improvement to be Realized in Obstetrics by General Practitioner Doing Major Obstetric Operations. (Verbesserung der Geburtsleitung durch Ausführung der grossen geburtshilflichen Operationen von Praktikern.) H. Sellheim.

179 Indications for Version with Cephalic Presentation. (Zur Indikationsstellung der Drehungen nach Scanzoni bei Vorderhauptslagen und mento-posterioren Gesichtslagen.) R. Ziegenspeck.

180 A Self-Holding Speculum that can be taken Apart in Position. (Ein selbsthaltendes zweiblättriges "in situ" zerlegbares Spekulum.) H. Boshouwers.

181 Age at First Menstruation of Chinese and Japanese Girls. M. Yamasaki.

178. **To Facilitate Major Obstetric Operations by the General Practitioner.**—Sellheim urges that every general practitioner should see to it that there is some place arranged for aseptic obstetric operations, easy of access, in the neighborhood, where he can send and operate on his patients without wasting time and effort trying to transform an ordinary bedroom into an aseptic operating room. He declares that even the smallest hospital should have an aseptic maternity room; the surgeons have shown how to conquer all such obstacles. Obstetricians should profit by their initiative, and students should be trained in obstetric operations, from the smallest to the most serious. He insists that all physicians could do a certain share of such surgical work if only they had enough energy. What is right and proper for surgery is right and proper also for obstetrics. It is much wiser, he adds, to teach students every branch of practical obstetrics than to sit with folded hands and watch the present ever-widening separation of School and Practice, which will have to be corrected later.

Zeitschrift für klinische Medizin, Berlin

LXVIII, Nos. 5-6, pp. 349-524. Last indexed Aug. 28, p. 752

182 The Interchange of Gases in the Lungs in Polycythemia. (Ueber den Lungengaswechsel bei Erythrocytosis: Polycythaemia rubra.) H. Senator.

183 Elimination of Carbon in Urine. (Ueber die Ausscheidung des Kohlenstoffs im Harn.) E. Magnus-Alsleben.

184 Bacteriology of Blood in Febrile Conditions. (Bakteriologische Untersuchungen des Blutes bei fieberhaften Erkrankungen.) G. Kiralyfi.

185 Perforation of Aneurism in Aorta into Superior Vena Cava. (Zur Kasuistik der Perforation von Aortenaneurysma in die obere Hohlvene.) L. Buchstab and M. v. Tiesenhausen.

186 Roentgen Localization of Left Auricle of Heart. (Lokalisation des linken Vorhofs des Herzens im Röntgenbild.) L. Jaffe.

187 *Pharmacologic Research on Nitroglycerin. (Zur Pharmakodynamik des Nitroglyzerins.) L. F. Dmitrenko.

188 Therapeutic Efficiency of Certain Pure Solutions of Colloidal Metals. (Therapeutische Wirksamkeit einiger anorganischer Hydrosole.) G. Izar.

189 Migrating Power of the Leucocytes in Various Infectious Processes. (Ueber das Emigrationsvermögen der Leukozyten bei verschiedenen infektiösen Prozessen.) C. v. Rzentkowski.

190 Lack of Proof to Date that Heart-Block can Occur from Muscular Changes in the Myocardium with Intact Conducting Mechanism. (Kann der Adams-Stokessche Symptomenkomplex bei intaktem Reizleitungssystem lediglich durch Erkrankung des Myokards entstehen?) A. Schmidt.

187. **Indications for Nitroglycerin.**—Dmitrenko reports 23 cases in which he studied the pharmacodynamics of nitroglycerin; its action was manifested in 16 of the cases by subsidence of the pressure in the brachial artery, while at the same time the pressure rose in the arteries in the fingers. This with other facts observed indicates, he thinks, that the drug has an elective action on the peripheral portion of the circulation. As it dilates the arterioles the resistance they previously offered to the blood stream is reduced and thus the work of the heart is lightened to that extent. If the heart is very weak and close to exhaustion the blood pressure in the finger arteries rises very little if at all. The organism responds to dilatation of the cutaneous vessels with contraction of the visceral vessels as the vasomotor innervation strives to maintain the pressure uniform throughout. The power of dilatation of the peripheral vessels determines the amount of action of the nitroglycerin. When the peripheral vessels have lost their elasticity under the influence of typhoid, tuberculous or diphtheria toxins, nitroglycerin is not only useless, but, if the heart is weak, actually dangerous. Under favorable conditions it reduces the pressure in the central portions of the circulation and increases the pressure in the peripheral, the latter feeling the effect longer. It begins to wane in from three to thirty-five minutes, but the action of the drug is still perceptible in the finger arteries by the end of the hour. It is indicated only in the cases in which the pressure at the periphery rises, while the brachial pressure drops under its influence. This phenomenon is particularly evident when the patients feel worse after administration of digitalis, which has whipped up the irritated, much hypertrophied heart muscle without removing the obstacles in the periphery.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

THE INFLUENCE OF CERTAIN DRUGS ON THE TOXICITY OF ACETAN ILID AND ANTIPYRIN. By Worth Hale. Hygienic Laboratory Bull. No. 53. Paper. Pp. 60. Washington: Government Printing Office

LEUCOPATHIES, MÉTASTASES, ALBUMINURIES ET ICTERES LEUCO PATHIQUES. Par Emile Feuillié, Préparateur à la Faculté de Méd ecine. Paper. Pp. 196, with illustrations. Price, 6 francs. Paris G. Steinheil, 1909.

MEDICAL GYNECOLOGY. By Samuel Wyllis Bandler, M.D., Fellow of the American Association of Obstetricians and Gynecologists Second Edition. Cloth. Pp. 684, with illustrations. Price, $5 Philadelphia: W. B. Saunders Co., 1909.

A HANDBOOK OF MEDICAL DIAGNOSIS. By J. G. Wilson, A.M. M.D., Professor of the Practice of Medicine and Clinical Medicin in the Jefferson Medical College. Cloth. Pp. 1412, with 408 illustrations and 14 full-page plates. Price, $6. Philadelphia: J. B Lippincott Co.

A MANUAL OF OTOLOGY. By Gorham Bacon, A.B., M.D., Professo of Otology in the College of Physicians and Surgeons, Columbi University, New York. Fifth Edition. Cloth. Pp. 492, with 14 illustrations and 12 plates. Price, $2.25. Philadelphia: Lea Febiger, 1909.

THE PRACTICE OF MEDICINE. By James Tyson, M.D., Professor o Medicine in the University of Pennsylvania and Physician to th Hospital of the University. Cloth. Pp. 1412, with illustrations Fifth Edition. Price, $5.50 net. Philadelphia: P. Blakiston's So & Co., 1909.

CLINICAL MANUAL FOR THE STUDY OF DISEASES OF THE THROAT By James Walker Downie, M.B., F.F.P.S.G., Lecturer on Diseases o the Throat and Nose, University of Glasgow. Second Edition. Cloth Pp. 415, with 104 illustrations. Price, $3.25. New York: Th Macmillan Co., 1909.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By Jame Nevins Hyde, A.M., M.D., Professor of Dermatology in Rush Medica College, Chicago. Eighth Edition. Cloth. Pp. 1100, with 223 engravings and 58 plates in colors and monochrome. Price, $5. Philadelphia: Lea & Febiger, 1909.

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Original Articles

A METHOD OF COMPLETE NEPHROURETERECTOMY IN WOMEN *

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Removal of the kidney and ureter simultaneously is closely associated with nephrectomy, an operation first planned and successfully performed by Simon, in 1869. I have failed to find by frequent surveys of the literature of this subject during the past ten years any records of nephroureterectomies that necessitate alterations in the tables and case references contained in my paper read before the Southern Surgical and Gynecological Association in 1899.[1] This table credited H. A. Kelly, of Baltimore, with performing the first nephroureterectomy, Dec. 18, 1895, for tuberculous ureter. During the following month the late A. J. McCosh, of New York, performed the operation for tuberculosis of the kidney

ROUTES

Early in the history of this operation the two principal routes employed were the loin extraperitoneal and the transperitoneal. The greater danger of infection that frequently attends the transperitoneal route would reasonably prevent its selection. In 1901 I collected reports of fourteen cases for a paper read that year.[2] Three cases were added to these, making seventeen in all, in my paper of 1903.[3] Seven of the operations had been performed by the loin extraperitoneal, five by that route plus the vaginal and five by the transperitoneal. Kelly, Noble, Montgomery, Ill and myself have recommended the loin extraperitoneal and the vaginal, but no two recommended the same technic.

I shall not discuss the indications for removal of the lower end of the ureter, for they are probably familiar to all. In many cases exsection of the vesical portion will not be necessary, and in some even ligation of the stump of the duct next the bladder wall will not be necessary. But for dealing with the lower two inches of it, particularly for its removal in women, the vaginal incision offers the greatest facility except, possibly, in the virgin. Most operators employing these two combined routes have begun with the renal end by an incision through the tissues down to the ureter parallel to that duct, and making the vaginal incision late in the procedure.

Montgomery[4] made the vaginal opening first, having in view ligation and division of the lower end of the ureter and facilitating upward removal of the lower end by traction, but he abandoned the attempt and proceeded from the loin. Another modification made by him was the employment of the transverse loin incision of König.

Ill[5] removed the kidney through a loin incision, dissecting the ureter well down, and made a second incision in the semilunar line, just above the pubes. Through the latter the peritoneum was pushed back until the iliac vessels were reached, continuing the dissection of the ureter to the iliac artery. He then tied the uterine artery in front of his finger and the internal iliac artery behind it, opening the vagina along the line of the ureter, which was completely loosened. The ureter was finally ligated and severed and the lower part drawn into the vagina, where it was ligated next the bladder and removed.

G. H. Noble[6] removed the kidney and ureter in one piece, separating the kidney and upper portion of the ureter through the loin incision, and after separating the lower portion through a vaginal incision pulled it upward and out through the loin wound. Nov. 24, 1897, Garceau[7] did a ureterectomy, a month after a nephrectomy, in which he loosened the ureter to the broad ligament from above and then through a vaginal incision pulled the duct, severing its attachments and removing it after ligation.

Nov. 7, 1902,[3] in doing a complete nephroureterectomy, I began it by making an incision through the anterior vaginal wall to the ureter, which structure was loosened to its entrance into the broad ligament posteriorly, ligated next to the bladder and severed. Then through the usual loin incision, five inches in length in this instance, the kidney and ureter were separated and removed. In reporting this case[3] on page 320, I referred to the vaginal route being first used, as follows: "This plan I had believed to be best, and when I saw Montgomery do it, although he failed to ligate the bladder end of the ureter, I was convinced." I also recommended the König incision.

TECHNIC

I then adopted the following technic, which has been employed in each instance. Below appears the histories of four cases operated on by it.

The patient is put on the operating-table in the Simon position and the loin area prepared for operation. The preparation of the perineum, vulva, pubes and vagina as for any vaginal operation is now made. The anterior vaginal wall is next exposed and a vulsellum grasps and pulls the cervix downward and toward the introitus to locate the interureteric ligament. On the vaginal wall, exactly opposite the ureterovesical junction, will now be seen a small dimple. From the outer side of this dimple an incision is made downward and outward along the course of the ureter. It should be from one to one and a half inches in length. By careful blunt dissection the ureter is easily exposed and hooked down. If it be considerably enlarged, as it commonly is in tuberculous cases, this procedure is very easy. A metal hook or a piece of suture material is passed around it, and gentle traction made on it facilitates its liberation through the broad ligament. If it is very large, one-half to three-fourths of an inch in diameter, it may be advisable either to ligate or to clamp and sever it, after which it becomes more mobile and can be moved far outward to facilitate its liberation. If exsection from the bladder be thought desirable it may now be done, one layer of sutures being placed first, and the second, if deemed necessary, after the exsection is made and the first layer of sutures tied. A ligature is now placed on the free end of the ureter if a clamp was used.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Bovée, J. W.: South. Surg. and Gynec. Assn., 1899, xii, 14.

[2] Bovée, J. W.: Tr. South. Surg. and Gynec. Assn., 1901, xiv, 201.

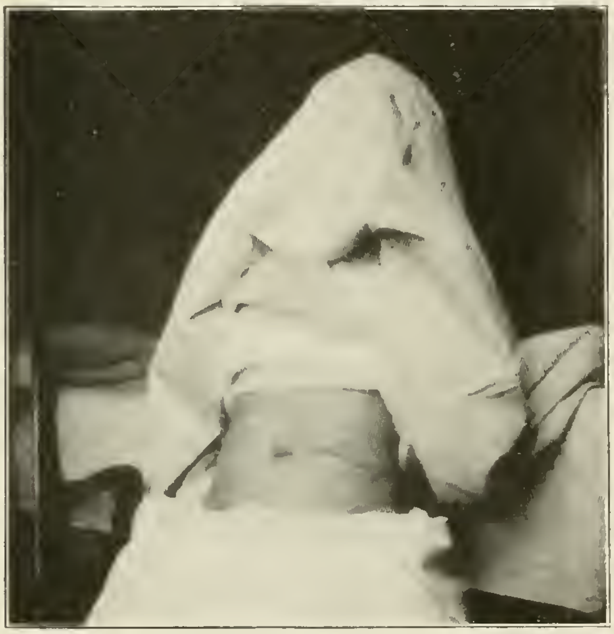
[3] Bovée, J. W.: Am. Gynec., 1903, ii, 311.

[4] Montgomery: Tr. Am. Gynec. Soc., 1900, xxv, 290.

[5] Ill: Tr. Med. Soc., New Jersey, 1899, p. 83.

[6] Noble, G. H.: Am. Jour. Obst., 1900, xli, 462.

[7] Garceau: Boston Med. and Surg. Jour., 1899, cxli, 655.



Cicatrix two weeks after operation.

The patient is next changed to the supine position, and opposite the lower pole of the affected kidney a transverse (König) incision four inches or longer is made through the extraperitoneal portion of the abdominal wall. Its inner end need not be inside the semilunar line. The kidney is now liberated and brought out through this incision and its vessels clamped or tied either before or after it is brought out. By gentle traction on the kidney the fingers are assisted in separating from surrounding structures the ureter to the pelvis, and it is pulled out of the wound with surprising rapidity and facility. If careful dissection has not been accompanied by escape of pus from the kidney or ureter or from a perinephritic abscess, little attention to drainage will be necessary. In my cases I have in two instances felt compelled to employ both loin and vaginal drainage. In the others a piece of gauze has been pushed, by means of a uterine sound, downward along the ureteral tract through the vagina and the vulva, only a strip being left in the abdominal portion of the cavity created by the operation. The loin wound in such cases was completely closed by buried animal sutures. The illustration shows the appearance of the cicatrix when the dressings were removed two weeks after operation. The gauze protruding from the vagina is usually removed fractionally by daily pulling it down after the second day. If loin drainage is used it is preferable frequently to employ the stab wound space for it and close the König incision entirely.

This plan markedly reduces the duration and traumatism of the operation, two points of great consideration in very delicate patients. It facilitates to a remarkable extent liberation of the lower portion of the ureter, provides simple and dependent drainage, permits removal of the kidney and ureter in one piece; allows closure of the wound, except when much pus is spilled; does not exhaust the patient by changing her position during the operation—often a waste of time—and simplifies the preparation of the patient for operation. It does not require any special apparatus for detection of the lower end of the ureter or for its exposure and liberation, although Hawkes[8] considers catheterization of the affected ureter an important preliminary step. The loin incision usually heals promptly and with a small cicatrix.

REPORT OF CASES

Case 1.—*Patient.*—Mrs. B., white, aged 31, primipara, was referred to me by Dr. I. F. Watkins, of Montgomery, Ala. Patient had been ill nearly two years; during this time she had suffered with an unbearable burning and aching sensation over the area of both kidneys, over the bladder and along the course of the right ureter; she had had chills, fever, night sweats and had lost considerable weight.

Examination.—An *x*-ray examination was made by Dr. Ervin, no evidence of the presence of calculi being found. She was then sent to Columbia Hospital for Women, and on July 8 an examination was made under anesthesia. The right kidney was found to be below the ribs and enlarged to one and a half times the normal size. The lower three inches of the right ureter was enlarged and nodular; the left kidney and ureter seemed to be normal in size and position. Segregation of urine by means of Harris' segregator showed tubercle bacilli of the right side, the bladder was much thickened and the urine contained pus and blood.

Operation.—On July 12, 1907, nephroureterectomy was performed. Through a vaginal incision in the right broad ligament the ureter was ligated close to the bladder and separated from that viscus and broad ligament. The abdominal incision, about four inches in length, was made transversely about two inches below the last rib and included about one inch of the anterior margin of the quadratus muscle. After isolating the kidney and the remaining portion of the ureter from above these structures were removed through the abdominal incision in one piece. The peritoneum was accidentally opened at one point not more than one-tenth of an inch in diameter, which was closed with catgut suture. With the exception of a piece of gauze running through the vulva and vagina into the broad ligament opening, no drainage was used. The right kidney was enlarged and contained a number of pockets in which was flaky and cloudy urine; the enlargement of the kidney was found to be not more than 25 to 50 per cent.; the right ureter was enlarged in some places more than others. This enlargement existed close to the bladder and one inch below the pelvis of the kidney. A slight enlargement of the vesical portion of the left ureter was noticed.

Recovery.

Case 2.—*Patient.*—Mrs. H. B., white, aged 41, had one brother who died from an unknown cause; her father died forty years ago of pulmonary tuberculosis. She has a son aged 3 with suppurating cervical glands, believed by her family physician to be tuberculous. She suffered from an abscess of the breast just after her eighth and last confinement, in February, 1907. This abscess had to be lanced several times and required four months for its cure, during which time she had chills and fever. In the following August she suffered from pain in the bladder and frequent micturition, noticing several times slight discoloration of the urine with blood. December 12 pain in the bladder was severe and she expelled from it several ounces of pus with entire relief. In January, 1908, and each month afterward, she suffered a similar attack. Frequently after August, 1907, she had noticed blood but not pus in the urine. Early in October, 1908, she suffered from another attack of chills and fever and noticed a swelling in the left side of the abdomen, and that while lying on the bedpan and pressing on the swelling pus would escape from the bladder with the urine. The patient thought that she had lost fifty pounds in weight since the birth of her child.

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[8] Hawkes, E. Z.: A Method of Complete Nephroureterectomy for Renal Tuberculosis in Women, The Journal A. M. A., Aug. 8, 1908, ii, 459.

Examination.—This revealed an enlargement about six inches in length in its longest diameter in the region of the kidney and, extending from it to the bladder, the ureter was enlarged to about one and a half inches in diameter throughout its entire course. The bladder wall was much thickened. Urinalysis showed a large amount of pus, which on segregation, was limited to the affected side. Several bacteriologic examinations failed to demonstrate the presence of tubercle bacilli. Nevertheless, the diagnosis of tuberculosis of the left kidney, ureter and bladder was made.

Operation.—On Nov. 6, 1908, the kidney and ureter of the left side were removed by the method already mentioned. Longitudinal incision of the kidney after its removal showed at least ten pockets filled with thick blue pus; the ureter contained pus of the same appearance. Two sections of the kidney were examined by the pathologist who reported negatively as to tuberculosis both as to tissue and contained pus. He considered it a picture of pyelonephritic abscess formation and purulent infiltration.

The patient made a very good recovery.

Case 3.—*Patient.*—Mrs. A., aged 25, Russian, secundipara, admitted to Columbia Hospital for Women, Dec. 3, 1907, for pain in the right side and irritability of the bladder. She had passed bloody urine and had missed three menstrual periods.

Examination.—A cystoscopic examination found the bladder mucosa markedly reddened, the bladder wall thickened, both ureters palpable through the vagina, the right being the size of a lead pencil and hard and the left smaller and not so distinct. Through the abdominal wall the right could be felt all the way to the kidney, the left was not traceable in this manner. A mass was felt in the region of the right kidney of about twice the size of that organ, as the uterus was considerably enlarged pregnancy was diagnosed, she was kept under observation until Jan. 11, 1908, when she left the hospital to which she returned at the time of the birth of her child, May 15.

She was readmitted to the hospital Oct. 20, 1908, suffering with pain in her right side, in the bladder and frequent and painful micturition. The abdominal mass had now increased to a size in excess of that of the head of a new-born infant.

Operation.—Examinations in this instance were negative as to tuberculosis, and on November 10, 1908, complete nephoureterectomy was done by the method described in this paper. The right kidney, about 10 inches in length and about 12 inches in transverse circumference, contained many separate abscesses beside purulent inflammation of the calyces and pelvis of the kidney. The pus was very thick, and in some instances granules of a pale blue color were noted. No calculi were found. The ureter was 1/2 to 3/4 inches in diameter, though having but little more than usual measurements at the lower end and one inch in diameter at the upper end. The transverse incision was directly opposite the umbilicus and about six inches in length.

Recovery.

Case 4.—*Patient.*—M. B., aged 29, colored, multipara, was admitted to Columbia Hospital for Women, Jan. 4, 1909. She was suffering from frequent micturition attended by pain at the beginning and ending of the act, which had existed nine months. Blood had usually been noticed in the urine during the past month.

Examination.—The left kidney and ureter were slightly enlarged, the bladder thickened and inflamed and tubercle bacilli were found in the urine from that side. The daily quantity was 705 c.c.

Operation.—Jan. 19, 1909, nephroureterectomy was performed by loin extraperitoneal and vaginal routes. The peritoneum was opened for a half inch accidentally and inspected near the opening. It appeared normal and the wound was at once closed. A thickened and nodular ureter and a pyonephrotic kidney were removed in one mass and without leakage.

The patient gradually failed and died March 1, 1909. At an incomplete necropsy next day the following points were noted.

Postmortem Examination.—The parietal and visceral peritoneum were generally and thickly studded with small, white, pinhead-sized tubercles which were most numerous around the area from which the kidney had been removed and the adjacent coils of intestine. Adhesions were rather numerous and firm. A small quantity of yellow pus was present in the pouch of Douglas. The right kidney, small, soft, and somewhat injected, appeared to have undergone some parenchymatous degeneration, but there were no gross lesions of tuberculosis. The walls of the ureter were not thickened. The bladder wall was thickened and the interior studded with older tubercles and ulcers. The lungs, liver, heart and spleen were all pale, soft and bloodless, in harmony with the emaciation presented.

The Rochambeau.

CARDIAC THROMBOSIS

THE CLINICAL AND PATHOLOGIC FINDINGS IN THREE CASES *

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There has been but little added to the literature of true heart thrombi since the very complete monographs of Robinson and Welch. Desultory reports of such conditions are not uncommon, but, as Welch has pointed out, many of the observations on so-called heart thrombi are really records of postmortem heart clots entangled in, but not organically attached to, the muscle columns and trabeculæ. True heart thrombi, whether of the pedunculated or ball variety, are of such uncommon occurrence that their occasional incidence would seem to warrant study of the clinical and pathologic sides of cases in which they have been found postmortem. And this seems especially important in so far as the possibility of antemortem diagnosis carries with it a not altogether worthless bearing on the prognosis in a given case. It does not appear necessary here to point out the practical value of antemortem diagnosis of this condition with regard to the application of therapeutic measures.

The term "cardiac thrombus" must be reserved for a solid or partly solid structure, primarily formed from blood elements, which develops in one or more chambers of the heart during life. Such a mass may be attached to the cardiac wall by a more or less altered base, or may exist as a free foreign body within a heart cavity. When cardiac thrombi are measured by this standard they are uncommon postmortem findings. This applies especially to those of the free, or "ball" variety.

Of the pedunculated variety of cardiac thrombus, Welch was able to discover thirty-three cases in 1899, while a much smaller number of "ball thrombi" are on record. Flat, broad-based, mycotic thrombi are more common. They may be the beginning of either of the two varieties mentioned.

The mode of formation of heart thrombi has been long a subject of difference. The early false conception of what was really meant by true thrombi was doubtless responsible for much confusion. The closer study of recent cases, from histologic standpoints, coupled with added knowledge of the chemical interaction of certain constituents of the blood, has elucidated some of the problems which vexed the early investigators. It is now commonly accepted that while in the production of a thrombus the individual exciting causes may vary widely, there are certain basic principles to which thrombus formation within the heart conforms. The first of these principles is that some damage done to the endocardium is concerned. This may be the result of bacterial, toxic or purely mechanical agents. Whatever the individual cause, the liberation of so-called thrombokinase, acting on the thrombogen in the circulating blood, with the formation of more or less fibrin, results in blood-clotting. This clot may be minutely local or early involve gross areas. The second factor in production of thrombi appears to be that of an increase of the hemagglutinins in the blood stream. This may be brought about by bacteria, either locally involving the endocardium or freely circulating in the blood stream. It would also seem that the introduction of certain proteid poisons into the circulation might be responsible for increased agglutination of red cells, with thrombus formation. In the light of recent researches, it does not seem that the increase of blood platelets in itself has any definite bearing on either agglutination or blood coagulation. It is not impossible, however, that development of necrotic foci locally in the endocardium as a result of microbic invasion might release into the blood stream hemolytic toxins, the result of which would be an increase of the thrombokinase in the heart cavities with coincident blood clotting by acting on blood elements. The third factor in the production of thrombi is that of slowing of the blood stream. Changes in direction of the stream with the formation of eddies may also have some bearing on the formation of thrombi in certain definite localities, as, for example, in the auricular appendages or between the muscle columns of the ventricles.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

It might be of value to consider briefly the bearing of certain intracardiac and systemic conditions on the production and development of heart thrombi. The condition appears to be relatively infrequent in the majority of infectious diseases. It would seem, from tabulated statistics from various autopsy records in this and other countries, that, with the exception of influenza, tuberculosis, and perhaps rheumatism, cardiac thrombi are extremely uncommon findings in infectious disease. There is reason to doubt, however, the statement that cardiac thrombi are a rarity in syphilis, as I shall attempt to show later. Certain blood states are occasionally complicated by cardiac thrombosis, as, for example, chlorosis, leukemia and pernicious anemia. In the cachexias resulting from cancer (chronic), malaria, and the like, thrombi sometimes occur. Valvular lesions of the heart itself are usually secondary to infective processes in the endocardium. There is not uncommonly development of thrombi from such with vegetations as primary origin. Their organization and extension or contraction may be responsible for the valvular inefficiency or for insufficiency of the myocardium itself. Some writers have attempted from the meager statistics at hand to show the definite relationship of the development of heart thrombi to certain valvular disturbances. The much-quoted tables of Pawlowski would seem to demonstrate thrombosis of the left auricle was about five times as common as that of the right, and about ten times as common as in the left ventricle. Primary thrombosis of the right ventricle appears to be unknown. The usual cardiac finding, apart from general muscular insufficiency, particularly localized in one chamber wall, appears to be mitral stenosis. This applies particularly to cases of "ball thrombi." It is to be readily appreciated how obstruction at the mitral orifice mechanically alters the left auricular circulation, that chamber being especially suited to early sluggishness of its blood content. It is not infrequent, however, to find heart thrombi in the left auricle where there is no disablement of the mitral orifice—indeed, no apparent primary cardiac lesion whatever.

The thrombi are variously located. The majority spring from the septum, the foramen ovale, and the auricular appendage. It is possible, however, to have their bases at any part of the endocardium. The valve flaps do not escape. Thrombi formed with infectious vegetations as their bases may thus seriously interfere with the function of the valve flaps and aggravate, mechanically, a lesion otherwise of but moderate degree.

The condition of the arterial tree in general doubtless influences the formation of thrombi in the heart. This is especially true where a high grade of sclerosis exists generally, with the presence of atheromatous patches on the endocardium. It is to be expected, then, that the majority of cardiac thrombi are found in patients past the middle of life. This rule is not, however, absolute. Pawlowski's table shows two cases of pedunculated thrombi in patients below the age of 20, and Keating mentions the occurrence of thrombi in children afflicted with various infectious diseases.

The symptomatology of cardiac thrombosis varies with the location of the foreign growth within the heart. It is commonly admitted that, while the condition may be suspected during life, it can not be accurately diagnosed. Several authorities, notably Laennec, have held, however, that when in the course of a cardiac lesion the signs become anomalous and confused, with practical loss of the clinical picture of either definite cardiac lesion or typical cardiac inadequacy, one should suspect the possibility of thrombus formation. The signs and symptoms are those of impeded circulation. These seem to be most marked when the thrombus is located in the auricles. The thrombi located here are apt to be larger and to extend through the cardiac orifices into neighboring chambers. The inability of the more or less weak auricle wall to resist back-flow of blood and dilatation soon brings about pronounced alterations in the general circulation.

The three cases furnishing the basis of this communication occurred during the past two years at the University Hospital (Professor Dock's service). The cases were all of such interest that one might be pardoned submitting a rather full report of them. Of the three cases, the lesion was correctly diagnosed antemortem in one. Two patients were males, one female. Two were negroes. The ages were, respectively, 48, 56 and 60 years. The three cases exhibited, clinically, cardiac valvular lesions, the mitral flaps appearing to be the seat of the primary process. The reasons given for entering the hospital were shortness of breath, pain about the heart and the region of the stomach, general weakness, cough, with sputum, cyanosis, edema, and palpitation.

REPORTS OF CASES

CASE 1.—*Patient.*—L. J., negro, aged 43, gardener, entered the hospital, Out-Patient Medical Clinic, May 23, 1907, on account of extreme shortness of breath, precordial pain and distress and weakness.

History.—As is frequently the case in these patients, little could be obtained. The patient had had gonorrhea several times and there was a strong suspicion of lues. He had been well up to within two months of coming to the clinic. He then began to note weakness on exertion, shortness of breath and cough. There was abdominal discomfort in the left lower quadrant of the abdomen, although his bowels were regular. His appetite became poor and there was a tendency to belching of gas.

Examinations.—The dispensary examination revealed a rather well-built man with cyanosis of moderate grade at the ears, lips and finger tips. The heart was slightly enlarged in all directions. At the apex, the first sound was impure, and the second roughened. Both tricuspid sounds were impure, but not so harsh as the mitral sounds; the second pulmonic was very sharp and rough; there was a soft systolic bruit over the aortic area; the heart rhythm was very irregular; there was moderate sclerosis of the radials; the pulse was somewhat small, irregular and weak. The blood pressure, registered by the Stanton (12 cm. cuff) systolic 165 mm. Hg., diastolic, 118 mm. Hg. The lungs were negative.

The patient was placed on a mild diuretic and given saline cathartics. He left and was lost sight of for about a month, when he again came for examination. The shortness of breath, especially on exertion, was pronounced; there was great weakness and cough. The heart examination revealed no greater enlargement than when the patient was first seen. The sounds at the apex were now clear and distinct, and no murmurs were heard, although there was roughening of the mitral second, and both sounds were astonishingly sharp. There was noticeable accentuation of the second pulmonic sound, and a faintly heard systolic bruit was made out at the aortic area. The heart exhibited marked arrhythmia; there was no peripheral edema, nor enlargement of the liver or spleen. The pulse was small and very irregular. Strychnin and Carlsbad salts were ordered and rest insisted on. The patient then disappeared for about ten days.

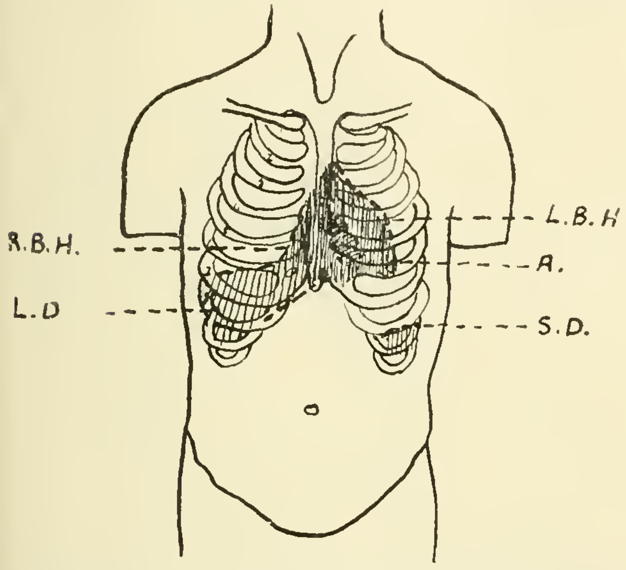

Fig. 1.—Case 1: Outlines of percussion dulness when patient entered hospital. L. B. H. left border of heart; A. apex beat; S. D. splenic dulness; L. D. liver dulness; R. B. H. right border of heart.

At his third appearance it was evident that he was in great distress. The cyanosis, cough, dyspnea, abdominal pain and weakness were extreme. He was ordered into the medical ward. At entry there were no murmurs heard over the precordia. The aortic sounds were very weak; the heart was somewhat enlarged in both directions (Dr. Van Zwaluwenburg); the systolic blood pressure registered with the Stanton (12 cm. cuff) 115 mm. Hg.

The patient was put to bed and his condition remained unchanged for twenty-four hours. At that time I was called to see him on account of his complaining of great pain in breathing, across the mid-epigastrium and the lower left axilla. He lay in the passive dorsal position, with eyes partly closed; his expression was anxious in the extreme; lips and ears were slightly cyanosed, but presented rather a striking degree of pallor; large drops of sweat stood on his forehead; the extremities were moist, without edema; the pupils were equally dilated, but sluggish.

Heart: Apex in fifth space, just outside the mid-clavicular line. The right border extended slightly beyond the right edge of the sternum at the fourth right interspace; the right border could not be made out higher up. The upper boundary on the left was at the upper edge of the fourth rib, in the left parasternal line; the left edge was made out about 1 cm. outside the mid-clavicular line in the fifth left space. (Fig. 1.) On auscultation the sounds were very weak at the apex; the first was murmurish. The second pulmonic was accentuated and divided. It was very difficult to make out the sounds over the base; the aortic sounds were very weak. There was moderate arrhythmia, with occasional extrasystole. The radial pulse was very small, irregular, but coincident with the heart beat. The vessels of the neck, especially on the right, were moderately engorged, but positive pulsations were not noted in the jugulars. The blood pressure was 116 (Stanton, 12 cm. cuff). Liver and spleen not enlarged.

Lungs: Pleuritic friction in the left axilla and back, with diminished resonance in both lower backs, more on the left.

Abdomen: Tense and difficult to examine, especially full in the mid-epigastrium; deep palpation impossible on account of muscle spasm throughout; there was pain on moderate pressure in the epigastrium and in the left lower quadrant. Catheterization revealed stricture in deep urethra.

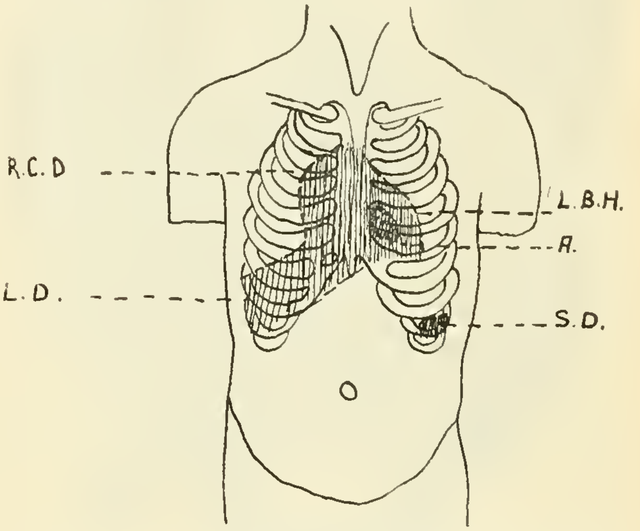

Fig. 2.—Case 1: Outlines of percussion dulness two days before death. (Postmortem: Thrombosis of right and left auricles.) L. B. H. left heart border; A. apex; S. D. splenic dulness; L. D. liver dulness; R. C. D. right cardiac outline to right of sternum.

The man was given morphin, enemata, and cathartics; ice was placed locally over precordia and left thorax. The following day his temperature rose to 101 F. in the morning and restlessness was extreme. It was impossible to keep the man in bed, the greatest relief being when he was walking about. His expression was frightened; his face and neck a dusky pallor and covered with huge drops of cold sweat; breathing audible and of the Cheyne-Stokes type. Bowels had not moved in spite of cathartics and enemata. Dyspnea and abdominal pain were marked. The breathing was distinctly audible throughout the ward.

The heart showed distinct changes from the day previous. (Fig. 1.) The apex beat could neither be seen nor felt. By auscultation it was made out in the fifth left space, just within the left mid-clavicular line. The heart had, however, greatly enlarged towards the right, and the enlargement was of peculiar outline, when associated with other clinical findings. In the fifth right space the right cardiac border could be made out nearly three fingers' breadths to the right of the sternum. The line of dulness extended upwards at about the same distance from the right edge of the sternum almost to the second rib, where it curved rather sharply inward to meet the sternum at the angle of Ludwig. There was slight outward bulging in the second and third spaces. This atypical rightsided enlargement of cardiac dulness was not associated with noticeable venous engorgement of neck vessels and there was no positive venous pulsation in the jugulars. Liver and spleen were negative; there was no peripheral edema. (Fig. 2.) On auscultation, the sounds at the apex were weak. A soft, blowing, systolic bruit could, however, be made out at the mitral area, the systolic bruit being well heard in the axilla and the left back. Over the tricuspid area the murmur with the first sound became louder and more prolonged. It was carried well up the left edge of the sternum. At the third left costosternal junction there was a suggestion of soft, blowing, diastolic bruit. The sounds over the base were audible with difficulty. The second pulmonic was divided, and a late diastolic bruit was made out. In the aortic area the sounds were only occasionally audible. There was marked arrhythmia—a veritable "delirium cordis." The radial pulse was barely palpable, rather quick and did not appear to differ in rate with that of the heart. The lung examination revealed pleurisy on the left with airless tissue in the back. The abdomen was still rigid and tender. The bowels could not be made to respond to purgatives or enemata.

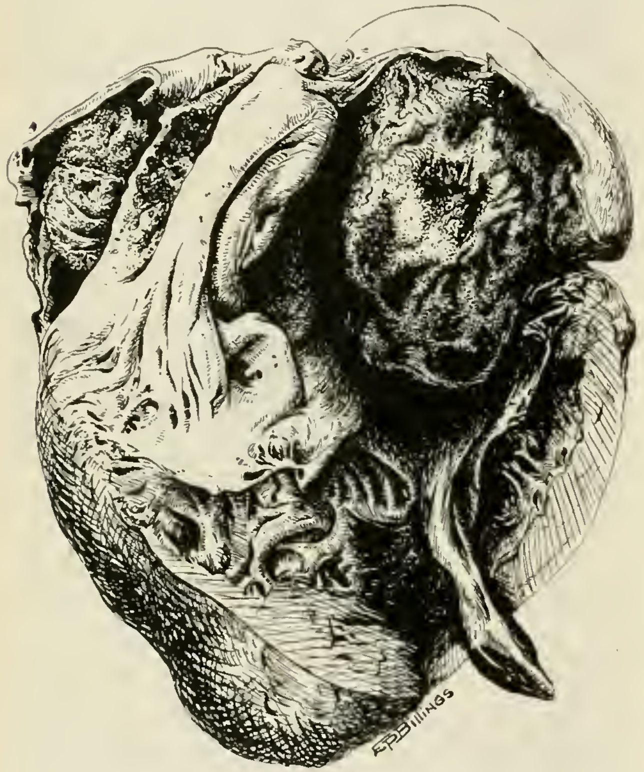

Fig. 3.—Case 1: Heart showing thrombus in right auricle extending through the tricuspid orifice into the right ventricle. (From the Pathological Museum of the University of Michigan, Specimen No. H. 46. Courtesy of Dr. Aldred Scott Warthin, Director.)

The condition described continued about the same for another day and then the patient suddenly expired while being bathed.

Postmortem Examination (Prof. A. S. Warthin, prosector).—Seven hours after death.

Clinical Diagnosis: Mitral, tricuspid and aortic regurgitation; suspected thrombosis of right auricle; pleurisy, pneumonia (terminal); nephritis; cystitis; intestinal obstruction; infarction.

Pathologic Findings: Heart: Subepicardial fat increased; small subepicardial hemorrhage on anterior surface; few on posterior surface; ventricles contracted; both auricles filled with currant-jelly clot. Right heart: Auricle enormously dilated; extended about four fingers' breadths beyond right sternal margin; muscle fibers separated. Ventricle wall measured 4 to 6 mm. On opening the right ventricle, there was seen a clot extending through the tricuspid orifice, in parts firmer than in others. The base of this clot was adherent to the wall of the right auricle, filling the ear. It was dark yellow, tough and fibrous. On cutting into this base there were cyst spaces filled with broken-down and altered blood. These older clots were gradually merged into more recent clots extending continuously through the tricuspid ring. (Fig. 3.) Left heart: In the left auricle was a large currant-jelly clot attached to a firmer organized clot in two places. The main attachment was in the ear of the auricle, and the smaller over the posterior wall. There was a rather recent thrombus at the mitral ring. Just between the mitral flaps was a firm white clot, entangled between the chordæ tendineæ and attached to the clot in the auricle. This was continuous to a clot extending to the aortic ring. At the base of the clot on the mitral valve was an area of sclerotic endocardium. The chordæ tendineæ were not retracted or thickened. The ventricular wall was light brownish-red, slightly cloudy and firm; there was slight fatty degeneration. (Fig. 3.)

Lungs: Recent hemorrhagic infarcts; (embolic) passive congestion and edema.

Pulmonary vessels: Organizing thrombi.

Liver: Extreme passive congestion; nutmeg liver and icterus.

Kidneys: Cloudy swelling; small healed anemic infarcts; recent sclerosis of renal vessels.

Adrenals: Chronic passive congestion; excessive fatty degeneration.

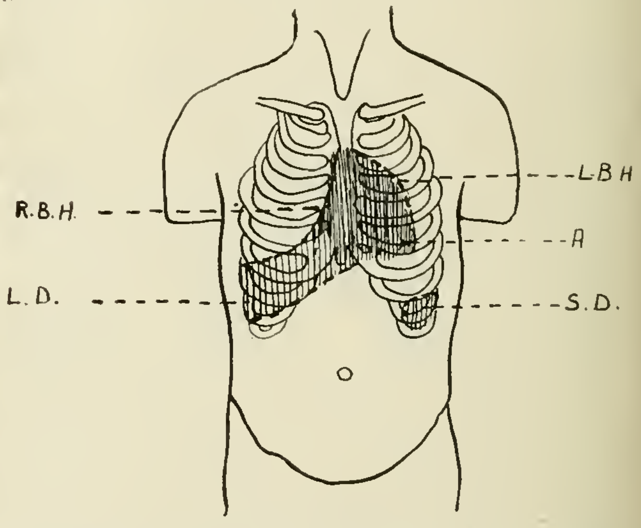

Fig. 4.—Case 2: Outlines of percussion dulness. (Postmortem: Thrombosis of left ventricle.) L H B, left heart border; A, apex beat; S D, splenic dulness; L D, liver dulness; R H B, right heart border.

Pancreas: Atrophy; sclerosis of vessels; some fatty infiltration.

Prostate: Chronic prostatitis.

Spleen: Chronic passive congestion; anemic infarction.

Pathologic Diagnosis.—Summary: Cardiac thrombosis; chronic interstitial myocarditis; obliterative endocarditis, probably syphilitic; arteriosclerosis; thrombosis of pulmonary vessels; hemorrhagic infarcts of lungs; anemic infarcts of spleen and kidneys; chronic passive congestion of all organs.

Case 2.—*Patient.*—J. B., male, aged 56, merchant, American, was brought to the hospital by his brother on account of "heart disease," "Bright's disease" and addiction to morphin and possibly other drugs.

History.—Family history negative so far as could be determined. Patient had scarlet fever as a child; diphtheria at 15 (ill six weeks; delirious); malaria in southern Missouri, at 26, and attacks continued for some time after coming to Michigan; paroxysms every other day at first, then daily; "remittent fever" at 44; denied gonorrhea and lues. Took Keeley cure at Dwight two years previous to entering the hospital and had not taken intoxicants since. Previous to that time had been a hard drinker and had taken Keeley cure twice with relapses. He had a cough for fifteen years and at times it was very severe, the patient having raised much sputum, and e said some of it was deeply blood-stained; of late had had inflammation of the bladder" and incontinence of urine.

Examination.—A large, heavy man of asthmatic type. Skin f face sallow and dusky; slight cyanosis of lips, chin, ears, nger tips; slight edema of feet and legs; coughed frequently nd raised mucopurulent sputum.

Thorax: Large, deep, short, broad. Heart: Diffuse pulsa- on in the region of the left nipple; apex beat not distinctly een or felt. Dulness, on the fourth rib, outward to the mid- avicular line, and inward to just beyond the right edge of the ernum, a total width of 14.5 cm. (Fig. 4.) Auscultation: ounds very weak at apex; pulmonary second very weak; ortic second weak, with soft diastolic murmur (auscultation fficult on account of the harsh breathing; radials very small; nd pulsations irregular. Lungs: Harsh breathing through- it, with occasional crackling râle; diminished resonance in e right back.

Liver dulness small.

Abdomen: Somewhat distended; dull in the dependent irts.

Blood pressure: Systolic, 152 mm. Hg.; diastolic, 108 mm. g. (Erlanger, 15 cm. cuff).

Urine: Small amounts of albumin with few granular and aline casts; pus with numerous cocci; few red blood cells.

Blood: Reds, 5,280,000; whites, 8,600; Hg. 95 per cent. llquist.

Sputum: Thick, tenacious, mucopurulent, copious; many rge cocci in pairs; many small cocci in groups; many poly- iclear leucocytes; many "heart failure cells" and some red ood cells.

The patient remained under observation for about three onths. At times there were periods of considerable comfort, ith frequent relapses. He finally developed extreme myo- rdial inefficiency, which, coupled with infarction and edema the lung, caused his death.

Postmortem Examination (Prof. A. S. Warthin, prosec- r).—Twelve hours after death.

Clinical Diagnosis: Dilatation of heart; stenosis and insuf- ciency of mitral valve; infarct of lung; hypostatic conges- on; chronic bronchitis; chronic nephritis; nutmeg liver; rminal pneumonia?

Heart: Enlarged in all directions; dilated and hyper- ophied; marked dilatation and hypertrophy of left ventricle; brous myocarditis and hemorrhagic infarction; sclerosis of ronaries, anemic infarction of ventricular wall, near the apex the left ventricle. In the left ventricle was a moderately rge thrombus, with organizing base, attached to the ventricle all. The ventricle was greatly dilated, and there was relative sufficiency of the mitral valves. The endocardium showed heromatous patches; the aorta was dilated and atheromatous; e aortic flaps were thickened and stiffened. (Fig. 5.)

Lungs: Chronic passive congestion; edema; old and fresh morrhagic infarcts; multiple emboli.

Spleen: Chronic passive congestion; atrophy; sclerosis.

Kidneys: Anemic infarct in stage of organization; chronic ssive congestion; chronic parenchymatous nephritis; multi- le embolic infarcts.

Adrenal: Congestion, with marked fatty change.

Liver: Nutmeg liver; early stage of cirrhosis (in part a ntral cirrhosis and in part of the atrophic type), small, iliary tubercles.

Testis: Edema; chronic congestion; small cysts in epi- dymis; calcified thrombus.

Pancreas: Fatty atrophy; increase of interstitial connective ssue; unusually large hyperemic islands of Langerhans.

Stomach: Chronic catarrhal gastritis.

Vessels: Sclerosis; atheroma.

Pathologic Diagnosis.—Summary: Cardiac thrombosis and farction; cardiac hypertrophy; relative mitral insufficiency; ronic congestion of all organs; hemorrhagic infarction of ngs; anemic infarction of kidney; early stage of hepatic rrhosis; atrophy of pancreas; arteriosclerosis and atheroma syphilis?).

CASE 3.—*Patient.*—M. C., female, aged 60; negress, house- ife, was sent to the hospital by her physician on account of hortness of breath, cardiac distress; chronic cough; swelling f feet and ankles and insomnia.

History.—Patient denies lues and gonorrhea; had not been ill much in life; always worked hard. About ten years ago she said she fell and broke leg; said she had had shortness of breath on exertion ever since; had had "weakness" in region of heart which prevented her moving about much or doing heavy work; about six months ago had a severe fright from house getting on fire. She became very short of breath afterward; felt very weak and could not lie down at night; ankles and legs began to swell; and recently thought that abdomen had become larger.

Examination.—Patient, a rather emaciated negress, propped up in bed, expression anxious; frequent cough; mucous rattle in throat; marked dyspnea; eyes injected; moderate cyanosis of lips, ears and extremities; tense edema to knees, with scaly eczema over legs; neck vessels injected and tortuous.

Thorax: Short, deep and broad; interspaces retracted during inspiration; thorax moved *en cuirasse*; right side below nipple much fuller than left; no Litten's shadow seen on either side; lung-liver border at seventh rib, mid-clavicular line. Percussion: Lungs, hyperresonance over both uppers with fair resonance in both axillæ. Auscultation: Large and small, moist and dry râles throughout, more especially on the left side. No alterations in voice transmission.

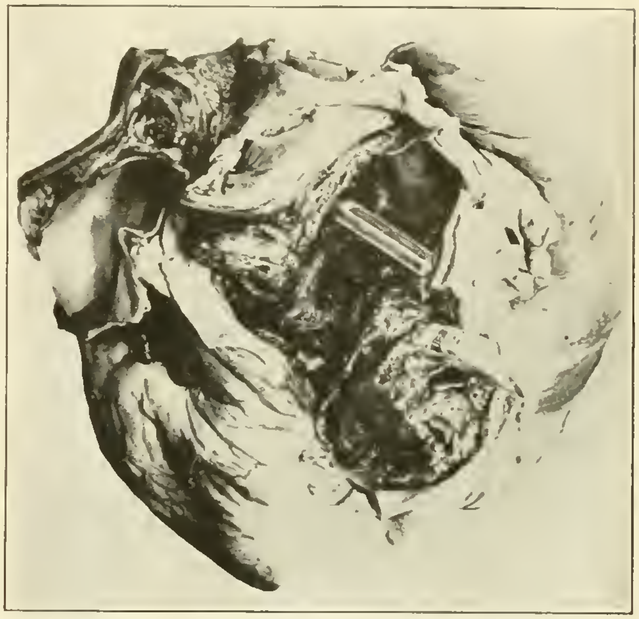

Fig. 5.—Case 2: Heart showing thrombus in left ventricle. (From the Pathological Museum of the University of Michigan. Specimen No. H. 65. Courtesy of Dr. Aldred Scott Warthin, Director.)

Heart: Apex beat in the fifth left space, 8.5 cm. from the median line; dulness extended two fingers' breadths to right of sternum in the fifth right space; one finger's breadth to right in fourth right space. The upper boundary of the cardiac dulness was at the upper edge of the fourth rib in the left parasternal line; the left edge was 11.5 cm. from the mid-line in the fourth left space. (Fig. 6.) There was noticeable pulsation in the middle line at the base of the xyphoid. Auscultation: First sound at apex was impure and occasionally divided; both features were more noticeable as one went toward the base of the xyphoid. The sounds over the base were very weak with the exception of the pulmonic second sound, which was moderately accentuated and murmurish. The radial pulse was small, quick, slightly irregular and compressible, with difficulty. The blood pressure was systolic, 242 mm. Hg.; diastolic, 168 mm. Hg. (Erlanger apparatus, 15 cm. cuff).

Abdomen: Rose three fingers' breadths above the level of the ribs; was rounded and circumference measured 92 cm. just below the navel. No pain points; no muscle spasm; no dulness in flanks. Liver, spleen and kidneys not felt. Glands negative throughout.

Urine: Slight traces of albumin, with small amounts of pus and blood.

Blood: Reds, 4,824,000; whites, 12,150; Hg. 95 per cent. (Tallq.).

Sputum: Yellow, ropy, thick and tenacious. Many polynuclear leucocytes and few heart-failure cells.

The patient was kept under observation about one month. She showed some improvement at the first part of her stay. Under appropriate medication, blood pressure became lower; orthopnea became less marked; the cardiac dulness diminished somewhat in size and the cough became less. About a week before her death she showed signs of failing cardiac action. Cheyne-Stokes breathing developed, edema of the lungs supervened and the patient died quietly. Towards the end of her illness she developed facial erysipelas. The heart again dilated, and a loud systolic bruit was audible at the apex. The sounds over the base continued weak. The neck veins became greatly engorged, particularly the left, external jugular, which pulsated noticeably.

Postmortem Examination (Prof. Aldred S. Warthin, prosector).—Performed eleven hours after death.

Clinical Diagnosis: Double mitral; cardiac dilatation and hypertrophy; tricuspid regurgitation; emphysema; pleural effusion (?), chronic congestion of kidneys; chronic interstitial nephritis; erysipelas facialis.

Heart: Pericardium adherent to border of left lung; tension greatly increased; 50 c.c. of turbid fluid in pericardial sac. The heart was enormously enlarged; there was great arching of the septum to the left; the heart lay nearly transversely. The right auricle was greatly distended and formed about one third of the entire heart size. The position of the heart was such as to rotate the pulmonary artery to an angle of 45 degrees. Between the pulmonary artery and the aorta was a thick, tendinous spot. The heart muscle was hypertrophic, with numerous atrophic fibers, however. It showed brown atrophy. The mitral valve showed an old sclerotic endocarditis. There was stenosis of the mitral flaps, of the true "buttonhole" type. In the left auricle was a moderately large organizing thrombus, attached by a broad base, at which point the endocardium was greatly thickened. (Fig. 7.) The right heart was markedly dilated, particularly the right auricle; the tricuspids were relatively insufficient. The aorta showed atheroma, marked sclerosis and calcification.

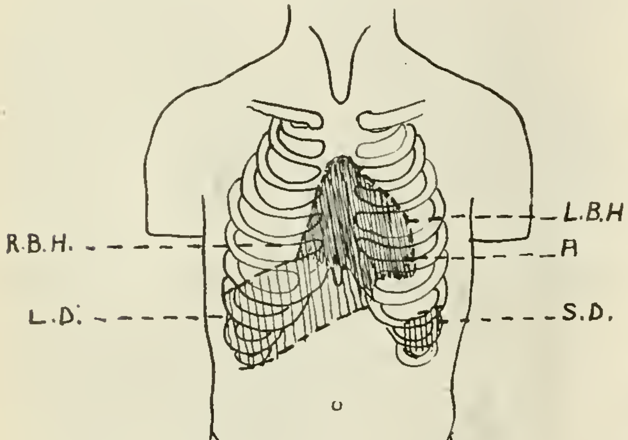

Fig. 6.—Case 3: Outlines of percussion dulness. (Postmortem "Buttonhole" mitral with thrombosis of left auricle.) L H B, left heart border; A, apex beat; S D, splenic dulness; L D, liver dulness; R B H, right heart dulness.

Liver: Extreme nutmeg liver; secondary cirrhosis.

Spleen: Atrophy and chronic passive congestion.

Lungs: Brown induration; edema; recent hemorrhagic infarcts; old calcified tubercle.

Kidney: Acute and chronic passive congestion; some atrophy and cloudy swelling; bacterial emboli in many of the small arterioles.

Adrenals: Passive congestion; atrophy.

Stomach and Intestine: Chronic passive congestion; stasis; gastritis and enteritis.

Uterine Wall: Fibroma.

Pathologic Diagnosis.—Summary: Erysipelas facialis; mitral stenosis; relative tricuspid regurgitation; thrombosis of auricle; dilatation of right heart; brown induration of lung; chronic passive congestion and atrophy of all organs; sclerosis and atheroma of aorta; healed tubercle in lung; slight goiter.

SUMMARY

Diagnosis.—The three cases here detailed present many features in common, while in certain respects they differ. The patients were past middle life. In all there was a fair possibility of syphilis. In each case the patient exhibited phenomena of cardiac insufficiency, in the main valvular. In all the cases, the mitral valves were affected. In but one was there stenosis. In this case, the stenosis was poorly manifested, clinically, with the exception of the early enlargement of the right side of the heart. In all the cases, postmortem examination showed the presence of emboli in various organs.

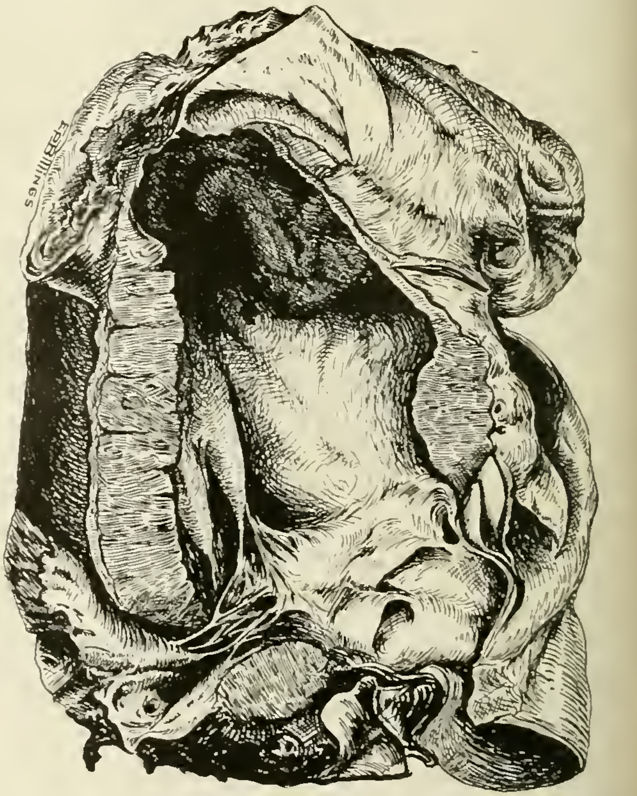

Fig. 7.—Case 3: Heart showing "buttonhole" mitral orifice with thrombus in left auricle. (From the Pathological Museum of the University of Michigan. Specimen No. H 71. Courtesy of Dr. Aldred Scott Warthin, Director.)

With respect to the thrombi themselves, a wide distribution is noted. In Case 1, the right heart, especially the auricle, was the primary seat of the thrombus. As circulation became interfered with, the mass extended into the right ventricle. There was, however, thrombus formation also in the left auricle, with a chicken-fat clot entangled in the chordæ tendineæ and interfering, at the end, with the free working of the aortic flaps. In Case 2, the ventricular wall gave rise to the thrombus. In this case, the signs of cardiac disease pointed strongly to the aortic valve being at fault, but postmortem the valve showed little change. In Case 3 is seen the rather typical, text-book heart thrombus, with mitral stenosis, impeded circulation in the left auricle, with pulmonary congestion and dyspnea early developing, together with early enlargement of the right heart. The termination occurred with the dilatation of the right auricle after the tricuspid "safety valve" had thrown too great a strain on the weakened auricle.

Before closing I wish to call attention to certain aspects of Case 1 which rendered antemortem diagnosis of auricular thrombosis fairly possible. It will have been noted that the case first appeared with a somewhat atypical cardiac condition, namely, slight enlargement of the heart, but associated with extreme dyspnea, precordial distress and cyanosis, together with more or less pallor. Various murmurs and alterations in the character of the valve sounds were discovered, but neither murmurs themselves nor their location or propagation were definite enough to warrant the diagnosis of any particular valve lesion. After the patient entered the hospital, it was observed that prostration, precordial distress, restlessness and dyspnea, developed out of all proportion to the clinical findings in the heart itself. At the same time sudden, severe pains in the pleura, lungs and abdomen were noted—these strongly suggestive of infarction from emboli. As the case approached its termination, all the signs of failing cardiac action appeared from the point of view of the heart examination itself, but outside the heart the clinical condition was most atypical. The heart examination pointed strongly to mitral and tricuspid leakage, but extracardiac evidences were strangely lacking. Cyanosis was rarely marked; peripheral edema was extremely slight—indeed, absent till just before death; congestion of the liver, with liver pulse, was clinically absent. The spleen was not engorged. I would also call attention to the condition of the neck veins. At no time did they exhibit more than moderate engorgement, even when the signs of tricuspid insufficiency had been established for at least two days. There was absolutely no positive venous pulsation in either jugular vein, nor were positive venous pulsations noted in other veins, nor in the liver. I offer as explanation of this phenomenon the suggestion that the regurgitation wave from the right ventricle was changed in direction, or, indeed, broken up entirely, by its impinging on the large and constantly increasing heart-clot in the right auricle. So long as the auricle itself was able to propel a moderate amount of blood into the right ventricle, the circulation was maintained. It was only when the thrombus intruded on the right ventricle through the tricuspid orifice that stagnation became so great in the auricle as to bring on sudden cardiac dilatation and death. It does not appear to me that dilatation of the auricle along with sluggish blood stream could absorb, as it were, systolic pulsation from the right ventricle after the tricuspids had given way. This condition would be manifested by far greater venous congestion—in the neck veins and peripherally in the liver and extremities—than Case 1 showed. This is admirably demonstrated in Case 3, in which there was a buttonhole mitral with thrombus in the left auricle. Here the early dilatation of the right heart was promptly shown by peripheral edema, enlarged liver, and congested, pulsating veins in the neck, in addition to early enlargement of the right heart. It would seem to me, therefore, that the antemortem diagnosis of certain heart thrombi is not altogether impossible if the physical signs are carefully observed and recorded. And of these physical signs I would lay especial stress on atypical peripheral vascular manifestations with the more or less characteristic auscultation and percussion signs in the heart itself. The manifestations of embolic process should always furnish significant information.

With respect to the treatment of cardiac thrombi when the diagnosis appears likely, there can be little said. The question of how soon the case will terminate fatally is the leading one. The suspicion of a thrombus being present in the heart completely changes the picture from the prognostic standpoint, and certainly limits one's hopefulness with regard to whipping into line by drugs a heart whose compensation only appears to be failing.

In the preparation of this paper, I have been greatly helped by the kindness of Prof. A. S. Warthin, of the Department of Pathology of the University of Michigan, and I herewith express my appreciation.

305 South State Street.

A NEW AND SATISFACTORY APPARATUS FOR ETHERIZATION IN OPERATIONS ABOUT THE FACE AND UPPER AIR PASSAGES *

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The problem of satisfactory anesthesia for operations about the face and upper air passages is worthy of study. The nature of the operations is such that no inhaler or cone can be kept constantly over the face and nose of the patient. It may be necessary to keep the mouth open throughout the operation. Under these conditions it has been impossible by the usual methods to produce a smooth anesthesia.

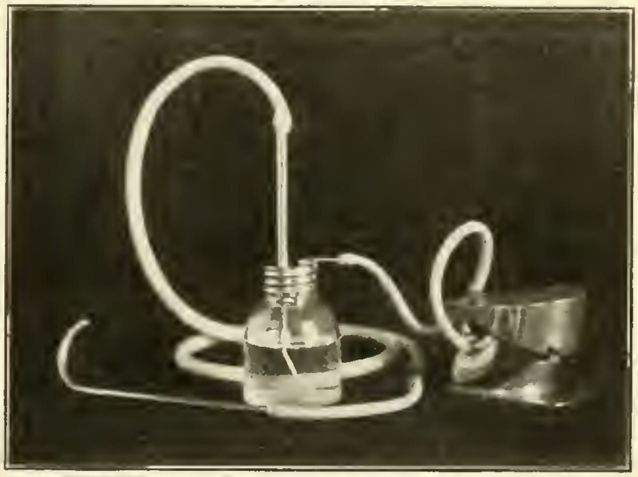

Fig. 1.—The foot pump, vaporizer and mouth tube connected.

The patients have been anesthetized in the following ways:

1. By nitrous oxid or ethyl chlorid: The anesthesia produced by these agents is too short for the majority of the operations.

2. By charging up the patient with ether and allowing him to recover partially as the operation goes on, then repeating this process as many times as necessary: This method is dangerous and seriously impedes the operation.

3. Chloroform administered with the Junker apparatus—the routine method in England: Chloroform is a dangerous anesthetic for all these operations, and especially in the adenoid cases, in which the patients are

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

often of the lymphatic diathesis and liable to sudden death from syncope. Moreover, with the Junker apparatus there is the possibility of pumping liquid chloroform or ether into the air passages of the patient. Crile's apparatus is open to a similar criticism. The apparatus of Brophy does away with this serious objection.

4. Some forms of apparatus depend on the changing temperature of a hot-water bath to vaporize the ether. The amount of ether vapor is accordingly inexact and changeable. The forms of apparatus which depend on air bubbling through ether at the room temperature do not vaporize enough ether to maintain satisfactory anesthesia.

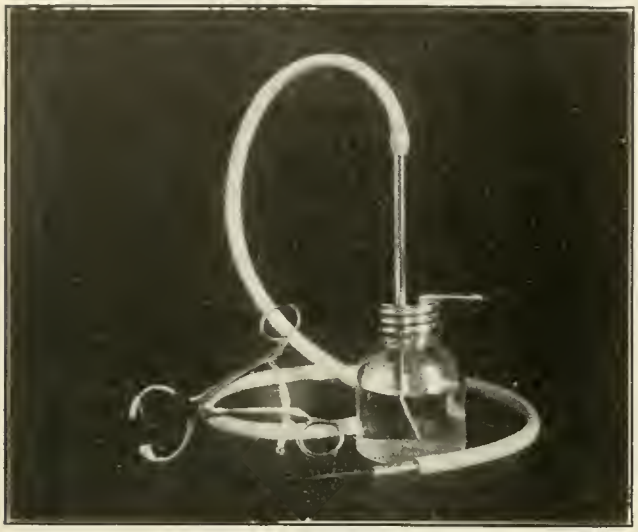

Fig. 2.—The vaporizer and the mouth gag connected.

THE APPARATUS

The apparatus here described for the first time is simple and safe. It provides for the continuous etherization of the patient and interferes in no way with the operation. It was first used on Jan. 12, 1906, and in the past three years has been employed in over 1,000 cases, including operations on the lip, tongue, mastoid, nasal septum, frontal sinuses and Gasserian ganglion, in operations for goiter, for removal of the superior maxillary bone, and for many adenoid and tonsil operations.

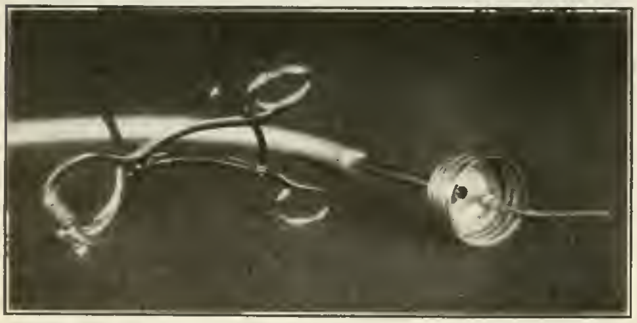

Fig. 3.—The cap of the vaporizer, showing the small atomizer arranged to spray into the outlet tube. The mouth gag.

The apparatus consists of a vaporizer, a foot pump, a mouth gag, and other accessories, together with the rubber tubing necessary for connecting these to the vaporizer.

The vaporizer consists of a glass jar, with a capacity of 8 ounces, hermetically closed by a screw cap. In the cap are fixed an inlet tube, ⅛ inch in diameter and a vertical outlet tube, ¼ inch in diameter. Inside the jar and connected with the inlet tube is a small atomizer arranged to draw ether from the jar and spray it inside the outlet tube, which is 5 inches long. When the ether spray reaches the top of this tube it has been converted into a vapor, imperceptible except by its odor. (Fig. 1.)

This apparatus will vaporize 15 ounces of ether in an hour. As the ether is sprayed into the outlet tube and not against the side of the jar as in the ordinary nebulizer, the vaporizer is very sensitive to changes in the air pressure supplied to it. The foot pump, which supplies the air pressure for the vaporizer, may be supplanted by a cylinder of oxygen or compressed air. A hand bulb does not provide enough pressure to work the vaporizer. It is impossible to force liquid ether into the outlet tube by pumping air into the inlet tube and *vice versa.*

A rubber tube 1½ feet long connects the foot pump with the vaporizer. The outlet tube is connected by 4 or 5 feet of rubber tubing to a mouth or nasal tube. (Fig. 2.) As the ether vapor passes through this rubber tube it becomes warmed to the temperature of the operating room. This tube is divided six inches from the mouth or nasal tube, the parts being joined by a glass connection so that the short end may readily be removed for sterilization.

The mouth gag, which is made from the design of Dr. Frank B. Sprague, is not readily dislodged, does not obstruct the breathing., and in no way interferes with the operation. The handles are so curved as to be readily grasped. In one jaw of this gag is incorporated an ether tube ⅛ inch in diameter. (Fig. 3.) When the gag is placed in the left side of the mouth, the tube is in the upper jaw of the gag and its opening is directed backward toward the fauces.

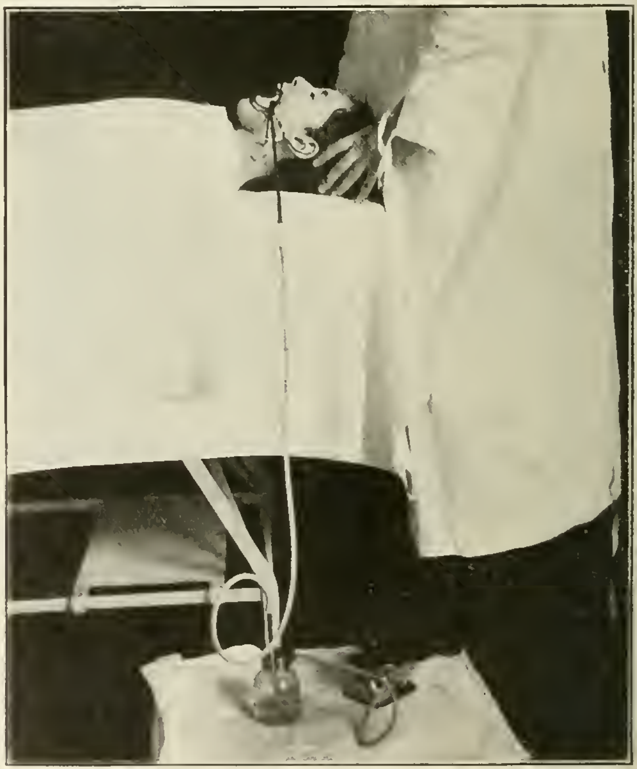

Fig. 4.—The apparatus in use for an adenoid operation.

The mouth tube is a metallic tube of ¼ inch bore so curved that when it is hooked into the angle of the mouth, its opening is directed backwards towards the fauces. The nasal tube is a soft rubber tube ⅛ inch in diameter and 14 inches long. A mark, at a distance of 7 inches from the end, indicates the extent to which it should be introduced in an adult. From failure to notice this mark, the tube may be pushed so far into the esophagus that a gastric anesthesia results.

The Pynchon nasal tips may be used with this apparatus.

ADMINISTRATION OF ANESTHETIC

The vaporizer, filled two-thirds full of ether, is placed on the floor at the head of the operating table (Fig. 4). Care is taken to place the vaporizer where it will not be accidentally overturned. The foot pump is attached and the long tubing is brought up from the outlet tube of the vaporizer to the head of the table. The short tube attached to the gag, mouth or nasal tube is sterilized with the surgeon's instruments. Ether is, at first, administered in the usual way. When the operation is about to be commenced, the surgeon arranges to suit his convenience the gag, mouth or nasal tube. The anesthetizer connects the long tube to the short one and continues to administer ether by working the foot pump at a greater or less rate of speed.

It is necessary to notice constantly through what channel the patient is breathing. It is almost useless to pump ether vapor into the mouth of a patient who is breathing through the nose and *vice versa*. In a frontal sinus operation, when the anesthetic vapor has been considerably diluted by air coming through the open sinus, the closing of the sinus in the course of the operation is quickly followed by increased depth of anesthesia. During the early stages of the adenoid operation the patient is breathing entirely through the mouth, and no trouble is found in maintaining anesthesia by the tube in the mouth gag (Fig. 4). As the nasal passages are cleared, however, nasal breathing may so dilute ether vapor that the patient may begin to recover consciousness. It is then sufficient to cover the face with a towel while the vaporizer is worked for a few minutes and complete anesthesia is restored.

Considerable experience with this apparatus warrants the conclusion that, with careful attention, it solves the problem of satisfactory anesthesia for operations about the face and upper air passages.

[The discussion on this paper is on page 1381.]

VAGINAL HYSTERECTOMY

A NEW OPERATIVE TECHNIC TO ESTABLISH A SOUND PELVIC FLOOR AND TO PREVENT CYSTOCELE *

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MILWAUKEE, WIS.

I intend to present in this paper a new technic that will prevent cystocele following vaginal hysterectomy.

The etiology, symptomatology and diagnosis of the various pelvic lesions calling for some radical gynecic procedure will not be considered at this time.

GENERAL CONSIDERATIONS

The gynecologist of to-day recognizes and, with few exceptions, makes use of three methods of removal of the diseased pelvic organ.

(a) Abdominal hysterectomy.

(b) Vaginal hysterectomy.

(c) Vagino-abdominal hysterectomy.

Each of these methods has its specific indications, though, unfortunately, the method of choice is more frequently determined by the prejudices and experience of the operator than by the anatomic and pathologic indications of the patient. The vaginal route alone will be considered in this paper.

Vaginal hysterectomy is a difficult operation and should only be performed by the experienced pelvic operator. The disrepute into which the vaginal route had fallen at the close of the last century was not due to a higher mortality, for, as a matter of fact, the comparative mortality has always remained lower, but rather to the many accidents following in the wake of the surgeon accustomed, by years of training, to rely wholly on sight and very little on touch in his pelvic work.

When restricted to its legitimate field of application the advantages of removing the diseased or displaced uterus with or without the appendages, by the vaginal route, are very pertinent. The more experience we gather the more we, as surgeons, become convinced that, in order to arrive at the best results in operative work, marked concessions must be made to the prejudices of the laity.

The horror of the abdominal incision unquestionably has cost many lives.

The advantages of the vaginal route over that of the abdominal route are not alone psychic and esthetic. In septic cases in which drainage is necessary, and the Fowler or sitting postoperative position is assumed, the mortality of vaginal hysterectomy to-day is practically *nil*.

In carcinoma of the fundus of the uterus, with a movable uterus and without glandular metastasis, the vaginal operation should always be the procedure of choice. The non-occurrence of shock, the early convalescence and the apparent absence of mutilation in vaginal hysterectomy can not possibly be urged too strongly in favor of this method. In my cases the recovery after vaginal hysterectomy was not only uneventful, but in no instances was there any postoperative suffering from gas, shock or any of the many discomforts that commonly attend our abdominal work. I recall that one well known surgeon compares the recovery from vaginal hysterectomy with that of convalescence from a normal childbirth.

In elderly women in whom the abdomen is thick and pendulous, vaginal celiotomy is always the operation of choice, unless expressly contraindicated.

In women who have passed the climacteric, the prolapsed uterus should be removed in all cases *per vaginam*. To retain the uterus in these cases and fix it to the anterior vaginal wall as a cushion for the bladder serves neither a surgical nor an esthetic purpose. The uterus in women of this age is a useless organ, of no sexual significance, often diseased and hypertrophic or subject to irritation and hyperplasia, if not to carcinoma, and its retention in the pelvis by fixation serves absolutely no good end.

The various mechanical devices both for correcting the retroflexed or prolapsed uterus, including the old Alexander-Adams operation, and the later Gilliam method, and the still later Webster-Boldt or Baldy operation, whereby the round ligaments are made to serve as a cushion for the displaced uterus, all fail markedly in not overcoming the concomitant cystocele, urethrocele and general vaginal fulness for which these patients ask relief.

There was a day when we amputated the cervix for carcinoma of the cervix. That day has happily passed. Yet I sometimes fear now that some of us are perhaps leaning too far toward radicalism as a result of our early incomplete work. Led by Wertheim, many leading gynecologists of to-day doubt the advisability of even ever removing the cancerous uterus from below. They insist on abdominal section, with complete pelvic evisceration in all cases. Surgically their position is apparently invulnerable, yet when we consider the enormous immediate mortality, even in selected cases, and the technical difficulty involved in this two-hour parametrium dissection, no conscientious man can blame some of us for being less radical, and thereby reducing the immediate mortality, even if we have to be more guarded in the eventual prognosis.

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* Read before The State Medical Society of Wisconsin, July 2, 1909, Sixty-Third Annual Meeting.

The wider the fame and the more expert the technic of the operator, the more daring he becomes in forcing his views on radical pelvic work. Not many months ago I witnessed three operations for cancer of the cervix with involvement of the lower glands, performed by one of the ablest continental surgeons. The operations were all of the radical nature as advocated by Wertheim. In every case a clean box was made of the pelvis, with an alarming liberation of the ureters and a complete dissection of the parametrium and the lower glands. The work, from the surgeon's viewpoint, was ideal in its completeness, yet the patients all promptly died. I am satisfied that in these cases the extirpation of the uterus and appendages *per vaginam* would have given more happy end-results.

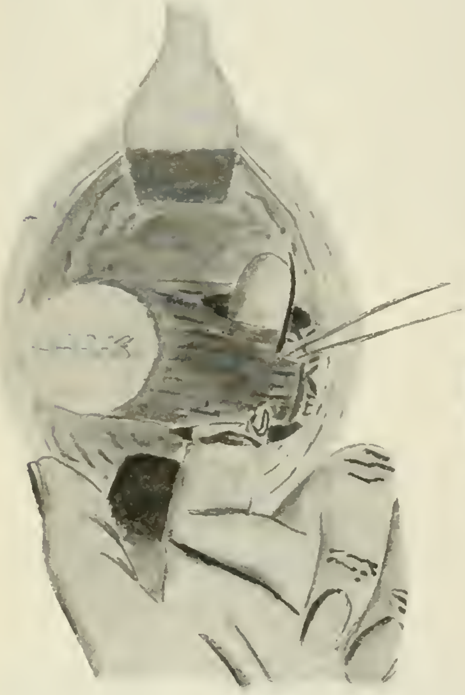
Fig. 1.—Method of hooking up the broad ligament.

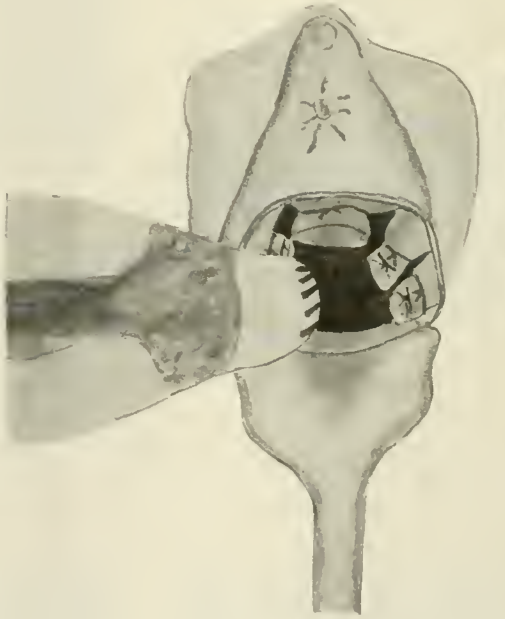
Fig. 2.—Ligature applied close to uterus.

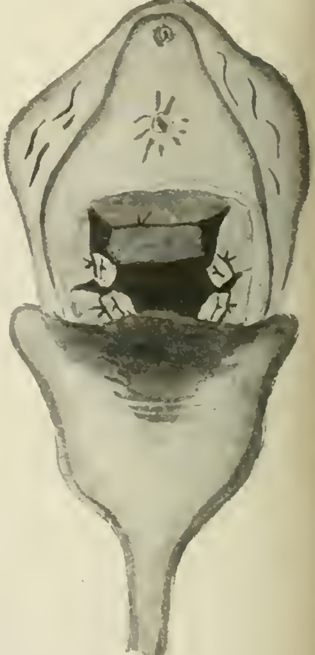
Fig. 3.—Showing stumps.

The radicalism so persistently urged by Ries, Wertheim, Werder and Clark, early led Schuchardt to modify his vaginal technic by making his incision quite free of the cervix into the paravaginal and pararectal tissues, cutting through the left labium, the perineum, entering the ischiorectal fossa, and exposing the distal portions of the broad ligaments. With the same liberal disregard of tissue the vesicouterine pouch is now entered, and an incomplete dissection of the ureters and the parametrium is made possible. This operation, while less radical, is technically more difficult than the Wertheim dissection.

CONTRAINDICATIONS FOR VAGINAL HYSTERECTOMY

A congenitally small vagina, or a vagina that has undergone senile atrophy, with a fixed uterus, or a cervix held up and backward that can not be drawn down far enough to ligate the lateral vessels, would mechanically preclude selection of the vaginal route for celiotomy.

In advanced carcinoma of the uterus with parametrium extension and probable glandular metastasis, abdominal hysterectomy is the operation of choice.

Large fibroid tumors, or small fibroids situated high up in the pelvis, should always be attacked from above.

The abdomen should always be opened when there is a well-grounded suspicion that other pathologic conditions higher up in the pelvis require attention.

TECHNIC

In all operative technic the patient's resistance must be carefully guarded by reducing traumatism to a minimum and by never exposing the patient to unnecessary waste of time. The technic of vaginal hysterectomy complies beautifully with these two conditions. Little traumatism is inflicted, there is no handling of the intestines and the work can be speedily completed.

The patient should be prepared as for abdominal section. In addition, the vaginal and the vulvovaginal surfaces should be thoroughly scrubbed and disinfected. The extreme lithotomy position, with a moderate Trendelenburg posture, should be used.

If necessary, the uterine canal is curetted. The external os is closed by sutures in all cases, and the perineum is retracted with a broad weight speculum. It is not necessary that the assistant make traction on this speculum. Two short lateral retractors and one anterior retractor are used. The cervix is seized with a strong vulsellum forceps. The customary circular incision is made completely surrounding the cervix about half an inch from the external os. In cases of complete prolapse with protrusion of the vaginal wall, urethrocele and cystocele, particular caution should be observed not to injure the displaced bladder by the first incision. The loose cervicovaginal tissue is then peeled away from the cervix toward the fundus by using the finger covered with gauze or some blunt instrument; an occasional nip of the scissors is necessary to expedite this work. The uterus is hugged closely in this operation. All bleeding points are clamped and the operative field kept clean.

When the cuff is about an inch wide the pouch of Douglas is entered close to the posterior surface of the uterus. In entering the peritoneal cavity the field should be kept clean and the surgeon should make no undue haste, as the peritoneum will sometimes simply strip up n the posterior surface of the uterus instead of tearing. nd may thus confuse the operator. Once the perito-eum is incised, it is torn laterally. If a loop of intes-ine presents, a gauze sponge is introduced. The bladder hould not be separated from the uterus at its vagino-terine juncture at this stage, but by using the left nger as a hook the surgeon should hook up as much of ne left broad ligament as convenient (Fig. 1). By aking moderate traction the comparatively freed uterus ill now come easily forward, and it should be tilted to ne left. The tip of the left finger can easily be seen rough the glistening broad ligament now tense. The urgeon must make sure that he is out of the way of the reters. The broad ligament is perforated as close to ne uterus as conditions permit, and a catgut ligature is pplied *en masse*. A transfixing ligature is applied im-ediately in front of the first ligature. This procedure akes up but little time and will preclude all possibility f the ligature slipping. The ends of the transfixing gatures are left long. The stump is cut close to the terus.

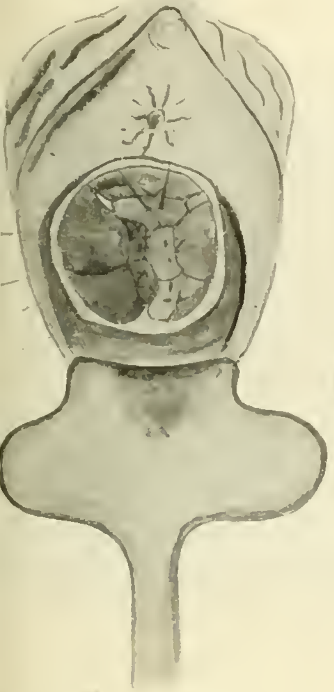

Fig. 4.—Showing arrangement of umps to make new pelvic floor.

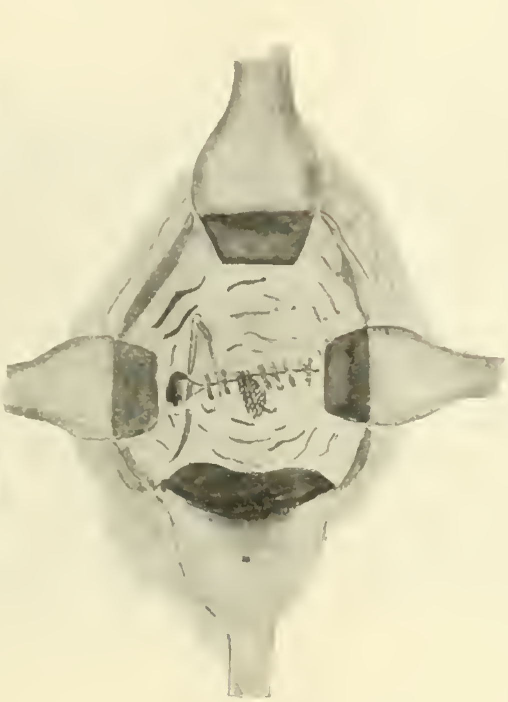

Fig. 5.—New pelvic floor.

'he right side is then treated in the same manner. 'he left index finger is then hooked around the vesico-terine septum. This is very easily done. The ligature is pplied and cut close to the uterus, making a generous nterior stump (Fig. 2).

'he uterus is now freed all round except for the two teral upper portions of the broad ligaments.

'he uterus is then delivered by seizing the fundus nteriorly. If it is impossible to do this because of the irge size of the tumor, the organ must be cut in halves. 'here will be little or no bleeding, as the uterine arteries re both ligated while the ovarian arteries are tense and ontracted. Both upper portions of the broad ligaments hould be ligated, either proximally or distally, to the terus, according to the necessity of removing or leaving ehind the appendages. The stumps are transfixed and ut. All bleeding points are attended to; the field of peration cleansed, and the five, or sometimes seven, tumps are arranged (Fig. 3). The large anterior stump containing the vesicovaginal septum is placed well behind the others. The stumps are tied and sutured and thus form a new pelvic floor (Figs. 4 and 5). Should any of the stumps or even the base of the bladder look suspicious, then the ureters are located and freely dissected and all diseased parts removed. With a little patience much of the parametrium, apparently unreachable at first, can easily be brought into view. A strip of gauze introduced and the vaginal tissues and such portions of the peritoneum as can be brought up are sutured. It is necessary to pack well.

I repair the perineum if this is necessary; the procedure is simple and takes but a few minutes' additional time. Remove the gauze drain in twenty-four hours. Catheterization is usually done for three days. The patient is placed in the Fowler position, and I expect her to be up and around in ten days.

The large stump-area of anchorage of the posterior surface of the bladder, securely wedged behind the stumps of the broad ligaments now snugly retracted high in the pelvis, will overcome the cystocele effectively and permanently. I believe that anterior colporrhaphy as an adjuvant to this operation is wholly unnecessary.

REPORT OF CASES

Case 1.—Mrs. F., aged 67, had total prolapse of the uterus and vaginal wall. Urethrocele and marked cystocele were present and also small ulcers on the posterior surface of the cervix. The fundus was enlarged and the uterine canal discharged a suspicious fluid.

Operation.—Complete vaginal celiotomy. There was carcinoma of the fundus, but no glandular metastasis. Cystocele was completely overcome by this method of operation. Posterior colporrhaphy was done to correct the rectocele. The patient was discharged in two weeks and has been perfectly well since. Time elapsed since operation is fourteen months. The feeling of fulness in the vagina and bladder irritation from which the patient had suffered for twelve years, has completely left her.

Case 2.—Mrs. D., aged 78, had been suffering from cystocele and "falling of the womb" for many years. She was unable to move around much. A disagreeable sanious, vaginal discharge was present which had been getting worse of late. Operation was persistently refused until the ease of this method of operation was explained to her.

Examination.—Large cystocele was protruding and resting on the vaginal portion of the ulcerated, elongated prolapsed uterus. Marked rectocele was present. The uterus was freely movable.

Operation.—Vaginal hysterectomy. The line of reflection of the cystocele from the cervix could not be ascertained. A portion of the anterior part of the uterus which appeared healthy was taken to serve as an anterior stump to which to anchor the bladder. The technic described above was followed throughout. Perineorrhaphy was done by marginal V-incision down to the sphincters, and suturing in a perpendicular line. Time under anesthesia was fifty-two minutes. Recovery was uneventful.

The patient can now move freely about, attend to her housework, is free from all vaginal fulness and has absolutely no bladder trouble. The bladder is resting high up in the pelvis. The nurse informed me that catheterization during the first three days was difficult on account of the high position of the bladder.

CONCLUSIONS

1. Vaginal hysterectomy is only indicated in a limited class of cases. Among these I would mention cancer of the cervix, and cancer of the uterine canal in both cervix and fundus, with movable uterus; extreme prolapse of uterus and bladder; extreme retrodisplacement with metritis in women who have passed the climacteric.

2. Whenever applicable, vaginal hysterectomy has many advantages over abdominal hysterectomy, not the least of which is the avoidance of shock, and the corresponding quick recovery in elderly patients.

3. Women are singularly tolerant to operative traumatism inflicted on the pelvic organs by the vaginal route.

4. Vaginal hysterectomy has no horrors to most women suffering from cancer of the uterus, and the operation may serve us as a psychic lever to turn patients toward surgical aid in the early stages of this dreadful disease.

5. The technic of vaginal hysterectomy often presents great difficulties; but these are seldom unsurmountable.

6. Injury to the ureters, and hemorrhage, both primary and secondary, can be avoided by modern methods.

7. Cystocele and prolapse of the bowel can be completely overcome by this method.

THE PATHOLOGY OF ECLAMPSIA AND TOXEMIA OF PREGNANCY*

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The pathology of eclampsia is a subject that has interested the obstetrician since the beginning of his art. Before the days of postmortem research and urinary analysis the imagination of the practitioner formulated a pathology for this affection which was deduced from clinical symptoms. In the process of reasoning backward from effect to cause, few persons will follow the same course; therefore, radically different judgments are formed. Thus we have had many different explanations of the causes producing the ensemble of symptoms which have so long been called eclampsia. The chief and one essential symptom of the condition is convulsions, with which certain others may be associated in a more or less pronounced form.

Until very recently these have been required always before diagnosis should be pronounced. Even now it is an exceptionally bold diagnostician who will venture the diagnosis of eclampsia without the presence of convulsions.

Early in the era of postmortem studies in this condition, hope arose that the true explanation of the condition was at hand. Attention was largely centered on the central nervous system as the seat of the affection, since the main symptom seemed to point to that center. Changes in the brain which were given to account for the convulsions were anemia, edema, and apoplexy. These observations were very good as far as they went, but lacked in comprehensiveness.

In 1886 Jurgens by his careful labors placed the pathology of eclampsia practically in the position it now occupies. It is to him that we owe our first description of the hemorrhagic liver changes now so well known and thoroughly identified with this condition. In addition to the liver changes, he also gave an account of thrombi and liver cell emboli in the lung capillaries.

Stimulated by these findings, others devoted particular attention to the subject and as a result we have valuable contributions from Klebs, Pilliet, Lubarsch, Prutz, Gerdes, Schmorl and others who have redescribed the hepatic hemorrhages and associated them with necrosis of liver cells and thrombosis of vessels. In addition, they have shown us thrombi in other organs and emboli composed of liver and giant cells which they have described as being derived from the placenta.

The picture now accepted as typical of the pathology of eclampsia by the greater number of those familiar with the subject consists in hemorrhages in and about the portal spaces, thrombi in vessels of the liver, and giant cell emboli in other organs. These changes found postmortem in the pregnant or postpartum woman are considered by many as a justification of the diagnosis of eclampsia regardless of the presence or absence of convulsions before death. And it is with these changes in mind that the clinician will occasionally make the diagnosis of "eclampsia without convulsions."

Toxemia of pregnancy is a name obstetricians have for several years been applying to a symptom-complex characterized for the most part by headache, visual disturbances, nausea, vomiting, delirium and coma with or without edema. This group of symptoms which appears to have its origin in a more or less profound systemic poisoning, has been considered as an affection entirely apart from and independent of eclampsia because of the absence of convulsions.

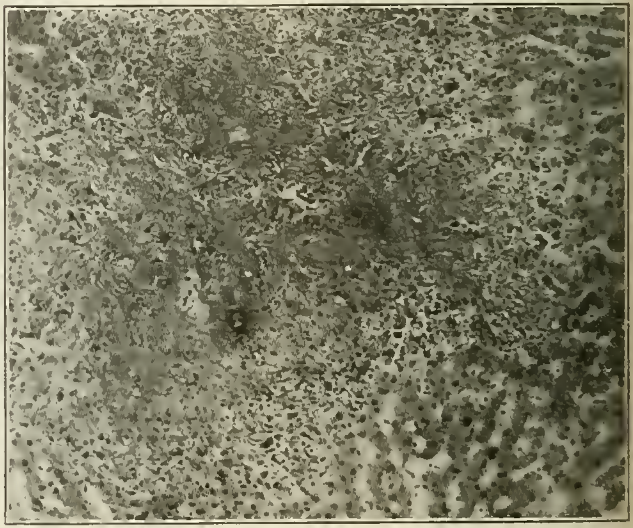

Fig. 1.—Hemorrhage in portal space.

During the development of the pathology of eclampsia by the above-named investigators, it was discovered that many pregnant and postpartum women dying from a systemic poisoning manifested by the above symptoms, with occasionally convulsions added, showed different lesions from the ones above described in connection with eclampsia. Instead of hemorrhages about the portal spaces associated with thrombi and emboli, extensive necrosis was found associated with advanced degenerative processes which when found early were limited to the central part of the liver lobule, but later invaded the remaining part of the lobule and produced a picture typical of acute yellow atrophy of the liver.

In the evolution of this subject, two sets of views have developed: one that the two conditions are entirely different diseases, eclampsia having hemorrhages about the portal spaces as its characteristic lesion and toxemia having central necrosis of the liver lobule as its characteristic lesion. The other view holds that the two conditions are different manifestations of the same disorder. Excellent contributions to both sides of the subject have been made in this country by Dr. Williams of Baltimore and Dr. James Ewing of New York.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

I am presenting, in a limited way, the findings in fourteen cases which I have examined postmortem at the New York Lying-in Hospital, in the wards of which they were observed clinically. The diagnosis given in each case is that made by the clinician and not from the postmortem findings in the liver. In each case put in the class of eclampsia there were convulsions. In each case put in the class of toxemia of pregnancy there were no convulsions, but signs of systemic poisoning.

Before generalizing on the lesions found, it may be of interest to give details of the histories of four of the series, in which the most extensive hemorrhagic changes were found.

CASE 3.—Eclampsia. Hemorrhages (Path. No. 887).

Patient.—Aged 21, primipara.

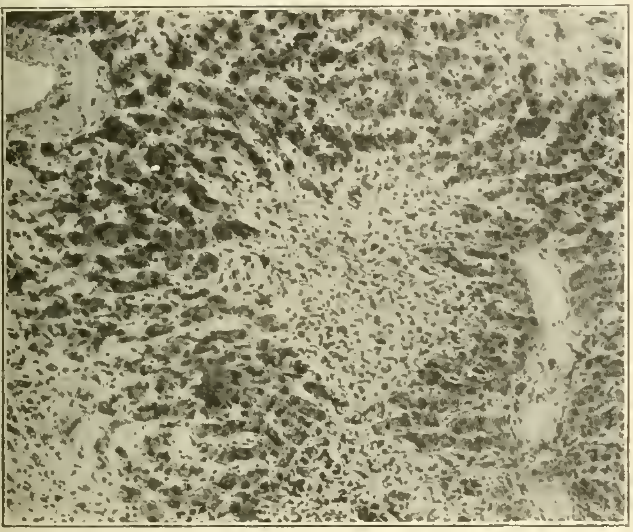

Fig. 2.—Central necrosis of liver lobule.

History.—This patient had never been ill. She had no morning sickness with present pregnancy. Five weeks before confinement she had slight morning headaches and swelling of the legs. Three weeks before confinement the headaches had stopped and the swelling diminished. There was a trace of albumin in the urine. At full term she gave birth normally to twins at 7:30 p. m., and had a comfortable evening until 11 o'clock, when she was suddenly seized by a general convulsion followed by coma, in which she died eight hours later.

Autopsy.—Body shows general edema, slight over the trunk, but marked in the feet and legs. No jaundice.

Brain: All the ventricles are filled with blood which comes from a laceration in the lower part of the pons and through the floor of the upper half of the medulla.

Liver: Weight, 2,500 grams; size is increased; color is light yellow. There are extensive hemorrhages under the capsule and through the liver substance. Microscopically, numerous hemorrhages are seen in and about the portal spaces with extensive fibrin formation. The cells show marked cloudy swelling, fatty degeneration, autolysis and pigmentation. (Fig. 1.)

Kidneys: Very much enlarged, pale and congested. Microscopically, the epithelium of the cortical tubes shows extensive degeneration and disintegration.

CASE 4.—Eclampsia. Hemorrhage (Path. No. 634, 1906).

Patient.—Aged 28, iii.-para. Eighth month of gestation.

History.—She had had two previous normal pregnancies and labors. During the last previous pregnancy she had slight edema of the ankles. She enjoyed good health up to the time of attack, which came suddenly at 11 a. m. as a very severe headache. She felt fairly well during the afternoon. At 11 p. m. she had a general convulsion. She was brought to the hospital two hours later in coma, in which she died four hours after admission.

Autopsy.—Body shows edema, moderate in the body, marked in feet and legs. Subcutaneous hemorrhages over trunk and arms. No jaundice.

Brain: All ventricles are filled with blood which comes from a laceration in the left corpus striatum.

Liver: This organ is small, pale, yellow, very firm. There is extensive hemorrhage beneath the capsule and through the organ. Microscopically, extensive hemorrhages are found in and around the portal spaces. Some of the hemorrhages have destroyed as much as three lobules. The parenchyma shows cloudy swelling, slight fatty degeneration and pigmentation. (Fig. 1.)

Kidneys: These organs show extensive degeneration and sloughing of the epithelium in the tubules of the cortex. There are a few subcapsular hemorrhages over the lower part of the right.

CASE 9.—Toxemia of pregnancy. Hemorrhages (Path. No. 2098).

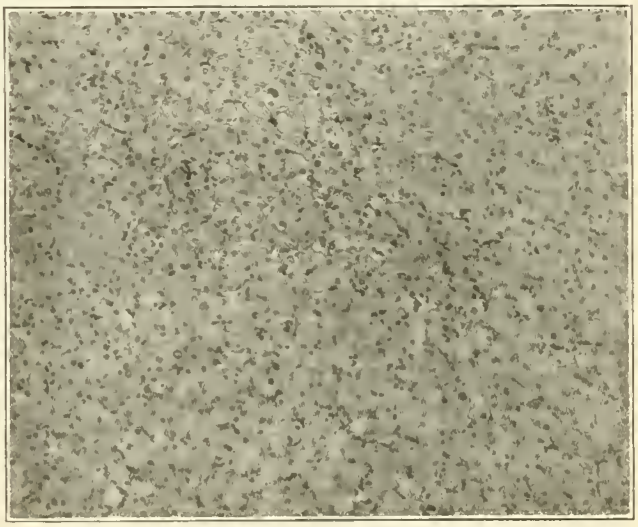

Fig. 3.—General autolysis of liver.

Patient.—Aged 30, iii.-para. Ninth month of gestation.

History.—Patient was brought to the hospital in the ambulance, having suffered from dizziness, headaches, swelling and pain in the legs for three weeks. After rest in bed and a limited diet the subjective symptoms disappeared, but the swelling of the legs persisted. She had a natural labor at 9 a. m. At 1 p. m., without having convulsions, she went into coma, which gradually deepened until 5:30 p. m., when she died.

Autopsy.—Body shows slight general edema. No jaundice.

Brain: The ventricles are all filled with fluid and clotted blood. The hemorrhage comes from a superficial laceration in the floor of the left lateral ventricle between the caudate nucleus and optic thalamus.

Liver: Slightly enlarged and light yellow. There are extensive hemorrhages beneath the capsule and through the organ. Microscopically, large hemorrhages are found in and about the portal spaces. There is very little coagulation of the blood in the hemorrhages. The liver cells in and about the hemorrhages show destruction from pressure, degeneration and necrosis. The general parenchyma is distorted and shows granular and fatty degeneration and pigmentation. About some of the hemorrhages are large accumulations of leucocytes. (Fig. 1.)

Kidneys: Are increased in size and congested. There is extensive degeneration and sloughing of the epithelium in the tubules of the cortex.

Case 11.—Toxemia of pregnancy. Hemorrhages (Path. No. 425. 1909).

Patient.—Aged 30; iv.-para. Seven months pregnant. She was comatose when admitted; pupils were contracted; patient was generally cyanosed: there were no convulsions. Anterior lip of cervix was incised and the child delivered by internal podalic version. Patient died on day of operation.

Autopsy.—Body was not edematous. There is slight edema of the feet and legs. No jaundice.

Brain: The brain is symmetrical and well-developed. The convolutions are flattened. All the ventricles are filled with fluid blood. There is a hemorrhage in the pons which has ruptured through the floor of the upper half of the fourth ventricle.

Liver: This organ is slightly increased in size and is pale grayish yellow in color. There is extensive hemorrhage beneath the capsule and through the liver substance. Microscopically, the liver cells show cloudy swelling, hydropic and fatty degeneration. There is a large amount of bile pigment scattered through the cells. Many of the portal spaces show extensive hemorrhage in and about them with extensive fibrin formation. (Fig. 1.)

Kidneys: These organs are much increased in size. The cortices are swollen and the capsules strip easily. Microscopically, the parenchyma shows albuminous degeneration and extensive sloughing. (Fig. 5.)

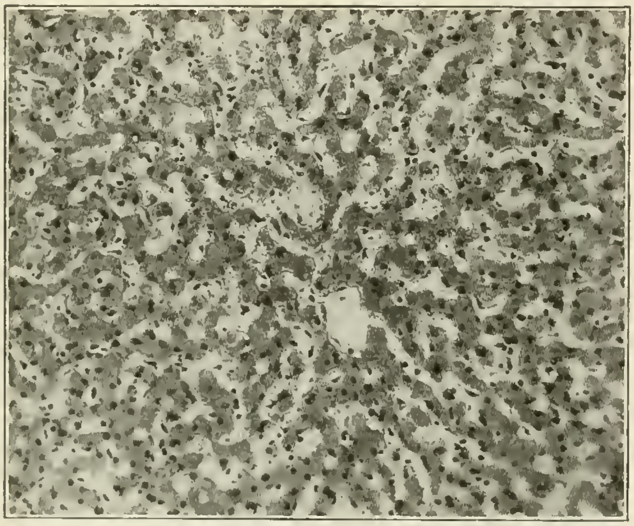

Fig. 4.—Cloudy swelling of liver.

The diagnosis of eclampsia was made in two of these cases—Cases 3 and 4—because of the convulsions before death, and toxemia of pregnancy in the other two because of the absence of convulsions, yet the lesions in the brains and livers are very similar.

The accompanying table shows that the diagnosis of eclampsia was made in ten cases. In four of these, hemorrhages occurred in the portal spaces of the liver. in three central necrosis in the liver lobules, in one a general autolysis of the liver cells, and in two cloudy swelling only. The brain in one case showed congestion only. in two cases congestion and edema, in one edema and in two hemorrhages.

Four cases of this series were classified as toxemia of pregnancy. The livers in three of these cases showed the hemorrhagic changes above described; one showed necrosis about the centers of the liver lobules. The brain in one case showed congestion, and two showed hemorrhages. The kidney lesion in all these cases was very similar and consists in a parenchymatous nephritis with extensive sloughing of the epithelium.

In addition to the liver, brain and kidney lesions the greater number of the cases showed edema, fluid in one or more of the serous cavities, small hemorrhages in the serous and mucous membranes, especially in the pulmonary pleura, visceral pericardium and in the gastric mucosa. In some of the cases there were small hemorrhages into the lung parenchyma. The heart muscle showed a slight clouding. One case exhibited subcutaneous hemorrhages and three jaundice.

It is the custom for many observers to classify eclampsia into a nephritic and a hepatic type. the former having edema in very pronounced form and the latter having jaundice present. In this series of fourteen cases only three of the patients had jaundice, and two of these had central necrosis in the liver lobules, and the third a slight cloudy swelling in the liver. Ten of the cases showing marked hemorrhagic liver changes showed no icterus. It would seem from these findings that the above classification is a very inaccurate one.

Turning to the etiology of the hemorrhages, we find them explained by the hyaline blood plate thrombi and emboli formed from cells from the liver and giant cells from the placenta. In these cases I have been unable to find the emboli of liver and placental cells, but thrombi are rather numerous, formed occasionally from blood plates, but more commonly from the fused stromas of red blood cells. It is the rule to find considerable hemolysis in the hemorrhagic cases. In some the effusions of serum in the serous cavities is deeply tinged with the diffused blood pigment. Hemolysis when occurring in the living body is usually preceded by an agglutination of the cells which undergo dissolution. It is these agglutinated cells that form the majority of the thrombi about which hemorrhages occur. Another factor in the production of the hemorrhages and probably the most important is a solution of the endothelial lining of the blood vessels. The agent causing hemolysis and cell destruction in the various organs destroys also the endothelium of the vessels, thus allowing an easy escape of the blood. Increase in blood pressure, which is usually heightened in this condition, increases the hemorrhage and gives the extensive lesions found in the brain and liver.

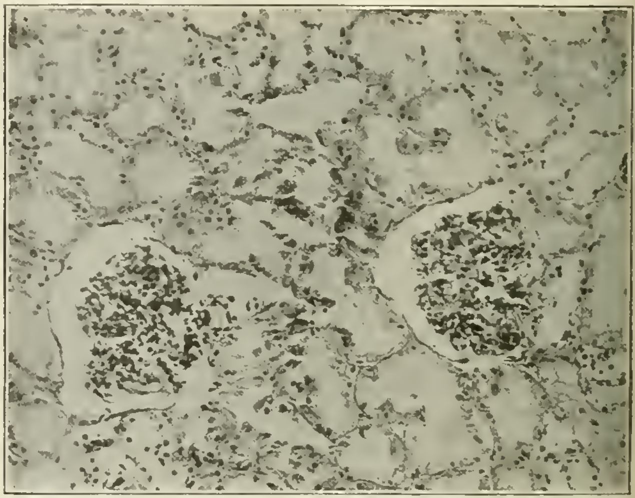

Fig. 5.—Type of parenchymatous nephritis found in all cases of eclampsia.

The nature of the agent causing such general cell destruction is not definitely known. Judging from the histologic appearances of the cells affected it is probably an enzyme; but whether native in the cell with its function perverted to produce autolysis or whether introduced from a foreign source (placenta or fetus) is not determined.

The thyroid gland in these cases showed hypertrophy, and in one case considerable colloid cystic degeneration.

Studies of blood pressure in fifteen cases of eclampsia not included in this series showed a blood pressure ranging between 130 and 190. The pressure varied considerably at different times, and as a rule an increase was noted before and a decrease after the convulsive seizures.

The coagulation time was usually normal. In one case it was delayed ten minutes. No change from the normal was noted in the alkalinity. The specific gravity varied from 1035 to 1055, the lower figure was found in a patient having 52 per cent. hemoglobin. The red blood cells in these cases numbered 3,000,000 and under to each cubic millimeter of blood, except in one patient, who had 4,100,000.

The hemoglobin ranged between 52 and 60 per cent. One case showed 70 per cent. The leucocytes varied between 10,000 and 14,000. One case had 19,000. The polymorphonuclear forms varied from 79 to 81 per cent. except in one case in which there were 90 per cent.

The power of the serum of eclamptics and those suffering from toxemia of pregnancy to destroy the red cells of normal subjects was tested in fifteen cases. The serum was added to red cells of normal persons after washing the latter in 0.85 per cent. salt solution. It was found that some of the serum of each class would hemolyze normal red cells, while others would not. The cells of normal postpartum women were at first used. It was thought that pregnancy might possibly confer immunity against the action of the eclamptic hemolysin, and with this possibility in view normal male red cells were used. They were, however, found no more susceptible than the cells from postpartum women. The hemolytic power of the cerebrospinal fluid was also tested, but found invariably negative.

CASE.	1	2	3	4	5	6	7	10	11	12	8	9	13	14
Diagnosis														
Eclampsia	x	x	x	x	x	x	x	x	x	x	..	..	..	..
Toxemia	..	..	..	..	..	..	..	..	..	..	x	x	x	x
Liver														
Hemorrhages	x	x	x	x	..	..	..	..	..	..	x	x	x	..
Central Necrosis	..	..	..	..	x	x	x	..	..	..	..	..	..	x
General Autolysis	..	..	..	..	..	..	..	x	..	..	..	..	..	..
Cloudy Swelling	..	..	..	..	..	..	..	..	x	x	..	..	..	..
Brain														
Congestion	x	x	..	..	..	..	x	..	..	..	x	..	..	..
Edema	..	x	..	..	..	..	x	..	..	x	..	..	..	..
Hemorrhage	..	..	x	x	..	..	..	..	..	..	..	x	x	..
Kidneys														
Parenchymatous Nephritis	x	x	x	x	x	x	x	x	x	x	x	x	x	x

The urine of all the patients showed albumin, six had acetone and a marked excess of indican; two had diacetic acid and all showed casts.

The changes in the placenta when found consisted of hemorrhagic infarcts, degenerated epithelium and hyaline metamorphosis. Many placentæ show no change at all.

We are now in a position to explain some of the symptoms of these two conditions. The headaches are due to intracranial disturbance. The dura mater receives a nerve supply from the fifth cranial pair and is sensitive to cerebral changes, especially those that produce pressure. We have in these cases congestion, edema and hemorrhage which could act as irritants to the dura mater and produce the headache.

The visual disturbances, such as spots before the eyes, cloudy vision and complete blindness, are due to circulatory disturbance and edema about the base of the brain. The ophthalmoscope shows a pallor of the optic nerve, but as a rule no lesion even in the patients who have complete blindness and recover.

The petechiæ in the skin are produced by small hemorrhages from small vessels in which thrombi have formed, emboli lodged, or in which the endothelium has been destroyed. The nausea and vomiting may be due to one or a combination of causes which may be central or peripheral. The vomiting center may be impressed by poisonous substances circulating in the blood. The peripheral causes are reflex and may be due to the uterine enlargement, bowel disturbance, or to the irritation of the gastric mucosa by elimination of poisonous substances into the stomach.

Edema is produced by one or a combination of three conditions, which are: an alteration in the blood, an alteration in the vessel wall or a change in the blood pressure. In these cases there is anemia, destruction of the vascular endothelium and heightened blood pressure.

The jaundice is probably produced by cloudy swelling of the liver cells which compress the bile capillaries and increase the pressure of bile within them above that of the surrounding vessels and an overflow takes place into the blood and lymph capillaries through which the bile pigments are distributed to the tissues.

CONCLUSIONS

1. The liver lesions in eclampsia are not uniform. Pregnant or postpartum women dying from convulsions may have hemorrhages, central necrosis, general autolysis or cloudy swelling in the liver.

2. The liver lesions in toxemia of pregnancy are not uniform. They may be either hemorrhagic or central necroses, both of which are found in eclampsia.

3. The hemorrhagic lesions are produced by liver and placental cell emboli, thrombi formed from blood plates and fused red blood cells and by a solution of vascular endothelium. Heightened blood pressure increases the extent of the hemorrhages.

4. The agent producing the hemolysis and general cell destruction is probably an enzyme.

204 West Seventieth Street.

Itching.—C. H. Bangs, in the *Archives of Diagnosis*, July, 1909, states that itching is so common a symptom of skin affections and one so frequently associated with severe constitutional diseases that the looseness of its definition is surprising. Many text-books make no attempt to define it. He discusses the causes of itching and concludes that: 1. Itching is a manifestation of disturbed nerve function. 2. It is a sensation due to the irritation of the sensory nerves by some irritant not sufficient to produce pain. 3. The source of this irritation may be from within or without. 4. The irritation if continued or increased may, and frequently does, produce stinging, burning or pain. 5. While heat, redness, swelling and pain are the cardinal symptoms of inflammation in general, the usual combination of symptoms in dermatitis is heat, redness, swelling, together with itching, which latter is the clinical equivalent of pain.

A STUDY OF ECLAMPSIA

WITH THE RESULTS IN TWO HUNDRED AND FIFTY CASES, FROM THE WARDS OF THE LYING-IN HOSPITAL OF THE CITY OF NEW YORK*

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There is probably no obstetric complication about which more has been written and less really understood than the condition known as eclampsia. Not knowing its cause, we have been groping blindly in the dark to secure a satisfactory treatment, which, up to the present time, has been mostly empirical and anything but satisfactory in its results.

The mortality, both maternal and fetal, is appalling, and the multiplicity of treatments recommended by physicians give testimony to the worthlessness of these methods of procedure, as the large majority have been of necessity directed toward abating the symptoms and not to relieving the cause of the difficulty.

The uncertainty which we feel about eclampsia begins with its very name. In the latest edition of Webster's dictionary it is stated that eclampsia is derived from the Greek *"eclampain,"* meaning "to shine out," and is defined as "a fancied perception of flashes of light, or convulsions; the term is usually restricted to a convulsive affection occurring during the pregnant state and parturition." On the other hand, the author of one of the well known text-books on obstetrics states that the disease was so named on account of the suddenness of its onset, coming on like a flash.

Some observers discard the use of the word "eclampsia" altogether, asserting that, as the condition is a toxemia, which sometimes occurs without convulsions, in eclampsia without convulsions—if we use the term—we have the paradoxic condition of "convulsions without convulsions." Since we realize that several kinds of toxemia probably occur during the pregnant state, it seems preferable to me to consider eclampsia as a toxemia of the convulsive type, and the cases reported in this paper will be limited to those in which one or more convulsions were actually present.

Harrar,[1] in discussing eclampsia, states that beginning with February, the number of cases increases during March, reaches the highest point in April, and then steadily diminishes, finding the lowest level in November. The curve of this rise and fall nearly corresponds to the curve of the rainfall, which fact, he states, might explain the well-known theory that climatic conditions have something to do with the disease; although it is not clear why periods of unsettled weather should have the effect of producing a convulsive toxemia in pregnant women. It is an interesting observation, however, and in the series of cases here reported the greatest number occurred in February and March, and the least in December and January, which is approximately the same as above mentioned.

Regarding the frequency of the condition, the 250 cases occurred in 14,899 labors, which means 1 case to every 60 labors (1 to 60) or 1.7 per cent. of all labors. This is a high percentage and is due to the fact that a hospital is the clearing house for so many of the cases occurring in the city, and the probability is that it is about eighteen times as frequent in hospital as in private practice, the basis for this statement being that in our out-patient department, which represents private practice, in 46,252 cases, eclampsia was encountered 43 times; that is, 1 case in every 1,075 labors, or 0.09 per cent., as opposed to 1 case in every 60 labors in the wards of the hospital or 1.7 per cent.

The condition is almost twice as common in primiparæ as in multiparæ, being 64.4 per cent. in the former and 35.6 per cent. in the latter, which proportion is more nearly equal, however, than the figures commonly given.

Multiple pregnancy is noted in this series in twelve cases, twins occurring eleven times and triplets once.

We divide eclampsia into three classes, according to whether it appears before, during or after labor; in other words, antepartum, intrapartum, and postpartum. The postpartum form is supposed to be the least common, according to the foreign observers, but in this country inspection of the literature shows that it apparently occupies second place in frequency of occurrence. In the series here reported, eclampsia was noted in the antepartum cases 140 times, or 56 per cent.; in the postpartum cases, 86 times, or 34.4 per cent., and in the intrapartum cases, 24 times, or 9.6 per cent., which agrees with the statement just made.

Regarding the age of the patients, the youngest noted was 15 and the oldest 48 years of age, the greatest number of cases occurring between the ages of 20 and 25, which is in accord with the fact that the greatest number of eclampsias occur in primiparæ.

In the natural order of discussion, in a general paper of this sort, the pathology of the condition should next be taken up, but as Dr. Welch's paper is devoted to pathology alone, and as his material was gathered largely from the cases comprising this series, and is so complete, I shall say nothing further regarding it, nor the symptoms, which are familiar to all, but after a few remarks on prognosis shall pass on to treatment.

The maternal mortality of eclampsia is given by various authors as ranging from 5 to 50 per cent. It also varies according as the treatment is expectant or immediately operative, and is, of course, much higher in hospitals than in the private practice of those who are skilled in handling the condition, as so many of the hospital patients reach the institution in a moribund state after delay and mishandling outside.

The fetal mortality is usually from 33 to 50 per cent.

In the cases here reported there were 77 maternal deaths and 110 still-born children, or those who died soon after birth, a mortality of 30.8 and 44 per cent., respectively, the latter fetal mortality being slightly below the average. Of the maternal deaths, 62.3 per cent. occurred in cases in which the eclamptic seizure took place antepartum; 31.1 per cent. in postpartum cases, and 7.7 per cent. in the intrapartum cases. On the other hand, contrasting these figures with those of our out-patient department, we find that of the 43 eclampsias there occurring, and already referred to, 10 of the patients died, a mortality of only 23 per cent., and this I must ask you to remember took place in tenement houses of the lowest type, surrounded by the most unfavorable conditions.

The treatment must be divided into (a) prophylactic and (b) curative, according to whether the patient shows symptoms of an impending attack or whether the convulsions have actually occurred, for the two conditions differ widely and yet are often treated in the same manner; we are continually seeing cases in which the proper treatment given at the right time would undoubtedly have resulted in the mother's recovery. Given a case in which headaches, dizziness, edema, and faulty elimination are present, even though no convulsions have occurred, and the patient is perfectly conscious and about the house, it is our duty to be on guard, ready to interfere promptly if the convulsive seizures supervene. Most certainly we should take all possible means to aid elimination by the various channels, in order to lighten the burden of the already overloaded organs; but if the case is growing progressively worse, and even one convulsion occurs, let us not lessen the chances for the patient by hesitating any greater length of time than is necessary to remove the cause of the difficulty, namely, the products of conception. While it is true that we do not know the exact cause of eclampsia, it is certain that the condition occurs only in the pregnant or recently pregnant state, and that every convulsion tremendously lessens the patient's chances of recovery, as the convulsions do not occur until the changes in the metabolism have gone so far that the balance between absorption and elimination has markedly increased in favor of the absorption, the eliminative organs are overpowered, and the chances for recovery decrease almost momentarily.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Bull of Lying-in Hospital of New York City, December, 1905, No. 3, p 72

In a paper entitled "A Plea for the Prompt Evacuation of the Uterus in the Treatment of Eclampsia," by Fry,[2] read before this Section in Chicago, last June, a conclusive argument is presented for early delivery, and with this view I am in hearty accord. No statistics have been adduced to show that expectant treatment is of avail, and all of us have many times seen cases in which a prompt and early interference would undoubtedly have saved the woman's life.

When a convulsion occurs, then, let us empty the uterus, without delay. The means by which this shall be done will vary somewhat with the experience and preference of the operator.

In this series delivery was accomplished, by manual dilatation and internal podalic version in 89 cases, by forceps—high and low—in 49 cases, by craniotomy in 14 cases, by abdominal Cesarean section in 10 cases, and by vaginal Cesarean section in 2 cases. Induction of labor by means of the bags of Champetier de Ribes was performed 7 times. The maternal mortality following version was 38.5 per cent.; forceps deliveries, 20.5 per cent.; induction of labor, 42.8 per cent.; craniotomy, 28.5 per cent., and Cesarean section, 40 per cent.

The fetal mortality in the operative cases after internal podalic version was 62.9 per cent.; after high forceps, 44.4 per cent.; after induction of labor, 28.5 per cent.; after abdominal Cesarean section, none at all, or 100 per cent. of living children.

These are the statistics of the 250 cases. I will not attempt a comparison of these figures, which are approximately the same as those of other authors. I wish to reiterate, however, that these high mortality figures are not entirely due to eclampsia, but rather to the delay in sending the cases to the hospital where proper treatment could be instituted, thus losing valuable time.

Concerning the actual operative procedures for delivery, I shall say nothing except in regard to Cesarean section, both abdominal and vaginal. Of the abdominal sections here reported, 8 were done for contracted pelvis in patients in whom the eclampsia was an incident; 2 were done in moribund patients for the purpose of saving the child. As I stated in a paper on Cesarean section, read in this Section last year, I believe that there are cases, such, for example, as that of an elderly primipara with a small, narrow vagina, and a long cervix with a tough unyielding os, in which a rapid Cesarean section is the operation of choice, and during the past year I have found no reason to change my opinion.

I desire to utter a word or two of caution in regard to the employment of vaginal Cesarean section; it is an operation which requires considerable technical skill, and, while it has a distinct place in obstetric surgery, the wholesale use of it which is being recommended at present is, in my opinion, entirely unwarrantable. Any operation which offers the risks of puncturing the bladder and rectum—and I have seen this done by competent operators—the dangers of hemorrhage and the difficulties of suture which this one does, is not lightly to be undertaken, except in the hands of an experienced vaginal operator, under exceptional circumstances, and even he may at times meet with great difficulties in securing a satisfactory outcome to his case.

Finally, when the patient is delivered, the uterus emptied, and convulsions then either continue or come on, this is the time when efforts should be directed first toward controlling the convulsions, in order that the patient may not do herself bodily injury, and, second, toward securing elimination by the various excretory channels of the body.

To control convulsions, for a long time chloroform has been used most generally. In addition to this, bromids and chloral by rectum, morphin and other hypnotics have been tried. For the past few years, however, I have been using scopolamin hydrobromate, gr. 1/100, in combination with morphin sulphate, gr. 1/6, and have been highly pleased with the results, which have been most satisfactory. One or two doses generally suffice, and the amount of morphin given is not sufficient to lock up the bowels, which is the objection usually lodged against it. It is to be remembered, however, that the changes in the organs have here advanced so far that they are not doing their excretory work properly, and so the main attention should be turned toward elimination. This is accomplished by rectal irrigations of normal saline solution in large quantities, by bleeding followed by intravenous infusions of normal salt solution, hot packs and as free catharsis as possible. Thyroid extract has been tried with apparent promise, and in some parts of the country veratrum viride is still high in favor.

In closing, allow me to emphasize that—until we have a more tangible knowledge of the actual cause of these toxemic convulsions—the only feasible treatment for the condition of eclampsia is immediate evacuation of the uterine contents, *followed* by proper eliminative care in the puerperium.

37 Madison Avenue.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. WELCH AND M'PHERSON

Dr. Horace G. Wetherill, Denver: I read a paper on subject allied to this at the Chicago Session last year. I saw in the pathologic collection the livers and brains from the cases reported by Dr. Welch, and they are characteristic of similar cases which I have seen. There are one or two points in which my judgment would not confirm the statements made in the papers, particularly in the paper of Dr. Welch. He says that usually the ophthalmoscope shows very little. In the cases I have had an opportunity to observe the ophthalmoscope has been of the greatest possible assistance. Early in the disease, and before many of the general symptoms were developed, there were very definite changes in the eye-grounds in the form of a neuroretinitis or even small retinal hemorrhages, and I have learned to think that the oculist may be of great service in making early diagnoses in these cases. I can not agree either with the statement made with reference to the use of chloroform. We know that the cases of late chloroform poisoning present pathologic changes closely allied to those which Dr. Welch has shown us in drawings, and in my opinion it is not at all safe or wise to give chloroform to patients under these circumstances. That is a point which I tried to make clear in my paper last year, and which my previous observation and subsequent experience lead me to believe is a very important one.

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[2] The Journal A. M. A., Dec. 12, 1908, li, 2041.

Dr. F. Lawrence, Columbus: I wish to report briefly two recent observations, for what they may be worth in the matter of etiology or causation, and possibly for the help they may give in future observations. One patient was a young woman, a primipara, under the care of an excellent physician. There was marked anemia, on account of which a blood-count was made by a pathologist. The hemoglobin test revealed between 30 and 40, about 2,000,000 and a fraction under 3,000,000 reds, with approximately a normal count of about 4,500 white corpuscles. There was at the first observation very little albumin, but in the course of perhaps ten days there was a further marked diminution in hemoglobin and in the red blood-count, with approximately a level white blood-count. The albumin markedly increased and the woman died in an eclamptic seizure. The other patient was a young woman who a year before aborted with twins at about the fifth month. She had a marked amount of albumin and was anemic. She was taken to the hospital, where the blood-count showed 2,100,000 reds, 4,200 whites and 31 hemoglobin. She was placed under the charge of my colleague, Dr. Whitaker, and he treated her by the usual remedies and by forced feeding to increase the blood count and the hemoglobin, but without effect. She was near term, and was delivered naturally and without convulsions. About twenty-two hours afterward she died like a flash. She had a marked amount of albumin. The question in my mind is, how much can we do by more careful blood observation to prevent these unfortunate deaths? How much can we do by educating not only the physician, but the patient that the woman who is to become a mother should have all the careful observation in the early stages of pregnancy that is given in any other crisis of life? It seems to me that we should accomplish something in this matter by an exhaustive study of the blood conditions.

Dr. C. C. Frederick, Buffalo: I wish to relate an experience that I recently had which might possibly be of interest. In January or February I read a paper in Detroit before the Wayne County Medical Society. At a little informal gathering after the meeting the subject of tetanus came up for discussion, and Dr. Hutchins of Detroit spoke of the control of the convulsions of tetanus by the administration of "chloretone," and told me that he had succeeded in controlling convulsions in five cases of tetanus out of six through to recovery. This is an unusual percentage, and he ascribed his success largely to the chloretone as an antispasmodic. It occurred to me that possibly this drug might be of benefit in puerperal eclampsia because if the eclamptic seizures in the ordinary run of cases can be controlled by any means whatsoever, without detriment to the patient, the patient may be carried along until by elimination the toxemia is got rid of and the convulsions cease. I agree with those who oppose the use of chloroform because, as stated, we know that the late poisonous effects of chloroform are very similar to the results of toxemia. I have seen two cases in consultation, in both of which I advised the use of chloretone as an antispasmodic, and I was much pleased with the effects. It is given by rectum if the patient is unable to swallow. If the patient can swallow, 10 or 15 grains are administered in water. I carried both these patients along with the chloretone for twenty-four and thirty-six hours, respectively, until they were rid of the toxemia.

Dr. C. S. Bacon, Chicago: I wish to call attention particularly to the nature of the disease that precedes the convulsions. It seems to me that it is an advantage for us to look on eclamptogenic disease, the pre-eclamptic stage, as a disease, one symptom of which is convulsions. Looking on it in this way we regard the convulsions simply as the crisis, as we regard infantile convulsions as the crisis of an intestinal infection. The question is then the study of this eclamptogenic disease and here, of course, the pathology as discussed in the paper of Dr. Welch is of the utmost importance. But the question of diagnosis before the convulsion occurs is also of importance. We have all had the experience that the study of the urine fails us. Sometimes convulsions occur when there has been no albumin up to within a few hours of the convulsions. The eye symptoms fail. Other symptoms fail. I have long regarded general edema as one of the most important of the symptoms of this disease. In the last two years I have begun to make regular investigations of the blood-pressure in all patients, and so far my experience leads me to think that the systematic study of the blood-pressure is one of the best means at our command. I have not yet seen any convulsions in cases in which the blood-pressure is not above 160. In most instances, as recorded by the ordinary instruments, the pressure has been in the neighborhood of 180 or above. I believe, therefore, this is a very important point in the diagnosis and the prognosis of the disease. It is also of great value in the diagnosis of eclampsia. I have had two cases this year in which the convulsions were diagnosed as eclamptic, but were shown afterward not to be eclamptic. One patient was hysterical, the other was an old epileptic. In both cases eclampsia was doubted because of the low blood-pressure. In general, this would perhaps be of great value in enabling us early to determine this disease and prevent the climax. We know that the results of treatment are very unsatisfactory. The result given by Dr. Welch shows 30 per cent. of maternal deaths. Everything points to the necessity for increased knowledge of the disease and our hope is in a future determination of its character.

This, however, does not carry us very far along toward treatment. Everything that we can do to prevent the occurrence of convulsions we should do. Interference with the high blood-pressure is of value. The induction of labor I believe is of the utmost importance. Up to the last year I have been favorable to the vaginal Cesarean section, but one or two bad experiences of my own, and others reported by other operators in my own town have led me to the same conclusion as that expressed by Dr. McPherson, namely, that the method is dangerous. Undoubtedly the dilatation of the cervix in proper cases is the correct method to pursue with delivery by forceps or otherwise if the cervix is thoroughly dilated but in a rigid cervix the abdominal section is quicker and safer than the vaginal.

Dr. Henry D. Fry, Washington, D. C.: I am gratified to find that Dr. McPherson bears out the line of treatment that I suggested in the paper I read last year before this Section in Chicago. I think that the only way to treat eclampsia until we know something about the cause of it is to treat it in the same way that we treat placenta prævia. In some cases there is a dangerous condition, the result of the fetus in the uterus, the mother is liable to die of hemorrhage, and the only safety to the woman is to empty the uterus at once. In other cases there is a toxemic condition coming on and if we delay by using any treatment other than immediate evacuation of the uterus we are losing valuable time. I am sorry to have Dr. Fredericks recommend chloretone. It may be a good thing, but we have done too much in this line of trying to hold back the convulsions by the use of antispasmodics. The only good statistics to be found to-day of the treatment of eclampsia, the only ones giving a mortality under 10 per cent. are those given as a result of emptying the uterus at once, and no other. If the obstetrician dilly dallies, treats with diaphoretics, etc., to control the convulsions, he is losing valuable time. Dr. McPherson showed that the mortality is highest in the antepartum cases. This is because of the delay; because the uterus is not emptied soon enough. The statistics which he gives of the high death rate after the birth of the child is contrary to many of our text-books, which state that in the most favorable cases the mortality is only 7 per cent. I believe the mortality is higher and that the reason that these women who die in the post-partum stage do not die from the primary toxic condition but from a secondary condition, is a complication involving not only the mother's liver but the brain. The brain shows intracranial hemorrhage, and I think these women who die in what we call eclampsia postpartum, die of secondary conditions, the result of letting the convulsions continue too long. The indication is therefore to empty the uterus at once. The text books are very conservative on eclampsia. They first state what to do to eliminate the poison; next, to control the convulsions, and last, they tell about the obstetric treatment, but they do not urge the quick and prompt evacuation of the uterus.

If that is the line of treatment the next question is how best to empty the uterus. In cases in which labor has advanced and the cervix is dilated, it is easy to apply forceps after rupturing the membranes. The larger number of cases of eclampsia we have and the worst cases are those in primiparæ, in whom there is an intact cervix, rigid and undilated, and in whom labor has probably not begun. Such a uterus can not be emptied quickly by manual dilatation, by the rubber bag, or by the Bossi dilator. Either abdominal or vaginal Cesarean section must be done. The maternal mortality in abdominal Cesarean section is high; the fetal mortality low. I want to say something in favor of vaginal Cesarean section. The operation is not popular. At the session in Chicago Dr. Carstens, in discussing my paper, said that vaginal Cesarean section was such a simple thing that every general practitioner ought to be prepared to do it. I disagreed with him and agree with what has been said to-day, that the operation should be done only by a man who does vaginal surgery; and, done by such men I think it is the most valuable obstetric practice in eclampsia in primiparæ.

Dr. C. C. Frederick, Buffalo: I do not think that Dr. Fry had any right to assume that I believe in sacrificing any patient with puerperal eclampsia simply because I recommended the use of chloretone. I feel sure that Dr. Fry would do anything to control the convulsions while he was getting the baby out of the uterus. Chloretone will do that. I take the baby out just as quickly as I can, but I believe in the use of chloretone to control the seizures.

Dr. Reuben Peterson, Ann Arbor, Mich.: I am glad to hear Dr. Fry approve of vaginal Cesarean section. I am a believer in the operation, but I disagree with him in regard to the use of this operation by the general practitioner. It is not an especially easy operation, but what under certain conditions is the practitioner going to do? When he encounters one of these cases out in the country he can not send ten, fifteen or twenty miles for a specialist. If he could do that it would be all right, but he has to meet the emergency as he finds it, and how shall he do this? Take the kind of patient Dr. Fry is speaking of, a primipara with rigid cervix. We all know what dilatation of the cervix under these conditions means. The practitioner begins before breakfast, goes home to lunch, returns and continues the dilatation, and then finally, after having infected his patient, delivers her. Given such a condition, what operation will do the least damage? I maintain that the general practitioner under such conditions will do the least damage by doing a vaginal Cesarean section rather than manual dilatation. The only other operation is dilatation with the Bossi instrument, the use of which will do far more damage than the vaginal Cesarean section. The latter operation is one which the general practitioner need not hesitate to peform, for the life of the woman depends on emptying the uterus quickly and I firmly believe that that is the proper treatment in eclampsia. He makes an incision anteriorly or posteriorly, as the case may be. He pushes up the bladder, splits the cervix and delivers by version. Vaginal Cesarean section is a much simpler operation than high-forceps delivery, yet the high-forceps operation is thought perfectly proper for the general practitioner to do. In our schools the students are taught to do this dangerous operation, and yet when it comes to a much simpler operation, splitting the cervix from below, the practitioner is told that he should not do it. I am not a believer in indiscriminate operating by the general practitioner, but when the emergency arises and he has to empty the uterus, he will do this with better results by the vaginal Cesarean section than by manual dilatation.

Dr. J. E. Welch, New York: In the diagnosis of eclampsia by examination with the ophthalmoscope, the examinations were made in a number of cases, not by me or any one inexperienced in the use of the ophthalmoscope, but by no less an authority than Dr. Arnold Knapp. I have his word for these changes. Of course pregnant women dying of convulsions may have hemorrhages in the background of the eye. These patients may be suffering from nephritis as a primary disease in which hemorrhages are not uncommon. It is possible for the convulsions to be produced by other conditions than those which cause the liver changes mentioned. As to bacteria being the cause of eclampsia I can say, after making many blood cultures, that I have never found it so.

I did not mean to give the impression that autolysis occurred in one case only. In the section marked autolysis, the cells are very much enlarged and retain their outline, but the protoplasm appears to have been dissolved. One liver showed this condition throughout and it can be found in nearly all the cases in isolated cells. Women dying of convulsions often do not show these advanced liver changes, and again others dying without convulsions may show them; from which we may assume that the convulsions are not always produced by the liver lesions.

The urine has been responsible for induction of many labors. At first it was albumin which was responsible for the induced labor, then urea. Many a man has terminated pregnancy because of a low urea percentage. Then the nitrogen and the high ammonia content came in for attention. These changes only indicate a disturbed metabolism and are found in conditions other than pregnancy, and from which recovery often takes place. No one of these things can be depended on as an absolute criterion. The finding of leucin and tyrosin is most unsatisfactory. Their presence cannot be determined by the microscope, for crystals resembling them often, when submitted to some more ultimate test, prove to be a different composition. The blood pressure in these cases is usually high. Some patients will have convulsions when the pressure is below 160. We are now familiar with the pathology of eclampsia from the standpoint of morphology, but we are in need of some certain means of diagnosis to determine which patients are in danger and which not.

The obstetrician should be one of the broadest men in the profession of medicine and able to study his case from all possible standpoints. Usually it is the young man recently out of college to whom the older practitioner turns his obstetric cases. The greatest evil comes through the midwife who is untrained and cannot recognize the danger signals in this condition. This Section of the American Medical Association ought to take some action toward limiting the practice of midwives. In these cases the lives of two persons are endangered, and since we find no one pathologic condition that will tell us which is the dangerous case and which is not, the obstetrician should be thoroughly trained in the interpretation of clinical signs both by the bedside and through the laboratory.

Dr. Ross McPherson, New York City: I think I stated in my paper that chloroform was used. Dr. Wetherill thought I advocated the use of it. It was because I objected to its use that I tried to get something else and began the use of scopolamin in the doses of which I spoke. I do not think scopolamin can be trifled with indiscriminately, and I am inclined to think that the dangers of chloroform are over-rated, because there is so much of it used without any apparent trouble. However, the lesions that one does find posmortem, agree with the excessive use of chloroform. I do not agree with Dr. Wetherill that edema is an extremely important symptom. I see many patients with an excessive amount of edema who do not have eclampsia and who recover without trouble. I admit that it is distressing to have a patient who is absolutely water-logged. I have had one or two recently who have had quite as much edema as any patients I have ever seen, with absolutely no other symptoms at all.

Regarding vaginal Cesarean section, Dr. Peterson sums up the matter very well in saying that if the obstetrician knows the technic it is not a difficult operation. But the trouble is that the general practitioner does not know the technic and has not the opportunity to get the experience. It is very simple to say, make an anterior incision in the cervix and a transverse incision in the vaginal vault and push the bladder out of the way; if not enough room, then make a posterior incision, go in and push the rectum out of the way, but it is difficult to do it. Furthermore, these patients have a way of bleeding quite extensively. I think the operation has a distinct time and place, but that the indiscriminate use of it is an extremely hazardous thing.

THE TREATMENT OF DIABETES MELLITUS*

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The treatment outlined in this paper has been followed during the past two years in a number of cases of diabetes mellitus of various types; old cases in old subjects, more recent cases in younger subjects. From the experience thus gained I have been able to outline a regimen which, when adapted to the individual peculiarities and idiosyncrasies of the patient and supplemented by the administration of atropin, which I shall discuss in greater detail presently, has given very satisfactory results. The amount of sugar excreted has fallen rapidly, the patients have gained in weight, their carbohydrate tolerance has increased, their general condition has improved, they no longer ask for great quantities of food and of water, and they seem to be able to keep up their treatment over a long period without undue craving for carbohydrates.

While the majority of my patients have been adults, I shall at present consider only cases of diabetes occurring in juveniles. After a brief outline of the histories of three cases, I shall discuss the treatment under the following headings:

I. The administration of fats.

II. The presence of acetone bodies in the urine and their relation to strict protein diet.

III. The quantitative limitation of the proteins and fats.

IV. The administration of drugs.

REPORT OF CASES

Case 1.—*Patient.*—Willie S., aged 9; no family history of diabetes. Except for measles in early childhood and a tonsillotomy three years ago he had always been well; had always had nocturnal enuresis. Present illness was of four or five months' duration. Mother had noticed an increased amount of urination, together with excessive thirst and bulimia. He was growing thinner and weaker. There had been a gradual progression of these symptoms. On admission to hospital, Oct. 15, 1908, he was passing between 4,000 and 4,500 c.c. of urine containing 250 gms. of sugar, acetone and diacetic acid. He weighed 56 pounds and was in poor physical condition.

Course of Disease Under Treatment.—He was put under the treatment I shall outline presently, and by the middle of January (three months) was sugar-free, passed between 1,500 and 2,000 c.c. of urine, weighed 61 pounds, and had lost his diacetic acid. His urine continued to show acetone until February 1. Since then, with the exception of occasional days on which he had a slight glycosuria due to his having surreptitiously obtained cakes or other forbidden foods, his urine has been free from sugar. He weighs 70 pounds. He is still under observation in the hospital.

Case 2.—*Patient.*—Barney O., aged 11; admitted Feb. 27, 1909; discharged April 24. Father is "nervous." There was no family history of diabetes. There were three other healthy children. Mother had five miscarriages. Patient had the usual diseases of childhood. Patient, six years before admission, suffered a blow over the right eye and a fall from which he was unconscious for ten minutes. He was a nervous, sensitive child and had had nocturnal enuresis since infancy. Three months previous to admission he began to lose weight and mother noticed an increased thirst and appetite. Patient began to cough and expectorate blood (?). Weakness increased and urine was found to contain sugar. On admission he passed between 2,000 and 3,000 c.c. of urine, containing 78 gms. of sugar, acetone and diacetic acid. He weighed 73 pounds.

Course of Disease Under Treatment.—Diacetic acid disappeared in ten days under treatment. Acetone persisted for two weeks longer. He gained weight and the urine gradually lost sugar. By April 10 his urine was sugar-free and he weighed 84 pounds. The urine was still sugar-free on June 9, 1909.

Case 3.—*Patient.*—Bertha N., aged 14; admitted Jan. 10, 1909; discharged February 26; well until present illness. No diabetes in family. Menstruation began one year before admission, regular; amenorrhea for past three months; for past two weeks the patient had noticed bulimia, excessive thirst and frequent micturition. She voided large quantities of pale clear urine; thought she had grown thinner. On admission she passed from 1,500 to 2,000 c.c. of urine containing acetone and diacetic acid and about 25 gm. of sugar. She weighed 90 pounds.

Course of Disease Under Treatment.—Diacetic acid disappeared in three days, acetone in two weeks. Sugar diminished and weight increased. On February 24 the urine was free from sugar and the patient weighed 97 pounds. She insisted on leaving the hospital. This case, as well as the preceding one, has been under my observation since leaving the hospital. The urine of both patients has remained free from sugar; their general condition is excellent.

I. ADMINISTRATION OF FATS

All authorities on diet in diabetes recommend the administration of large quantities of fat on account of its high caloric value and its easy assimilation. This is to supply the deficit in the caloric value of the food due to the withdrawal of the carbohydrates. I have found, however, that the large quantities of fat ordinarily used often cause severe digestive disturbances, such as anorexia and diarrhea, with consequent loss to the patient of all that had been gained by weeks of careful treatment. In those patients who were given only small quantities of fat nothing but good effects were observed. The sugar excretion diminished, and eventually disappeared, the patients gained weight, and felt better than those who were on a rich fat diet.

In some cases vegetable fats can be substituted for animal fats with great advantage. Olive-oil is the best form in which to administer fat, and is especially well borne by young subjects. It should be given in gradually increasing doses, from one teaspoonful to two tablespoonfuls and more after each meal.

II. ACETONE BODIES AND THEIR RELATION TO PROTEIN DIET.

The question arises whether or not we shall continue our attempt to reduce the glycosuria by the withdrawal of carbohydrates in the presence of large quantities of acetone and diacetic acid. This is the problem the practitioner is asked to face in all severer cases. He finds in the text-books that when acetone bodies appear in the urine he is immediately to add carbohydrates to the patient's diet to ward off the onset of coma. The results of my observations have led me to the conclusion that this dictum must not be applied indiscriminately, and that in very many cases of acidosis a strict protein diet is not merely not harmful but even distinctly beneficial.

The carbohydrates in severe diabetes do not enter into the patient's economy. They increase the hyperglycemia, are excreted as glucose in the urine, and often prevent but little, if at all, the formation of the acetone bodies.

When a healthy person is suddenly deprived of all carbohydrate food, acetone, above the small quantity present normally, usually appears in the urine. Diacetic and beta-oxybutyric acids also appear occasionally. All these acetone bodies will disappear in a few days, however, even though the carbohydrates continue to be withheld. In the majority of cases of diabetes, especially in those of a milder type, the same rule holds good. Most of the patients who enter the wards of Mount Sinai Hospital with diabetes show acetone, and many of them have diacetic and beta-oxybutyric acids as well. I have up to now been fortunate in never having seen a single case in which coma followed a strict protein and fat diet to the exclusion of all carbohydrates.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Those patients who have been under observation and have been kept on a strict carbohydrate free diet for some time form a different class. If they develop acetone bodies it is necessary to allow them some carbohydrates, with a corresponding diminution in proteids, until the diacetic acid diminishes or disappears. We may thus be able to prevent the onset of coma.

In the three cases whose histories I have given there were acetone and diacetic acid present on admission. The first patient was not put immediately on a rigid diet; he was given milk and a little fruit; but in the other two children even the presence of the acetone bodies did not deter us from putting them on a strict protein-fat diet, with the result that diacetic acid, acetone and sugar gradually disappeared from the urine.

III. CALORIC VALUE OF DIET

It has been held that in the ordinary metabolism of a healthy human being living on a mixed diet an amount of food averaging 35 to 40 calories per kilo of body weight is necessary to keep up the nutrition. In diabetes, therefore, when we remove the principal source of energy, the carbohydrates, fats have been used to supply the deficiency, and a diet extraordinarily rich in fat has been the rule. I may run contrary to this generally accepted rule when I say that 35 to 40 calories per kilo are more than necessary, at least in patients who are mostly at rest in bed. My contention is clearly proved by the fact that my patients not only kept up their weight, but even laid on flesh on a smaller number of calories. This observation is not unique. Naunyn mentions a case in which for several months a patient was kept on a diet averaging about 25 calories per kilo. During this time the patient gained 13 pounds in weight.

Whether this is due to the perfect rest, mostly in bed, or whether diabetics, owing to the altered metabolism, are able to use the excess of nitrogenous food to better advantage, I do not know. These are open questions to be decided, perhaps, by future investigation.

The first child was on a liberal protein and fat diet. In the early part of his stay in the hospital his diet was equivalent to about 80 calories per kilo of body weight. During this time he continued to excrete large quantities of sugar and lost weight rapidly. Later the caloric value of the diet was very much reduced by diminishing the proteids, but not the fats. On this limited diet the boy improved very rapidly.

As an example of the diet at this time we find the following:

Tomato soup..	300 gm.	Soup	300 gm.
Spinach soup..	90 gm.	Chicken	60 gm.
Pickle	30 gm.	Eggs (4)	120 gm.
Apple	180 gm.	Almonds	120 gm.
Lettuce	30 gm.	Tomato	120 gm.
Sauerkraut ...	60 gm.	Watercress soup.	150 gm.
Boiled beef....	180 gm.	Olive-oil	60 gm.

The daily diet selected from this list totalled 2,180 calories, averaging 78+ calories per kilo of body weight. Later diets were so arranged that the patient received an average of 30 calories per kilo.

The other two children were given a protein diet with no other fat than that on a little bacon (one or two ounces), and on their meat, which they preferred rather lean. They did well, gained weight, and lost their glycosuria on a diet averaging below twenty-five calories per kilo. As an example we find:

Eggs	325 gm.	Asparagus	40 gm.
Meat	100 gm.	Celery	37 gm.
Chicken	55 gm.	Pickle	70 gm.
Fish	135 gm.	Tomato	125 gm.
Spinach	77 gm.	Soup	300 gm.
Coffee	240 gm.		

A total of 750 calories averaging 21+ calories per kilo.

These diets are not specially selected but were chosen at random from the diet lists without reference to the patients' history charts.

In nearly all cases of any duration that come under my observation the patients are in the habit of taking enormous quantities of food and in some cases there is marked distention of the stomach and intestines. These patients complained of a feeling of emptiness on our reduced diets. Spinach, tomato or cabbage soup and green salads served well to fill up without disarranging their digestion or adding much carbohydrate.

After a short time, due partly to the diminution or cessation of the sugar output and partly, I am sure, to the administration of large doses of atropin, my patients lose this feeling of hunger and are content with smaller quantities.

The rule in feeding these patients is to give them as much of the prescribed food as they demand, admonishing them, however, that it is better for them to eat little. The daily diets that we have recorded do not, therefore, represent the allowance of food, but rather the amount consumed by the patient. This is an important point, as it shows the possibility of continuing a low diet over a considerable time without causing the patient to become dissatisfied with the meagerness of his fare.

IV. THE ADMINISTRATION OF DRUGS

Whenever a number of remedies are offered for the treatment of a diseased condition it is certain that they are alike in one respect, their inefficiency. There is hardly a drug that has not been tried in an attempt to diminish the glycosuria.

There are, however, three drugs to which I wish to direct attention. They are sodium bicarbonate, opium and atropin.

The use of sodium bicarbonate is usually limited to the control of acidosis. I have received the impression, however, that when given in conjunction with a carbohydrate free diet and in sufficiently large doses—30 to 40 gm. a day—it exerts a distinct inhibiting influence on the excretion of sugar. This statement has also been made by Reale. That this drug has an influence on the pancreas, the organ that is most concerned in diabetes in man, is further shown by the experiments of Pawlow on dogs and more recently by the beneficial action of sodium bicarbonate combined with strict carbohydrate free diet in the healing of pancreatic fistulas in man (Wohlgemuth).

Opium and its alkaloids, morphin and codein, enjoy a great measure of well-deserved popularity. The objections to these drugs are the danger of establishing a drug-habit and the uncertainty of their action. In some cases there is no response at all to their administration; in others as soon as the drug is stopped the glycosuria returns and much larger doses are then required in order to control the sugar excretion again.

It is in those cases in which the neurotic element is present that opium is especially valuable. One such patient, a woman, very tractable, very amenable to treatment, who had no opportunities to indulge in forbidden food, would repeatedly have attacks of depression or excitability accompanied by an increase in glycosuria. These attacks were always allayed and the amount of sugar reduced by liberal doses of codein.

It has been my good fortune to discover that atropin has a more marked influence on the sugar excretion than any of the drugs that have heretofore been tried. It has the advantage of being well borne in large doses, if given cautiously and in gradually increasing amounts. In two and a half years' clinical experience I have not found that a habit has been established in any case or that there are any bad effects on the general health from its prolonged administration.

With atropin the glycosuria disappears much more rapidly than with a carbohydrate-free diet alone. When, with the cautious increase in carbohydrates in patients whose urine has become sugar-free, sugar again appears, it is often possible to suppress the sugar excretion solely by atropin without reducing the carbohydrates. In other words, the carbohydrate tolerance is greater with atropin than without. The sulphate is the form most generally used in the wards. Methyl bromid (Merck) has certain advantages. It is much less toxic than the sulphate and is therefore safer for patients who are not under daily supervision. Its action is not as striking as that of the sulphate. The glycosuria does not disappear as rapidly nor is the limit of carbohydrate tolerance raised as soon as with the sulphate. Its expense, too, limits its use somewhat.

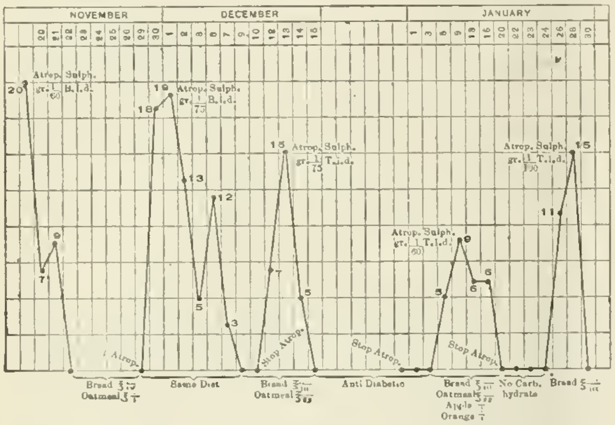

Chart showing amount of sugar (represented by isolated figures) excreted in urine of a woman of 35 under administration of atropin.

Extremely large doses of methyl bromid of atropin are well borne if given with care. I have found that an initial dose of gr. 2/15 t. i. d. can be safely used in adults and can be increased by gr. 1/15 at a time until gr. 8/15 are being given three times daily. In one instance three grains were given daily over a short period with no other disagreeable effect than dryness of the throat. In children I would advise gr. 1/60 t. i. d. as an initial dose.

With the sulphate the initial dose in adults was gr. 1/150 t. i. d. increased slowly in some cases up to gr. 1/20 t. i. d. In the nine-year-old child the initial dose was gr. 1/250 t. i. d., which was increased up to gr. 1/10 per diem. Not all of my cases required anything approaching these maximum doses. Often a third of the maximum dose accomplished all that I wished.

When the toxic effects were observed, a rapid pulse, flushed cheeks, dry throat and dilated pupils, I either stopped increasing the dose for a time or stopped the drug entirely. Later it was always possible to resume its administration and I was then able to give larger doses without discomfort to the patient.

In conclusion let me present graphically the effects of atropin administration, both on the reduction of sugar and on the increase in carbohydrate tolerance.

As an example I have selected the chart of a woman of 35 years, who was admitted to the hospital Nov. 19, 1906. At this time there was a daily sugar excretion of 20 gm. On a rigid antidiabetic diet, together with atropin sulphate, gr. 1/60 b. i. d., the sugar disappeared in four days. While continuing the atropin four ounces of bread and one ounce of oatmeal were added to the daily diet without the reappearance of glycosuria. On November 28 the atropin was stopped and sugar promptly appeared in the urine. On the readministration of the atropin without change in the diet the sugar gradually fell, and by December 10 it had again disappeared. Despite a partial withdrawal of carbohydrates (bread 3 ounces, and oatmeal ½ ounce) sugar now reappeared in the urine as soon as the atropin was stopped, to disappear with the resumption of the drug.

The patient was now put on a strict carbohydrate-free diet with the continuous administration of atropin for two weeks. On this diet, even when the atropin was stopped, the urine continued to be sugar-free, but on the addition of 3 ounces of bread and ½ ounce of oatmeal the sugar excretion rose promptly to 9 gm. It is, therefore, evident that a smaller amount of carbohydrates sufficed to produce glycosuria when no atropin was being administered. To exclude the possibility of coincidence the experiment was repeated, with the same result.

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ABSTRACT OF DISCUSSION

Dr. Abraham Jacobi, New York City: Diabetes, while a rare disease half a century ago, has become comparatively common. During my work in the clinic of Bonn, eighteen months of continuous service (from 1849 to 1851) furnished but a single case. At that time the disease was considered absolutely fatal. I may have seen fifteen cases in children under 12, all the patients dying and in a comparatively short time, few living more than a few months after diagnosis was made.

On the other hand, there are authors who profess to have had many recoveries. Wegeli collected 108 cases in children with 39 (!) recoveries; Külz reported 30 years ago 111 cases, with 6 recoveries; Langstein, in 1905, reported 8 cases, in 3 of which the patients recovered; Bogoraz reported 500 cases (13 patients under 1 year, 92 from 1 to 5 years, 147 from 5 to 10 years and 234 from 10 to 15 years old) with a mortality of 90 per cent. Since that time he has collected 56 more with 46 deaths. The large number of recoveries reported by some physicians has often made me doubt the diagnosis. Possibly many a case was not one of diabetes, but a pentosuria which has been differentiated only a comparatively few years, so late indeed that Janeway (*Am. Jour. Med. Sc.*, September, 1905) could not collect more than 21 cases.

The etiologic factors are various. Blumenbort believes strongly in heredity. Other causes given are neuropathy, epilepsy, insanity, heredosyphilis, injuries to, or tumors of, the brain, atrophy of the pancreas, dysentery, measles and scarlet fever. In the *Semaine Médicale*, in 1900, Fournier reported a case of diabetes in a heredosyphilitic child of 8, who recovered after a course of antisyphilitic treatment. A family tendency is frequent; I have observed a number of cases in adults in the same family.

Isenflamm saw 7 diabetic children in one family: Thomas, 3; Naunyn, 5; Caron, 3 (3 months, 1½ years and 3½ years). I have seen 2 boys, 3 and 5 years old, respectively, who had a daily output of from 2 to 4 per cent. of glucose. They are at present 11 years older, have been seen by many physicians in America and Europe, have never been without an equal egree of glycosuria and have always been and still are remarkable specimens of physical development and robust ealth. The specific gravity of diabetic urine in children whom have observed has varied from 1.005 to 1.044. The first nstance of urine with a specific gravity of 1.0007, I found in nervous girl of 17. The highest percentage of sugar in any ase was 6.5; Hugnier reports 8.5 per cent. in a child who oided 5,000 c.c. (1¼ gallons) daily, and Leroux reports 10.5 er cent.

In the treatment of diabetes it should be remembered that gluten flours" are mostly unmitigated swindles. I never examined any without finding large amounts of starch. Of 13 specimens examined by the New York Health Department, only 2 were ound to be "comparatively free from starch." The good results von Noorden has attained with his oatmeal diet show hat carbohydrates are not so dangerous as many believe, particularly is that so when their antifermentative effect required to abate acidosis which so frequently follows a use of fat feeding. Animal fat (cream) is a frequent cause f the formation of indican and acetone bodies; vegetable oils re better tolerated; milk is generally well borne and is useful in large quantities when taken slowly. I have given antipyrin with some advantage, but have never administered it or a long time. Adults have taken a gram (15 gr.) of sodium alicylate three times a day after meals, always with as large dose of sodium bicarbonate. Alkali should be given constantly in large doses. The taste of bicarbonate of sodium is ot loathsome to everyone. I believe that I have seen good esults from the use of arsenic; it seems of value in adults. begin with moderate doses, amply diluted after meals, and crease the dose slowly but persistently. In this way 10 inims a day may gradually be increased until 50 or 60 inims are taken without toxic symptoms. Opium is a remedy which surely diminishes the quantity of urine and of glucose. Its detrimental effects are so well known and still more eared—quite often unnecessarily—that it is important to insist on its possibilities for good. I feel sure that there are ery few patients with diabetes that can not be benefited by piates during some part of the treatment. It may often be ombined with atropin or belladonna.

Having seen Dr. Rudisch's patients, I am impressed with is results. That is why I have followed his advice in a fair umber of cases during the past half year or more. In so oing I have an advantage on account of the knowledge obtained during the past fifty years, that in order to attain he effect of atropin it must be given in active doses.

The first symptom of a full, that is, active, dose, is the flushing of the child's cheeks, making it look "feverish" half an our after each dose, continuing for a period of half an hour r more—not a dilated pupil and no particular dryness of the hroat. If a child of 2 years flushes up after 6 or 8 or 10 rops of the tincture of belladonna, let that be the dose. As oon as the effect is no longer needed, increase the dose, drop y drop. In administering atropin to adults, one must, in ost cases, get the dry throat and rather blurred vision; to odify the effect an opiate may be added. I have never used tropin in a case of diabetes in a child for a long time.

Dr. C. G. Kerley, New York: The two boys have not had ess than 6 per cent. of sugar in the last eight years. Including those two, I have seen eight undoubted cases of diabetes n children. The other six cases were rapidly fatal. One patient as nineteen months old and died within three months. The oys, 11 and 15 years of age, are clinically perfectly well. iabetes in children is associated with much thirst and the assage of large quantities of urine. These boys have good ppetites and sleep well. There is no excess in the passage of rine and no excessive thirst. They have been a puzzle to two ontinents. The older boy, six feet in height, and weighing 70 pounds, took three gold medals and three silver medals his year for long jump, high jump and other athletic feats. he younger brother is of exactly the same type. They excrete sugar on a very strict diabetic diet, and though the xcretion of sugar continues, they continue to thrive and row. They are living on a proteid diet and what the outcome ill be we do not know. They are not ill, do not feel badly, nd never have. The fact that sugar was found occurred through the desire of the mother to know that her four children were all well, as mothers will. She sent me a specimen of the urine of all four and I found the sugar in the two cases. The sugar was only discovered because the mother wanted the urine examined on general principles.

Dr. Julius Rudisch, New York: Dr. Jacobi means that to get the effect of atropin one must push the remedy until the physiologic effect is obtained. To a child I have given as much as 1/10 grain of atropin in one day and to an adult as much as 1/6 grain in a day without any bad results.

ACANTHOSIS NIGRICANS

A SYMPTOM OF A DISORDER OF THE ABDOMINAL SYMPATHETIC *

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HISTORICAL SKETCH

In 1889 a woman who presented a group of symptoms hitherto undescribed entered Dr. P. G. Unna's clinic for skin diseases in Hamburg. The case was referred to me for description and publication, and the report appeared in the *International Atlas for Rare Skin Diseases* in 1891 under the title of "Acanthosis Nigricans." Before the publication of my paper a similar case was observed by Janovsky of Prague, who sent the description of his case to the *International Atlas*, and the two cases appeared in the same issue, Janovsky accepting for the disease the name which had been proposed by Unna.

On the occasion of my visit to Paris in the summer of 1890, Darier showed me two cases of the same disease which had shortly before come under observation at the Hospital St. Louis, and which he published in 1893 under the descriptive title of "Dystrophie papillaire et pigmentaire." Since that time about fifty cases of the disease have been recorded in various parts of the world, and the condition is now recognized everywhere as a distinct clinical type. But an acquaintance with the condition, which is certainly more frequent than published reports would indicate, has evidently not been brought home to the profession in general, and it is the purpose of this paper to aid in diffusing knowledge of a disease which is of the gravest import to the patient.

DESCRIPTION

The cutaneous manifestation of the disease may be summed up as a widespread pigmentation and papillary hypertrophy. These two disturbances are in the main associated, affecting the same regions, though occasionally there is pigmentation without noticeable papillary hypertrophy, and on the mucous membranes there is the papillary hypertrophy without pigmentation. The regions of the skin affected are, in their order of frequency in the cases recorded, the axillæ, the neck, the external genitals, the groin, the face, the inner aspect of the thighs, the flexor surfaces of the elbows and knees, the umbilical region, the perianal region, the back of the hands, the breasts, the gluteal region, the hypogastrium, the forearms, the perineum, the eyelids, etc., and there is usually the most perfect symmetry in this distribution. For the recognition of the disease the symmetry and typical localization are scarcely less important than the occurrence of the cardinal symptoms of hyperpigmentation and papillary hypertrophy, while of secondary importance is the absence of certain other conditions, namely, scaling, hyperkeratosis, xerosis and itching.

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* Read in the Section on Dermatology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic

The first published case of this disease serves so well as the type of the cases subsequently recorded that I can best convey an idea of the clinical picture of the disease by repeating the description given at that time.

REPORT OF TYPICAL CASE

Patient.—Mrs. L., aged 62, widow. No history of tuberculosis or of syphilis. Patient had always enjoyed excellent health. Her skin disease had existed for about eight weeks, and had attacked all the affected regions at about the same time. There was at first everywhere, except on the hands, a slight prickling sensation which ceased in the course of a few days.

Present Illness.—The disease affected the upper extremities, the neck, the mouth, part of the trunk, and the genitocrural regions. The skin of the hands was in general of a dirty brownish color; on the back of the hands there were patches of a bluish-gray, somewhat deeper in color along the course of the veins. The normal areas of the cuticle were very prominent, standing out somewhat convex and with a glassy shimmer; some of them showed several glittering points corresponding to the smaller subdivisions of the cuticular areas. The natural furrows were deeply marked, the skin of the entire hands looking as if it were too large for them. On the back of the proximal phalanx of the thumb there was a patch the size of a shilling in which the dirty discoloration and the prominence of the cuticular areas were especially marked, giving the patch the appearance of a diffuse flat wart. The skin of the entire hand was rough and inelastic. The palms were slightly darker than normal; their furrows and folds were strongly marked and the skin felt dry, hard and thickened. On the anterior surface of the lower third of the forearm the peculiar discoloration was very striking and numerous small brownish patches, like freckles, were to be seen. On the dorsal surface of the forearms the discoloration was especiallly marked over and along the course of a vein. On the upper arms there were several lentil-sized warts which were said to be of recent development. The neck appeared as if encircled by a dirty dark grayish band which sent irregular offshoots downward toward the sternum, clavicles, shoulders and scapulæ, and upward toward the face. The skin here showed the changes described as existing on the hands, but in a much more marked degree. Some of the cuticular areas projected above the general level almost like papillæ, others were flatter; the whole running together to form a diffuse, discolored, warty surface. Similar changes were seen in both axillæ and under both breasts, only that here the coloration was rather grayish-white. On the abdomen there were a few horizontal linear indications of a similar condition. The crurogenital folds and the large labia showed the same changes in a marked degree. The entire region presented a grayish discoloration and diffuse warty prominences, the latter especially marked in a grayish-white patch, about 3 cm. in diameter, to the right of the vulva. There was a slight indication of the disease on the chin and on both auricles. From the beginning the tongue and mouth were painful. The anterior half of the hard palate was covered with fine granulations resembling small venereal warts but softer to the touch than these growths. A few outlying patches of a similar growth were seen on the posterior half of the palate. The upper surface of the tongue, especially in the middle line, was covered with more or less prominent condylomatoid growths, the morbid process sparing only a narrow strip on each side extending from behind forward to a point above 2 cm. from the tip. These lateral strips were free from prominences, smooth, and of a bluish-white color, and at their borders, as they merged into the affected region, there were numerous small discrete papillary growths. Underneath the plate of artificial teeth the depressions for the teeth on the lower jaw were seen to be occupied by similar warty growths. A like condition was seen on the mucous membrane of the upper lip and extended for about 2 cm. beyond the commissures of the lips, as an irregular prominent grayish mass resembling a large venereal wart.

Course of Disease.—After four weeks of energetic local treatment the condition remained practically unchanged and the patient left the clinic. Three or four months later a gradual improvement set in and the patient's skin and mucosa finally resumed a nearly normal appearance. By this time, however, she was complaining of great general debility and there was a very marked edema of the ankles. The daily quantity of urine was under the normal, but there were at no time albumin or renal elements in the urine. Meteorism and a slight abdominal ascites were noted. The general asthenia and the oliguria grew more marked till complete anuria set in, the patient dying from heart-failure, without symptoms of uremia, ten months after the onset of the cutaneous disorder. The clinical diagnosis of abdominal carcinoma occultum was made. A postmortem examination was not permitted.

ASSOCIATION WITH CANCER

When, in 1893, Darier published his two cases, in each of which there was an abdominal cancer, one with unmistakable clinical symptoms of that disease, the other showing extensive carcinoma of the abdominal organs on autopsy, the thought lay near that the peculiar cutaneous disturbance was etiologically associated with the abdominal cancer. This suspicion was strengthened by a series of cases which soon followed, in all of which there was either a demonstrable carcinoma of an abdominal or pelvic organ or strong clinical grounds for suspecting a malignant growth in this region.

BENIGN OR JUVENILE FORM

Then came several observations of a similar cutaneous condition—pigmentary and papillary hypertrophy—in children or adolescents who seemed in excellent health and in some of whom the cutaneous disorder had existed without change for many years. These juvenile cases obviously required a modification of the view that acanthosis nigricans was dependent on the presence of a malignant growth. As the observations of juvenile and adult cases multiplied some differences were noted in the cutaneous manifestations of the two classes of cases as well as in their course. In the juvenile cases the skin dystrophies are rarely so well marked or so extensive as in the adult cases. In them the disease, once established, usually remains stationary for an indefinite period—in one case over forty years—while in the adult cases the cutaneous lesions undergo fluctuations in their development, sometimes even disappearing completely. In the juvenile cases the health of the patient seems little, if at all, disturbed, while in the adult cases the patients rarely survive more than two years after the appearance of the skin lesions, their average duration of life being a little over one year.

UNPUBLISHED CASES

Cases of acanthosis nigricans have been reported from almost every country of Europe—France, Germany, Austria, Russia, England, Switzerland, Norway, Finland, Bulgaria and Turkey; but from the United States only one case has been published, that of Dr. Roblee of Los Angeles, a case which belongs to the juvenile type. Through the kindness of Dr. Grover Wende of Buffalo I am able to add two unpublished cases to this list, one occurring in a woman, aged 42, of American birth, suffering from cancer of the uterus with abdominal metastasis. The papillary and pigmentary dystrophy affected the neck, axillæ, umbilicus, groin, anogenital region and elbow. In the mouth there were large papillary excrescences; under the breasts there was pigmentation without papillary hypertrophy. The patient died about two and a half years after the onset of the cutaneous disorder. I saw photographs of this case, which was typical. Dr. Wende's second case occurred in a boy of Italian parentage, 8 years old, the disease having appeared one year before. The skin lesions, says Dr. Wende, were well marked and occupied the usual regions. The child had a greatly distended abdomen, was under observation about one year and during that time lost weight. The case was lost sight of and its further course is unknown. It is a question whether this case belongs in the juvenile group, as the patient's age would indicate, or whether there may not have been a malignant growth in the abdomen.

Dr. Ormsby of Chicago informs me that he has seen such a case in the practice of Drs. Hyde and Montgomery in a lad of 15 who was an extreme alcoholic, and I am indebted to these gentlemen for a copy of the late Dr. Montgomery's notes of the case. The patient was 16 years old, in good general health, and weighed 215 pounds (98 kilos). His skin disease began about a year before as a pigmentation in the axillæ, groins and around the neck. Its color ranged from a pale yellow-brown to almost black and was most marked about the nipples, umbilicus, axillæ, inner sides of the buttocks, anus, genitocrural region, over abdomen and neck, and was present in lesser degree over the abdomen, chest, middle of the back, angles of the mouth and the sides of the nose and the eyes. A papillary hypertrophy accompanied the pigmentation, and in general was more marked the deeper the pigmentation, ranging from soft velvety prominences to large wart-like and filiform growths. The mucous membranes of the lips and cheeks (and tongue?) showed beginning thickening and had a grayish color. The case was seen but once, and nothing is known of its further course. It is worthy of remark that alcoholism has been noted in a fair number of these cases.

I have no doubt but that many cases besides these have occurred in this country. I was recently called by Dr. Morris Manges of New York to see a woman, aged 42, *in articulo mortis* from cancer of the colon (a large tumor being palpable in the right hypochondrium) who presented a broad band of pigmentation encircling the neck, and at the back of the neck an area extending from the border of the hair to the sixth cervical vertebra and laterally to the anterior border of the sternomastoid muscle on each side, which presented the typical appearance of acanthosis nigricans, being covered with a uniform, slaty-brown, velvety mass of hypertrophied papillæ of an average height of 3 or 4 mm. On the back of the third and fourth finger of each hand there was a flat, pigmented, warty growth about 6 mm. in diameter; and there were similar but smaller pigmented, flat, warty prominences on the upper surface of all of the toes at their junction with the foot. The mucosæ were normal. The pigmentary and papillary hypertrophy at the back of the neck had been seen by Dr. Manges two and a half years before, but the area involved was then smaller. I have no hesitation in including this case in the group of acanthosis nigricans, though the case is atypical in the slight extent of development of the lesions and their absence from the mucosæ. It may be called an *acanthosis nigricans partialis.*

MULTIPLE PIGMENTED WARTS IN CANCER OF THE COLON

The question arises whether an atypical mild case like this may not be regarded as a connecting link between the fully developed acanthosis nigricans and the condition of multiple small pigmented warts, pigmentary patches and telangiectasis occurring on the abdomen of patients affected with abdominal cancer, to which Holländer[1] has directed attention and to which he ascribes a diagnostic value in the early recognition of cancer of the colon. His observation has been corroborated by numerous writers, and Dr. Willy Meyer of New York, in a communication before the American Surgical Association, 1906, narrates several cases of this kind and does not hesitate to call this condition acanthosis nigricans. He has seen the little warty growths and the pigmentations disappear after successful operation for the colon cancer which provoked their development. For my part I should hardly feel justified in including these insignificant pigmentary deposits and warty growths, limited to the abdominal parietes, in the same group as the severe and extensive lesions of acanthosis nigricans. Certainly the multiple angiomas described have nothing to do with acanthosis. It is nevertheless undeniable that these lesions, representing a papillary and pigmentary dystrophy, however limited, occur in many cases of cancer of the colon and at least the possibility of a related pathogenicity must be admitted.

Including Wende's two cases, the Hyde-Montgomery case and my second partial case, there are a total of fifty-two cases of this disease thus far reported. Twelve of the patients are reported as having died, all of them of carcinoma, with the possible exception of one patient, Burmeister's, to whose case I shall presently refer. It must be remembered that most of these cases are reported at the time they are seen, and their termination is left unrecorded. We can judge of their probable course only from their clinical symptoms. In a recent publication Bogrow,[2] in a tabular list of 49 recorded cases, enters the case of every patient over 20 years of age, with the exception of Brocq's case, which I shall presently consider, as malignant or probably malignant, using this term as implying such grave symptoms as would suggest a fatal termination. "Brocq's case" is an example of the persistence of error. Brocq refers, in the course of a discussion on this subject, to a case of pigmentation in the axillæ and groin with a suspicion of papillary hypertrophy occurring in a healthy woman of 38 in whom all the cutaneous lesions vanished spontaneously in the course of a year. He says distinctly[3] that this is not a case of acanthosis nigricans—"il ne s'agissait pas réellement d'acanthosis nigricans"—but nevertheless "Brocq's case" is constantly referred to. It should be thrown out!

The accompanying table of known cases is taken with modifications and additions from Bogrow's table:

TABLE OF KNOWN CASES OF ACANTHOSIS NIGRICANS

Age.	Author.	Course.
2.	Barsky-Pospelow	Benign.
2.	Buri	Benign atypical.
3.	Wolf-Hügel	Benign.
3.	Spietschka, Case 2	Benign.
5.	Filser	Benign.
8.	Wende, Case 2	Benign?
9.	Frankenstein-Juliusberg	Benign.
11.	Jacquet-Delotte	Benign.
12.	Roblee-Boggs	Benign.
14.	Neumann (Rille, Case 2)	Benign.
15.	Spietschka, Case 1	Benign?
15.	Hyde-Montgomery	Benign?
18.	Mzareulow	Benign atypical.
18.	Françou	Benign atypical.
18.	Rille, Case 2	Benign?
18.	Rille, Case 3	Benign?
19.	Pawlow	Benign atypical.
19.	Spietschka, Case 3	Malignant.
28.	Hodara	Malignant
29.	Darier, Case 3	Malignant.
33.	Darier, Case 1	Malignant.
34.	Morris	Malignant.
34.	Grouven-Fischer	Malignant?
35.	Burmeister	Malignant.
35.	Becker	Malignant?

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[1] Holländer: Deutsch. med. Wchnschr., 1900, p. 483; Centralbl. f. Chir., 1902, p. 457.

[2] Bogrow: Arch. f. Dermat. u. Syph., 1909, xciv, 291.

[3] Brocq: Ann. de dermat, 1896, p. 1282.

Age.	Author.	Course.
39.	Guérault	Malignant?
39.	Pollitzer, Case 2	Malignant atypical.
40.	Darier, Case 2	Malignant.
40.	Kuznitzky	Malignant.
40.	Collan	Malignant.
41.	Heuss	Malignant.
41.	Tenneson-Leredde	Malignant.
41.	Hess, Case 2	Malignant.
41.	Wende, Case 1	Malignant.
42.	Janovsky	Malignant?
42.	Tomasczewski	Malignant.
47	Stanislawsky	Malignant?
48.	Bogrow	Malignant.
49.	Hue	Malignant.
50.	Crocker	Malignant?
51.	Gaucher-Photinos	Malignant.
52.	Boeck	Malignant.
57.	Mourek	Malignant?
57.	Kaposi (Grosz)	Malignant.
59.	Tschernogubow	Malignant?
60.	Little	Malignant?
60.	Hess, Case 1	Malignant.
60.	Pribram	Malignant.
62.	Pollitzer, Case 1	Malignant.
65.	Beron	Malignant?
68.	Rille, Case 4	Malignant.
71.	Hallopeau-Jeanselme	Malignant.

RELATION TO ABDOMINAL CANCER

Deducting 17 cases of patients under 20 years of age from the 52 known cases, we have 35 cases of patients over 20 years of age, in 22 of whom, or over 60 per cent., there was certainly or most probably a carcinoma present. In 14 of these cases the carcinoma affected the alimentary tract, in 5 the uterus, and in 3 the breasts; in two of these last there were abdominal metastases. In this list of malignant cases one of Spietschka's is included, though the patient was but 19 years old. This occurred in a young woman who presented a typical and severe case of acanthosis nigricans developing after an abortion and was found to have a chorioepithelioma of the uterus. A radical operation resulted in a cure and four and a half months after the operation all signs of acanthosis nigricans had disappeared. This case may be explained on the assumption that there were small metastatic deposits of the chorioepithelioma in the abdominal cavity provoking a disturbance in the functions of the adrenal sympathetic system, which underwent involution after the removal of the primary tumor. On this point Wells says:[4] "It occasionally happens that after removal of the primary tumor the secondary growths seem to lose their power of proliferation so that they become entirely replaced by fibrous tissue."

To the twenty-two positively or almost certainly malignant cases six more may be added in which the presence of abdominal cancer was on clinical grounds in high degree probable. Altogether we have, therefore, twenty-eight cases (80 per cent.) most probably carcinomatous out of thirty-five adult cases—so large a proportion that the relation of acanthosis nigricans to abdominal cancer must be regarded as established beyond question.

I have referred to Burmeister's case, which is usually quoted as a typical case of acanthosis nigricans in which a postmortem examination showed no tumor of the abdominal organs. In this case the gastric crises, the alternations of anorexia and bulimia, the cardiac attacks, the progressive asthenia, and the death from heart-failure make an unmistakable picture of disease of the adrenal system. The autopsy was made after decomposition had advanced so far that a proper postmortem examination was impossible and the only positive finding was degeneration of the heart muscle, a common occurrence in Addison's disease. For any light it threw on the case, the autopsy may as well have been omitted.

Summing up these adult cases, we may say that in an overwhelming preponderance of the cases there is positive or most probable evidence of malignant disease affecting the organs of the abdominal cavity, and on physiologic grounds we may assume an interference with the functions of the abdominal sympathetic as the immediate link in the causation of the cutaneous manifestations. This is the mechanico-nervous theory proposed by Darier to which I subscribe.

How is it with the juvenile cases? In them there is evidently no progressive growth and we can only speculate that there is a congenital abnormality such as fibrous bands or a benign tumor interfering up to a certain point with the sympathetic functions. One case in which there was a deformity of the thorax and one in which the acanthosis nigricans developed after a blow in the epigastrium lend some color to these speculations. What is still needed to establish the relation between this remarkable dermatosis and a lesion of the adrenal sympathetic system is a thorough postmortem examination.

Note.—For the literature of acanthosis nigricans the reader is referred to Janovsky (Hyperkeratoses, in Mracek's Handb., iii, 97), and to Grouven and Fischer (Arch. f. Dermat. u. Syph., lxx, 237). The more recent cases may be found in Bogrow (Arch. f. Dermat. u. Syph., xciv, 297). To these I must add Pribram's case (Deutsch. Arch. f. klin. med., 1909, p. 407).

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ABSTRACT OF DISCUSSION

Dr. William A. Pusey, Chicago: I can add one case to Dr. Pollitzer's group. Three years ago I demonstrated a case before the Chicago Dermatological Club which, I believe, was accepted as one of acanthosis nigricans without dissent, and of which I subsequently showed illustrations in this Section. It was not a case of the extreme type. The lesions were developed in the mouth and around the neck, in the axillæ and groins, about the navel and perineum, and about the external surface of the elbows. The pigmentary spots were more marked than the papillary hypertrophy. The patient was kept under observation for about two years, and during that time there were no evidences of carcinoma in any part of the body, and I think it is reasonable to suppose that other than carcinomatous forms of irritation of the abdominal sympathetic might be the causative factor. In my case the patient was a man between 60 and 70 years of age, who was obtunded somewhat mentally.

Dr. A. S. Wolf, St. Louis: I would like to mention a case of acanthosis nigricans occurring in my practice several years ago. The patient was a woman of 35, who came to me for treatment of universal inveterate psoriasis vulgaris. Besides the patient presented universal adiposis (weight 205 pounds). The hypertrophy was marked in the collar line of the neck, mostly in the rear, gradually decreasing toward the front. The lines of the skin became deep furrows and the whole had an appearance of lichenification. The skin in both axillæ presented the same appearance, especially on the upper edge of the arm-pits. The skin was of a dirty blackish appearance, in some places darker, in others the pigmentation was less outspoken. Under the finger the involved skin appeared thickened without being indurated. The mucous membrane and the other parts of the skin were free. The patient could not make any statement as to the duration of the process, neither did she allow the excision of a skin specimen. There was no family history with the exception of a case of psoriasis in a sister, who also presents conspicuous adiposity.

Dr. O. H. Foerster, Milwaukee: I have seen five cases of acanthosis nigricans, one of which has already been referred to by Dr. Pusey; the others I saw in clinics abroad. The point that struck me particularly was the etiology, for in all of these cases the patients had been exposed to extreme degrees of heat, two of them being workers in a brick-kiln. Dr. Pusey's patient had been a stoker on a steamer.

Dr. S. Pollitzer, New York: Of course, it is hard to judge of the value of these cases from partial communications. We ll know how hard it is to make a clear mental picture of a utaneous disease from a mere description of it. I have again and again been asked to see cases of supposed acanthosis nigricans, but with the exception of the one reported in my paper, they were all cases of various atypical pigmentations, such as arsenical pigmentation or ichthyosis. One should be a little careful in making the diagnosis of acanthosis nigricans, unless the lesions are typical. In Dr. Pusey's case of pigmentation with papillary hypertrophy, there was pigmentation of the visible mucous membranes, and there were lesions on the posterior surfaces of the extremities; such changes have not been observed in any of the cases reported. Of course, it must be borne in mind that these are atypical of acanthosis nigricans.

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[4] Wells, H. G.: Resistance of the Human Body to Cancer, May 29, 1909, lii, 1737.

In regard to the case associated with psoriasis, which was mentioned by Dr. Wolf, we must remember that there may be pigmentation in psoriasis, especially if arsenic has been used. As to the five cases seen by Dr. Foerster, that is certainly an extraordinary number. That the disease has occurred in persons who have been exposed to great heat is an observation that has been made before in a few of the cases, and can not be regarded other than as a mere coincidence. We must not forget that exposure to great heat is apt to bring about, through hyperemia, pigmentation of exposed parts; but it would require more than that to constitute a case of acanthosis nigricans.

SIMULATED INSANITY*

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INTRODUCTION

One simulates insanity who, being sane, by his action and speech or by his suppression of both speech and action, tries to prove that he is of unsound mind. One who is insane may also feign the symptoms of a type of insanity from which he does not suffer. For one simply to assert that he is insane, which is occasionally done, does not constitute simulation of insanity. Such assertion must be accompanied by some evidences of the playing of the part in order to constitute feigning. One dissimulates insanity who endeavors to conceal the fact that he is insane. This pretense of sanity by the insane is a far more common procedure than the feigning of insanity by the sane.

Well-known historical instances of the feigning of insanity are to be found in the classical works on mental and forensic medicine—the feigning of Brutus in the time of the Tarquins, of Ulysses as recorded by Homer, of Solon in an effort to stimulate the Athenians to recover Salamis, and of David in the Old Testament. In each of these cases, and in other similar historical examples of simulation, the methods used to carry out the feigning were of a primitive, or at least of a comparatively simple character. They were, however, the methods which in some cases are still resorted to by the simulator, and this because the popular idea regarding insanity is not much in advance of the views held in the time of the Tarquins. They are methods based either on crude conceptions of the nature of mental disorder, or on the signs of such disorder as observed in two or three types of insanity. Solon's simulation of insanity was, as Dr. Lloyd[1] aptly remarks, an instance of the lawyer and not the client practicing simulation. It may be said, however, that, while the attorney does not himself feign insanity for a purpose, he has been accused, apparently with justice in some instances, of instigating such simulation in the client. Instances of such instigation are, however, extremely rare.

COMPARATIVE RARITY OF THE SIMULATION OF INSANITY BY THE SANE

Contrary to what is believed by members of the legal profession and the public at large, feigning of insanity is rare, and, above all, is rare in cases which come under observation in the private practice of medicine and in institutions for the insane. It is also comparatively rare, contrary to general belief, in cases in which the plea of insanity is entered as a defense in homicide and other cases. The most frequent instances of real simulation are observed in the military and naval service, in prisons, and in asylums or hospitals for criminal lunatics; but even in these it is not as common as is supposed. I have had no experience in the study of insanity, or of its simulation in criminal lunatic asylums, or in either the military or the naval service. My studies in penal institutions have been confined to the opportunities offered by one or two general investigations of the mental status of inmates of prisons, and to the examination of a considerable number of cases held for homicide or other serious offenses. The occurrence in prisons of insanity which is overlooked or disregarded is far more common than the simulation of insanity by prisoners.

In a recent homicide trial in which the plea of insanity was entered one of the medical witnesses for the prosecution, in response to a question by the attorney for the defense, said that he had seen about fifty cases of the simulation of insanity, mostly in the psychopathic wards of one of the hospitals in a large American city. In connection with the Philadelphia General Hospital are such psychopathic or detention wards, with which I have been connected for nearly a score of years, but, strange to say, I have never seen a single case of the feigning of insanity in those wards. Several of my colleagues, with whom I have conferred, have had the same experience.

In a large private and hospital practice extending over many years I can recall only a single case in which I was convinced that genuine simulation had been attempted, this not including the homicide cases to which reference will later be made.

It may happen, of course, that in particular periods a larger number of cases of simulated insanity occur in certain institutions, a fact which accounts in measure for the difference of opinion as to the frequency of simulation in prisoners and insane hospital patients.

OBJECTS FOR WHICH INSANITY IS FEIGNED

The objects for which insanity is feigned are various, among the most important being the desire to escape military service, to exchange less for more comfortable prison quarters, to annul contracts, and to escape punishment for minor or major criminal offenses.

In recent times a number of instances have occurred of the more or less successful feigning of insanity by newspaper reporters who have sought in this way to enter and sojourn in hospitals for the insane, in order to write sensational articles about the alleged abuses in such hospitals.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

* From the Department of Neurology of the University of Pennsylvania.

[1] Lloyd, James Hendrie: Insanity, Its Various Forms and Its Medicolegal Aspects, Book ii; Wharton and Stillé's Medical Jurisprudence, Vol. I, Edition 5, 1905

In 1889 a reporter succeeded by simulation in having himself committed to the Philadelphia Hospital for the Insane, where he remained for a few days and then published a story of what he alleged he had seen and heard which produced a transient sensation. He was probably never thoroughly examined by members of the hospital staff, although he was seen by several of them during his brief stay. Some points in the case are worthy of recall, as illustrating the manner in which the intelligent but badly informed simulator overdoes the rôle. No really insane man ever indulged in the entertaining and extravagant performances of this scribe. He was picked up while creating some excitement at one of the Philadelphia street corners. He asserted that he had lived at the bottom of the sea and was 1,000,000 years old, that he had had nothing to eat for ninety years, that he was the last of the actors, that they were all killed by the song-and-dance men—killed with cannon—and the leaves of the trees had turned red with their blood.

"My home," he said, "is in a cave in a mountain on the planet Mars. It was an elephant's nest, but I made friends with him and he brings me food every day. At night I sleep under the sea in a coral grotto, while mermaids sing me soft lullabies that woo the drowsy god." He kept up this farrago or something like it for a day or two; then his identity was disclosed and he was discharged from the hospital.

THE TESTING OF SIMULATION

It is not my purpose in the present article to go at length into the question of the methods of testing simulated insanity. These are given at more or less length in works on insanity and forensic medicine. They include many devices, such as making remarks regarding the patient or his symptoms which are calculated to induce the simulator to assume that which is suggested; suddenly charging feigning and watching the effects; the use of emetics, ether, chloroform, etc. It must be said that all such methods will fail in particular instances, either through foreknowledge of what is likely to be expected or through the natural shrewdness of the individual being investigated. Setting a watch by day and night through an opening in the wall, ceiling, or door is sometimes resorted to, and has occasionally proved efficient in unmasking a feigner. It fails sometimes, one of the reasons being that occasionally unusual powers of endurance and unusual cleverness in keeping up violent and grotesque speech and action are shown by the malingerer. Tests which involve the idea of anesthesia, which the simulator is likely to believe should be present, like the others, may fail, as may also those which involve cruel procedures such as the use of sharp or heated instruments, cold shower-baths, and physical punishment.

After all, the best procedures are those which are founded on scientific principles and the use of the ordinary methods of determining the presence of disease, mental and physical, including the study of the life history of the patient, a comparison of his present with his past behavior, the investigation of the manner in which the supposed insanity has appeared, and the determination of the existence of a type of insanity with more or less elaborate but correlated phenomena. Few simulators, for instance, have the ability to combine in one picture the symptoms of a form of insanity which contains in its ensemble phenomena of exaltation, depression, and suspicion, with certain details well known to be present. The feigning of mania, complete dementia, or stupor is perhaps most frequently attempted, but simulation is often charged in cases of paranoia. Mania or dementia are usually overdone by the simulator, as in the case of the reporter to which reference has been made. The character of the crime which has been committed and the manner of its commission may mean much to a thoroughly informed alienist.

One of the most difficult of problems connected with the question of simulation is that presented by cases of alleged or real insanity, usually forms of paranoia, or alcoholism, which present or appear to present only one or two delusions, such as those of marital infidelity and of poisoning, and yet such cases are among the most important in forensic medicine. In such cases the authentic history of the patient over a considerable period is of special value.

Mistakes are sometimes made by physicians, as well as by laymen, through not properly interpreting phenomena which appear to point to feigning. One of these not often dwelt on is that of supposing that acting, more or less consummate, is a proof of sanity. The putting of "an antic disposition on" is by no means always a proof of feigning. In katatonia, histrionism or theatrical behavior is frequently present. The poses, forced gait and declamatory gestures exhibited by a Chinaman recently tried in Philadelphia apparently did much to prejudice those who examined him, as well as the jury to whom his behavior was described, against the opinion that he was insane, and yet this conduct was one of the real evidences of his mental disorder.

THE DISSIMULATION OF INSANITY BY THE INSANE

The simulation—or, it would perhaps be better to say, the dissimulation or concealment—of insanity by the insane is comparatively frequent. The attempts at concealment are made for a variety of reasons—to escape from institutions by deceiving officials or visitors; to obtain discharge on a writ of habeas corpus; to arouse sympathy; to prevent certification, or the appointment of a committee; or to obtain certificates of sanity to be used as instruments of defense or aggression. Many such cases have come under my observation. In some instances the concealment of insanity has been so successfully practiced as to deceive not only laymen and legal advisers, but honest and capable physicians.

The insane who try to conceal their mental disorder sometimes have advantages over those who, being of a sound mind, simulate insanity. When the former have been inmates of hospitals for the insane, and are intelligent and observant, they have the opportunity not only of studying the phenomena of alienation as exhibited by others, but of learning through the examinations made by physicians what symptoms and signs are regarded as most significant of the presence of insanity. If they have sufficient mental power, profiting by the knowledge thus obtained, they are able (usually only for a time) to conceal the evidence of insanity in their own persons. When not inmates of institutions, they may in some cases, by simply closing their mouths and controlling their conduct, be able to keep in check or out of sight insane manifestations. It requires in some cases unusual skill and patience to elicit the evidence of insanity, and it may indeed be impossible to do this at some particular examination. Perseverance, however, will usually be rewarded by success.

Every neurologist or alienist of considerable pracice is now and then asked to give a certificate of santy, a request which in itself should incline him to be on is guard. In a few instances I have known unwary, lthough honest, physicians to give such certificates, which they subsequently have had cause to regret.

A woman who made the lives of some of her townsmen, medical and otherwise, and of at least one man f eminence in public life, more or less intolerable by her accusations and undesired attentions came to me rom a distant state, as she had gone to others in more tates than one, to obtain a certificate that she was ane. She was extremely persistent in her efforts. She was a woman of good presence and some ability, or at east she had superficial acquirements which she used o advantage in the pursuit of her purpose. It was nly by a close study of the history of her case and of her statements and personal bearing that a conclusion was reached after several interviews. She undoubtedly belonged to that numerous class included under the broad term of paranoiacs, with delusions both of selfmportance and of persecution, the former at the time f my examinations predominating. Her egotism amounted to a megalomania, and close investigation howed that she might become dangerous under provocation or indifference. My refusal, after careful study, o give the certificate desired freed me from her peronal visits, but not from her abusive attentions by mail.

In another case—that of a man who had made his escape from an asylum in a neighboring state and was for a time in self-imposed seclusion—refusal after prolonged investigation to come over to the side of the accused again brought on me maledictions. This man had several interesting forensic campaigns in which the question of his sanity or insanity was the chief object of conflict.

A woman 35 or 40 years of age came to my office, accompanied by an intelligent young man who had espoused the cause of her sanity, as appeared later, and requested me to give her a most searching examination and tell her if I could find in her any signs of insanity. She was agreeable in her demeanor and apparently honest in her desire to arrive at the truth. Beginning with her earliest history, so far as could be learned from her statements, and continuing by methods of examination and cross-examination, I tried to penetrate the armor of deception with which she had encompassed herself. It was a long task and not an easy one, but after nearly two hours I determined to my own satisfaction at least that she was not of sound mind, and then learned that she had but recently been allowed to leave a hospital for the insane in which she had been confined for many months. In spite of her skilful resistance a delusional state was uncovered—one which had brought on herself and others much and somewhat serious trouble. Her concealment of her insanity was a more skilful piece of sustained acting than has ever come under my observation in any case of alleged simulation of insanity.

Another case, one of the most positive examples of dangerous paranoia which has come under my observation, was certified by another physician and myself to a hospital for the insane. He had hallucinations of hearing and of sight, delusions of persecution by unseen agencies such as electricity conveyed by wires, and other of the classical phenomena of this form of insanity. He had also well-marked delusions of self-importance, and had had episodes of excitement in which he threatened to kill his wife and others. After his admission to the hospitals he resisted all efforts on the part of the asylum physicians to demonstrate his delusional state. A writ of habeas corpus was asked for, and several eminent alienists and neurologists examined him with negative results. They could not obtain evidence which satisfied them that he was laboring under the delusions and hallucinations which had led my colleague and myself to certify him. The case was heard before one of the most conservative of our Philadelphia judges, and on the testimony produced at the hearing the man was remanded to the hospital for further observation. He still successfully continued his policy of suppression, and was some weeks later brought into court and this time discharged. His later history was interesting and somewhat dramatic. His delusions after he was set at liberty again became apparent. He made many threats and several assaults, and after some difficulty he was again certified and sent to one of the state hospitals, where he still was a short time since, his insanity being almost continuously in evidence. It was only by the most fortunate chance that this man did not kill some of those who were the objects of his insane suspicions.

Paranoia is not the only form of insanity which is occasionally successfully suppressed or abates in such a way as to deceive those usually capable of determining its presence.

A few years since, on the certificate of another physician of Philadelphia and myself, a paretic patient was sent to one of our best known hospitals for the insane. Partly by personal suppression and partly, no doubt, under the influence of conditions which bring about marked remission in symptoms, this man became so quiet and self-controlled as to deceive a physician of some distinction, and also apparently some of the physicians of the hospital, into the belief that he was either not insane or had recovered. He obtained his discharge from the hospital, and immediately went about securing the services of attorneys to bring suit against myself and others for conspiracy in having him placed in the institution. While some attorneys refused, he succeeded in obtaining the services of one or two, and had carried matters so far that suit was about to be entered when his insanity became so apparent, even to those who were helping in his crusade, that all concerned were placed in an unpleasant predicament. Eventually he was returned to the hospital.

SIMULATION IN HOMICIDE CASES IN WHICH THE PLEA OF INSANITY IS OFFERED

In order to recall some facts of value from experience I have collected the data of twenty-four cases in which in trials for homicide the plea of insanity was entered as a defense. In these cases I appeared seventeen times as a witness for the defense; three times as witness for the prosecution; as special adviser three times, and once as arbiter, chosen by agreement of defense, prosecution and the court. By adviser is meant that I was called on to counsel with the attorneys either for the defense or prosecution; for the former in two instances and the latter in one. Simulation was charged or inferred by the prosecution in twelve cases; in two cases the plea of insanity was accepted with little or no contest. It might be said in passing that in both of these instances the accused were women. Ten cases were tried on their general merits with little or no reference to the question of simulation; that is, it was simply held by the prosecution that the accused were not insane, and by the defense that they were.

Recalling these cases after many years, my judgment has but little changed from the time when, full of interest in the details of the investigation and in the events of the trial, I held to my conviction as to the sanity or insanity of those under trial or about to be placed on trial.

In only one case was I impressed with any considerable doubt as to the validity of the insanity plea, and in this case the man himself constantly asserted that he was not insane. It was indeed not held that he was, except at the time of the commission of the crime for which he stood accused, and which was not denied by him or his counsel.

The case was one in which the evidence seemed to point to transient insanity in an epileptic—a most difficult plea to uphold, and yet one than which there is none more likely to be just if the history of the case affords sufficient proof. The man had an attack of spasm apparently with unconsciousness in the court. I was not present at the time and had not the opportunity of studying his condition during the seizure, but a physician of ability, although one not an alienist or neurologist, believed that the attack was genuine. The accused had on his head the scar of an old injury, pressure on which caused pain and brought on a vertiginous state.

Of the seven cases in my list in which there was acquittal on the plea of insanity in only two was there any possibility of simulation, and in both of these cases this might be regarded as doubtful. One of the accused, however, was a highly educated man and had the ability and probably the knowledge of mental disorders necessary to aid him in his purpose if he designed to feign. The other was an ignorant but rather shrewd man, who might have made a rude attempt at simulation. In the first case the evidence as to the existence of melancholia was sufficiently decisive, and in the other acquittal was obtained from the standpoint that the man was suffering from a form of delusional and hallucinatory insanity with amnesia.

As has already been indicated, three of those acquitted were women, and sex probably had as much as anything else to do with the rendering of the verdicts. In two of these acquittal was practically ordered by the judge with the acquiescence of the prosecuting attorneys, and I have no doubt that in both instances the best interests of justice were furthered by the action. In the other case the woman was acquitted in spite of vigorous resistance on the part of the prosecutor. I was not retained as a witness in this trial, but was familiar with the details of the case, and was employed to give an opinion some time after the conclusion of the trial as to whether she should be released from a hospital for the insane to which she had been sent after her acquittal. The cases were fought out mainly on other lines than simulation.

Without doubt the feeling in the minds of judges, juries and the public is against the infliction of capital punishment on women, although at times this feeling is overridden in the interests of justice or for other reasons not always apparent.

In another case after a careful examination of the prisoner and a careful going over of the history of his case and the testimony, I came to the conclusion that the interests of the defense would be best served by not calling on experts, rather trusting to lay and ordinary medical evidence and to the eloquence of the attorneys. The man did not make the slightest attempt at simulation, at least not at the time of my examination. He seemed careless of results and not desirous of being regarded as insane.

In the seventh case the testimony was conflicting, but the accused was sent to an asylum as the result of an agreement to have the case arbitrated by some one who would have no connection with the trial or the investigations leading to it. Feigning, so far as I know, was not attempted.

Several years since with Dr. E. N. Brush, now superintendent of the Sheppard and Enoch Pratt Asylum, at Towson, Maryland, I was employed as a witness in the case of a German who had committed homicide. After this man's execution his brain was secured by Dr. Brush, who made a report, not only on the case in its general features, but on the findings of the necropsy. The brain was extensively diseased. The lateral aspect of the right hemicerebrum showed a marked porencephaly. There was arrested development in the left half of the body, the patient having been asymmetrical from birth. His skull was asymmetrical. He had the history of having a fall, was intemperate, and had had a sunstroke. His knee-jerks were absent, his pupils unequal, and his symptoms and the postmortem findings pointed to general paresis in addition to the congenital or infantile arrest. He was 57 years old at the time of the trial.[2]

It is a matter worthy of passing notice that one of the chief elements which appeared to bring about the conviction of this man was the use which the prosecuting attorney made of the excitement with which the country was then filled about anarchy and anarchists. The trial was held a short time after the Haymarket crime in Chicago, at which time a number of police were killed or wounded as the result of bombs alleged to have been thrown by anarchists, several of whom were afterward tried, convicted and executed for inciting the crime. The prisoner was a German, and this with the homicide itself was sufficient to make him an anarchist and anarchy responsible for his deed.

The only woman whom I remember to have been executed in Philadelphia during my professional life was a weak-minded and probably irresponsible creature, although not in a technical sense insane—not one whom physicians would have been likely to certify to an institution after the usual examinations. This woman had not sufficient mental power to feign with success anything that required the exercise of any considerable degree of intelligence. She poisoned several of her children by administering arsenic to them in their food, this crime seemingly having been done for the purpose of collecting a small insurance on their lives.

An early case in my experience was that of a man who had killed his mother-in-law and wounded his wife. He was supposed to be suffering, among other things, from delusions of marital infidelity. These, as every experienced alienist knows, are among the most dangerous of all delusions. They are sometimes associated with few other evidences of insanity; they occur in cases both of alcoholism and other drug habits and in constitutional paranoia. They are likely to be looked at askance by judges and by the community as represented by juries. One insane in this way is never likely to admit his insanity. Four men out of five appointed by the governor to inquire into the sanity of the accused reported him as insane, but the governor refused to pardon him and he was executed. That simulation was not practiced in this case was my judgment and that of my colleagues, although this may not have been held by others.

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[2] Brush, E. N.: Polyclinic, Philadelphia, vol. 5, 1888.

On Oct. 17, 1887, was begun one of the most interesting trials for homicide in the annals of Philadelphia jurisprudence. Oscar Hugo Webber, on Dec. 6, 1886, without provocation, killed William Martin, a jeweler. Webber, about a week previous to the shooting, had taken a clock to Martin to be repaired. When the work was done he took the clock home, but about a week later brought it back. He and the jeweler had some words, when the former drew a pistol and fired four shots, killing the latter. Webber's father was insane, and one of his sisters was an epileptic. With Dr. James Hendrie Lloyd I examined him for the attorneys who had been appointed by the court to defend him, visiting him five times in all. I became thoroughly convinced of his insanity.

At the trial a considerable number of witnesses, both medical and lay, testified to his delusions and insane acts. One physician, who had known him for ten years and attended him and other members of his family, had some time before the homicide recommended that he be placed in a hospital. The accused believed that his wife was unfaithful to him, and wished to drug him to get him out of the way, and that his children were illegitimate. He also believed that he was the victim of persecution of his friends, relatives and fellow workmen, and even those with whom he came only occasionally in contact. No clearer case of insanity was ever admitted to a hospital for the insane.

No medical evidence was offered in rebuttal, although several lay witnesses testified in rebuttal their belief that he was sane. It is to be inferred that the prison and other physicians who are known to have examined him in prison before the trial, had reported to the district attorney their belief in his insanity. Whatever is the truth regarding this, it remains that they were called neither by the prosecution nor by the defense. Webber was convicted and sentenced to death. Evidently, however, some force was at work which withheld the hand of the law in the final act. He remained in prison until he died, becoming more and more delusional and demented.

Dr. Lloyd[3] has written an interesting article regarding this case.

In this case an effort was made to have proceedings instituted to determine, first, the extent of sanity or insanity of the accused, but it was decided that the trial should go on in the usual manner. As Lloyd remarks, although the law authorizing the procedure would appear to be one adapted to furthering the ends both of mercy and of justice, it is seldom invoked in the defense of those homicides alleged to be insane.

The case was relentlessly pressed to conviction. Simulation was not attempted by the accused. When the man rose to plead, instead of leaving this duty to his counsel, as is usually done, he stammered some incoherent words. When he was ordered to sit down, the judge exclaimed, "We will have no Guiteau business here." On one or two occasions when Webber was examined, efforts were made to get him to give some reason for the killing of Martin, who had not injured him in any way, but the accused said he would tell all about it when he got to court. He seemed to have some insane idea that he would exculpate himself by telling the court why he had done the deed. It is doubtful whether he had sufficient mental power to carry out even the feeblest effort at feigning, if such an idea had ever entered his mind.

A homicide of great interest and one in which simulation was charged was that of Joseph Taylor, who in October, 1884, was convicted of murder in the first degree, he having killed a prison keeper. Taylor was a man of low type, a so-called social Pariah, who had been arrested and convicted of numerous crimes. His brain was an interesting teratologic study, and was one of several criminal brains described by me in the presidential address[4] before the American Neurological Association in 1886. One hemisphere was distinctly different from the other in bulk and height, and the lobes, gyres and fissures presented many fetal and ape-like similarities. It was a low-type, arrested, aberrant human brain in the fullest meaning of these words.

The conclusions reached by the medical investigators and witnesses for the defense was that Taylor was a delusional monomaniac of the so-called criminal or prison type. He was, so we believed, the victim of well-marked delusions of persecution, these being more or less connected or correlated, and having reference to the putting of injurious or poisonous medicines into his food and drink, and to bad treatment from the warden, keepers, doctors and prison officials generally. Numerous other factors entered into the delusional state of the accused, but it is not in the scope of this paper to discuss this or any other case in much detail. The question of simulation was made an important one in the course of this trial. Testimony of the prison physicians was produced which showed that he had told the doctor several times before the trial that there was nothing in the crank business and that he was going to work. On the first day of the trial Taylor had several outbreaks in the court, which impressed some with the idea of feigning, and others that they were somewhat additional evidences of his insanity. Whether Taylor did or did not simulate in prison and in court, there never was any question in my mind as to his insanity. His symptoms were in accord with a certain type of insanity which he had neither the experience nor the mental power to feign successfully. It can not too often be insisted on that a lunatic, like a sane man, may fuss, or feign, or fight, or lie, or, in short, may commit any offense against righteousness or the law. The existence of sanity or insanity must be decided altogether independently of any considerations as to the moral obliquity of the individual, except in so far as this directly elucidates his insanity.

About eleven years ago in one of the interior cities of Pennsylvania a man was tried, convicted and executed for shooting another man who had attempted to enter his house to serve a writ, or in some way to carry out some form of legal process. The man who committed the homicide had barricaded himself, somewhat after the fashion of the sixteenth or the seventeenth century or earlier, as detailed by more than one novelist. This man's family and past history, the extraordinary views which he held as to his rights and wrongs, the manner in which he committed the crime, his conduct before, at the time, and after the killing were among the evidences of his probable insanity. Many things in his history pointed to a long-existent paranoid state with maniacal episodes.

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[3] Lloyd, James Hendrie: The Insanity of Oscar Hugo Webber, Proceedings Med. Jurisprudence Soc. of Philadelphia, Nov. 13, 1888.

[4] Mills, Charles K.: Arrested and Aberrant Development of Fissures and Gyres in the Brains of Paranoiacs, Criminals, Idiots and Negroes: Preliminary Study of a Chinese Brain, Jour. Nerv. and Ment. Dis., 1886, xiii, Nos. 9 and 10.

Feigning was asserted in this case, and there was some evidence to support the idea that the accused had shammed some things during his confinement. Simulation, whether present or not, was not inconsistent with the form of insanity from which he was supposed to be suffering.

Like Taylor, he gave a dramatic exhibition in court which inclined some of those who observed it to the view that it was feigned, and others that it was simply the impulsive act of a man of unbalanced mind under great excitement. While his son, a young boy, was testifying, he suddenly jumped up, and before those about him realized what he was doing ran toward the witness-box, calling out the name of his son. The latter ran as his father approached, and an interesting scene was presented of a chase of a boy by a man and of a man by the officers who soon caught and restrained him. Apparently the incident was not premeditated, but the result of a sudden impulse.

In the case of a Chinaman recently tried in Philadelphia and convicted of murder in the first degree, the question of simulation played a most important part. It was urged by the medical witnesses for the prosecution and combated by those for the defense. As this paper has already too much expanded, and as this case has not yet been heard on appeal, it is perhaps not desirable to discuss it at length. I may take the opportunity at some future time of presenting it more fully. A mere statement, however, of a few of the facts in the case will be of interest in our discussion. The accused was only about 18 or 19 years of age and had shot a man whom he scarcely knew, and with whom he had had no quarrel. In our discussion of simulated insanity the case was especially interesting with regard to the confusion of theatrical behavior with feigning; reference to this point has already been made. The case was also one in which careful investigation indicated that the type of insanity present was such as could not have been successfully feigned by any one who had not a considerable knowledge of psychiatry.

In the examinations made by the witnesses for the defense in this case the prisoner again and again said that he heard voices, that the voices told him to kill the man whom he had shot, or that he would be killed himself. He declared over and over again that the voices told him that he was the greatest of all Chinamen and that he was the prophet of Confucius. These assertions were frequently repeated in a most emphatic and sometimes a dramatic way. He arose from his seat in great excitement on several occasions, declaiming the statements with violent gesticulations.

The accused regarded himself as not only a great man, but also as one who was persecuted; as a sort of martyr and hero. He strutted into the room and around it in an extraordinary manner, with his legs drawn together or partly crossed.

A word or two might be said about those cases in which verdicts of a second degree or of some degree of manslaughter are brought. Such findings are usually in the nature of what might be termed compromised verdicts. Juries which are doubtful as to sanity or insanity, or which desire for other reasons, as because of the so-called unwritten law, bring in such verdicts when often it is quite clear that these should either be one of murder in the first degree or of acquittal on the ground of insanity. In nearly all such cases the plea of insanity is set up because the law does not seem to provide any other.

In one case in which I was a witness many years ago, the jury brought in the ridiculous verdict of involuntary manslaughter in the case of a man who had with premeditation shot and killed another man who had had illicit relations with his wife while he was away from home on business. Although the plea of insanity was entered in this case, nobody in the court room nor in the community seemed to worry much either about the plea or the verdict. The man on trial did not feign insanity, nor was it necessary for him to feign this or anything else.

A second-degree verdict was reached in the case of a man who shot and killed another man whom he believed to be the paramour of his wife, and also shot and wounded his wife. This man did not simulate insanity, but seemed to regard the plea with contempt. Nevertheless, there were facts in the case which pointed decidedly to the view that he had delusions of marital infidelity.

In another case, a young woman who had been for a short time a patient of mine was tried for shooting and killing a man with whom she had become in some way entangled. This young woman, whose people were respectable and honorable, had been a source of great anxiety and distress to her father and the rest of her family from her childhood. She was wayward, seemed to have no moral sense, and committed many outrages against propriety and even decency; she was at times depressed and apathetic and at others irritable and excited. She had not, however, presented signs of insanity which could be readily marshalled in her defense. My counsel, both to her father and to her attorneys, was not to employ experts and so bring on a conflict between the district attorney and those who were employed to defend her, but to endeavor, if possible, to get a second-degree verdict. Whether as a result of this counsel or not, this course was followed, and practically by agreement a second-degree verdict was given and she was sent to prison for many years. In this case there was, so far as I know, not the slightest attempt at feigning, but rather a condition of stolid indifference on the part of the accused.

Recently I was called on by the prosecutor of pleas, with the approval of the judge, in a city not far from my place of residence, to examine with another physician into the mental state of a man who, while in a state of drunkenness or temporary mania or both, had shot his father and mother, one of whom had died. The man had been in prison for several months, was perfectly sane, and in a comparatively good physical condition at the time of examination. His manner was frank, he did not make the slightest effort to simulate insanity, and, as was learned from the prison officials, he had made no such attempt during his incarceration, and had been in every respect a well-behaved prisoner. The only light on which to act in reporting on this, as on some other cases, was that which could be obtained from the life history of the accused man. This pointed clearly to chronic alcoholism of a serious sort. He had begun to use alcoholic beverages when a child, and as years progressed had resorted to them, with increasing frequency, changing from the lighter forms of beverage to those of a stronger kind. He had had episodes or periods of excitement and probably had had hallucinations of sight and hearing at some of these times. These and other facts led my colleague and myself to the opinion that at the time of the motiveless shooting he was probably suffering from temporary mental disorder and was not fully cognizant of the act or of its consequences. A second-degree verdict was given and the man was sent to prison for life. All sensational elements were wisely eliminated from this case by those who conducted it, its management affording a good example of the manner in which such cases should be investigated.

In only five or six of the cases thus hastily analyzed and reviewed in which simulation was alleged or inferred was there in my judgment any evidence supporting this idea. In two of these cases the individuals were really insane, but indulged in violent behavior which may or may not have had an element of shamming in it. In three of the cases the simulation, although suspected, was certainly not demonstrated.

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ABSTRACT OF DISCUSSION

Dr. Alfred Gordon, Philadelphia: I can voice the sentiment and ideas expressed by Dr. Mills in regard to the rarity of the simulation of insanity in hospitals. I was connected as examiner of the insane with the Philadelphia Hospital and detention ward for several years, and out of thousands of cases I never saw a case of simulation of insanity in psychopathic wards. So far as private practice is concerned I have had some experience in courts and in treating patients also. I have come across a certain number of cases in which the diagnosis as to whether insanity was or was not present was in doubt; but these cases are extremely rare. In my opinion, in the majority of instances of true insanity, the diagnosis can be established only after prolonged and repeated examinations. There is no special difficulty even in court cases, in cases of homicide, to establish whether true insanity exists or not. For this, however, frequently repeated examinations are necessary.

There is only one form of mental disturbance in which the alienist or neurologist frequently hesitates, namely, in the amnesias. In a recent case which occurred in Philadelphia a man committed homicide and then attempted to shoot himself; a bullet entered his brain and remained there; and the question of establishing the existence or non-existence of true amnesia was extremely difficult. The patient was able to give an account of everything that occurred up to the moment of the homicide, but he was absolutely incapable, apparently, of remembering anything concerning the homicide or the fact of his shooting himself.

When an *x*-ray picture was shown him demonstrating the presence of the bullet in his head, he wondered; he could not understand how it was possible, he said, that a man could carry a bullet in his brain and be alive; he could not admit it; and the question consequently which came up in court as to whether the man was a true criminal or whether there was a real amnesia present, was an extremely difficult one.

Dr. Mills spoke almost exclusively on the subject of the frequency of the occurrence of simulated insanity; I had hoped to receive from him some suggestion as to what are the true signs by which we can establish the question of the existence of simulation of insanity or not. It is difficult to lay down certain rules which would be a constant guide in determining the question of insanity. But one thing is certain in this class of cases and that is that these patients should be put in the hospital and observed repeatedly and for a long time before a diagnosis is made.

Dr. T. Diller, Pittsburg, Pa.: Dr. Gordon has referred to rules which would enable us to detect the simulation of insanity. I do not suppose any certain rules could be given by any one. I believe that the only way that simulation of insanity can be detected is through our general knowledge of the subject. My experience is entirely in accord with that of Dr. Mills; I have seen but one clear case of simulated insanity. This case, which occurred two or three years ago, was that of a man who was found guilty of murder and had been sentenced to be hanged. No claim of insanity had been put in at the time of the trial and none after the trial until a certain day when the prisoner was supposed to have become insane suddenly; and the insanity was supposed to have come about in this way: He went to bed as usual, having acted in the ordinary way the day before and given no suspicion of insanity. The next morning the keeper went to the cell and found the man mute. He was entirely mute and remained so up until the time Dr. Hutchinson and I examined him two or three weeks later—I don't know just how long. We went into the jail and the man was standing in the middle of the cell with his head moving from side to side and in a rhythmical way, and when the keepers made an attempt to go toward him, as they approached him he would offer to bite them. On being ordered to do certain things he would always do them after he was told three or four times; though he would never do them the first time.

There is a certain something that comes to one in seeing a patient like this that can hardly be conveyed in words, but the whole picture convinced us that the man was simulating. The points were these briefly: mutism occurring suddenly is a great anomaly. I did not know of any insanity of that sort. Mutism occurring with motor agitation was the second suspicious point. The third point was his always doing things, *i. e.*, after he was told three or four times. Fourth, the general dramatic effect of attempting to bite these keepers coming up to him in the way he did; finally, he refused to eat with his hands, but ate his food directly with his mouth out of plates that were brought to him. We were entirely convinced that it was a case of simulated insanity. Physicians in the town were of a different opinion and when they knew of our report they sent in a petition to the Governor protesting; and then they did a thing that I was very glad they did do, a thing that we might have done but did not do—they gave the man ether and when he came out of the ether he talked loud, long and continued to talk so that it made the test absolutely convincing.

I may say in passing, although the point has nothing to do with the scientific side of the question, but to show what troubles we poor neurologists and alienists experience, we sent in a very moderate bill of $100 each for our services, a sum which I am almost ashamed to mention before New York and Philadelphia neurologists, and a great controversy arose between the county and state authorities as to who should pay the bill. The question was debated exhaustively, many letters passed back and forth, and finally I received an opinion from the attorney-general of the state saying that no law covered this subject; that he was extremely sorry but that he would see that a special bill was introduced in the legislature providing for our fees. This was done and just at the time $9,000,000 had been spent for the capitol, and to keep down expenses within proper bounds these fees were cut down to $75 apiece.

Dr. L. L. Uhls, Osawatomie, Kan.: While in general I agree as to the rarity of these cases, yet I am convinced that almost every man of large experience has seen one or more of these cases of simulated insanity. An interesting case came to our institution. A man had been tried for forging checks. It was decided that he was insane and he was sent to us. He came apparently suffering from melancholia with agitation, insisting that some one was going to harm him. I thought recovery was rather suspicious. Within two weeks he told me how much better he was feeling, thanked me for treatment, and said he was sure he was going to get well. At the end of six weeks I notified the sheriff that there was no excuse for holding the man longer. He took him back and he was put on trial. The defense called in five local physicians in the little town, all of whom qualified as "experts," who testified that the defendant was insane. The accused sat in the court room during the trial apparently in a great state of excitement, and kept crying out, "I know what you are going to do, I know you are going to kill me!" I was asked to appear as an expert in that case and I stated that I believed he was a criminal, that he understood that he had committed a crime and was trying to so conduct himself as to be acquitted of that crime on the grounds of mental derangement; that I believed he ought to go to the penitentiary and not back to the hospital. The jury decided that the man was insane and he was ordered back to the insane hospital. But he hated that so badly that he took French leave, disappeared, and has never been heard of since.

Warden McClaughry of the Federal penitentiary at Leavenworth had a prisoner who, he thought, was simulating insanity. He called in an expert. They did everything they could to find out the true condition. The man was accused of a serious crime and the warden decided that he was simulating. But the man was so clever that his actions indicated that he was insane. He would eat his own feces and drink his own urine day after day and week after week, and do many other things as remarkable as that. Finally the expert made the suggestion that the case should be discussed in the presence of the prisoner and this was done. The expert said "this man is in a serious condition, and I know of nothing that will do any good except to open up the head and examine the brain; it will probably kill him, but he is a goner if we don't do it, and there is about one chance in 700 if we operate on his head that he may live." They began to prepare the patient for operation, when he gave up, and he said: "Hold on, gentlemen, I have been making this up. No surgery for me!"

Dr. Pearce Bailey, New York: The question of the correlation of the crime with the supposed mental state has not been touched on. Crimes committed by the paranoiac are characterized by cunning, while those committed by epileptics are characterized by brutality, with multiplicity of blows and mutilation of the victim; and the man who does the deed ordinarily makes no effort to escape. In like manner, the crime of the alcoholic is often committed with any instrument that happens to be handy. And the failure of correspondence between the character of the crime and the feigned mental condition would excite suspicion as to the genuineness of the mental symptoms. In New York the majority of criminal cases with mental symptoms are quickly disposed of by a commission and the individuals do not appear for trial at all; they are sent without trial to one of the institutions for insane criminals.

Consideration of the motive is important from a legal point of view. There was tried in New Jersey a number of years ago a man named Wood, who without any motive that could be demonstrated, killed an old farmer with whom he was driving in the country. The murderer told a remarkable story to the effect that he had no recollection of ever having seen the man, much less killing him, and had no recollection of where he was during that time. The diagnosis lay between psychic epilepsy and shamming. There were no evidences of insanity so the lack of motive brought a compromise verdict, the man being sentenced for life. Since he has been in prison he has given no evidences of insanity.

This whole question should be discussed from the point of view of limited responsibility. It is rarely possible for a conscientious alienist to say in so important a question as this that a man is absolutely feigning; most criminals are defective. The decision as to how far their defects affect their responsibility is one that generally has to be decided by a compromise verdict.

Dr. F. W. Langdon, Cincinnati: It may be of interest to add to the cases reported four cases that I recall. In two the patient was charged with murder. In one, the man, who was a foreigner, an Italian, claimed he could speak no English. He had been arrested on a country road a mile or two from the place where a burglary had been committed; lying apparently sound asleep with the loot lying around him, under a tree. On being brought into court he exhibited exaggerated actions and much volubility. His lawyer was anxious for me to declare him insane, but I remanded him for further observations, which proved that the man was shamming; whereon he was indicted and convicted.

In the second case a man was trying to escape the consequences of a misdemeanor by feigning insanity. The examiner cunningly remarked in a subdued but audible tone of voice to a bystander: "That fellow does not look crazy. They usually roll their eyes around more and move their hands and feet, and do not sit so still as this fellow does." Acting on the suggestion almost immediately, the man began to roll his eyes and move his feet. This man's shamming was readily revealed.

Two individuals charged with homicide and feigning insanity, were of considerable interest. One was a clerical gentleman, who, it was alleged, had murdered a young girl. While in the general hospital he certainly simulated primary dementia very well; so cleverly was it done that for a long time there was doubt as to the diagnosis. Privately, I was inclined to think he was malingering, for he overdid his part sometimes; but when the alienist for the defense testified in court that the prisoner had dementia; and when the alienist called for the prosecution testified that the prisoner had been simulating when he first examined him some months before, but he believed that "prolonged simulation had carried him over the line of sanity into dementia," he was found insane, committed to a state asylum where he remained a year or two, making altogether too much improvement as I thought, until one day he escaped and was never heard of again. The presumption, therefore, is that he was feigning, and I must confess that he was a good actor.

The fourth case was that of a man who walked into a jail with a shotgun, stuck it between the bars and emptied the contents into a prisoner. I was called by the prosecution to answer a hypothetical question as to his sanity. This man ran out, warned everybody to be careful, and acted in an agitated manner, tore his hair, but he never failed to eat, sleep, etc. My testimony was that the evidence did not show insanity. He was convicted of murder and sentenced to a long term, but I heard recently that he was pardoned within a short time.

Dr. George A. Moleen, Denver: This subject strikes this Section as a discussion on appendicitis used to strike the Section on Surgery. No question is more interesting to the majority of us. Recently in Denver we have had a little festival of crime, and this has given rise to a wave of insanity which has had its immediate starting point with the crime. The title of the address as given in the program raised a doubt in my mind as to whether it was the successful simulation of insanity or attempt at simulation which was meant.

There is no doubt but that in a number of cases which we have had in Denver recently the accused have attempted simulation. One of these which I had occasion to observe on several occasions before the court, was a woman of 54, who had been perfectly well previously and who took particular pains to secure her re-election as treasurer and custodian of a fund known as the Children's Hospital Fund, which was inaugurated by a local newspaper. About the time the monies were to be utilized she had misplaced the funds and they could not be found, and the theft amounted to something like $3,000. She was accused of embezzlement, but immediately took sick and became mentally broken. I examined her at her own house where it had been reported that she was unable to be seen, and that she was unable to appear in court. I went out unknown to examine her and while she was stated to be in bed and not to have partaken of any nourishment for some time, I found her fully dressed, even including her shoes, stockings and underclothes, and well-nourished. When I entered the room she was perfectly quiet, exhibited no nervousness, no trembling, no fear, and very little anxiety. However, within a few minutes after my mission was stated she became violent, screaming that I was sent there as one of her persecutors and that I intended to kill her. My associate was asked if he was going to kill her; and other points were brought out such as delusion that some lady had come up there and cut her throat, and that her fingers were dripping with blood, and that as a result she would be forced to wear gloves for the rest of her life. She stated that she was in the hospital and would soon get well; that she did not know where she was; and with other evidences of confusion she said that she was born in 1867 and that she was 67 years old, and a great many other points that she gave me as an evidence of dementia or rather amnesia. In the court room an interesting point was brought out: she was placed on the stand and in reply to questions where she was stated that she was in the hospital. The prosecuting attorney asked her if she had any recollection of the monies. She said "Monies, monies, I don't know any monies," and reached into her pocket and handed him a small purse. She was then removed from the stand by her attorney, a large attorney weighing about 200 pounds, and her husband, who firmly grasped her under the arm pits and led her to a chair in front of the dock. She then began to tremble all over and hurled herself down and succeeded in getting to the floor. Of course there was considerable uproar in the court and every one said she had fainted and that the doctor should be called. But her face was quite florid owing to the muscular exertion necessary to enable her to get away from these two stout men.

The points briefly in this case were of those 57 different varieties, so to say, and I do not believe could have existed in true insanity, and her actions were attributable to a desire to deceive the court and impress the jury at the time of the trial.

Dr. Charles K. Mills, Philadelphia: In the brief time at my disposal of course it was impossible for me to discuss the methods of unmasking simulation; but these methods have been well presented in the course of this discussion. I still hold to my original statement that simulated insanity is rare. It certainly is, in private and hospital practice. I have not had a large experience in prisons, and none in criminal lunatic hospitals like the one at Auburn.

The conclusion at which I arrived regarding insanity in prisons was that there were many more cases of insanity in prisons which were not regarded as cases of insanity than there were individuals simulating insanity. With regard to the cases reported in the discussion as instances of simulated insanity there might have been some little difference of opinion as to one or two of them at least. I do not believe, on the whole, that the plea of insanity in homicide cases is so frequently abused as it is supposed to be, if the cases in which the so-called unwritten law comes into play be omitted from the calculations, and perhaps some cases of alleged alcoholic insanity. Probably more individuals are executed who are insane than are saved from execution by the plea of insanity.

ABSTRACT OF DISCUSSION ON THE PAPER OF DR. ALBERT H. MILLER

[DR. MILLER'S PAPER BEGINS ON PAGE 1353 OF THIS ISSUE]

Dr. J. A. Stucky, Lexington: Any method which simplifies anesthesia diminishes the quantity of the drug used and the dangers that attend its administration is to be hailed as a great advance. I have contended, and still do contend, that the patient should be practically from under the influence of the anesthesia by the time the operation is finished to insure rapid recovery. This can be facilitated by the administration of a small dose of morphin hypodermically—⅙ to ¼ gr. with from 1/150 to 1/200 gr. atropin. I rarely give more than 1/6 gr. of morphin. I am glad Dr. Miller used the term "charging the patient with ether;" I have used the word "soaking." Charging the patient with any anesthetic is dangerous. Chloroform is a dangerous anesthetic in any adenoid or tonsil operation, and especially when there is a tendency to the status lymphaticus. I believe the ideal method has not yet been devised, unless this method suggested by Dr. Miller proves so to be. Rectal anesthesia, as advocated by Cunningham, has its advantages. I have used it only eight or ten times and have not had the opportunity to develop the idea as it has been carried out elsewhere. In some places the technic has been very much improved, and I believe that by this time next year we will probably hear some results with rectal anesthesia that will startle us. This method is nearer the ideal method because the anesthetist and anesthetic are nowhere near the field of operation. It appeals strongly to me. For several years I have used with satisfaction vaporized ether through a long rubber tube attached to the ether bottle and worked with an ordinary atomizer bulb. Another method which I saw used in London a year ago is a modification of the method shown by Dr. Miller in which the metal ether tube is incorporated in the mouth gag. I have used that with gratifying results. I have used the nasal tube once and do not think I shall ever use it again.

Dr. J. O. Roe, Rochester: The point regarding the warming of the anesthetic is a good one. I invariably warm it and find that I can get better results with about one-half the amount of ether or chloroform than when they are used cold. The anesthesia is quicker and it is not necessary for it to be so profound, nor for the patient to be so thoroughly saturated with the anesthetic. The dangers of anesthesia and particularly of chloroform, in the operation for adenoids and enlarged tonsils, are due to the greater readiness with which respiration is cut off when these obstructions are present. This is the reason why death sometimes occurs and is not, unless in rare instances, due to the condition called lymphatism. In these cases the child is unable to breathe through the nose, so that when the anesthesia becomes so profound as to abolish the reflexes, the tongue drops back over the larynx and the child is unable to breathe. In administering an anesthetic in these cases, it is, therefore, of the utmost importance to open the mouth widely, to pull the tongue firmly forward, and to raise the angle of the jaw. By thus keeping the breath way free and not carrying the anesthetic so far as to abolish all reflexes, as is so often done, we eliminate the dangers of anesthesia in these cases.

Dr. C. F. Welty, San Francisco: Prior to a year ago I used the nasal tube exclusively. A tube devised by Rupert I have used for the past year and find it the most satisfactory that I have tried. I think this new apparatus is a further improvement on that because of the fact that one gets the vapor directly into the tube, which will concentrate the amount of anesthetic given. I begin my anesthesias with nitrous oxid, and after the patients are completely under I change to the warmed ether. It is better to have it warmed because the ether is taken up more rapidly. This new apparatus seems to be the most improved thing on the market to-day. The greatest difficulty in doing tonsil operations under general anesthesia is to keep the patient breathing properly at all times. I have used a tongue depressor and at the same time pulled the tongue forward which, seems to facilitate matters.

Dr. Sylvan Rosenheim, Baltimore: It seems to me that what we need at the present time is not so much the apparatus as the man behind the apparatus. We need professional anesthetists, such as they have abroad. At every hospital there should be a professional anesthetist; it is especially important in this line of work. Recently at one of the hospitals with which I am connected there have been two deaths, each undoubtedly due to the anesthetic. The operation was done skilfully in each case but the patients ceased to breathe. In neither of these cases was an autopsy obtained. An injection of adrenalin chlorid, a small amount, had been used, and in view of the case which Dr. Harris recently reported in which death occurred after the injection of adrenalin for removal of the tonsils, it might be just possible that that may have had something to do with these fatalities. Ether was the anesthetic employed in both cases.

Dr. M. P. Rupert, Philadelphia: I have been very much interested in Dr. Miller's apparatus which is probably an improvement on mine. I don't quite see, however, why Dr. Miller doesn't find the heated vapor more advantageous, because I think one can carry on a more even anesthesia with less ether and less after-irritation with the warmed vapor. My experience has been that there is less mucus secreted with the warmed vapor than with the cold.

Dr. J. A. White, Richmond, Va.: I have always had difficulty in keeping such patients properly anesthetized so that I made an apparatus very similar to this but cruder. Some time ago, however, I began to resort to rectal anesthesia in long operations about the face or throat, and do not expect to go back to any other method in such cases because in my hands it has proved so satisfactory. I have never encountered any objection on the part of a patient because, as a rule, my patients never know I use it. I prepare them by giving a purgative early on the day before the operation, followed by an enema the same night and another the next morning. I anesthetize them in the usual manner by inhalation and continue the anesthetic by the rectum. Of course, the patient being under the influence of the anesthetic has no idea how it is kept up afterward. Any one who tries the method will not go back to the other way. One does not have to stop at any time; however, I have always had a professional anesthetist give my anesthetics for me.

Dr. B. R. Shurly, Detroit: Rectal anesthesia requires, first of all, an expert anesthetist who has been trained in that particular manner of giving anesthetics, and unless the vapor is properly passed into the rectum there is considerable danger of burning the mucous membrane and causing a serious and deplorable state of affairs. With an expert this method has been successful in the hands of a few.

Dr. A. H. Miller, Providence: I have investigated the question of warmed ether thoroughly and have not been able to find any apparatus that properly furnishes a warmed vapor. The different forms of apparatus are for the purpose of vaporizing the ether, but the vapor is practically all at the same temperature. With this apparatus, after passing the ether through five feet of rubber tubing at the room temperature, it is practically the same temperature as is produced by applying heat. The advantages of the apparatus are, of course, the possibility of giving a large quantity of ether and having perfect control of the anesthesia at all time. The advantages of the gag are that it is not in the way of the operator and that it does not become dislodged. I have used it over a thousand times and it has never yet been dislodged.

FINAL RESULTS IN CONSERVATIVE SURGERY ON THE OVARIES*

JOHN OSBORN POLAK, M.Sc., M.D.
BROOKLYN

The meagerness of the literature on conservative surgery on the ovaries, when these organs are the seat of neoplastic formations, has prompted me to analyze the cases in which I have performed operations in the last nine years, and of which detailed records, noting the pelvic conditions and symptoms at the end of one and two years, have been kept.

Do the remote results of conservative surgery on a diseased ovary warrant us in resecting such an organ? This is the question which the surgeon must answer daily, at the operating table. On the one hand, ablation in a young woman has many unfortunate physical and psychical results; while the preservation of a part of one or both ovaries renders the symptomatic cure of the patient uncertain, and a secondary operation may be necessary.

The reasons which have been advanced in favor of conservatism are, first, the preservation of the ovarian function (i. e., that of ovulation and possible pregnancy, and the retention and maintenance within the body of the ovarian secretion); second, the avoidance of the artificially produced menopause, with its troublesome nervous phenomena. Many patients, for sentimental reasons, refuse operative relief, because an oöphorectomy must be done to get it.

Are the first two reasons of sufficient importance to compensate the woman for the frequent recurrence of her pain, and the ever-present possibility of further cystic changes, and the necessity of subsequent operation? In 1903 the late Palmer Dudley presented a paper before this Section, based on a study of 269 cases of his own (in which the left ovary had been resected in 130 cases, while the right had required resection in 141), together with the 2,212 cases of other operators, reported to him in personal communications.

In this paper he concludes that conservatism is justifiable, because it maintains and retains the menstrual function. No mention, however, is made of the exact pathologic condition of the ovary which required the resection. Neither is there any mention of the final results of the operation.

In a study of 1,970 cases of resected ovaries, abstracted from the literature, I find records of but thirty-two known pregnancies. Hyde, in concluding his admirable and scholarly paper on this subject, says: "Pregnancy does not occur as often as thought; in fact, it occurs in not more than 5 per cent. of the patients operated on in this way." Again, all resected ovaries present the possibility of a recurrence. Hyde's incomplete records show that about 5 per cent. of the patients return for subsequent operation. The avoidance of the artificially produced menopause is the only result that resection can absolutely promise. Some years ago, in a paper read before the Brooklyn Gynecological Society, in which I reported 161 conservative operations, I called attention to the disappointing symptomatic results of ovarian resection, and I believed then, as I do now, that the field of ovarian resection is a very limited one. There are ideal and selected cases, in which conservatism may be practiced.

A study of the records of 300 cases, occurring in my personal service, in which resection was done, with the large number of secondary operations necessitated, has afforded me a wider insight into the pathologic conditions which follow on resection, and thus permits me to make some practical deductions. This series shows that forty-one patients have returned for further operation; or over 12 per cent. of the entire number operated on by conservative methods since 1901 have required ablation of the remaining ovary, or the part of the resected ovary left at the primary operation.

Twenty-six pregnancies have occurred in the 240 women who could have become pregnant, or in over 10 per cent. of the women operated on, which is a higher percentage of pregnancies than generally reported. One patient contributed three full-term pregnancies and two abortions to this list.

This fertile patient, though included in a previous paper read before the Brooklyn Gynecological Society six years ago, is entitled to further mention, as she exemplifies a type in which conservatism may be used with some certainty of success. I refer to the ovary which is the seat of a monolocular-cyst. This patient was 18 years of age at the time of her primary operation, and had suffered since puberty from premenstrual and menstrual dysmenorrhea. Both ovaries were cystic and prolapsed; the left, on section, showed numberless small cysts throughout, and was removed. The right contained one large cyst the size of a lemon, destroying the entire cortex. This was resected by a wedge-shaped excision, leaving only a fringe of the hilum, .5 cm. wide and 2 cm. long. Both tubes were left undisturbed. This patient has been attended by me in all her pregnancies. She has menstruated regularly and, while there is no enlargement of this remnant of ovary, it is tender and causes some premenstrual pain at this period. During the past year the catamenial flow has become scantier, and the patient is beginning to complain of the nervous phenomena which suggests an approaching menopause.

In all the patients (except the forty-one returning for reoperation) an early operative menopause has been averted, and 106, or more than one-third of the total number, are free from pelvic pain of any kind, menstrual or intermenstrual. These patients have been carefully examined repeatedly, and their pelvic findings recorded. In twelve of this number the "treated" ovary is larger than one would suppose it should be, but has occasioned no contiguous inflammation and has produced no symptoms.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

In eighty-one women both ovaries were resected by the excision of a wedge-shaped piece of ovarian tissue, which included the diseased structures. The ovarian wound was then closed with a fine catgut suture, great care being taken to have all hemorrhage controlled and dead space obliterated, with just sufficient tension to obtain coaptation without constriction, which I believe to be the cause of many failures. This was illustrated at the secondary operation in two instances, which will be cited later.

In 219 of the women making the basis of this report one ovary was entirely removed and the other resected after the method described above. It is interesting to note that seventeen of the twenty-six pregnancies recorded followed ablation of one ovary, while the ovary producing the fertile ovum had been extensively resected. Further, so far as my pathologic records can be followed, but two patients who were fortunate enough to become pregnant presented microcystic ovaries at the time of operation. This bears out a contention which I have made on previous occasions, and concurs with Hyde's views, i. e., that a microcystic ovary, sufficiently diseased to cause pain or invalidism, is better removed, as conservatism in this class, as Gordon wisely states, consists in "conserving the woman's health, not in preserving a diseased organ."

The results of attempting to preserve a diseased ovary when it is the seat of multiple microcystic degeneration are illustrated by the following case, which may well stand for a type:

A. H., aged 23, admitted to my service in the Jewish Hospital, married, sterile, had always suffered from severe premenstrual dysmenorrhea, which had become worse since her marriage. She also complained of a profuse mucopurulent leucorrhea. The smear from the cervix showed gonococci. A median abdominal incision disclosed a double hydrosalpinx, with a cyst of the left ovary totally destroying the organ. Both tubes and the left ovary were removed. The right ovary presented a multiple cystic degeneration, the cysts varying in size from that of a pea to that of a bantam's egg. The cystic portion was freely excised, leaving only a narrow strip of the ovarian hilum, apparently free from any cysts. Postoperative recovery was uncomplicated. On examination one year later, the patient stated that her menses had recurred regularly, lasting two days, but of small quantity, preceded by severe pain in the right side and swelling of the breasts for two weeks before each period, and that all marital relations had occasioned severe pain. On bimanual examination, the uterus was found in normal position, with its mobility limited on the right side and posteriorly. The right ovary was the size of an orange, painful and adherent.

Of the forty-one patients who have returned for further surgery on their adnexa, all but three present similar histories and findings. All resected ovaries swell and become markedly enlarged during the first month after operation, but this swelling gradually subsides under the influence of time, rest, and the establishment of an equalized circulation. This latter can be obtained only by careful suturing of the ovarian wound without constricting it, and by placing the resected ovary high in the pelvis, in order that the return circulation may be favored, and further, that it may be free from peritoneal contact until such time as its wound is closed over, for peritoneal adhesions make painful ovaries.

If the return circulation is impeded by the misplacement of sutures, the cystic formation is very rapid and extensive, as was instanced in two of my reoperations, which were done within two weeks of the primary section, and in which the remaining ovary was found in the cul-de-sac, markedly cystic and adherent.

The primary section in one case had been made by one of my assistants. Both tubes had been removed by a running suture along the top of the broad ligament, and the right ovary resected by a wedge excision of several cysts. The bleeding was troublesome, and in attempting to control it the circulation was interfered with by the too frequent insertion and too tight application of sutures. The ovarian engorgement was further increased by the omission on the part of the operator to suspend the uterus in order to keep the resected ovary high in the pelvis. Too much can not be said on this point; the ablation of the tubes, with or without the removal of the ovary, will always shorten the broad ligaments, and so pull the uterus out of and back of its normal position; or when one ovary and tube are removed, the uterus will be drawn backward and to one side, unless counterbalanced by some procedure which will hold the uterus in place.

On examination of these patients before dismissal from the hospital I noted the uterus displaced backward and to the right, and a large cystic mass the size of an orange in the right posterior cul-de-sac. On reopening the abdomen, it was seen that the sigmoid had become adherent to the anterior face of the fundus, and that the uterus was retroverted over a large cyst of the right ovary, densely adherent by fresh adhesions in the cul-de-sac. The size of the cyst surprised me.

The findings in the second patient were almost identical with those just described; the adhesions were freed and the ovary removed. Before closing the abdomen the uterus was suspended; the subsequent recoveries were uneventful. I am convinced, from my secondary operation findings, that many recurrences of cysts or of pain about the tumor (or on the other side after one ovary has been ablated) are due to omission to secure the resected ovary high enough in the pelvis to maintain an equalized blood supply, and to failure to keep the wound surface free from omental parietal and intestinal adhesions, which may be accomplished if the uterus is raised by some of the many retroversion operations. Even when a uterus is in normal position before operation, removal of part of the adnexa will shorten the broad ligaments, and will retrovert it to some degree, enough to start the vicious cycle. Both tubes were removed in sixty cases in the course of this series. When a double salpingectomy is made, it is my custom to suspend the uterus, no matter what its previous position may have been. This step, I believe, does two things: it minimizes the adhesions of the omentum and the intestines to the stump, by encouraging adhesion to the parietal peritoneum; and it maintains the ovary in a better position for its circulation.

All of these operations were in child-bearing women. In 119, but one tube was ablated; and both tubes were left undisturbed in 121, leaving 140 women in whom future pregnancy was a possibility. The tubes were ablated; the uterine portion of the tube was excised by an elliptic incision about the tube into the cornua, exsecting most of the intramuscular portion; and the free portion was cut away. The muscular gap thus produced was closed with interrupted catgut sutures, and hemorrhage from the ligament controlled with a running suture along the top of the broad ligament, which technic, I believe, helps to retain the length of the broad ligament.

Notwithstanding this careful technic, one patient became pregnant in the cornua of the uterus, and developed an interstitial pregnancy, which has been reported elsewhere. This case has not been included in the report of the pregnancies following on resection of the ovary, as it occurred in one of the sixty patients in whom both tubes had been excised.

No attempt was made to preserve any portion of a diseased tube by resection or the phimosis operation. When a tube was found diseased it was removed, as my former experience with conservative procedures on the tubes has been most disappointing.

A study of the class of ovaries resected will perhaps lead to conclusions of value. In 163 cases pathologists' reports are noted. Of this number, ten patients had simple retention cysts, due to thickening of the wall of the capsule, resulting from long prolapse of the ovary. Of these, three were treated by simple puncture with the cautery, with the following end-results: One is cured of all pelvic trouble. Two have tender and enlarged ovaries, though one of these women has been pregnant. In the remaining seven cases, the ovaries were resected and the patients made perfect recoveries. Six patients had dermoids; the tumor was excised, and the remaining stump of the hilum preserved by careful suturing. One of these women has returned for reoperation for a unilocular cyst, developing from the retained fragment.

In case of papilloma, unrecognized clinically at the time of operation two years ago, a papilloma of the resected ovary subsequently developed, with papillomatous peritonitis-ascites and hydrothorax. The patient was operated on again and has made a good primary recovery. Seven large multilocular cysts, varying in size from that of an orange to that of a child's head have been enucleated from their laminated walls, which were trimmed down and sewed over, leaving a resected portion of an ovary 3 to 4 cm. long and 1 cm. wide. No recurrence has taken place; the ovary has atrophied, menstruation has continued normally, and one pregnancy has resulted.

Forty-seven patients had cysts of the corpora lutea, which had increased the weight of the ovary sufficiently to make it prolapse and to cause menstrual and intermenstrual symptoms; in all cases the ovaries were deeply resected by wedge-shaped excisions. Thirty-six patients are free from pain and menstruate regularly and painlessly. Four have required further surgery; two have a small, cirrhotic and painful ovary as a result. Five complain of menstrual pain without any physical change in the organ.

Two primary fibromata of the ovary were enucleated from their capsules, the excess of which was cut away and sutured, so as to make a small mass of ovarian tissue. Both the patients have been lost track of. In the remaining ninety cases the diseased structures belong to the class of multiple cystic ovaries, presenting numberless small cysts throughout the ovarian structure. In fifty-five of these cases one ovary was ablated, leaving one good ovary, while thirty-five were resected.

The extent of the involvement in each ovary was determined at operation by an incision through the organ from cortex to hilum, laying it open for inspection: the entire cystic portion was excised, and the remaining fragment carefully sutured with fine catgut. But five complete cures are recorded twenty-one patients have returned for further surgery. Nine menstruate regularly, though the quantity has become scantier each year, and each period is attended with some degree of menstrual pain.

Two pregnancies followed resection in this class. It would seem, therefore, that multiple cystic degeneration was least favorable to conservative procedures, while ovaries containing retention cysts, cysts of the corpora lutea, large monolocular cysts, fibroids and dermoids, may be conserved by resection, with considerable hope for the patients' continued well-being.

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ABSTRACT OF DISCUSSION

Dr. John G. Clark, Philadelphia: Several years ago, when the question of conservatism came prominently into the foreground, many of us felt extremely enthusiastic as to the outlook. We had all seen the disastrous effects of a surgical menopause on very young women, and yet ovariotomy was the common procedure in those patients suffering with suppurative conditions incident to the gonococci which commonly attack younger individuals. In some of these the surgical menopause was so infinitely worse, so far as its effect on the individual, than the original disease, that the second condition was far worse than the first. We looked, therefore, with happy anticipation to the elimination of the infection through salpingectomy and the conservation of the ovaries. Unfortunately, our hopes were not realized, for an operation in the midst of an acute gonorrheal infection is usually followed by most disagreeable sequelæ, such as progressive suppuration and, ultimately, a second operation or very serious invalidism. I have therefore been forced to the conclusion, as the result of practical observation of a large series of cases, that an operation in the midst of an acute inflammatory disease is more likely to be successful, so far as actual relief of symptoms is concerned, if radical rather than conservative. However, we have recently had brought before us, particularly by Simpson and others, the value of withholding operation until the acute process has passed and merely the pathologic débris remains. This recalls the classic observations of Saenger, than whom there was no greater or more acute observer, with reference to the residuum of disease. He particularly laid stress on the fact that the so-called chronic adherent ovaries and tubes were not the seat of infection, but were merely the derelicts of the gonococcal storm. In some instances, the destruction has been so extensive that nothing less than a radical operation will suffice; in others conservatism may play a splendid rôle. Conservatism as I view it at present, therefore, does not relate so much to the operation as it does to the time for the election of the operation. In all acute inflammatory conditions, unless symptoms are most threatening, I withhold operation until the acute inflammatory process has passed, and the patient is largely free from pelvic symptoms. Then one may perform the abdominal operation with the view to removing the residium of the inflammatory attack, leaving behind all structures which having been involved are now well, or which have not been invaded by the attack. In this way I have secured results which are infinitely better than those which followed operation in the midst of acute infection.

Dr. Polak has, I believe, put before us another phase of this question, namely, that pregnancy, which was formerly a chief mainspring in considering conservatism, need no longer be considered, for the majority of women who have suffered from inflammatory diseases had been and will still remain sterile. The conservation of ovarian tissue is done with the sole purpose of perpetuating menstruation and preserving that occult influence which is ascribed to the ovarian secretion. This is of the greatest value, not only from merely the sentimental, but also from the physiologic standpoint. Every woman under these conditions may hope for maternity, whereas with the complete cessation of the period this hope is lost and she is very likely to become morbidly introspective and chronically neurotic.

Dr. Howard A. Kelly, Baltimore: This subject has been a burning question with us for many years, and it is interesting note how our attitude relative to a particular question will hange in the course of years. By conservatism now we mean iseased ovaries, and yet I doubt a little whether Dr. Polak oes not include cases which we do not consider diseased at l; those cases of small cystic formation. My experience in e past twenty years has been that conservatism has a more nd more limited field. We all went at it as Dr. Clark has aid with a great deal of enthusiasm when it came to us like new idea that we might save some of those structures which ur predecessors were sacrificing. There is an age limit in onservatism, and there must also be considered race and conition. There is the working-woman who insists above all hings that she must be well. Speaking of conservatism in a road general sense, I believe it will depend on the condition f the surrounding structures and on the previous history of e patient. If there is history of long-continued suffering nd of invalidism for years, I am more apt to be radical here than to conserve. It depends, too, on the point of view f the patient. I am willing to be conservative if the patient ill take the brunt of what will come in the way of relapse. s a matter of fact, I find the patient leaves the decision to e. If the patient says: "I want above all things menstrual unction and the chance of conception," then I do everything can, putting the burden in the way of relapse on the paent.

In regard to the Graafian follicles, unless there is very deidedly clear ovarian tissue, it is a mistake to leave a mere hell of an ovary. Unless the patient insists I would hardly ecommend leaving structures which were under suspicion on he opposite side having malignant disease on the other. fter removing a dermoid cyst from one side I have split the ther ovary and taken out one or two dermoid cysts. I beeve we ought always to do that if the opposite ovary is enarged. What shall we do in pelvic inflammatory disease? In any of these cases an ovary is held down under a web of adesions and is in bad company. The tube is pouring out its nfection and if we take out the tube, with that the disase, and free the ovary from its adhesions, I think we can afely be conservative. But, when the ovary has been bound own under old adhesions, I think it ought to be cleared out. Vhen the ovary is retained my plan is to have it held up rom the pelvic floor.

Dr. A. Goldspohn, Chicago: This subject has been a favore one with me for many years; and if I am not mistaken, was the first to publish anything about resection of ovaries rest of the City of New York. I have often been attacked in y position; sometimes by men who were serious, but oftener y theoretical quibblers. Those who were serious from pracical experience I respect, but the others scarcely deserve any otice. Nagel of Berlin once made series of sections of ovaries nd declared that these follicle cysts as a rule contain ovules, hat therefore they are all healthy, and that resection of varies is uncalled for. This astonishing declaration aroused umerous other equally qualified men to investigate the subect by even more extensive examination of series sections of uch follicle cysts; and they all disagreed with Nagel's declaraion, saying that the ovules were not present usually, in a ormal condition, and that the pathologic nature of the folicles is established both histologically and clinically. Nagel ever appeared in defense of his position.

This subject requires the best of our gynecologic acumen. Ve gain in judgment by experience, and in my opinion it is he supremest test of an operator's judgment to tell chiefly y palpation what is healthy ovary tissue, or how diseased it s, what may we risk leaving and what we ought to remove. t is not the size of these bodies that determines or indicates heir health; it is consistence more than anything else. Furhermore, I am guided in this matter by considering the natral destiny of Graafian follicles, namely, to come to the surace and rupture. Normally they do this before they become nlarged to the size of a hazel or hickory nut, as we often ee them. If they do become so enlarged, there is something athologic which has either prevented their rupture, or has aused their overgrowth or hydropic condition: and whether ve need to meddle with them or not, will depend partly on he size of these cysts, and more on the thickness and density of the structures overlying them and interfering with the rupture, which is needed to relieve the painful tension in the organ. Again, there are gnarly cirrhotic parts of ovaries, in which all glandular structures are gone, but nerve endings remain in continuous compression, causing much pain, not merely local, but often referred to other organs in the same part of the body, that need to be removed. Of course, such surgery, and in fact all surgery on these parts, is out of order when the tissues are in a state of acute inflammation. That must have subsided. Then only can we tell what really needs to be removed. And, as the opposite policy is correct, with reference to the appendix, appendicitis in women should be cared for by the gynecologist, because he is most likely to make the important differential diagnosis correctly.

Dr. R. Hall, Cincinnati: I think Dr. Kelly emphasized the real points in saying that it is not conservatism if experience demonstrates that in retaining the ovary the gynecologist does not cure his patients. If one removes an ovary and the ovary on the opposite side has a large cyst, possibly the size of an orange, that ovary should be resected and the patient left a portion of the organ. I have to my credit three or four patients, like the one mentioned here, who have borne children afterward. One patient whom I mentioned once before in this Section was over 40 years of age, the mother of one child. Ten years previously a tumor weighing 30 or 40 pounds and a cyst larger than a large orange were removed, leaving about half of an apparently healthy ovary. In eighteen or twenty months afterward she bore a child, for which she and her husband were very grateful.

It is a question whether it is conservatism in cases in which a cyst is removed and there are multiple cysts in the other ovary if one leaves that ovary. In a few such cases in which I have left the ovary the patients have returned with the symptoms all exaggerated and a secondary operation must then be done. Papers with carefully recorded cases like Dr. Polak's will throw light on the subject and give us a better working plan. For twenty years I have worked along this line myself, keeping careful record of cases, and have come to the conclusion that conservatism in saving the ovaries has a limited field. I believe, however, that in the class of cases mentioned in the paper, operation may be done after the acute stage has subsided. Frequently one is obliged to remove the ovary and the tube involved in the suppuration, but in the majority of instances one can save the ovary by liberating it and removing the tube, cutting it well away into the uterus. The woman is left with a practically normal ovary. This can be attached to the round ligament in a higher position than normal. While the woman may not bear children she retains the function of menstruation. If there is any conservatism in saving the ovaries it is in this class of cases, and it is rarely that such patients return for removal of the ovary.

Dr. C. C. Frederick, Buffalo: During my operative experience of over twenty years, I have been imbued with the idea of conserving for every woman on whom I operated as much ovarian tissue as possible with the view of maintaining menstrual function and the better degree of general nervous tone which ensues as a result of that conservatism. As Dr. Clark has said, we all know the mental condition of patients with total ablation of the ovaries, especially in young women early in the menstrual life. But the older I grow, and the more work I do, and the more results of conservative surgery on the ovaries I see, the more inclined I am to be more radical, especially in cases in which the disease in the ovary is primary. In cases in which the ovary is infected because it is in bad company with its corresponding tube, and especially in infection of the ovary by extension of the inflammatory process, I think by getting rid of the tube and then treating the ovary, if it be abscessed, by exsecting the abscess and cleaning out the pyogenic membrane and cauterizing with carbolic acid or the electric cautery, one can leave that ovary with tissue that will continue to functionate and it will give no further trouble. But when the ovary is primarily diseased in one part, you can make up your mind that if the diseased process has not already attacked the other part of the ovary it will eventually do so. The more I have seen of results of conservative surgery in cases in which the disease is primary, the more inclined I am to take the ovary out *in toto*. I have seen many recurrences in this class of cases. Recently a woman came back to me who had been operated on ten years ago. She had multiple cyst of one ovary and a monocyst of the other. At that time she expected to be married and was anxious that the operation should be conservative. Ovarian tissue about two-thirds the size of an ordinary ovary was left. She was in good condition and menstruating six months after the operation. I never saw her again until last week I was sent for and found her a poor, pale, emaciated being in bed with a great big tumor. I found that she had had recurrence of the ovarian tumor which she had neglected. Carcinomatous degeneration with adhesions had ensued and the case was hopeless. I could not take out the tumor without taking her life on the table.

Dr. P. A. Harris, Paterson, N. J.: The routine practice of removing ovaries with diseased or inflamed tubes is absolutely prejudicial to all interests involved. Of all the cases of pus tubes which come to operation, it is in exceptional instances only that both ovaries are so involved as to require their removal. The Fallopian tube is the natural habitat of certain inflammations. The ovary is also sometimes inflamed, but it is always an unwilling participant in the inflammations which ordinarily affect the tubes. When we consider how decidedly dissimilar are the tube and the ovary, both in structure and function, we have a theoretical argument which should sooner have taught us the fallacy of assuming that the ovary is a willing participant in the inflammations which so commonly involve the Fallopian tubes. I am convinced that in not more than 4 per cent. of all cases in which salpingectomy is required will it be necessary to remove both ovaries. I feel sure that 97 per cent. of all women from whom I have removed pus tubes that menstruation continued, and that the removal of the diseased tubes cured them of such pains as resulted from the tubal infections, and that it has been the rule after the removal of the tubes for the patients to return to their normal menstrual habits. Primary dysmenorrhea or the pain with menstruation which existed before the infection of the tubes has not been cured by removal of the tubes. Only such pains as were added to the primary dysmenorrhea by the inflammation of the tubes have been cured by removal of the tubes.

One per cent. and possibly 2 per cent. of women from whom we exsect diseased tubes may have some further trouble due to infection of a remaining ovary. When abscess develops in the ovary in such case it is very easy to cure it by vaginal section and drainage. I think menstruation should be preserved for every woman from whom we remove diseased tubes. An exception might possibly be made for women who have suffered from very painful menstruation from childhood. I wish to say that, in my experience, while the exsection of pus tubes has generally cured the patient of all pains which came to her after she acquired the infection, such operations had little or no effect in affording relief from dysmenorrhea, which occurred and continued from puberty. Such dysmenorrhea is only curable by the removal of the ovaries.

Dr. J. O. Polak, Brooklyn: I think that Dr. Hall received a wrong impression from the paper; I do not condemn the preservation of the ovaries in inflammatory cases, but I condemn resection in the presence of inflammatory conditions. Nor do I operate on these patients during the acute stage by the abdominal route. I make vaginal drainage and wait weeks or months before doing anything further, and in that way I am able to save ovaries. All of us who have done obstetrical work and have followed these postpartum infections know what time will do in Nature's efforts to protect the woman and conserve her organs.

Restriction of Diet in Children's Diseases.—E. Feer, Heidelberg, in an article in *Pediatrics*, states that a very difficult and unsolved problem is how far may one proceed with the starvation period. One often swerves in the doubt between the sins of commission and the sins of omission. When the nutritional conditions of the child are still moderately maintained and when it can still draw on its energy for nutriment, one need not fear instituting a starvation period.

THE TREATMENT OF PUERPERAL INFECTION

A STUDY OF THE CASES TREATED DURING THE LAST FOUR YEARS *

THOMAS J. WATKINS, M.D.
CHICAGO

This report comprises 61 cases, nearly all of which were treated at Wesley and St. Luke's hospitals. Most were cases of severe infection, as the mild cases are usually not referred to the hospital. A number of the patients had been curetted once or twice, had had intrauterine treatment, had become worse and were sent to the hospital. Twenty-eight of them had a temperature of 103+. In 33 cases the temperature was less than 103; 28 of the patients had an inflammatory exudate in the pelvis. This is the same number that had a temperature of 103+, but there were 9 with pelvic exudate with a temperature of less than 103. Six patients had suppurative peritonitis.

Blood examinations were made as a routine in all the cases. The leucocyte count varied from 5,000 to 58,000, and there were very few that were of any great amount of interest. The increase in the leucocyte count was generally in proportion to the amount of febrile disturbance. In one case the white counts were especially interesting in that the patient did not develop a leucocytosis until she had been in the hospital for about two weeks, although she ran continuously a very high temperature. She had a large pelvic exudate and a profuse purulent vaginal discharge. The slow development of the leucocytosis was probably due to the virulent infection and the low physiologic resistance. The patient showed very little tendency to improve until the leucocytosis developed, when the improvement was rapid. The white blood count varies so generally with the febrile disturbance that it is of very little practical value in a large percentage of the cases. A low count with a high temperature, however, indicates a low resistance or a virulent infection, or both, and is of some value in the prognosis. A continuous diminution of a leucocytosis indicates recovery. The white count is also of value at times in the diagnosis, especially where coincident or complicating pathologic conditions are present.

Bacteriologic examinations to determine the variety of the infections were not made in many cases and were usually disappointing in results. Gonococci were found in only three cases. Bacteriologic examinations, it seems to me, are often unsatisfactory, and the findings as yet are of no practical value in the treatment. This is especially true, as different strains of the same infective organisms may vary as much as do the different bacteria.

COMPLICATIONS

There were the following complications: Iliopsoas abscess (non-tuberculous), 1; pyemic abscesses, 1; pneumonia (lobular), probably embolic, 5; phlebitis, 2; intestinal obstruction, 1; acute nephritis, 2. Many of the cases, however, had some albumin and occasional casts.

TREATMENT

The treatment employed is somewhat routine. A careful history is taken and a complete physical examination made. If the fetus is still *in utero*, miscarriage unavoidable and the cervix not dilated, the uterus and vagina are packed with sterile gauze. This is done irrespective of the amount of temperature. It is left in from

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* Read before the Chicago Gynecological Society, May 28, 1909.

TABULATED REPORT OF CASES

Case No.	Supportive Treatment Only	Uterus Explored	Uterus Packed	Vaginal Section	Abdominal Section	No Pelvic Exudate	Pelvic Exudate	Suppurative Peritonitis	Temp. 103+	Temp. —103	Length of Time in Hospital	Recovered	Died	Condition on leaving Hospital	Duration of Pregnancy
1	..	..	..	1	..	..	1	..	1	..	5 weeks	1	..	slight thickening	10 weeks
2	..	..	..	1	1	..	1	..	1	..	3 months	1	..	slight thickening	10 weeks
3	..	..	..	1	..	..	1	..	..	1	1 month	1	..	slight thickening	3 months
4	..	..	..	..	1	..	1	..	..	1	1 month	1	..	no exudate	1 month
5	1	..	..	..	..	..	1	..	..	1	3 weeks	1	..	no exudate	6 weeks
6	..	1	..	..	..	1	..	..	..	1	2 days	1	..	no exudate	3 months
7	1	..	..	..	..	..	1	..	1	..	11 days	1	..	slight exudate	2 months
8	..	1	..	1	..	..	1	..	1	..	2 months	1	..	slight thickening	1 month
9	..	..	..	1	.	..	1	..	1	..	24 days	1	..	no exudate	6 weeks
10	1	..	..	..	..	..	1	..	1	..	2 weeks	1	..	no exudate	term
11	..	..	..	1	..	..	1	1	1	..	20 days	..	1	....	4 weeks
12	..	..	..	1	1	..	..	1	1	..	6 days	..	1	....	term
13	..	..	..	1	..	1	..	..	..	1	2 weeks	1	..	no exudate	6 weeks
14	1	..	..	..	..	1	..	..	..	1	4 days	1	..	no exudate	10 weeks
15	1	..	..	..	..	..	1	..	1	..	12 days	1	..	no exudate	3 months
16	1	..	..	..	..	1	..	..	..	1	7 days	1	..	no exudate	6 weeks
17	..	1	..	..	..	1	..	..	..	1	7 days	1	..	no exudate	3 months
18	1	..	..	..	..	1	..	..	1	..	2 weeks	1	..	no exudate	term
19	1	..	..	..	..	1	..	..	1	..	5 weeks	1	.	no exudate	term
20	..	1	..	1	..	..	1	1	1	..	2 days	..	1	....	4 months
21	..	1	..	..	..	1	..	..	..	1	18 days	1	..	no exudate	4 months
22	1	..	..	..	..	1	..	..	..	1	2 weeks	1	..	no exudate	10 weeks
23	..	..	1	..	..	1	..	..	..	1	4 days	1	..	no exudate	2 months
24	1	..	..	..	..	..	1	..	1	..	3 weeks	1	..	no exudate	term
25	..	..	1	..	..	1	..	..	..	1	2 weeks	1	..	no exudate	5 months
26	..	1	..	..	..	1	..	..	..	1	4 days	1	..	no exudate	6 weeks
27	1	..	..	..	..	1	..	..	..	1	6 days	1	..	no exudate	term
28	1	..	..	..	..	1	..	..	..	1	3 weeks	1	..	no exudate	term
29	1	..	..	..	..	1	..	1	1	..	few hours	..	1	....	unknown
30	1	..	..	..	..	1	..	..	1	..	5 days	1	..	no exudate	term
31	1	..	..	..	..	..	1	..	..	1	3 weeks	1	..	slight exudate	2 months
32	1	..	..	..	..	..	1	1	1	..	5 days	..	1	....	term
33	1	..	..	..	..	..	1	..	..	1	3 weeks	1	..	no exudate	10 weeks
34	..	1	..	..	..	1	..	..	..	1	10 days	1	..	no exudate	2 months
35	..	..	1	..	..	1	..	..	..	1	2 weeks	1	..	no exudate	3 months
36	1	..	..	..	..	..	1	..	1	..	12 days	1	..	no exudate	term
37	1	..	..	..	..	..	1	..	..	1	6 weeks	1	..	slight exudate	4 weeks
38	1	..	..	..	..	..	1	1	1	..	4 days	..	1	....	3 months
39	..	1	..	..	..	1	..	..	..	1	12 days	1	..	no exudate	3 months
40	1	..	..	..	..	..	1	..	..	1	2 weeks	1	..	no exudate	term
41	..	1	1	..	..	1	..	..	..	1	2 weeks	1	..	no exudate	2 months
42	..	1	..	..	..	1	..	..	..	1	3 weeks	1	..	no exudate	2 months
43	1	..	..	..	..	1	..	..	1	..	7 days	1	..	no exudate	3 months
44	..	1	..	..	..	1	..	..	..	1	1 week	1	..	no exudate	2 months
45	1	..	..	..	..	..	1	..	..	1	6 weeks	1	..	some exudate	6 months
46	..	..	..	1	..	..	1	..	1	..	7 weeks	1	..	no exudate	6 months
47	1	..	..	..	..	1	..	..	1	..	2 weeks	1	..	no .exudate	term
48	1	..	..	..	..	1	..	..	..	1	1 week	1	..	no exudate	2 months
49	..	.	1	..	..	1	..	..	..	1	3 days	1	..	no exudate	2 months
50	..	..	1	..	..	1	..	..	..	1	10 days	1	..	no exudate	2 months
51	1	..	..	..	..	1	..	..	1	..	6 weeks	1	..	no exudate	term
52	..	1	1	..	..	1	..	..	..	1	1 week	1	..	no exudate	10 weeks
53	1	..	..	..	..	1	..	..	..	..	6 days	..	1	....	4 months
54	..	1	1	..	..	1	..	..	..	1	1 week	1	..	no exudate	2 months
55	..	1	1	..	..	1	..	..	1	..	2 weeks	1	..	no exudate	6 weeks
56	..	1	1	..	..	..	1	..	1	..	3 weeks	1	..	no exudate	term
57	..	..	..	..	1	..	1	..	1	..	9 weeks	1	..	no exudate	term
58	..	1	1	..	..	1	..	..	..	1	10 days	1	..	no exudate	2 months
59	1	..	..	..	..	1	..	..	1	..	2 weeks	1	..	no exudate	term
60	1	..	..	.	..	..	1	..	1	..	2 weeks	1	..	no exudate	term
61	1	..	..	..	..	..	1	..	..	1	1 week	1	..	no exudate	1 month
	31	16	11	8	3	33	28	6	28	33		54	7		

venty-four to forty-eight hours, depending on the re-
ılts. It is repacked if there is not sufficient dilatation
empty the uterus without much traumatism. It is not
ncommon to have the gauze, fetus and secundines ex-
elled spontaneously. If the fetus has been expelled, the
terus is explored to see if it is empty, if indicated by
ıe presence of hemorrhage or offensive uterine dis-
ıarge, except under conditions mentioned later. If
ıere is no hemorrhage or offensive uterine discharge the
terus is considered empty. It is possible but not prob-
ble for it to contain some secundines in the absence of
emorrhage and offensive discharge, but in this event if
ft alone the discharge will soon become offensive. If
ıe uterus is small and well contracted, even in the
resence of a slight offensive discharge, it is not ex-
lored. The uterus is explored and emptied, preferably
ith the finger. It is probably a conservative statement
at one can never be perfectly sure that all tissue is
moved from the uterus except by digital exploration.
he statement is often made that the entire cavity can-
ot always be reached with the finger. My associates
d I believe that with an anesthetic and pressure from
ove the entire cavity can be explored with the finger.

To pack the uterus and allow it to empty itself is always good treatment, and is especially good treatment even with a dilated cervix to be employed by the inexperienced or to be used where the surroundings are unsuitable for surgical work. The harm resulting from retention of some of the secundines has been very much overestimated. There is not such an urgent demand for their immediate removal as would be indicated from the literature. This is well illustrated by the experience of dairymen. Cows often have retained placentæ: they become infected and offensive, but they are always expelled spontaneously about the ninth day, and they apparently never cause death. One should treat an infection in the uterus much as one would an infection of the hand. One would not scrape, tear and cauterize sloughing tissue on an infected hand; one is no more justified in doing so in the uterus. In either instance all decomposing and sloughing tissue should be removed that can be with little or no traumatism; otherwise it should be left to separate spontaneously.

The finger may be aided by placenta forceps or a large curette; the preferable instrument, I believe, is the placenta forceps. One may quite easily mistake with the finger the rough surface where the placenta was attached for retained tissue. This may also be grasped with placenta forceps and be mistaken for some of the secundines. If one uses a curette it should be as large as can be conveniently passed through the cervix, as a large curette is less dangerous and much more efficient.

After the uterine cavity is emptied no more intrauterine treatment is indicated and it is left alone. An intrauterine douche is always dangerous and is practically useless. There is very little objection to wiping out the uterus at this time with gauze, but this is probably of very little value. There is no indication to use any drain, as it will drain itself. The use of gauze in the uterus would interfere rather than facilitate drainage and it always increases decomposition. Better drainage is accomplished by elevation of the head of the bed. If there is any infection about the vulva, a wet dressing is kept over it to prevent coagulation of the discharges and thus to facilitate drainage. No vaginal douches are used; they often do harm, can not possibly be of much service; the nurse will usually introduce more infection than she will remove, and they are disturbing to the patient. After all that has been said against the use of douches in these cases, physicians quite generally employ vaginal douches frequently and often subject the patients to the dangerous intrauterine douche.

There has been much said about the "protective leucocyte wall" that is formed in the uterus in cases of infection and of the importance of not disturbing this by curettage, treatment, etc., but I believe that enough has been said about the thrombi that close up the uterine sinuses, which readily become infected and often produce serious trouble by being dislodged with intrauterine treatment. In cases of pelvic exudate my associates and I seldom explore the uterus even if there is some suspicion of retained tissue, as these cases are especially liable to be made worse by intrauterine manipulation.

The peritoneum is considered to be involved when there is pain; absence of pain usually means absence of peritoneal involvement.

The uterine cavity was explored in only 16 of the 61 cases, and the uterus and vagina were packed with gauze for the purpose of emptying the uterus in 8 cases. In 31 of the cases the only treatment employed was the use of means to build up the physiologic resistance.

The supportive treatment consisted chiefly in building up the physiologic resistance. The routine of it consisted in the following:

1. Forced nutritious diet.
2. Attention to elimination.
3. Relief of pain.
4. General hygienic treatment, especially fresh air and sun baths.

INDICATIONS FOR SUPPORTIVE TREATMENT

Much attention was paid to the building up of the physiologic resistance in all of the cases, and in 16 of the cases with a pelvic exudate it was the only treatment used. After excluding the necessity for exploration of the uterine cavity or after the uterus has been emptied, the patients were put on this treatment. This treatment was then continued if the patient improved. In the great majority of cases in which the patients were very ill they were put on this treatment as a test to determine whether the tendency was to improve or do otherwise. As soon as it seemed certain that the tendency of the case was to get worse we resorted to more radical procedures except in hopeless cases. We learned, however, that in a number of the cases the patient would have recurrent attacks of fever lasting for a few days and then would go on to recovery. This occurred in a number of cases in which there was a large pelvic exudate. In some of the cases the exudate extended down to the side or posterior to the vaginal canal, and in some the exudate extended upward as high as the crest of the ilium and nearly to the umbilicus.

Our knowledge as yet has given us nothing that is so valuable in the treatment of puerperal infection as the building up of the physiologic resistance. In the cases of pelvic exudate or suppuration the systemic infection is much more important than the local infection. In a majority of the cases the exudate or the pus will become sterile in two or three weeks without operation. With operation there is little or no hope of shortening the duration of the febrile disturbance, and in cases of exudate there is considerable probability that the duration of the infection will be increased by incision and drainage, as this is very liable to result in a secondary infection. The serum treatment of puerperal infections has proved as yet to be of no value.

My associates and I believe that resistance is best increased by nutritious diet, and for this purpose milk, beef-juice and eggs were chiefly depended on. An ice-bag is placed over the abdomen for the relief of pain and it may have some local value. Much care is given to see that the patient sleeps six or eight hours out of the twenty-four. Codein or morphin is given in sufficient quantities to insure rest and generally in sufficient quantities to relieve pain. Fluids are depended on chiefly to stimulate elimination. If patients do not take two quarts or more by the mouth in each twenty-four hours salines are given by the rectum. We occasionally use the drop method with the foot of the bed raised in the very bad cases if postural drainage is not indicated. We believe this to be especially indicated in cases in which the tongue is dry, those in which the stomach is disturbed and those in which the kidney excretion is small. Sun baths and fresh air were given in abundance. We have been especially careful not to disturb the patient by treatment, for we believe that the cheerful state of the patient is of extreme importance, as it aids much in giving them an appetite, in the digestion of food and in procuring sleep. In the majority of cases of puerperal infection the body will develop an immunity or will destroy the infection in the course of two or three weeks with the above outlined treatment.

Vaginal section was made in eight of the sixty-one cases. Three of the cases of vaginal section had suppurative peritonitis and were fatal. In the other five cases section was done after the supportive treatment alone failed to give desired results and was used more frequently in the earlier than later cases.

Abdominal section was done in three cases. In one case of abdominal section a solid exudate was found involving the right broad ligament, the right ovary and tube, the appendix and the head of the cecum. This was done after the very acute symptoms had subsided when the condition of the patient seemed to be at a standstill. The operation was entirely explorative and it was found impossible to remove the inflammatory mass without doing great injury to the intestines. The patient went on to complete recovery and the mass had entirely disappeared when she left the hospital. In one case the section was for intestinal obstruction, and in the other secondary to vaginal section and drainage in a case of gonorrheal infection. There were six cases of suppurative peritonitis and they were all fatal. Three of them

d vaginal section and drainage. Abdominal section
is made in none of them, as the condition of the pa-
nts was so serious that it seemed to offer no hope.

LENGTH OF TIME IN HOSPITAL

This was as follows:

Dne week or less, 21 patients. This included 6 fatal cases;
none with pelvic exudate.
Dne to two weeks, 20.
Γwo to three weeks, 9.
Three to four weeks, 2.
Five weeks, 21.
Six weeks, 3.
Seven weeks, 1.
Eight weeks, 1.
Nine weeks, 1.
Twelve weeks, 1.
Patients with pelvic exudate average twenty-five days.

This gave an average of sixteen days for all cases and
average of a little over seventeen days for the patients
at recovered. In six of the seven fatal cases the pa-
its died before they were in the hospital one week.

Fifty-four patients recovered and seven died. Eight
those who recovered had a slight thickening at the site
the exudate on leaving the hospital. Two of them
nt home with some exudate before the febrile disturb-
ce had entirely disappeared. One patient had a consid-
ible mass two or three inches in diameter in the re-
on of the left ovary and tube at the time of leaving
e hospital. She was advised to have an abdominal sec-
n, but declined.

DEATHS

One patient had a general suppurative peritonitis and
ed in a very few hours after admission to the hospital.
e was so ill that there was very little treatment given.
ne other patient came in in nearly the same condition
d died in twenty-four hours. Four other patients had
neral suppurative peritonitis and died in a few days
ter admission to the hospital. In three of them we
ade vaginal section and drainage, which was of no
lue. These six patients were so ill that recovery
emed hopeless. One died after a vaginal section and
ainage. She was admitted to the hospital with a large
lvic abscess, which was opened and drained through
e posterior vaginal fornix. She improved for a few
ys, when a second abscess formed, which was opened
through the old sinus. Slight improvement occurred
ter this, but a general suppurative peritonitis fol-
wed and death resulted. It is possible that an abdomi-
l section in this case with a radical operation would
ve resulted in recovery. The patient died on the twen-
th day after admission to the hospital.

Patient 2 was interesting, as she developed an iliopso-
abscess. There was no tuberculosis, but there was a
lon bacillus infection. The abscess was drained through
incision in the posterior vaginal fornix. The patient
ade a complete recovery, without any injury to the
int.

Patient 7 was interesting, as she developed a pelvic
scess secondary to curettage. She was admitted to the
spital on account of a very severe hemorrhage; very
tle tissue was found in the uterus; the retained secun-
nes were probably passed in the blood clots. It is quite
obable that she would not have developed an abscess
she had not been curetted.

Patient 59 had intestinal obstruction due to an exu-
te involving the pelvic colon. The obstructive symp-
ms disappeared after freeing the intestine. The pa-
nt had numerous attacks of dilatation of the stomach when one to two quarts of liquid would be washed out of the stomach. She also had an embolic pneumonia. We have been surprised at the infrequency of secondary colon bacillus infection in the cases of pelvic exudate. In none of the cases did there seem to be any indication for ligation or excision of thrombosed veins.

The amount of medication used in these cases has been comparatively small. We seldom use stimulants of any kind and believe that alcoholic beverages are seldom of use and often do much harm. We have given no tonics except occasionally, and then only with the hope of increasing the appetite for food. There is no evidence that the use of ergot to produce uterine contractions is of any value. It increases the danger of displacement of the infected thrombi in the uterine sinuses, and there is no special value to be expected from uterine contractions. The bowels are usually moved by the use of saline enemas and occasionally by the use of purgative enemas. It is not found necessary to give cathartics very often by mouth. We are thoroughly impressed with the belief that the treatment generally employed for puerperal infections has not kept pace with the advance in the knowledge of the pathology and bacteriology of these infections and that it is still influenced by a woeful amount of meddlesome and dangerous traditions.

CLASSIFICATION

It will be noticed in the tabulated report that there is no classification in the treatment of sapremic and septicemic cases and of the infections before and at term. I believe that such classifications confuse a study of the subject and are of no practical value. The mistake is often made of considering some cases as local and others as systemic infections. Infections with putrefactive bacteria are often considered sapremic or local infections and infections with other bacteria as systemic infections. There is fever in both varieties of the infection, and that means that there are bacteria and toxins in the blood in both instances, which could always be demonstrated if our tests were sufficiently delicate. Bacteria and toxins in the blood mean systemic infection. Putrefaction bacteria are often associated with other bacteria; and even non-pathogenic bacteria under certain conditions may become pathogenic. There is no anatomic, physiologic or pathologic reasons for any distinction in the treatment between infections before and at term.

These cases have helped to teach us that the systemic infection is much more important than the local infection and that the systemic treatment is more important than the local treatment: that the most important systemic treatment consists in supporting and increasing the physiologic resistance: that the infection, like most bacterial infections, will last until an immunity develops; that this immunity will vary with the variety of the infection, with the virulence of the variety and with the resistance of the patient: that there is more danger of doing too much than too little: that it often requires more courage to avoid radical procedures than to perform them; that the energetic local treatment generally used is more dangerous than the infection.

103 State Street.

Contagiousness of Tuberculosis.—Montano, the celebrated physician (1550) declared tuberculosis to be one of the most dangerously contagious and most easily contracted of diseases, and an equally strong advocate of the theory of contagion was the anatomist, Morgagni (1682-1771), who would never perform autopsies on those who died from tuberculosis. —*Propaganda of the N. Y. State Charities Aid Association.*

THE CARE OF THE TUBERCULOUS AT THE FREE DISPENSARIES OF THE CHICAGO TUBERCULOSIS INSTITUTE

WITH SPECIAL REFERENCE TO THE USE OF TUBERCULIN AS A DIAGNOSTIC AND THERAPEUTIC AGENT

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AND
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Not since the earliest history of medicine or from the beginning of that period when tuberculosis began to be recognized as a distinct disease has such general and heroic onslaught been attempted to stamp out or check the growth of consumption as is being made at the present time in every civilized community. At the present day the medical profession in general is making a most vigorous campaign on the 'white plague" and in medical circles and association meetings various papers are frequently read and discussed on the prophylaxis, treatment and prevention of consumption. The legislatures of most of our states are establishing state sanatoriums for tuberculosis. Here in this city the Chicago Tuberculosis Institute has for many years undertaken, alone and single-handed, this almost hopeless and prolonged fight against tuberculosis. In order to extend its field of activity the establishing of a number of dispensaries in various sections of this city has been undertaken.

We shall try to explain how patients are received, treated, cared for, kept under observation, and looked after while they are enrolled as patients of the Tuberculosis Institute. The order of treatment and care of patients is, with probably very little modification, about the same at all of our dispensaries. The patient supposedly tuberculous is first received by a competent nurse, who interrogates him or her as to antecedents, duration of complaint, family history, previous ailments, environments, home comforts and surroundings, if sanitary or otherwise, the earning capacity of each member of the family, as well as that of the individual presenting, taking the pulse, temperature, respiration, weight, etc., all of which is most carefully noted on a specially provided chart, and after all questions have been satisfactorily answered, all answers noted down, the patient is then presented to the physician for examination. On the reverse side of these provided history charts are two representations, the anterior and the posterior aspect of the chest, and all pathologic thoracic findings are carefully indicated by the physician on these diagrams. Before the physician undertakes the physical examination he tries to elicit from the clinical picture presented an idea of what conditions or complications he may expect.

When all has been carefully tabulated and the examining physician has satisfied himself that the case is tuberculous the patient is given into the special care of the nurse and she visits each patient at his or her home, and usually at the following meeting, which is in three or four days, makes a report to the examining physician as to the home surroundings, what means can be furnished to the sufferer by his family or friends, what provisions will be made to make the sleeping-apartment as near to out-of-door living as is possible; also what friendly aid the patient's family is willing to give to both the patient and the workers in the institute. The nurse tries in all cases to impress on the other members of the family the paramount need of good wholesome fresh air, food, pleasant surroundings, cleanliness, all of which are essential in combating and arresting tuberculosis.

Everything being satisfactory, the patient is now furnished with a fever thermometer and a blank note-book, with printed directions, is taught by the nurse how to read the temperature, record and count the pulse, all to be carefully and accurately recorded in the note-book at least four times each day. We rigidly insist on the taking of the temperature and the counting of the pulse by each patient immediately on rising, before anything has been put into the mouth. These results must be accurately recorded in the note-book, as well as the subsequent results taken daily at 11 in the morning, 4 in the afternoon, and again at bedtime. Our patients are also required to note down daily in these books the amount and quality of food consumed at each meal, how they feel, and incidentally about the weather each day, and to note down what they do and what amount of exercise they take daily. We insist on regularity in taking nourishment, and very much deprecate the irrational stuffing method so much in vogue now. Following the ingestion of a wholesome breakfast, which should include one or two raw or soft-boiled eggs, a glass of milk, sufficiently well-buttered bread, bacon, cereals and fruit, if desired, no more shall be put into the stomach until the noon meal, and after a substantial noon repast nothing more until the evening dinner. A glass of milk with bread or crackers may be allowed at bedtime. Experience has taught that in this long-drawn-out fight of the body tissues for supremacy the stomach is much better prepared to aid in this struggle, to assist digestion, if a sufficient interval is allowed for rest between each meal.

Patients with positive findings at the very beginning of their enrolment are required to report at the dispensary twice each week and under no circumstances can a patient receive treatment or encouragement unless he or she produces the note-book, giving in tabulated form the patient's condition since the previous visit. From time to time our nurses at the dispensary again visit these patients at their homes to satisfy themselves that the physician's orders are strictly carried out, and should the members of the patient's family or the attendant show any negligence or any relaxation from this constant vigil, it is at once reported to the examining physician. In coping with tuberculosis we depend mostly on good wholesome and nutritious diet, pleasant environments, home comforts, sufficient rest, and an abundance of fresh air, the giving of medicines being of minor importance.

For some time the use of tuberculin in the treatment of tuberculous subjects in carefully selected cases without complications, given hypodermically in infinitestimal doses, has been followed by most encouraging results, and yet the promiscuous use of tuberculin in the hands of the inexperienced cannot be too highly condemned. When tuberculin is used at all, the patient must be under constant observation. Should this not be possible, then tuberculin must not be used. The physician must always remember that tuberculin is not an antitoxin, but a toxin, a direct poison, the product of the tubercle bacilli, and that the object of its use in minute doses is to stimulate the body tissues to the production of antibodies.

Tuberculin is used both for diagnostic and for therapeutic purposes. For diagnostic purposes, in small children we rely chiefly on the so-called Moro test. For children and young adults we use principally a 25 per nt. solution of tuberculin, making use of the so-called n Pirquet method of vaccination. For adults a subtaneous injection of five drops or ⅓ c.c. of a 1 per nt. solution of tuberculin is used. Koch's old tuberlin, properly diluted, is used for both diagnostic and erapeutic purposes. These dilutions can very easily d properly be prepared by any physician possessing e necessary laboratory training. As accuracy is most sential in making dilutions of tuberculin, in order to sure uniform and proper dosage, measuring instruents, such as pipettes and graduates, are indispensable e will explain in somewhat extended detail how we pre-re the dilution of tuberculin in use at our dispenries.

Koch's O.T., 1 c.c., approximating 1 gram, is diluted ith 0.5 per cent. carbolic acid in physiologic salt soluon, making a 10 per cent. dilution of tuberculin; or to c.c., O.T., are added 9 c.c. of phenolized physiologic lt solution. This is put into a bottle and labeled o. 0; of this 1 c.c. equals 0.1 gram, or about 1½ grain. ow the next or second dilution is begun by taking 1 c. from the bottle labeled No. 0, putting it into anher sterilized bottle, and adding to it 9 c.c of the me phenolized physiologic salt solution, and the bottle labeled No. 1. This gives a 1 per cent. tuberculin lution; each cubic centimeter equals 1 in 100, or 1 c.c. uals 0.01 gram, or about 1/6 grain. This dilution om bottle labeled No. 1, which is a 1 per cent. solution, the one which we generally use for diagnostic purposes adults by injecting hypodermically 5 drops. By taking c.c. from bottle labeled No. 1 we prepare the dilution hich is labeled No. 2, by adding to this 1 c.c., 9 c.c. of henolized normal salt solution. This dilution, labeled o. 2, equals 1 in 1,000, or 1 c.c. equals 0.001, or about /60 grain. Again the dilution made by taking 1 c.c. om bottle labeled No. 2 and 9 c.c. of this same phenoled normal salt solution is designated dilution No. 3. ow, 1 c.c. of No. 3 equals 1 decimilligram, or for conenience 0.1 mg., or about 1/600 grain. No. 4 is preared by taking from the above-mentioned No. 3, 1 c.c. nd adding 9 c.c. of phenolized normal salt solution. hen 1 c.c. equals about 1/6000 grain, or 1 centimilliram, which again for convenience is better expressed s 0.01 mg. No. 5 is prepared from No. 4 in a similar ay, each cubic centimeter of which equals 1 millimilliram (0.001 mg.), or about 1/60,000 grain.

Patients with pulmonary tuberculosis whom the exmining physician considers suitable or selected to reeive tuberculin as a therapeutic measure are treated by e hypodermic method by means of a specially proided syringe of 1 c.c. capacity divided into 100 parts. s we have no definite knowledge of the amount of antiodies possessed by any patient—neither his resisting ower nor his tolerance for tuberculin—nor have we ith our present knowledge of medicine any undisputed eans of ascertaining either, it is advisable to be cauious, and in selected cases to begin by giving infinitesnal doses. We begin by injection in suitable cases with n initial dose of 0.05 or 0.1 c. c. from the bottle labeled o. 5, which contains the most diluted tuberculin preparation. This equals for the initial hypodermic injection /20 or 1/10 millimilligram.

It is generally stated that tuberculin should be used nly in selected or suitable cases. What are selected ases, and when is a case suitable, and when not suitble? We consider as suitable all such cases which do ot show a very marked variation in the temperature ecorded during the twenty-four hours. A daily temerature not exceeding, at any time during the day, 99.5 may be considered suitable, remembering that a temperature above 99.8 to 100 is always unsuitable. An afternoon temperature varying very little from 98.8 to 99.5 is considered suitable to begin giving 0.05 to 0.1 c.c. from the vial labeled No. 5. The smaller the variation in temperature from the normal for the daily record, the better suited is the case for tuberculin treatment. It should always be remembered that in patients showing but very slight variation in temperature, possessing fairly good resisting power, which is usually manifested by a fair digestion and appetite, a fairly healthy appearance, refreshing sleep, absence of thoracic pain, the treatment should be chiefly hygienic and dietary, and that tuberculin for therapeutic purposes should not be administered. The object in using tuberculin is to stimulate the body tissues to greater activity in producing antibodies, thereby increasing the resisting power. Should this power be apparently sufficient to cope with the inroads of bacillary activity, then the use of tuberculin may cause an overstimulation, which should be avoided.

A case being considered suitable, as stated above, we begin by giving an initial hypodermic injection of 0.05 or 0.1 c. c. of the diluted tuberculin bottle No. 5. Should this injection be followed by a systemic reaction, as shown by headache, malaise, pains in the muscles, loss of appetite, increase in temperature, a second injection should not be given for at least a fortnight, after which another, about one-half the former quantity, may be used. On the other hand, should no untoward symptoms follow this initial injection, then after three or four days a second injection of double the initial dose, or 0.2 c.c. may be given. If none, or possibly a very slight reaction is manifested, then at an interval of three or four days a third injection is given, using 0.3 c. c. from bottle labeled No. 5; and we proceed in this manner until we reach as high as 0.9 c.c. of bottle labeled No. 5. One c.c. of bottle No. 5 being equal in tuberculin strength to 0.1 c.c. from bottle labeled No. 4, and in order to avoid using large quantities for injection, at our next treatment we give 0.1 c.c. from vial No. 4 and proceed as before.

It should be remembered that the treatment with tuberculin must be progressive and only in minutely increasing doses. Should a patient to whom progressively increased doses of tuberculin have been given show a rise in temperature after a number of injections, a rise above 99.8 to 100, further hypodermic medication must be discontinued until the temperature is again below 99.5, when we may continue our treatment by dropping back to about half the strength tuberculin dilution of the last injection given and carefully watch its results. Should this again be followed by a rise in temperature, we proceed as before, but again drop to one-half of the injection which was followed by a temperature rise. So also we observe that no injection should be given if at the seat of the last given hypodermic medication a little local reaction still lingers, manifested by an area of hyperemia, or if a nodule is plainly palpable under the skin. Tuberculin should be used cautiously, and in small doses only, to be discontinued if any reaction, either local or systemic, shows itself, be it ever so little. These progressive injections may be continued over periods varying from six to eighteen months.

When the administration of large doses has been reached the patients often show the beneficial effect of the medication. Body weight is increased, appetite and digestion good, temperature nearly normal for the twenty-four hours, and the general appearance is exceedingly good. When this stage has been reached we begin by giving a progressively descending medication, and gradually discontinue all tuberculin treatment when the patient's general health shows unmistakable evidences of arrested processes or possibly healed and cured lesions. The physician must always bear in mind that in all cases, either recent or chronic, showing great activity of the tuberculous invasion, in all hemorrhagic cases or such showing the slightest tendency to hemorrhage, as well as in all laryngeal cases, the use of tuberculin is vigorously contraindicated.

CONCLUSIONS

1. In cases of pulmonary tuberculosis without elevated temperature and low resistance, the proper administration of tuberculin is of undoubted efficacy.
2. Tuberculin is capable of producing great injury to the patient and this injurious influence calls for the greatest discretion in its proper administration.
3. There is frequently increased cough and expectoration following its injection. This, in itself, is not an untoward symptom. Tuberculin is an expectorant, *par excellence*.
4. Persistence of such clinical manifestation as general lassitude and physical weakness should cause the discontinuance of its administration.
5. In the presence of a mixed infection with high temperature incident thereto the use of tuberculin is inexpedient.
6. The opsonic findings in dispensary practice are impracticable at this time. Clinical study is absolutely essential in determining the size and frequency of the dose.
7. We caution against the use of tuberculin in advanced cases with positive findings. In this stage alarming results have followed its administration.
8. Tuberculin should not be administered to any patient unless it is possible to obtain an accurate daily record of the case.
9. Pulmonary hemorrhages are contraindications to the use of tuberculin, should slight hemorrhages manifest themselves during the treatment its use must be discontinued at once.

100 State Street—39 Pine Grove Avenue.

Clinical Notes

AN UNUSUAL CASE OF INSANITY WITH AN OBSCURE DIAGNOSIS

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The following case came under my observation during 1907 and 1908, and, as it showed such a variety of mental conditions, I thought it of sufficient interest to report:

Patient.—M. S., female, aged 33, single, born in Austria, was a domestic with common school education. Maternal and paternal grandparents lived to be over 70 years old. Mother and father are healthy and there is no history of alcoholic excesses, cancer, tuberculosis, paralysis, insanity or nervous diseases in the family. One brother had infantile convulsions but has been in perfect health since.

Past History.—M. S. was the second of four children, the rest of whom are in good health. Mother was 26 and father 24 years old at the time of patient's birth. Mother had a severe attack of typhoid fever just prior to patient's birth, but birth was normal and patient was free from sickness during the developmental period. She went to school seven years and reached the eighth grade. In disposition she was considered cheerful, sociable, kind, optimistic, ambitious and even-tempered. As a domestic, she held one position for years.

First Attack.—January, 1907, patient had an attack of grip, which lasted eight or ten days and from which she did not fully recover. In June following she felt so weak and run down she consulted a physician. He advised her to take a rest on account of the existing profound anemia. She did not stop work, however, but the week following the general feeling of exhaustion became so marked that it was necessary for her to take to her bed. After remaining in bed about ten days her relatives and friends noticed a mental change. She became irritable, apathetic and stupid. She also made queer statements, such as that she "had not brains enough to cry," etc. During the following four weeks patient was untidy; slept but little; took no interest in her surroundings; refused to answer questions or to talk spontaneously. She ate but little during this period and frequently refused food altogether.

Physical Examination.—On July 31, 1907, patient was admitted to this institution in a weak and emaciated condition. Her height was 5 feet; weight, 87¾ pounds. Pulse was 120; respirations, 22; temperature, 97 2/10; tongue coated; breath offensive. Bowels constipated and skin dry and scaly with acne eruption over back and face. Blood examination showed the hemoglobin to be 60; erythrocytes, 3,800,000; leucocytes, 12,000. Differential count: Neutrophiles, 58 per cent.; lymphocytes, 32 per cent.; large mononuclears, 4 per cent.; eosinophiles, 5 per cent.; basophiles, 0.5 per cent. and transitionals, 0.5 per cent. A catheterized specimen of urine was found to be negative, except for a marked excess of indican. No organic changes could be found in the respiratory, circulatory, digestive or generative organs, though the physiologic action of these various systems was very sluggish.

Examination of Nervous System.—Expression of the eyes was dull and staring; sight apparently unimpaired; pupils circular; left 3 mm., right 4 mm. in diameter. Both reacted to light and to accommodation. Hearing was apparently unimpaired. The senses of taste and smell could not be tested on account of the mute and negativistic state of the patient. Cutaneous sensations were tested with difficulty. Patient reacted to pain; also to tactile stimulation. Heat and cold were not reacted to. Deep reflexes were equally exaggerated on the two sides. Superficial reflexes subnormal. Romberg and Babinski signs were absent. Organic reflexes were not under the patient's control. There was some vasomotor paralysis, face and body being livid and the extremities cyanotic.

First Mental Examination.—Three days after admission an examination of the mental status was attempted, with the following findings: Patient was mute, resistive, untidy, negative and tube-fed. Her movements were stiff and awkward and she would stand in one position for hours, staring into space. When given attention she resisted and would often strike at the nurse. She kept up a rhythmical movement of the lower jaw. Sleep was insufficient. Speech, memory, orientation, delusions, hallucinations and school knowledge could not be tested because of the mute state of the patient. Consciousness was somewhat blunted, though patient appeared to have a clouded grasp on her surroundings. She associated to a limited extent, this being demonstrated when the examiner approached her with a pin. She also showed restiveness when taken into the operating room to be examined. The emotional feelings were blunted. Her facial expression was stolid and never changed. There was a general state of apathy with some irritability, when given attention. Volition was greatly disturbed and there was paralysis of the will. Occasionally she was impulsive, but most of the time, negative, mute and resistive, with associated hypermuscular tension. Social relations were greatly disturbed. Patient was difficult to care for because of her untidy and resistive state. A diagnosis of catatonic stupor was made on the basis of the above mental examination and anamnesis.

Patient remained in the institution for six months, during which time she gradually regained all her mental faculties and was discharged as cured. After leaving the institution she went back to her old position and did excellent work for six months; then became maniacal, which necessitated a readmission on July 23, 1908.

Second Attack.—The patient's affect on being readmitted was the opposite to what it was during her previous residence in the institution. On the first admission she was stupid, mute, apathetic, negativistic, untidy, and in poor physical health. At this time she was active, talkative, distractible and showed marked flight of ideas with some incoherency. Her physical health was good and she weighed 118 pounds.

Second Mental Examination.—This was made five days after the second admission: Patient had been in an actively maniacal state ever since being readmitted. She either sang, danced, laughed or talked incessantly. Occasionally she teased the other patients. On one occasion she broke out several window-panes. Her habits, on the whole, were good and her movements and speech were for the most part purposeful. She was perfectly oriented for time, place and person and consciousness was clear. Enunciation was loud and articulation distinct. School knowledge was in harmony with her opportunities. She wrote her name rapidly and the letters were large. Memory for remote as well as recent events was quite clear, except the period during which she was confined here on the previous admission. Of this she had but a hazy recollection. Hallucinations and delusions could not be demonstrated. The associative processes were very much enlivened and a marked flight of ideas with some looseness of thought connections was prominent. Patient was distracted by every new impression. Sustained attention was impossible. The emotional feelings were heightened and there was an exaggerated reaction to mild stimulation of the emotional sphere. The lower emotions were considerably involved. Feelings of hunger and fatigue were lessened. The sexual feelings were exaggerated. Volition was hyperactive and there was a marked pressure of activity with more or less purposeful movements. Mannerisms and negativistic states were not noted. Patient was constantly on the move and required considerable supervision. She was tidy in habits but careless of her general appearance. Occasionally her elation was beyond her control and she tore her clothes and disarranged the furniture in the ward. Most of the time her actions and speech were of a playful nature. Based on the above mental examination and physical state, a diagnosis of excited form of manic depressive insanity was made.

Course of Disease.—The above mental and physical conditions remained about stationary until during October, when patient became untidy, destructive, abusive and more or less violent. In November following the patient had one convulsion of the grand mal type, followed by stupor and mental confusion. November 20 she had six very severe convulsions, after which she was badly confused and clouded for two days. On November 24 patient had one slight convulsion. On December 15 patient was noticed not using her left hand, and when examined a neuritis of the musculospiral nerve was found. Her mind at this time was clearer than it had been for two months and she was able to assist with her personal care and the ward work. January 15 patient was very comfortable and quiet; had visitors and seemed to enjoy their company. Her movements were slow and somewhat retarded. February 15, patient was again destructive, violent and untidy and required special supervision. During the first few days in March the patient was quiet and well behaved. At noon on March 9 she began having convulsions and was not entirely free from them until 11:30 p. m. Her circulation became very feeble and edema of the lungs and brain caused her death at 4:30 the following afternoon without regaining consciousness.

An autopsy, though greatly desired, was refused by the relatives.

SUMMARY

There are several interesting features in this case to which I wish to call special attention.

1. The first attack presented all the cardinal symptoms of stuporous catatonia.
2. Complete recovery followed.
3. The second attack gave a clear picture of the excited form of manic depressive insanity.
4. The manic state was followed by a period during which definite delusions of persecution with violent and destructive tendencies were noted.
5. General convulsions of the grand mal type entered into the mental picture.
6. A short stage of depression, during which delusions of depression and retardation were the predominating symptoms.
7. Death was caused by epileptiform convulsions.

A true diagnosis of this case in my mind is difficult: in fact, I have never observed a case or seen one reported which presented so many distinct phases of mental aberration.

QUINIX AND UREA HYDROCHLORID AS A LOCAL ANESTHETIC

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In September, 1907, Dr. Henry Thibault,[1] of Scotts, Ark., published a short article calling attention to the local anesthetic effect of quinin and urea hydrochlorid. He recommended the use of a 1 per cent. solution for local injection and from 10 to 20 per cent. for local application to any mucous surfaces. Aside from this article by Dr. Thibault and one by E. J. Brown,[2] recommending its use in tonsillectomy, we have been unable to find any account of the use of these substances for anesthetic purposes in the literature.

For some six months we have been using this drug instead of cocain in all local anesthesias with the greatest satisfaction. So great has been the interest manifest in our studies by our professional friends that we have deemed it best to report our results up to date. Clinical experience was obtained in our private practice and by one of us (Rogers) at the dispensary of University of Kansas. The experimental work was done in the laboratory of the Halstead Hospital (Hertzler).

We started with the 1 per cent. solution recommended by Dr. Thibault. We found, as stated by him, that a perfect anesthesia is obtained which lasts from 4 to 5 hours. The anesthesia is more complete than with cocain. We soon discovered, however, that disturbances in skin union sometimes occurred. One of us (Hertzler) noted particularly that in hernia operations there was some disturbance in the healing of the skin wound which had not been noted after the use of cocain. The disturbance was not great, but the patient had to be kept in bed longer than after the cocain operation. The edges of the wound were indurated and thickened, but there was no pus formation. The thickening appeared to be due to cellular infiltration.

Hertzler thereupon undertook to determine experimentally the cause of the induration. Experiments performed on rabbits showed that the thickening was not due to cellular infiltration at all as was supposed on clinical grounds, but was due to a pure fibrinous exudate free from cells. This exudate was proved to be fibrin by Mallory's and Weigert's stain. The reaction appears, therefore, to be purely chemical in nature. The exudation of the fibrin begins to appear within a few minutes. In a general way it was determined the amount of exudate depends on the strength of the solution used; the attempt was made, therefore, to determine a strength of solution which would not cause this exudation of fibrin. In ½ per cent. solutions the exudate is less than with 1 per cent. and with ¼ per cent. solutions only traces can be discovered. To what extent this fibrinous exudate is subsequently converted into fibrous tissue has not yet been definitely determined, but apparently nearly all is absorbed.[3]

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[1] A New Local Anesthetic, Jour. Arkansas Med. Soc., September, 1907.

[2] Quinin Anesthesia, Painless Tonsillectomy and Adenectomy, THE JOURNAL A. M. A., Aug. 8, 1908, li, 496.

In order to determine the subjective sensations of the injection and to determine the question of a possible zone of hyperesthesia about the anesthetized zone, one of us (Hertzler) studied the effect by the injections in the skin of his leg. Injections of 1 per cent., ½ per cent., ¼ per cent. and 1/6 per cent. solutions and an injection of plain water as controls were used in each series. The 1 per cent. and ½ per cent. solutions gave immediate and complete anesthesia without a particle of pain during its introduction. Within a few minutes there was a distinct induration. With the ¼ per cent. solution, anesthesia was not complete for a few minutes, but was then as complete as after the use of the stronger solutions. The 1/6 per cent. solution gave delayed anesthesia, but after a few minutes was complete. In neither of these weaker solutions was induration noted on palpation. The water control caused intense pain on injection, and the anesthesia, at no time perfect, lasted only a few minutes. There was a zone of hyperesthesia one or two inches in width about the area injected. Curiously enough the hyperesthesia seemed to be for touch and not for pain.

The duration of the anesthesia in the 1 per cent. and ½ per cent. solutions was perfect for 4 or 5 days, and sensation in the ½ per cent. strength was not restored to any great extent for 10 days, and in the 1 per cent. solution sensation was not completely restored after 2 weeks. At no time was there the least pain, though the induration about the 1 per cent. and ½ per cent. solutions was yet marked at one and two weeks, respectively.

The above observations were made with the solution of the quinin in water. When physiologic salt solution was used as the solvent, the induration was little or not at all marked, but the duration of the anesthesia was much lessened. Hypotonic and hypertonic solutions also were used without notable variation.

The result of this experimentation indicated that the delayed skin union above noted was due to fibrinous exudate. This was present in 1 per cent. and the ½ per cent. solutions, but not in the ¼ per cent. solution to any notable degree. The ¼ per cent. solution seemed, then, on laboratory grounds, to be the strength most desirable for anesthesia in the class of work where speedy primary union of the skin is desirable and where duration of anesthesia beyond several hours is not required, and clinical experience seems to bear out the laboratory determinations.

Any operation ordinarily done with cocain can be done with quinin. The technic of its use is the same. As in the use of cocain, only those tissues known to be sensitive should be injected. In clean tissue the ¼ per cent. solution seems to be strong enough to produce anesthesia lasting several hours. In regions where primary union is not necessary, particularly in tissue the seat of inflammatory reaction, the stronger solutions are more satisfactory. In the opening of abscesses, for instance, and operations for anal fistulas, hemorrhoids, etc., the stronger solutions are the ones of choice. In regions in which operation is attended by hemorrhage, too, notably tonsillectomy, turbinectomy, etc., the 1 per cent. solution, or stronger (3 per cent., Brown), is the solution of choice. The stronger solution is desirable here because of the hemostatic effect exercised by the fibrinous exudate. The exudate being fibrin in the strict chemical sense, the usual natural processes of hemostasis are anticipated. The coagulum occurs, it is true, *about* and not *in* the vessels, and their occlusion, therefore, results from pressure from without. The important point, however, is that the effect lasts from 7 to 14 days, a time abundantly sufficient to allow healing by granulation to become well advanced. This is in marked contrast to the ephemeral influence of cocain and adrenalin, which act only by causing a contraction of the muscular walls of the blood vessels.

We have done the following operations, among others, under quinin anesthesia: drainage of the gall bladder, drainage of appendiceal abscesses, exploratory laparotomies, hernias, castrations, varicocele and hydrocele operations, etc., and the removal of all sorts of tumors ordinarily undertaken under cocain.

We desire particularly to emphasize the value of this anesthetic in two operations: In operations about the anus it is for us the anesthetic of choice. In both fistulas and hemorrhoids, any of the radical operations can be performed with the same thoroughness as under a general anesthetic. The advantage consists in that the duration of the anesthetic is from 7 to 10 days, which does away entirely with the after-pain ordinarily attending these operations. In tonsillectomy the results have been equally satisfactory. For this operation a large amount of the solution is injected about the tonsil between it and the faucial pillars. This forms an artificial edema about the tonsil which much facilitates its removal. An unlimited amount of solution may be used with impunity so that a satisfactory anesthesia can be easily secured. Because of its safety both tonsils may be operated on at one sitting. The absence of after pain is as desirable here as following an operation about the anus.

As a local application about the eye we have no experience, but turbinectomies and septal spur operations have been done with a fair degree of satisfaction when the drug was used as a topical application. For local application the strength must be from 10 per cent. to 20 per cent., as correctly stated by Thibault. When the solution is injected beneath the mucosa, however, anesthesia is perfect and hemorrhage slight. It is interesting to note that Fulton[4] used quinin as a local application to the nose in hay fever.

In the bladder as a preliminary to cystoscopy the result has been very satisfactory. A solution of from 10 per cent. to 20 per cent. is used and allowed to remain from 20 to 30 minutes. The only objection to this solution is the difficulty of removing the precipitated flocculi from the bladder after the anesthesia is complete. These flocculi work no further mischief than to obscure the vision.

The chemical used is the quinin and urea hydrochlorid. For extensive operations about the rectum and throat two 2-grain tablets are dissolved in an ounce of plain sterile water. An ordinary glass hypodermic syringe is used. In cases in which relatively short anesthesia only is required and where a prompt union of the severed surfaces are desired, a $1/4$ per cent. solution seems to be the solution of choice. It is unnecessary to distend the tissue. The fluid should be injected slowly under light pressure into the area to be anesthetized. The production of edema is unnecessary and should be avoided except in cases in which the edema facilitates technic (tonsillectomy, removal of encapsulated tumors). Those who have a finished technic in the use of other local anesthetics will experience no difficulty in the use of quinin.

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[3] Noting the occurrence of induration after the injection of quinin J. J. Parsons (Practitioner, London, March, 1909) used this drug by injection into the connective tissue lateral to the uterus for prolapse. Our researches would seem to raise the question whether the results could be other than temporary.

[4] The Local Use of Quinin in Hay Fever, THE JOURNAL A. M. A., July 30, 1904, xliii, 325.

The advantages of this anesthetic over cocain and its congeneras are as follows:

1. Its absolute safety. One of us (Brewster) has used as much as 100 grains intravenously in 6 hours in pernicious malaria with the recovery of the patient.

2. The duration of the anesthesia. The after-pain in certain wounds is avoided.

3. The hemostatic effect.

FOREIGN BODY IN THE RECTUM

G. W. COMBS, M.D.
INDIANAPOLIS

History.—Mr. J. L. was admitted to the City Hospital in June, 1909. He had been drinking heavily for four days, and on an evening went to a wood beside a railroad, where he lay on the ground, falling asleep and not waking until morning. He found it impossible to empty the bowel on account of an obstruction and pain. There was a beer-glass in the rectum about seven inches in circumference at the larger end, a little more than four inches in length and conically shaped. He applied for help to a physician who attempted to remove the glass, without divulsion, with forceps. The attempt failed and he glass was broken.

He was admitted to the hospital about 3 p. m. and the glass was removed about 5 p. m. The smaller end had been introduced first, and when seen at 5 p. m. was resting up about the promontory, the larger end, a segment of which had been broken out in the effort at removal just mentioned was imbedded in the hollow of the sacrum, the cutting edges being buried in the soft tissues.

Operation.—The edema and swelling, the contraction of the evators and sphincters from traumatism were such that thorough divulsion was insufficient for removal. The muscles were divided in the median line posteriorly sufficiently to effect the removal of the glass and on account of the extensive swelling and edema, and the presence of an ichorous discharge of bad odor the wound was not stitched but left to heal by granulation s in posterior proctotomy for stricture.

When the patient was discharged he had perfect control.

The shape, size and nature of the foreign body, the edema, swelling and general condition of the tissues from traumatism will be the guiding indications for the course to pursue in its removal.

If the foreign body be glass with cutting edges, much damage, which may be fatal, may follow injury to the soft tissues of the rectum or pelvis. There should be great care that a harmless body with smooth edges may not, through efforts at removal, be converted into a dangerous one with cutting edges by breaking.

It would certainly seem a rare instance in which amputation of the coccyx was necessary for the removal of a foreign body from the rectum having been introduced through the anus.

The adequate division of the muscles posteriorly and a quick removal of the object without injury is advised n lieu of prolonged efforts at removal of an object with cutting edges from which fatal wounds may result.

329 North Delaware Street.

PLACENTA PRÆVIA AND VAGINAL CESAREAN SECTION

ARTHUR STEIN, M.D.
NEW YORK

During the past few years opinions regarding the treatment of placenta prævia have undergone a radical change. Whereas until recently we were taught to overcome this dangerous complication of pregnancy or labor by a slow dilatation of the cervix followed by a Braxton-Hicks podalic version, or even by the now obsolete *accouchement forcé*, some modern obstetricians resort now to a more surgical treatment of this alarming condition.

There is still an ardent controversy as to the details of the treatment of placenta prævia in gravidity or at full term. Most of the German writers favor the method of tamponing the bleeding part by introducing the Champetier de Ribes bag, while only a few follow the American authors, who are mostly in favor of the classical Cesarean section in this condition. Some German writers (Frank, Sellheim, Krönig, v. Rosthorn, etc.) are strong advocates of the so-called extraperitoneal Cesarean section. These points, however, are of minor importance. Most authors of extended experience condemn the vaginal Cesarean section in cases of placenta prævia on account of its dangers, especially for the mother. When there is a central implantation of the placenta the vaginal route is no doubt dangerous, for by cutting into the uterine tissue the bleeding may be augmented instead of checked. In my opinion, however, there are certain cases in which the vaginal method is justifiable because it enables the obstetrician to become master of the situation quickly and safely. I have in mind those cases of lateral placenta prævia in which we are forced to rapid interference and in which we are sure beforehand that we can avoid the placental insertion.

The following case is illustrative:

History.—Patient, Mrs. B. C., aged 38, viii-para. Family history negative. Patient was always well up to the present time. She menstruated first at 16 years of age, was always irregular, every four to six weeks, and the flow was always accompanied with pain. She last menstruated on Oct. 18, 1908. She has had four normal deliveries and two instrumental ones. She can not tell what kind of instruments were used. She has had one miscarriage. The present pregnancy was uneventful up to July 6, 1909. On that day she began rather suddenly to bleed profusely and continued bleeding at brief intervals up to July 9. On July 7 the membranes ruptured. Due to the amount of blood she had lost there was occasional syncope on July 8 and 9. She was examined several times by a midwife and later by two physicians who sent her to the hospital, where I saw her first on July 9.

Examination.—At that time she was in a critical condition. Her temperature was 101.4 F., her pulse could hardly be felt, it was weak, and 128 per minute. She was in an extremely anemic condition. There was air-hunger and dizziness. She bled profusely from the vagina. As the condition was so alarming there was no time to be lost in examining the different organs, but she was put at once on the operating table and after a careful local examination it was determined to make an attempt to control the hemorrhage.

Local Examination: There was an old perineal tear of the second degree. The vulva was widely open and the vagina filled with fresh blood clots. The portio was 3 cm. long and rather rigid. One finger could be passed through the cervical canal beyond the internal os. In the cervical canal a soft, profusely bleeding mass could be felt, which was attached to the right lower part of the uterus. The anterior, posterior and left side of that portion of the uterus was perfectly free. The head of the child could be felt above the pelvic inlet. The fetal heart sounds were heard on the left side at a point midway between the umbilicus and the left anterior superior iliac spine. The frequency was 120 per minute, the action regular. At the termination of the examination some meconium was seen in the vagina.

Diagnosis.—Lateral placenta prævia, extensive hemorrhage.

Treatment.—Immediate delivery by vaginal Cesarean section. A longitudinal incision was made on the posterior wall of the cervix. The peritoneum was pushed out of the way and the posterior wall of the cervix as well as the lower posterior wall of the body of the uterus were bisected up to 3 cm. above the internal os. It seemed inadvisable to bisect the anterior wall of the cervix and uterine body as directed by Dührssen, as the condition of the patient was very poor and haste was imperative. The above-described mode of procedure, however, (Döderlein's modification of Dührssen's method) was sufficient, as it was an easy matter to introduce the whole hand into the uterus and to perform podalic version. The extraction of the child was easy with the exception of the head, which was delivered with difficulty. The child was born in a state of pallid asphyxia. In spite of the employment of all the different methods of resuscitation for about one hour I did not succeed in reviving it. The placenta was removed and the wound in the uterus closed by eight sutures of chromicized catgut.

During and after the entire operation the patient was actively stimulated.

Result.—The patient recovered rapidly. The second day after the operation her temperature was normal and the pulse was 88 per minute and full. The puerperium was uneventful in every respect. On the fifteenth day the woman left the hospital in perfect condition, though still somewhat anemic. The uterus was normally involuted, and the wound in the posterior wall of the uterus had healed primarily.

Every case of placenta prævia which has been treated by one of the newer methods should be reported in order that the general practitioner, who is most apt to deal with this dangerous complication of pregnancy or labor, may know how to treat those cases most successfully. Through reliable statistics we know that this complication occurs once in about 250 or 300 labors. The average maternal mortality is 10 per cent., whereas the fetal mortality is as high as from 70 to 80 per cent. These anything but ideal results were obtained by the routine methods of the past. The procedures were mainly: dilatation of the cervix by the metreurynter or the colpeurynter, tamponade of the vagina or even the cervix, or the performance of podalic version (Braxton Hicks), with or without perforating the placenta. *Accouchement forcé*, as I stated above, is practically obsolete. All these methods are in no way perfect, as the maternal as well as the fetal mortality is much too high. The only method that gives better results, as statistics show, is the Cesarean section, either the classical, the extraperitoneal or the vaginal. (With another method, introduced by Miller of Pittsburg, I have had no experience. In cases of central placenta prævia he ligates the uterine artery on either side through the vagina, and then, after having controlled the hemorrhage, he proceeds slowly with the delivery.)

G. T. Harrison, in a paper on "Indications for Cesarean Section in Placenta Prævia," read at the meeting of the American Gynecological Society in 1909, said that, while it is true that in the majority of cases of placenta prævia occurring in private practice the obstetric resources at our command, including manual dilatation, balloon dilatation and version are amply sufficient, there still remains a class in which the performance of Cesarean section, whether vaginal or classical, might well merit serious consideration. The cases referred to are those in which dangerous hemorrhages occur, while at the same time the cervix is preserved in its entire length. The classical Cesarean section should be reserved for cases in which the vaginal procedure is excluded as, for example, contracted pelvis.

Bumm, who probably has had the largest experience with vaginal Cesarean section in placenta prævia, is an ardent advocate of this method. As far back as 1905 he said that during the operation he has constantly the feeling of full security against loss of blood and he believes that the vaginal hysterotomy in women who have already lost much blood at the beginning of the dilatation may be effective in saving life. At all events, it is superior to the abdominal Cesarean section in the smallness of the wound and to all dilatation procedures in the certainty of arrest of hemorrhage.

Baisch also holds the same opinion, which he bases on 10 cases of placenta prævia. There are a few more successful cases reported by Dührssen (the originator of the vaginal section) and by Everke.

In my case I had to do a quick and at the same time safe operation. Classical Cesarean section was out of the question, as the patient had a temperature of 101.4° F. and had been examined vaginally several times before I saw her. The extraperitoneal operation was also excluded in this particular case, as I had to choose the quickest way to deliver the patient and this is, by all means, the vaginal route. It is surprising—as I previously stated in another publication[1]—how easily this operation can be performed and how insignificant is the hemorrhage from the wound. With few exceptions all the writers on this subject admit this. In my case, also, I was astonished to see that the patient lost no blood to speak of. The whole operation was performed in eight minutes, as I decided to do only a posterior incision to save valuable time. I am aware that the result is by no means ideal so far as the baby is concerned, as we could not revive it after an hour's effort. I succeeded, however, in saving the mother's life.

In conclusion, I would suggest that in similar cases this mode of procedure be used, particularly as the general practitioner who has had some surgical experience and who has at least one competent assistant at hand may be able to perform the operation even under unfavorable conditions. This operation enables one to open the uterus enough to permit delivery along the normal passages, without loss of time, in a clean-cut surgical way, and at any moment during pregnancy or labor.

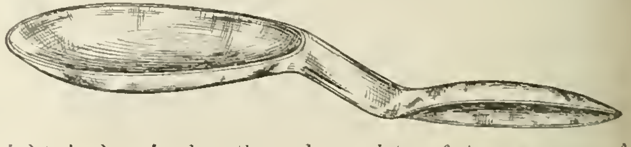
1 West Eighty-fifth Street.

A VISCERA SPOON

DAVID O'SHEA, M.D.

CHICAGO

The instrument which I have devised and which is here illustrated is intended to protect the viscera during operations. It is made of heavy block tin, is about eight inches in length and consists of two spoons of different sizes, having their concavities facing in opposite directions and connected by an isthmus that runs obliquely. The larger spoon is four inches long and one-half inch in depth, the smaller one being about half that size. The instrument is now in use at Mercy Hospital, Chicago, and has proved a practical device.



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[1] Operative Tendencies in Modern Obstetrics, Medical Record, March 7, 1908.

A CASE OF DIVERTICULUM AT THE PYLORUS *

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BUFFALO

History.—The case I have to report is that of a young man, aged 21, a college student in Toronto, who came to see me first on Sept. 22, 1894. His father and mother were living, the latter being of extremely nervous temperament and having had recurrent stomach trouble for some years. At the age of 18, the patient had experienced attacks of severe pain in the stomach after meals and when he saw me first, he complained of pain about two inches above the umbilicus, radiating a little to the left. There was no history of vomiting of blood. The thoracic organs were normal. He had a slight astigmatism with, at times, a trifling headache. He was cheerful and slept well. His appetite was very good and craving at times. His pain between meals was relieved by rest and milk and cream, egg or ice-cream. On examining his stomach, free hydrochloric acid was found present and after considerable retchng there came through the stomach-tube a small quantity of blood-stained water and a fragment of mucous membrane, 1½ cm. long by 1 cm. wide which was soft and friable and studded with dark extravasations, such as is sometimes found with gastric erosion or torn off by rough handling or suction of the stomach-tube. He was constipated; his urine was normal; he gave no specific history. There was no food stagnation. His symptoms abated and he improved on alkaline gastric sedaives with nux vomica, physostigma and stillingia. He came o see me again in 1905, four months after his appendix had been removed. He then complained of pain in his stomach which sometimes induced vomiting. The total acidity of his gastric contents was 60; free hydrochloric acid, 10 per cent. Acid salts, 12; combined chlorids, 20; biuret, present; rennet, present; erythrodextrin, +. Microscopic examination, negative. His stomach was empty before breakfast. Two days ater, four and one-half hours after Riegel's test meal, there was some mucus present: a total acidity of 30; free hydrochloric acid, 0.09 per cent. He returned home and on rest, resh air and tonics, improved very much. In September, 1906, he came back complaining of vomiting and gastric pain, flatuency and loss of weight. Again in May, 1908, shortly after returning from England, he came with gastric symptoms simiar to those he had presented in the past.

Operation.—Dr. Cornell, of Brockville, Ontario, being present and concurring, on Nov. 25, 1908, Dr. Carlton C. Frederick operated and reports the following: There were adhesions ound about 2 cm. in diameter, about 4 cm. from the pylorus on the anterior stomach wall, between it and the transverse olon and gastrocolic omentum. The adhesions were broken up and the denuded surface closed over by fresh peritoneum. Between this point of adhesion and the pylorus, just inside the pyloric ring on the stomach side, was a diverticulum consistng, apparently, of serous and mucus membranes only. To emove this diverticulum necessitated doing a modified Finney operation. The modification consisted in bringing the duodenum farther forward than in the ordinary operation for pyloroplasty, and after the first line of sutures, which are usually passed through the peritoneum, instead of making the horseshoe-shaped incision the diverticulum was excised, and rom its upper curve the balance of the necessary horseshoe-shaped incision was carried beyond the pylorus down to a ufficient distance in the duodenum. After the operation was ompleted, the duodenum lay in front of the anterior wall of the pyloric end of the stomach instead of in the usual posiion after a Finney operation, along the subpyloric curve.

Postoperative History.—Since the operation the patient has gradually improved and now weighs 136 pounds. When he eft the hospital his weight was 104. He makes no complaint of his stomach and says he feels better than he ever did.

The interesting points about this case are, first, that t is probable that the patient had a gastric ulcer at the age of 18; that this ulcer destroyed the muscular coat of the stomach, and that in healing this coat was not restored, but the pyloric wall in that region consisted chiefly of the serous and mucous coats, the latter having undergone regeneration. This thin and weak portion of the pylorus gradually stretched and formed a diverticulum. As a rule, gastric ulcer at or near the pylorus gives rise to cicatricial contraction, with more or less stenosis following, but in this instance such was not the case.

The second point of interest simply consists in the illustration that this case affords of the fact that cases of long-standing gastric complaint often show organic disease of the stomach or adnexæ. The examination of the gastric contents showed a variable chemistry in this case, and revealed also an unstable motor condition.

During the years between 1893 and 1908 the patient was a gastric semi-invalid, and his tolerance of the organic change in and near his pylorus was insufficient to maintain him in vigorous resistance and health, probably owing to his temperament and a delicate physique. His gastric symptoms consisted usually of a combination often present in gastric neuroses, which emphasizes once more the clinical fact that some or all of the symptoms of the gastric neuroses may exist with structural alteration and that operation, which should have been done earlier in this case, affords the only relief or cure for such structural change.

In the causation of this patient's symptoms, the perigastric adhesions may have been chiefly instrumental, although it is impossible to estimate the degree of disturbance caused by the deformity of the pylorus, the caliber of which was ample.

436 Franklin Street.

ABSTRACT OF DISCUSSION

Dr. Charles G. Stockton, Buffalo: This seems to me to be a very unusual case. So far as I know, this is the only instance in which a diverticulum has appeared in that region and the only instance that I know of what undoubtedly was a gastric ulcer so destroying the wall of the stomach as to result in a diverticulum. Those two facts appeared undoubtedly in the case reported by Dr. Jones.

Dr. Allen A. Jones, Buffalo: This diverticulum was two and a half centimeters (2.5 cm.) in depth. It had pressed on and dilated the pyloric ring, really involving a part of it. It also dilated the duodenum two centimeters (2 cm.) beyond the ring. With this pressure in the antrum pylori one can readily understand how it would become a condition that would be a symptom producer. It is impossible for us to say now how much perigastric adhesions had to do with the causation of the symptoms, or how much the deformed condition of the pylorus was to blame.

THE USE OF BISMUTH GAUZE IN GYNECOLOGIC WORK

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NEW YORK

Some substitute for iodoform gauze has long been needed in vaginal work. One of the most important functions of gauze impregnated with iodoform, or one of its derivatives, is to deodorize the accumulating secretions, which become very foul under the action of the ever-present saprophytic organisms. It is frequently necessary to leave gauze in the uterine cavity and vagina for from two to five days, and such gauze, if unmedicated, soon becomes exceedingly foul-smelling and offensive alike to the patient and to those around her. In addition, the presence of decomposing material has a most unfavorable influence on the smooth healing of wounds. Iodoform gauze, unless it be very strong, is little better than plain gauze in this respect. It may remain fresh and sweet for forty-eight hours, but if left *in situ* any longer it becomes very fetid, especially in the presence of the increased secretion stimulated by the irritating presence of sutures in the vagina. The odor of iodoform itself is objectionable to many people. In addition, one is never certain that, given a raw area and a duly susceptible patient, symptoms of iodoform poisoning will not supervene. Moreover, the iodoform gauze as put up in sealed tubes for use in private practice is quite expensive.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlanic City, June, 1909.

For the past four months, in the gynecologic service of Dr. Florian Krug at Mount Sinai Hospital, we have been using gauze impregnated with subnitrate of bismuth, with highly satisfactory results. It is prepared by taking 2 ounces of bismuth subnitrate, 2 ounces of glycerin, and 1 quart of water. The bismuth and glycerin are very thoroughly mixed, warm water is gradually added and the mixture is continually stirred so as to make a fine emulsion.

A portion containing about 21 yards of gauze is passed slowly through the emulsion three times so that it becomes thoroughly soaked, and is then wrung out. After the gauze is dried it is cut into strips of desired size, loosely packed, and sterilized by steam at seven or eight pounds' pressure for thirty minutes.

The above strength has proved sufficient for our purposes; it could be considerably increased without harmful effects should the occasion warrant it.

The gauze so prepared is snowy white in color, odorless, soft and smooth. There are no grains of powder macroscopically visible on it. From plain unmedicated gauze it differs only in its intense white color and in being smoother and softer to the touch. From iodoform gauze it differs in being odorless, absolutely non-toxic in the quantity used in any one case, much softer, less irritating, and less expensive. (Bismuth subnitrate is from 30 to 40 per cent. cheaper than iodoform.) Finally, it is far more efficient in its action.

I have used it in a great many cases, and have found that after incomplete abortions, curettages, plastic operations on the cervix and vagina, and aseptic vaginal celiotomies, it can be left in the vagina for a week, if desirable, and on removal it is still perfectly sweet and odorless.

The mucosa is pale and unirritated, and there is none of the stench so distressing to the patient and all concerned. The advantages are obvious.

It should be noted that the gauze has not the power of deodorizing foul-smelling pus. When, for instance, a pelvic abscess containing foul-smelling pus is opened and drained by a postvaginal section, the gauze has little or no power to mitigate the fetor. In aseptic cases we have, after extended trial, found it almost ideal and can heartily recommend its use to others.

Its uses in other fields of work will readily suggest themselves.

67 West Eighty-ninth Street.

Cow's Milk. Cow's milk is the only food supply apart from mother's milk available in this country, from a practical standpoint, for the nourishment of infants under 1 year of age. It forms, besides, a large part of the dietary of older children and of many adults. It is consequently of the utmost importance, in view of its perishability, that it should only be used as a food under conditions which will insure its wholesomeness.—J. W. Schereschewsky, in *Annals of Medical Practice.*

SARCOMA OF THE TONSIL

REPORT OF A CASE, WITH REMARKS ON THE TECHNIC OF THE OPERATION *

JOHN E. SUMMERS, M.D.
OMAHA

The relative infrequency of sarcoma of the tonsil and the apparent hopelessness of the patient prompt me to write this paper.

History.—E. M., Wood River, Neb., Dane, aged 48, farmer, single. Family history negative; no history of injury; no previous history of sickness that would have any bearing on present condition. The patient entered Omaha General Hospital, Jan. 6, 1908, with the following story: In June or July, 1907, he noticed a slight "fulness" or "swelling" of the left tonsil; not enough to trouble him particularly, and not enough to have remembered, had not subsequent developments caused him to recall early symptoms. This condition continued until the early part of November, 1907, the "fulness" and "swelling" gradually but slowly becoming more pronounced. From November until the time of presentation for assistance, the swelling had enlarged quite rapidly, and worried the patient a great deal. At no time had he detected enlargement of any of the cervical lymph nodes, and at no time did he suffer from pain.

Examination.—The patient was pale and had an anxious expression. Examination of the throat showed an enlargement of the left tonsil to such extent that it almost filled up the pharynx, there being only a narrow chink between the right tonsil, the right pillars of the fauces, and the border of the new growth. There was an ulcerated necrotic area of the tumor, about the size of a quarter, which had ulcerated through the soft palate to the left of the median line. The jaws could not be widely separated; the tumor could be distinguished below the angle of the jaw, and a few enlarged lymph nodes could be felt below the tonsil in the carotid triangle. The man had been refused operation by several surgeons, as the growth was considered too advanced to make the hazard of operation justifiable.

First Operation.—After the usual preliminary antiseptic treatment of the mouth and throat, the patient was operated on, Jan. 9, 1908. Briefly, the technic employed was: (1) ether anesthesia, ligation of the left external carotid artery, and (2) a prophylactic laryngeotracheotomy (division of the cricoid cartilage and the upper three tracheal rings). The cricoid cut being held wide open, gauze was packed into the wound above the tube, to prevent leakage of blood into the bronchi. The anesthesia was continued by having a piece of cotton clamped in a forceps kept moist with chloroform and held over the opening in the tracheal cannula—my usual technic whenever I am doing extensive bloody operations about the throat, as, for instance, for malignant disease of the tongue and floor of the mouth and larynx. With the head and shoulders elevated, the cheek was split from the angle of the mouth to the angle of the jaw, joining a curved incision around the angle of the jaw. The jaw was divided. The wound was widely retracted and there was no difficulty in excising the soft palate and in enucleating the tumor, which was distinctly encapsulated. The wound was closed in inverse order to the method of making it, the mouth being shut off from the wound cavity by suturing in such a way as practically to limit the drainage through the external wound.

Convalescence was uninterrupted, but slow because of the man's run down condition. At the end of six weeks a Crile block operation was carried out; union was *per primam* and the man returned home and renewed his occupation of a farmer.

Second and Third Operations.—Feb. 6, 1909, the patient returned with a recurrence at the site of the tonsil. This was removed through an external incision without opening the mouth, and again, April 27, the same kind of recurrence and the same kind of a removal.

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* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The man is now in good condition. He has no pain and has a ood appetite. Had he not been operated on in January, 1908, e would have been dead more than one year ago. He is not ured, but even now the outlook is not hopeless.

Pathologic Report.—Dr. Paul G. Woolley describes the ssue from the tonsil, removed at operation, as follows: "Celidin shows that the tissue is composed of a very cellular rowth made up of polymorphous cells, thin-walled blood vesels and vascular spaces, and supplied with a well formed inrcellular reticulum. One portion of the tumor, that forming n ovoid nodule, is somewhat edematous, and is more richly upplied with vessels than is the deeper layer, which is comosed of a more compact mass of cells. Running in all direcons in the former portion are strands or columns of spindleells, between which lie the polyhedral cells that immediately urround the vascular spaces in such a way as to suggest a erithelial origin. This is, however, I believe, merely a sugestion, for in the more cellular parts there is no such indiation of vascular origin. The tumor is a sarcoma composed f polymorphous cells."

My special object in directing attention to the surgial technic in attacking tumors of the throat is to emhasize the importance of two points, viz., early diagnois, and the thorough, radical removal of the growth ogether with the lymph nodes, whether apparently ealthy or diseased. I advocate most strongly, for the hroat and neck, the kind of operative attack which has dded so many years to the lives of sufferers from caner of the breast. Prior to the general adoption of the Halsted operation for cancer of the breast, almost every atient suffered a recurrence and died. The percentage f cures following operation for malignant disease of he tonsil is necessarily lower than in cancer of the reast because of the more early lymphatic involvenent; yet statistics in this operation will improve when n adoption of the "block" technic of Crile is more genral. Crile, in speaking of this, makes a comparison of he results in his own practice in a series of ninety-six ases of malignant disease of the type under consideraion, i. e., cancer of the neck and throat, the operation eing done under usual methods, giving a three-year imit; over 28 per cent. of the patients remained free rom recurrence.

In a series of thirty-six operations under the "block" ystem, 52 per cent. of the patients are living and free rom recurrence.

In considering the mortality of the operation for renoval of malignant growths of the tonsil, we must first emember that the early diagnosis, when the neoplasm s confined to the tonsil itself and has not spread to ontiguous parts (as the base of the tongue, palate, pilars of the fauces, upper part of the larynx, the harynx) is the key to the prognosis. In epithelioma his spreading is very rapid, and in sarcoma of the mall-celled variety almost equally so. In the other arcomata, there is little disposition to spread early; in act, the growth may for some months be encapsulated, nd it is in this variety that glandular involvement is lso much later manifest.

Mr. Butlin gives the histories of fifty-four patients' ases on whom operations of various severity were perormed.

Died of the operation	14
Alive or dead with recurrence (in mouth or glands).	20
Died of cancer elsewhere	3
Well from one to three years	8
Well more than three years	9
Total	54

These statistics are most encouraging, as all previous work had been extremely discouraging, nearly all cases having proved fatal as in the earlier operative treatment of cancer of the breast. Now, if we can add the additional improved technic of the "block" operation applied to malignant disease of the tonsil, diagnosed early, the outlook will be still more encouraging. It is only essential to mention the lines of attack.

1. Through the mouth.
2. By incision in the neck—lateral pharyngotomy.
3. Combined operations, through the mouth by splitting the cheek, and lateral pharyngotomy.
4. Median or trans-hyoid pharyngotomy. Lateral pharyngotomy. Division or resection of the jaw. Ligation external carotid. Tracheotomy. Combined operation or removal of the glands two weeks to two months later.

I agree with Mr. Childe, that the tonsil should be dealt with first, after ligation of the external carotid. If the reverse procedure is carried out and the "block" operation is performed on the lymph nodes first, the resultant scars may obliterate the anatomic guides to such a degree as to render exceedingly difficult the attack on the tonsil by means of a pharyngotomy.

Fifteenth and Dodge Streets.

ABSTRACT OF DISCUSSION

Dr. Miles F. Porter, Fort Wayne, Ind.: I have had one unusual experience in dealing with malignant disease of the tonsil, involving the fauces. The case was apparently hopeless, but the individual is now symptomatically cured as a result of the combined use of the toxins and the injection of boiling water.

This shows that there are patients who are beyond hope of cure by radical operation who can be relieved and occasionally cured by the use of boiling water and the toxins.

Dr. H. S. Wieder, Philadelphia: Dr. Summers' paper brought out two points, especially with reference to sarcoma of the tonsil.

First, in sarcoma of the tonsil, not following the usual rule of sarcoma, there is almost invariably involvement of the lymph glands below the jaw and down the side of the neck. That is in opposition to the usual course of sarcoma, which usually travels by way of the vascular system. The tonsil being a part of the lymph system and being rich in lymphatics which empty into the lymph vessels of the neck, early metastasis to the neck takes place.

The second point I refer to is the fact that there are early recurrences in sarcoma. If the recurrence does not take place within a year or two, one can feel a comparative amount of safety, although one case has been reported in which recurrence took place as late as nine years after operation; this is the exception, however. In carcinoma one cannot feel safe, even after the lapse of three years.

Dr. J. E. Summers, Jr., Omaha: Dr. Wood had two cases, but they were of a different type from mine; in fact, I could not quite see some of his points; therefore, I was unable to use his work. Dr. Warren read a paper at the International Congress of Surgery, at Brussels, in which he collated all the cases of cancer of the floor of the mouth, tongue, tonsil, etc., that occurred in the Massachusetts General Hospital during a number of years. There were four cases of sarcoma of the tonsil, and all the patients died. The point I wanted particularly to bring out was that we must make an early diagnosis and operate promptly.

Books on surgery and laryngology do not say how to make the attack. To prevent a recurrence of the growth the surgeon must do just as he would in cancer elsewhere, e. g., cut out all the diseased tissue. Formerly we believed that cancer was a constitutional disease. Why? Because surgeons removed the breast and the tumor recurred. Therefore, it was a constitutional matter. Remove the local growth carefully; go away outside of it. Do a Crile block operation on the lymph nodes in the neck. In a case like mine, considering how much has been accomplished by this method, I think that it is good practice.

Therapeutics

APPENDICITIS

The medical treatment of this inflammation is ever a subject for discussion, and there is an ever-varying opinion as to the best management before operation and when operation is inadvisable. In a series of essays on the subject which appeared in the *New York Medical Journal* from May 29 to June 19, 1909, inclusive, various treatments, and some diametrically opposed treatments, are described.

The consensus of opinion of the best management of appendicitis, at least the best composite opinion, as judged by the editor of this department, may be summed up under various headings as follows:

1. The most important of the treatments of this condition is rest, and that absolute. In most instances even arising from the bed for evacuation of the bowels, or for urination, should be prohibited. The position of the patient should be that in which he experiences the least pain.

2. The next important treatment is catharsis. There is a wide variance of opinion as to the advisability, value, or necessity of purging. If the patient is seen early in the disease, it seems that there can be but one opinion as to the advisability of removing feces, possibly retained fecal masses, and all sources of bowel infection, from the intestines in this abdominal inflammation, and in a patient who may be subjected to the necessity of etherization, abdominal operation, and subsequent intestinal rest. If the patient has been previously purged, or if diarrhea has occurred (although diarrhea may not remove all fecal matters), or if the patient is first seen after several days of the disease, the advisability of purgatives may be more carefully considered, and it may be deemed inadvisable to use them.

The cathartic selected should generally be a saline or castor oil. The saline may be administered in divided doses, or in one or two large doses, and the one selected should depend on the condition of the stomach; the pleasantest, if there is nausea and vomiting; Epsom salts, if nausea is not present. Castor oil may be given in elastic capsules, or with oil of wintergreen, saccharin, or black coffee, or in some other pleasant manner. The dose should be sufficient. Any excessive action of the bowels should be stopped by the administration of a small dose of morphin, and the intestines thus made empty and at rest, the condition desired in appendicitis.

3. As so well pointed out by Dr. George A. Graham, of Kansas City, Mo. (*New York Medical Journal*, May 29, 1909), many an apparently first-stage appendicitis is really an irritation and inflammation of the cecum, due to the stasis of food débris and fecal matters in this blind sac. Such a condition of the cecum will sooner or later cause appendicitis, if it is not already present. In either case, this stagnant, irritating, foreign matter, which may contain various fruit seeds or other indigestible material, should be removed by high colon washings, the patient lying with the pelvis elevated and on his right side. Even after previous purgation it is sometimes astonishing to find what substances such high enemas will bring away. The water should be used warm, and if deemed advisable warm olive oil injections may also be used. Such washings should be repeated until the water comes away clear. These enemas may cause some increased pain in the appendix region, but the subsequent improvement of the patient is often so rapid and so satisfactory that the treatment is justifiable and prophylactic.

4. While there seems to be a difference of opinion in regard to the application of the ice bag over the right lower quadrant of the abdomen in appendicitis, there is no doubt of its generally very great value. The bag of cracked ice should not be too full or too heavy, and the region of its application should be limited to the region of the appendix. In other words, the liver and diaphragm region should be protected from the action of the cold, and the same is true of the pubic region, by towels or flannel properly applied. While the cold applications may tend to cause contraction of the abdominal muscles, its action is soon sedative, and pain often ceases from this physical therapy alone. If the inflammation is not aborted in twenty-four or thirty-six hours, the time for the use of ice is past, and warm moist applications are then advisable to cause muscle relaxation and less tension over the inflamed region.

5. While morphin or codein are considered contraindicated by many surgeons, as tending to mask the pain and therefore the extent to which the inflammation has extended, there is no question that morphin, properly administered, in doses sufficient to stupefy the patient, are many times not only needed to prevent shock from the intestinal pain, but also to give not only rest and sleep, but especially intestinal rest, and by these actions it can aid in aborting the attack. As above stated, it seems unwise to give patients morphin when the intestines are loaded with fecal matters, but after such matters have been expelled, and there are no toxins or fermentative products in the gastrointestinal canal, the sedative action of morphin can do nothing but good. Pain alone is but one symptom in determining whether or not operation is necessary, and generally enough other symptoms are present to decide such a procedure as to preclude the necessity of allowing the patient to suffer pain. Also, pain long continued increases the probability of shock occurring after operation. Let it not be misunderstood that the dose of morphin should be large. It is astonishing at times how little is needed to quiet peristalsis and therefore to quiet pain. Sometimes 1/10 of a grain is all that is needed, best given hypodermatically. More often 1/8 of a grain is required, but it need not be repeated for hours; 1/4 of a grain at one time should not be administered in appendicitis, as it is not necessary. In a few hours the patient has come out of the sedative effect of the morphin, and if the pain is worse than before, or as bad, it is easily noted. If the pain is much less, the morphin has aided in causing such improvement.

6. There is a great variation in the opinion of physicians and surgeons as to whether food should be given by the stomach when it is attempted to abort an appendicitis. The advice varies from nothing at all by the stomach, not even water, to the administration of plenty of milk. The composite advice would seem to be that the patient should receive no real food for twenty-four hours, but water should be allowed, and best hot, or perhaps hot tea or hot bouillon. Hot drinks do not start peristalsis, which has been named as the objection to all foods or drinks by the stomach. If morphin has been administered, of course, it would inhibit peristalsis, and there is more necessity for water, or other bland liquid, to be administered to prevent nausea from the morphin which is excreted into the stomach.

7. It seems advisable to operate if, in from twenty-four to thirty-six hours:

(a) Pain has increased.

(b) There is much increased resistance in the right iliac region.

(c) The temperature is higher and the diagnosis is clear.

(d) The pulse is high, even if the temperature is low, especially if the facial expression is anxious—in other words, the peritoneal expression.

(e) If the leucocyte count is 18,000, or over, and another count in six hours shows an increase. The absence of leucocytosis, or a low white blood count, does not preclude the necessity of immediate operation. The conditions of fulminating appendicitis are almost like conditions of shock, and leucocytosis may not have had time or opportunity to develop.

(f) If there is a sudden subsidence of pain, and other symptoms show that the inflammation has not aborted, gangrene may be present, and the operation should be immediate.

If under any of the above-named conditions operation is refused, or if the general condition of the patient, or the presence of serious chronic disease, makes operation inadvisable, the treatment advised below should be inaugurated.

8. Operation may be deferred, if the above imperative symptoms are not present, even if the local induration and mass increases in size.

9. On the second day of the inflammation the diet may consist of two raw eggs, coffee or tea, meat juice, and plenty of water.

10. If the progress of the inflammation is toward recovery, on the third day more solid but easily digested food, as milk toast, oatmeal gruel, and poached eggs may be allowed.

11. If the patient does not improve and the inflammation is still active, the third day diet should be the same as that described under 9, i. e., the second day diet.

12. If a tumor mass has formed in the appendix region, tension of the abdominal walls may be relieved with flaxseed poultices, or other hot moist compresses.

13. If perforation seems likely and peritonitis imminent, and an operation is not allowed or not advisable:

(a) Put the patient in 45° upright position with the thighs well supported by pillows, as this position tends to cause drainage to the lower part of the abdomen and pelvic peritoneum, where less absorption is likely to take place than when drainage is toward the upper abdomen.

(b) Frequent high colon injections of physiologic saline should be given, and the colon not only gently washed, but the saline solution should remain in the colon to promote its absorption, as full blood vessels will prevent absorption from the seat of infection.

14. If signs of peritonitis are present:

(a) Continuous saline infusions into the colon by the Murphy method should be given. This is well described by Dr. John B. Murphy, of Chicago, in *Surgery, Gynecology and Obstetrics,* June, 1908. He believes that his method of administering saline solution, which he terms "proctoclysis," is such a factor in diminishing intoxication and in saving life that his description of the method should be given in his own words, viz.: "The fluid should be administered through a fountain syringe to which is attached a $\frac{3}{8}$-inch rubber hose fitted with a hard rubber or glass vaginal douche tip with multiple openings. This tube should be flexed almost to right angles three inches from its tip. A straight tube must not be used, as the tip produces pressure on the posterior wall of the rectum when the patient is in the upright or Fowler position. The tube is inserted into the rectum to the flexion angle and secured in place by adhesive strips binding it to the thigh so that it can not come out; the rubber tube is passed under the bedding to the head or foot of the bed to which the fountain is attached. It should be suspended from six to fourteen inches above the level of the buttocks and raised or lowered to just overbalance hydrostatically the intra-abdominal pressure, i. e., it must be just high enough to require from forty to sixty minutes for 1½ pints to flow in, the usual quantity given every two hours. The fluid must be controlled by gravity alone, and never by a forceps or constriction on the tube, so that when the patient endeavors to void flatus, or strain, the fluid will rapidly flow back into the can; otherwise it will be discharged into the bed. It is this ease of flow to and from the bowel that insures against over-distention and expulsion on to the linen. The fountain had better be a glass or graded can so that the flow can be estimated. The temperature of the water in the fountain can be maintained at 100° by encasement in hot water bags. The fountain is refilled every two hours with from 1½ to 2 pints of fluid. The tube should not be removed from the rectum for two or three days." Under this treatment the blood pressure is restored to normal, thirst is quieted, and septic products are more readily excreted.

(b) Morphin should be administered in sufficient quantity to stop peristalsis.

(c) The daily diet should consist of several raw eggs, the juice expressed from a pound of chopped steak, and perhaps one or two cups of malted milk.

(d) Whiskey, or brandy, should be given in small amounts. Five drops of the tincture of strophanthus, or ten drops of the tincture of digitalis, may be given three or four times in twenty-four hours to aid the circulation in fighting the depression from the infection. After several days of high fever, however, such cardiac tonics as strophanthus and digitalis should ordinarily not be given.

(e) Strychnin should be reserved as long as possible, and can be given at such a time as digitalis and strophanthus are contraindicated, and its best action is produced by hypodermatic administration; 1/30 of a grain every six hours thus administered is as large a dose as should be used, and the frequency that should be used, except in an emergency. In other words, too much strychnin should not be given.

15. After complete recovery from a severe attack of appendicitis a child surely, and an adult generally, should be operated on; in other words, an operation during the interim, and one from which the mortality is perhaps less than 1 per cent.

16. If the patient is not seen until an abscess has formed, or until peritonitis is present, while the results of operation are doubtful, the danger of not operating is greater; hence operation should be advised.

Serotherapy of Metrorrhagia.—E. Nuñez states in the *Semana Medica*, June 10, that the success of serum injections in hemophilia suggested the possibility of influencing excessive menstrual hemorrhage by this means. Metrorrhagia of ten or fifteen days' duration seems to be common in his country, Argentina, in virgins or nulliparæ, with no discoverable cause for the excessive hemorrhage. Repose, a milk diet and ergot or other styptics do not seem to influence the hemorrhagic tendency in these cases, but benefit followed injection of 10 or 20 c.c. of antistreptococcus serum each month, for two or three months, the menstrual flow keeping thereafter within normal bounds. He cites a number of cases in detail. In one young woman the excessive hemorrhage ceased within twenty-four hours of the injection each time until normal conditions seemed to be permanently restored. The effect was equally marked in two multiparæ of 41 and 47, but no benefit was apparent in cancer cases.

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[*For other information see second page following reading matter*]

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THE FREQUENCY OF TUBERCULOSIS IN MAN

A few years ago Naegeli aroused widespread interest by reporting that a careful examination of a large number of bodies had demonstrated the presence of evidences of tuberculosis in over 90 per cent. The findings attracted wide attention because they were so startling and because they justified the old axiom of "every one has a little tuberculosis," and so Naegeli's figures have been widely quoted and almost universally accepted. For the most part pathologists supported Naegeli's contention, for their experience in autopsy work had shown them that few adult bodies were free from calcified peribronchial glands, calcified nodules in the lungs, pleural scars and apical adhesions, which lesions are all suspicious, although not positive, evidence of healed tuberculous processes. General impressions are one thing and careful analysis of evidence is another, however, and as regards this very important matter of the tuberculosis morbidity, the former have been much more abundant than the latter. Burkhardt found in the material investigated at Dresden about the same high proportion of tuberculosis as Naegeli had found in Zurich, but by Lubarsch the occurrence of tuberculous lesion was placed at but 70 per cent., and Necker's figures are about the same as Lubarsch's.

The latest contribution to this question was furnished by Beitzke,[1] who had examined 1,100 bodies at the *Charité,* in Berlin, with particular reference to the occurrence of healed and active tuberculosis, and his results are somewhat lower even than those of Lubarsch and Necker. In children under 15 years of age, as is to be expected, tuberculosis is less common than in adults, involving but 27.3 per cent. of 198 children, and in about half of these it was the cause of death. In 703 bodies of persons over 15 years of age active tuberculous lesions, calcified nodules, and positively tuberculous but healed lesions were found in 409, or 58.2 per cent.

Beitzke believes that Naegeli's statement, that almost every adult is tuberculous, should be changed to read thus: "In the autopsy material of the hospitals of certain large cities nearly every adult body is tuberculous." He believes that the high figures obtained by Naegeli and Burkhardt are to be ascribed, at least in part, to a high tuberculosis rate in the cities in which their investigations have been made, and especially to the class of patients served by large charity hospitals, in whom tuberculosis is much more common than in the rest of the population of the country at large. Therefore, Beitzke believes that we are much more nearly correct if we assume that only about one-half of all persons in all states of society suffer from a demonstrable tuberculous lesion during their lives.

It would seem, however, that the chief reason for the discrepancy in these several sets of statistics lies in the interpretation put on certain pulmonary lesions by different pathologists. All agree that encapsulated caseous areas in lungs or lymph glands are certainly tuberculous, and that calcified nodules in the same locations are nearly always, but not invariably, the sequel of healed tuberculosis. There are found, however, certain lesions of more debatable origin, including the common puckered scars and pleural adhesions at the apex, and the minute fibrous nodules of two or three millimeters diameter in the lung and pleura. Naegeli and many others believe that such lesions represent healed tuberculosis and include them in their statistics as such. Others, among whom is Beitzke, do not believe that these areas are always of tuberculous origin, and leave them out of consideration. If Beitzke had included these lesions in his tables, or if Naegeli had left them out of his statistics, the two pathologists would have been in reasonably close agreement, and the same thing may be said of the rest of the statistics. It is evident, therefore, that we cannot be sure whether nearly all persons have tuberculosis at some time, as Naegeli maintains, or whether Beitzke is more nearly correct in implicating but half the population, until we know how large a proportion of all the pleural and pulmonary scars represent healed tuberculosis. That is a difficult problem which we must ask the pathologic anatomists to work out. In any case it is certain that the estimate of 58 per cent. of healed and active tuberculosis in the bodies of adults represents a minimum figure, and that it is possible that the higher estimates of from 70 to 95 per cent. may prove to be correct.

THE EFFECT OF CAFFEIN ON THE TOXICITY OF ACETANILID AND ANTIPYRIN

The origin of the prevalent custom of adding caffein to prescriptions containing acetanilid, antipyrin, and acetphenetidin has not been satisfactorily explained. For two or three decades before the introduction of the "coal-tar" antipyretics, caffein was in somewhat extensive use as a remedy in neuralgic and other headaches, and it may be that this use suggested its combination with the newer antipyretics. Whether or not this was the case, there can be little doubt that at present the motive which usually leads physicians to add caffein to prescriptions containing these "coal-tar" products is a belief that it will counteract the depressing effects of the latter—a belief that has been long and assiduously fostered by the manufacturers of headache nostrums. The clinical literature on this subject contains no evidence that caffein actually has this effect; the belief is apparently based on the pharmacologic action of caffein as a cardiac and respiratory "stimulant" as opposed to that of the antipyretics which are considered to be "depressants." The question evidently is primarily a pharmacologic one and its solution is to be sought in careful experiments on lower animals; only thus was the true pharmacologic action of digitalis, for example, discovered.

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[1] Berl. klin. Wchnschr., 1909, xlvi, 388.

Hale[1] has recently published an investigation of this character; his results will doubtless be a surprise to many physicians. Briefly stated, he finds that caffein has little or no activity in counteracting the deleterious effects of either acetanilid or antipyrin on the heart; it does have some activity in preventing the slowing of the heart caused by these drugs, but it has practically no effect, or if any an injurious one, on the contractile power of the heart. On the intact animal, caffein is not only not an antagonist to acetanilid and antipyrin, but it actually increases their toxicity, so that animals die from smaller doses of these when small amounts of caffein are given simultaneously than when the acetanilid or antipyrin is given alone.

These results do not necessarily prove that the combination of caffein with these antipyretics may not at times be advantageous; as was pointed out above, caffein alone has considerable value in relieving certain forms of headache. But they do show that physicians should not trust to caffein to counteract the injurious effects of these drugs and that the doses of the latter should be lessened when prescribed with caffein; many physicians are under the impression that larger doses may be prescribed if caffein is added, and the dose of the Pulvis Acetanilidi Compositus, U. S. P., is larger (as regards acetanilid) than that of acetanilid itself.

Hale's paper contains many other points of interest. Thus he finds that the alkaloids of the morphin group also increase the toxic effects of acetanilid, while mixtures containing salicylic acid and the bromids seemed not to alter its poisonous effects in any way. Sodium bicarbonate lessened the toxicity of acetanilid both on the heart and on the intact animal; it had a similar action toward antipyrin so far as the heart was concerned, but not as regards the intact animal.

The results of these experiments bring to the front once more the baneful effect that the proprietary nostrum business has had on pharmacology. The medical profession has accepted without question the proposition iterated and reiterated by manufacturers of headache "cures" that caffein renders acetanilid "safe." Scientific work, unhampered by any commercial considerations, determines that the direct opposite is actually the fact. Such work as this of Hale's will do much toward placing pharmacology on a firmer basis and restoring that confidence in the materia medica which it deserves.

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[1] Bulletin 53, Hygienic Laboratory, U. S. Public Health and Marine-Hospital Service, Washington, D. C., 1909; also Jour. Pharmacol. and Exper. Therap., August, 1909, p. 185.

THE RESPONSIBILITY OF THE MENTALLY SUBNORMAL

Perhaps there is no concept which needs a more thorough revision than that of social and legal responsibility. According to the old theory, accepted alike in psychology and in law, human beings could be divided into two absolutely distinct classes, the sane and the insane, the one completely rational and completely responsible, and the other completely irrational and completely irresponsible. It followed, then, that society could protect itself perfectly against any antisocial acts on the part of the first class by attaching to such transgressions penalties sufficient to outweigh the advantages derived therefrom; and it followed just as logically that such penalties were of no avail against the second class.

Unfortunately for the theory, human nature persists in escaping from rigid categories. On the one hand, we find that many of the mentally subnormal are capable of responding rationally, in greater or less degree, to incentives supplied by rewards and punishments; and, on the other, experience shows that normal man at his best is, as some one has put it, a reasoning but not a reasonable animal—still less the ratiocinating machine presupposed by the theory of our penal system. Responsibility is not, as was once supposed, an indivisible unit, but rather a web into which enter strands from many sources.

The idea that an insane man should be subjected to what is ordinarily called punishment seems revolting to many persons. Criminal jurisprudence appears to rely on the maxim that any degree of mental aberration in an individual renders him altogether irresponsible in all his conduct, especially if this be criminal. The theory of partial or attenuated responsibility, though held by some eminent physicians, among whom may be reckoned the late Dr. C. F. Folsom, of Massachusetts, appears to have taken comparatively slight hold on the public or the legal mind. Hence it is not strange that a recent paper by Dr. J. J. Walsh[1] should have been editorially criticized by some newspapers as barbarous in its ideas and in its possible influence on the practice of the criminal courts. If it be recognized, however, that punishment is not based on any other fundamental consideration than the protection of society, it is difficult to see why it should not be inflicted in some cases of insanity. "Insanity" is a term of extremely wide interpretation; and we may rationally assume that it is not in all its degrees equivalent to irresponsibility. Walsh's assertion that punishment would be more deterrent to the partial lunatic than to the normal individual may need considerable qualification. Cases differ widely, and some subjects of morbid impulse, for example, not to speak of subjects of delusion, may be utterly incapable of being deterred by any penalty whatever. It is only a part of the insane who fall correctly into his class of mentally subnormal individuals who really can control their evil impulses if sufficient incentive is given. With a large proportion of them, however, there is some susceptibility to control of this kind, and even in the best-managed asylums, where the word "punishment" is tabooed absolutely, this fact is practically recognized and discipline maintained by classification of the patients and other means. Even epileptic furor is, in some cases at least, capable of control by fear of consequences. Some of the most violent epileptics will be very careful not to attack or to interfere with other patients whose physical strength is greater than their own. Many of the crimes of the insane are committed with a full knowledge that they are protected from the consequences by the theory of their irresponsibility. Nevertheless, society has to be protected from them as from other criminals: Dr. Folsom, in his comments on the case of Jesse Pomeroy, expressed the same idea even more strongly than Dr. Walsh, when he asks whether anything else than death will protect society from such an individual as Pomeroy when the chances of escape from prison are so many.

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[1] Walsh, James J.: Insanity, Responsibility and Punishment for Crime, Am. Jour. Med. Sc., August, 1909, cxxxviii, 262.

It is not necessary to go so far as to demand the death penalty in cases of doubtful or attenuated responsibility; but officials who have the pardoning power and judges of courts should be held to a stricter responsibility in such cases than even in ordinary ones. Mental weakness in a criminal is itself a source of danger; what makes him an unfit subject for extreme punishment also renders more perilous the enlargement of his privileges. There are many criminals of whose mental soundness there may be some doubt, but who need, for the security of the public, to be put under more effective restraint than that afforded by any ordinary institution for the insane. Even a so-called criminal asylum may not be sufficiently secure. When such an individual has committed the highest crimes he should be deprived of physical liberty for life. This may be contrary to the present tendency. Many physicians, especially some experts in insanity, will not agree with it, but it is a rational, and, to some of the best alienists, the only possible solution of the problem. The death penalty is not justifiable in cases in which there is any doubt of the responsibility of the individual, but punishment short of that, and, especially, humane and secure confinement for life, seems the proper treatment for those who escape the extreme penalty of the law on the ground of insanity.

THE USE OF MILK AS FOOD

Milk is so important an article, from both the dietetic and the commercial points of view, that the results of an experimental and statistical investigation on the subject made by Mr. R. D. Milner,[1] Assistant in Nutrition Investigations of the United States Department of Agriculture, must prove of great practical interest, even though they convey nothing really new.

In the first place, milk and its derivatives supply about 16 per cent. of the food-value of the average American family diet. Of this amount, approximately one-third is used in the form of milk and cream, the remaining two-thirds being converted into butter and cheese. From economic and climatic considerations especially, the cow is the source of most of the world's supply of milk, although in different places the goat, the buffalo, the llama, the camel, the mare, the sheep and the reindeer also make their contribution to the milk supply.

The composition of milk varies between rather wide limits, although a good unadulterated article should contain about 87 per cent. of water and 13 per cent. of solids; about one-quarter of the solids consists of protein compounds (5 or 6 parts of casein to 1 part of albumin) and one-third of fats. The fat of milk is present in the form of an emulsion, and the creaminess depends on the size and number of the fat-globules. Carbohydrates, of which lactose is the most important, comprise 38 per cent. of the solids; the remaining solids consist of mineral matters, principally phosphates and chlorids (sodium, potassium, calcium).

Milk almost invariably contains bacteria of varied kind and number; some of these cause the souring of milk and the ripening of cream and cheese and are responsible for other changes affecting both the appearance and the flavor. Milk may also be the carrier of pathogenic germs, notably those of typhoid fever, scarlet fever, diphtheria and tuberculosis. In the absence of bacteria, milk would remain sweet indefinitely, and the problem of milk-preservation consists in checking the growth and multiplication of bacteria. These are comparatively inactive at a temperature below 50° F., but they are not destroyed by freezing, which brings about undesirable changes in the milk, while extreme heat kills them and causes other undesirable changes. Pasteurization and sterilization are useful means of controlling the growth of bacteria. As the process of manufacture destroys any bacteria which may be present, condensed milk and milk-powders are practically sterile. The use of chemical agents for the purpose of destroying bacteria in milk is not to be commended. In many large cities standardized and certified milks can be obtained.

The nutritive materials of milk are easily and thoroughly digested by normal, healthy persons, and often even by persons of impaired health. By many observers the protein is believed to be rendered less easy of digestion by boiling. The digestibility of the fat appears to depend inversely on the size of the fat-globules. Mother's milk is best adapted by Nature to the nourishment of infants. It differs from cow's milk mainly in the character of its protein, in the smaller size of its fat-globules and in its greater amount of milk-sugar. Milk contains too much water to be a perfect food for adults; nevertheless, its solids furnish all the necessary ingredients and in good proportions.

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[1] Farmers' Bulletin No. 363.

Unless the price be exceptionally high, milk is as economical a source of nutrients as other animal foods, but less so than most staple vegetable products. On the other hand, it requires no preparation, is free from waste and is more thoroughly digested than most vegetable foods. As a source of protein, the most expensive of the nutritive ingredients, it is especially economical. Skim-milk, which is the whole milk minus part of its fat, and which costs only half as much as whole milk, furnishes protein at one-quarter the price of beef; and, as fat is usually abundant in the ordinary mixed diet, skim-milk might most advantageously be used in the place of whole milk in dietaries in which cost must be carefully considered. The freer use of skim-milk for cooking purposes is also to be recommended. Foods prepared with either whole milk or skim-milk are by so much the more nutritious than if prepared with water.

Butter and cheese are the most important products of milk. Butter is one of the chief sources of fat in the ordinary diet and furnishes it in a palatable and easily digestible form. Cheese consists of the casein of milk plus more or less of the fat and mineral matters. Its flavor and texture vary with the bacteria and ferments developed in the process of manufacture: the less expensive varieties make one of the cheapest sources of protein. The common and milder varieties are easily and thoroughly assimilated. Other products of milk—junket, whey, buttermilk, clabber and the fermentation-products, such as kefir and kumiss—are all nutritious foods and are often of especial value in the diet of invalids.

BILE SALTS

During the last few years there has been marked interest in the use of bile salts as medicinal agents. In discussing the question of the action and use of the bile salts it should be clearly understood that they are not in any proper sense a new introduction into therapeutics. They are, in fact, merely a different form of a remedy that has had a place in medicine for a long time and which now is official in the United States Pharmacopeia as Ox Gall (Fel Bovis) and Purified Ox Gall (Fel Bovis Purificatum). Bile salts are merely the active constituents of the bile and will find their therapeutic application wherever the bile itself might be used. Since their only advantage over bile lies in the fact that they are free from extraneous matter, the question of purity is of great importance. It is regretable to learn, as the analyses of Long and Johnson[1] clearly show, that some preparations on the market are deficient in this respect. Bile and pure bile salts deserve a more thorough and critical clinical trial than has been accorded them in the past, and their sphere of usefulness needs to be determined more exactly. They are regarded by some as the most powerful stimulant of the secretion of bile which we possess, though it should be noted in this connection that some pharmacologists hold that the increase in bile salts excreted simply represents the amount of bile salts administered and excreted in addition to the normal amount contained in the bile.[2] If this is true the amount of increase in the secretion will depend on the dose and can not be expected to be very great on the doses recommended for some of the preparations. Since these products are being used in large quantities, an investigation, such as that by Long and Johnson, should prove of great value.

THE ITALIAN CONGRESS ON PELLAGRA

In view of the recent recognition, the wide distribution, and the apparently increasing prevalence of pellagra in this country, the work of the fourth Italian congress on pellagra, which has just concluded its sessions at Udine, is of much importance here. G. Sanarelli, president of the congress, professor of hygiene at Bologna, and undersecretary of the Italian department of agriculture, supports Lombroso's theory in regard to the etiology of the disease, and believes that the chief obstacles to the eradication of pellagra in Italy are the ignorance of the peasantry, among whom "polenta," or thick corn-meal mush, is a universally popular dish, the culpable inertia of the large landed proprietors and their agents, and the cheating of the millers, who make a practice of substituting defective maize for good grain brought to their mills to be ground. The Italian government, like the Austrian government,[3] has been making special efforts to stamp out the disease by instruction in regard to diet and prophylaxis as well as by hospital treatment, and now intends to establish a system of supervision for the milling of maize. It is interesting to note that in Italy pellagra is attributed especially to the use of corn grown in situations which do not permit the ear to come to full maturity. A similar suggestion has been made in regard to the disease in this country. McCampbell[4] believes that the increase of pellagra here may be due to the fact that, whereas it was formerly the custom to allow the ear to stand in the field on the stalk until perfectly mature and dry, it has lately become a common practice to cut the corn-stalk, often immature and green, and to pack it in a shock, where conditions favor fermentation and heating. It will be of interest and value to compare the results of the Italian congress with those of the National Conference on Pellagra in this country, which meets in Columbia, S. C., early in November.

Medical Inspection of Schools. The departments of school hygiene should cooperate with boards of medical inspection in detecting and preventing contagious diseases. The boards of medical inspection become especially active during times of epidemic and contagion, but the departments of school hygiene should never cease their activity while children are growing. Like the parent and the teacher theirs should be a constant care, the value of which is to be measured only by the influences of time and the tests which measure true service.—G. W. A. Luckey, in *Hygiene and Physical Education.*

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[1] Page 1412 of this issue.

[2] Schaffer, quoted by Wood, Therapeutics, ed. 14, p. 508.

[3] Vienna Letters, The Journal A. M. A., Sept. 4, 1909, liii, 808; Aug. 1, 1908, lii, 420. Sofer, L.: Campaign Against Pellagra in Austria, Therap. Monatsh., April, 1909; abstr. in The Journal A. M. A., May. 15, 1909, lii, 1631.

[4] McCampbell, J.: Theory as to the Cause of the Recent Appearance in this County of Pellagra, Jour. South Carolina Med. Assn., November, 1908.

Medical News

ALABAMA

Colleges Open.—Birmingham Medical College opened for its winter term September 29. The opening address was made by the Rev. J. T. Plunkett, D.D.——The annual session of the Medical Department of the University of Alabama, Mobile, opened September 22. Addresses were delivered by the dean of the faculty, Dr. Rhett Goode, and President J. W. Abercrombie of the University.

Personal.—Dr. Montgomery G. Shipp has been elected health officer of Albertville, Dr. James A. Thomson of Guntersville, and Dr. David A. Morton of Boaz.——The Dallas County Board of Health has chosen Dr. Thomas G. Howard, Selma, county health officer, vice Dr. Barney B. Hogan, removed from the city. Dr. James S. Chisholm was elected secretary of the board.——The governor has remitted the fine of $10 against Drs. Joseph N. Guy, Lapine, and W. H. Mitchener, for failure to transmit vital statistics as required by the new state medical regulations.

COLORADO

Personal.—Dr. Benjamin F. Griffith, Leadville, has been elected grand physician of the Women of Woodcraft.——Dr. Thomas A. McIntyre, Cripple Creek, is reported to be seriously ill with septicemia.

Hospitals Acquire Property.—The State Land Board has given 310 acres of farm land in Jefferson county to the state as a site for the State Home and Training School for Feeble-Minded Children, the bill establishing which was passed by the last legislature.——The Children's Hospital Association, Denver, has bought the property at Twenty-second and Downing avenues, formerly occupied as the Woman's Hospital. The building has a capacity of 25 beds and will be ready for use November 1.

State Society Meeting.—At the annual meeting of the Colorado State Medical Society in Estes Park, September 14-16, the following officers were elected: President, Dr. Leonard Freeman, Denver; vice-presidents, Drs. John R. Espey, Trinidad, Allan J. McDonald, Leadville, Ella Avery Mead, Greeley, and Samuel C. Halley, Fort Collins; councilors, Drs. Edmund J. A. Rogers, Denver, and George H. Cattermole, Boulder; delegate to the American Medical Association, Dr. Hubert Work, Pueblo; alternate, Dr. Alexander C. Magruder, Colorado Springs, and member of publication committee, Dr. Henry W. Hoagland, Colorado Springs. Colorado Springs was selected as place of meeting for 1910. A resolution was adopted setting forth the faithful and conscientious labor of the editor of *Colorado Medicine*, Dr. George A. Moleen, Denver, and extending the thanks of the society to him. Dr. Melville Black, Denver, presented a resolution, which was carried, urging a careful inquiry into the advisability and feasibility of the establishment of a sanatorium and home to be maintained by the American Medical Association for the care of its members.

DELAWARE

Sanatorium Dedicated.—Beth Israel House, the gift of the Jews of Wilmington to the Delaware Antituberculosis Society, was dedicated October 10, at Hope Farm.——At the same time the Baron De Hirsch shack, the gift of Nathan Garsky to the society, was dedicated. Previous to the ceremony, members of the Delaware Red Cross, the Antituberculosis Society, and the legislature were entertained at a banquet, at which the governor and other prominent personages made addresses.

Officers Elected.—At the one hundred and twenty-first annual meeting of the Medical Society of the State of Delaware, held in Dover, October 12, the following officers were elected: President, Dr. Presley S. Downs, Dover; vice-presidents, Drs. L. Heisler Ball, Marshallton, and Joseph M. Martin, Lewes; secretary, Dr. George W. K. Forrest, Wilmington; treasurer, Dr. Samuel C. Rumford, Wilmington; delegate to American Medical Association, Dr. James H. Wilson, Dover; and delegate to National Council on Medical Education, Dr. Henry W. Briggs Wilmington.

ILLINOIS

Hospital Opening.—A reception was given, October 4, by the Physicians' Club of Canton to the Graham sisters, who donated Graham Hospital to Canton, and the public reception and opening of the hospital was held on the following day.

Personal. Dr. Benjamin J. Nauman, Peru, George W. Boot, Evanston, and William B. Peck, Freeport, have returned from Europe.——Dr. Sidney G. Pratt, Buda, who recently underwent operation in St. Francis Hospital, Kewanee, is reported to be convalescent.

Norbury Given Loving Cup.—At a meeting of the Jacksonville Medical Club, October 2, Dr. Frank Parsons Norbury, recently appointed superintendent of the Kankakee State Hospital, was presented with a handsome loving cup by the club. The speech of presentation was made by Dr. Albyn L. Adams.

Pellagra Commission Named.—The governor has appointed the following committee to investigate pellagra: Drs. Frank Billings, George W. Webster, Howard T. Ricketts, and Oliver S. Ormsby, Chicago; Dr. James L. Greene, Springfield; Dr. H. Douglas Singer, Kankakee; Drs. Harris S. Grindley and Ward J. McNeil, Urbana.

Pellagra Conference.—The following will constitute the committee from Illinois, delegated to attend the Conference on Pellagra, to be held at the State Hospital for the Insane, Columbia, S. C., November 3 and 4: Dr. James A. Egan, Springfield, secretary of the Illinois State Board of Health, chairman; Drs. George W. Webster, Frank Billings, and Walter H. Buhlig, Chicago; Dr. John T. McAnally, Carbondale; Dr. H. Douglas Singer, Hospital, and Dr. George A. Zeller, South Bartonville.

Court Verdicts.—Sarah E. Wood, Rock Island, charged, on complaint of the State Board of Health, with practicing medicine without a license and selling drugs and ointments, is said to have been found guilty, October 6, and fined $100 and costs. An appeal was taken.——In the case of Mrs. Carrie A. Smith, Bloomington, against Dr. Ernest B. Mammen, in which negligence in a surgical operation was alleged, the jury is said to have found for the plaintiff, October 9, and assessed damages at $2,400.

Tuberculosis Exhibit.—The State Board of Health made a striking exhibit of the prevalence of tuberculosis and the method of its prevention at the state fair. A striking part of the exhibit was a clock placarded, "Every time this clock strikes some one in Illinois dies of consumption, one every hour, 24 every day, 750 every month, and 9,000 every year." A large chart was exhibited showing the proportion of deaths from pulmonary tuberculosis in the state during stated age-periods for the year 1908. Another noteworthy illustration was a map showing twenty states, in every one of which the legislature has made adequate appropriation for a state sanatorium for tuberculosis, but in which Illinois does not appear. Many warning notices were displayed condemning the habit of spitting. This is the first time the Illinois State Board of Health has prepared such an exhibit for the state fair, and the board cannot be too highly commended for the time and care taken to bring these important truths before the people of the state.

Chicago

Plans to Eliminate Diploma Mills.—The Civic Federation announces its intention of actively undertaking a campaign against illegal medical schools and "diploma mills."

Civil Service Examination.—The County Civil Service Commission announces an examination October 28, to fill the position of chief of the medical staff at the Cook County Institutions, Dunning.

Personal.—Dr. Walter W. Hamburger, Dr. and Mrs. Cassius C. Rogers, and Dr. Henry Gradle have returned from Europe.——Dr. Otto L. Schmidt has been appointed by the governor a trustee of the Illinois State Historical Library.——Dr. and Mrs. Irvin S. Koll and Dr. Strother J. Beeson have sailed for Europe.——Dr. Frederick O. Tonney has been appointed superintendent of the municipal laboratory, vice Dr. Joseph F. Biehn.

New Hospitals.—More than two hundred patients at the Dunning Tuberculosis Hospital will be removed to the new hospital on the grounds of the County Hospital this month. The hospital has recently been completed at a cost of $150,000, and it is proposed to remove there all the far advanced patients, retaining the more hopeful cases in the institution at Dunning.——Ground was broken, October 10, for the new addition to the Norwegian Lutheran Deaconess' Home and Hospital, which is to cost $75,000, and which is expected to be completed next spring.

Bequests.—Public charities are benefited $382,500 by the will of the late Mrs. Nelson Morris. Of this, $300,000 is left for the founding or endowment of a convalescent hospital or home for children. This bequest is made to any hospital or corporation in Chicago, but preferably to Michael Reese Hospital. The Chicago Home for Incurables receives $5,000; the Chicago-Winfield Tuberculosis Sanatorium $5,000; the Chicago Lying-In Hospital and Dispensary, $2,500; the Children's Memorial Hospital, $5,000, and Michael Reese Hospital

$10,000.——A check for $1,000 has been presented to the German Hospital, Chicago, by Herman Paepcke, in memory of his wife, who died recently.

INDIANA

Personal.—Hope Hospital, Fort Wayne, has secured Dr. Henry Woodring, Altoona, Pa., as house physician.——Dr. Robert M. Campbell, West Point, has succeeded Dr. William S. Campbell, Lafayette, as secretary of the Tippecanoe County Board of Health.

New Health Rules.—The new "Book of Instructions to Health Authorities," issued by the State Board of Health, contains all the laws relating to public health, and is to be furnished to each county health officer, county judge, county auditor, and prosecuting attorney.

License for Medicine Venders.—The Jeffersonville city council, on October 4, passed an ordinance fixing a license fee of $50 for itinerant venders of medicine on the streets, with penalty for each violation of the ordinance, of a fine of not less than $50 or more than $200.

KANSAS

Must Make Reports.—Sedgwick county is to be the seat of war on physicians who do not obey the state health laws as regards the reporting of births, deaths and contagious diseases. The State Board of Health has instructed Dr. Walton I. Mitchell, Wichita, county health officer, to institute proceedings against physicians who fail to obey the law.

Enjoins Registration Board.—Dr. Charles A. Ruggles, Stafford, has brought suit against the Kansas State Board of Medical Registration and Examination to enjoin it from trying him October 14. He alleges that the board issued him a certificate in 1901, and that he has been practicing ever since in Stafford. A temporary restraining order has been granted.

Freak and Quack Doctors.—In order to protect the people of the state against freak and quack doctors, so-called "magnetic healers," etc., the secretary of the State Board of Medical Registration and Examination has secured an official opinion from the attorney-general, which authorizes the board to inaugurate a campaign against fraudulent practitioners in the state. The opinion of the attorney-general is that so-called "magnetic healers" and practitioners of similar systems are barred by the new law, and that an individual comes within the provision of the statute who treats or attempts to treat the sick or those afflicted with bodily or mental infirmities. The board desires all reputable physicians to report any violation in their locality, and promises that arrests will follow promptly. Dr. Henry A. Dykes, Lebanon, is president of the board, and Dr. Frank P. Hatfield, Olathe, secretary.

MARYLAND

State Hospital Inspected.—The State Lunacy Commission and Board of Managers of the Maryland Hospital for Insane, Catonsville, held a joint meeting, October 15, and inspected the institution. The board has acquired possession of a farm of forty-five acres.

Baltimore

Manufacturing Pharmacist Dies.—Mr. Alpheus P. Sharp, founder of the drug firm of Sharp & Dohme, who retired from business a number of years ago, died at his home in Baltimore, October 10, aged 86.

To Examine North Pole Data.—Dr. Ira Remsen, president of the National Academy of Science, has been formally requested by the National Geographical Society to appoint a commission to examine into and report on the data of Commander Robert A. Peary and Dr. Frederick A. Cook, regarding their claims to the discovery of the North Pole.

Personal.—Dr. Nathaniel G. Keirle, superintendent of the Pasteur Institute of the College of Physicians and Surgeons, was given an anniversary dinner, October 11, in celebration of his seventy-sixth birthday, and was presented a volume containing his collected writings on rabies.——Dr. George B. Reynolds is ill at Johns Hopkins Hospital with nervous breakdown.

MASSACHUSETTS

Hospital Opened.—The new Rufus S. Frost Hospital, Chelsea, was opened for inspection October 11. The building is of brick and concrete, 160 by 67 feet, and three stories in height, and has accommodation for 70 patients. Dr. E. Frank Guild is chief of the medical staff of the institution.

Good Health Exhibition.—An exhibition illustrative of the means and methods of the preservation of good health was held in the City Hall, October 13-20, inclusive, under the auspices of the Lawrence Antituberculosis League. The exhibition was held throughout the day, and lectures were given each evening and Sunday afternoon, on the fundamental facts regarding tuberculosis and public health.

Personal.—Dr. Edward H. Bushnell, Quincy, sustained a serious electric shock and burns of the left hand while attempting to turn off the electric light while using the telephone at his home.——Dr. Charles G. Carleton has been reelected president, and Dr. Frank B. Flanders, secretary of the medical staff of the Lawrence General Hospital.——Dr. Earnest D. Pillsbury, West Somerville, sustained painful bruises when a wooden electric light pole fell on his automobile recently.——Dr. Edwin Katzenellenbogen has been appointed lecturer in abnormal psychology in Harvard University.

Few Accept Rebates on Prescriptions.—The committee on rebates on prescriptions, appointed by the Essex North District Medical Society, reported at the meeting, October 13, to the effect that the committee had obtained unquestionable evidence that members of the society and probably other physicians, have been approached to accept rebates on prescriptions and to become interested in the sale of proprietary remedies, but that for the most part these affronts have been treated as they deserve. Any physician who is in doubt as to the proper course to pursue, the committee advises to consult Chapter II, Section 8 of the Principles of Medical Ethics of the American Medical Association and paragraph 7 of the Code of Ethics of the Massachusetts Medical Society.

MICHIGAN

Society Meeting.—At the annual meeting of Ottawa County Medical Society, held in Holland, the following officers were elected: President, Dr. Thomas G. Huizinga, Zealand; vice-presidents, Drs. Daniel G. Cook, Holland, and Julius F. Peppler, Byron Center, and secretary-treasurer, Dr. George H. Thomas, Holland.

Health Campaign in Escanaba.—Dr. Oscar C. Breitenbach has been appointed city chemist of Escanaba. Dr. Breitenbach has been active in the fight against typhoid fever in Escanaba, and has had the earnest cooperation of the Business Men's Association, the mayor and city council. A six million gallon mechanical filter will soon go into commission, and an ordinance providing for the tuberculin test of milk and general milk inspection is now being drafted.

Personal.—Dr. Myron A. Patterson, city physician of Albion, is reported to be ill with typhoid fever in Hurley Hospital, Flint.——Dr. F. J. Bierkamp, Wyandotte, has been appointed pathologist at Youngstown (Ohio) Hospital.——Dr. William DeLano, health officer of Grand Rapids, has relinquished the management of the tuberculosis sanatorium on account of ill health.——Dr. Orley M. Vaughan, Covert, has been unanimously re-elected, for the fifth term, president of the Board of Superintendents of the Poor of Van Buren county.

Adds to List of Communicable Diseases.—At the quarterly meeting of the State Board of Health, held in Lansing October 8, the following diseases were declared to be dangerous communicable diseases: Pneumonia, tuberculosis, typhoid fever, meningitis, diphtheria, whooping cough, scarlet fever, measles, and smallpox. The board also ruled that tetanus, rabies, erysipelas, leprosy and cancer should be reported for statistical purposes. It was decided that no person with open tuberculosis should be employed as a teacher in the public schools of the state, and a resolution was adopted instructing the secretary to prepare and issue notices to common carriers and schools forbidding the use of the common drinking cup.

NEBRASKA

Personal.—Dr. W. H. Wilson, Omaha, has been reappointed State Health Inspector.——The Pathological Club of the University of Nebraska gave a dinner at Lincoln Hotel, September 14, in honor of Dr. Henry B. Ward, formerly dean of the medical college of the university, and elected him an honorary member of the society, the first so to be honored.——Dr. Robert H. Walcott has been appointed acting dean of the college of medicine.

Quarantine Against Meningitis.—The State Board of Health has adopted a resolution setting forth that cerebrospinal meningitis, poliomyelitis, or spotted fever, which is epidemic in certain parts of the state, is recognized by the board as a contagious disease, and is subject to the quarantine laws of the state. Local authorities are ordered to quarantine those who have been exposed, for a period of ten days, the usual period of incubation, and those infected with the disease for a period of not less than twenty-one days.

Society Meeting.—At the semi-annual meeting of Knox County Medical Society, held in Bloomfield, Dr. Czar C. Johnson, Creighton, was appointed secretary pro tem. The question of a uniform schedule of fees was discussed and a committee of three was appointed to formulate such a schedule, to be signed by all members of the society, Drs. Roy Crook, Winnetoon, James R. Kaylor, Bloomfield, and William H. Britt, Creighton, were appointed as this committee. The next meeting of the society will be held in April, 1910, at Creighton.

Southeastern Physicians Organize.—A meeting of physicians, representing southeastern Nebraska, was held at Tecumseh, October 6, at which the southeastern Nebraska Medical Society was organized, with Dr. Earl B. Brooks, Pawnee City, president, and Dr. Albert P. Fitzsimmons, Tecumseh, secretary. The district of the society includes Gage, Pawnee, Johnson, Richardson and Nemaha counties.

NEVADA

State Society Meeting.—The sixth annual meeting of the Nevada State Medical Association was held in Goldfield, October 5-7. The following officers were elected: President, Dr. George McKenzie, Reno; vice-presidents, Drs. Francis M. Nesmith, Goldfield, and William H. Hood, Reno; and secretary-treasurer, Dr. Sidney K. Morrison, Reno. The next meeting will be held at Lake Tahoe.

NEW JERSEY

Must Register Births.—Under the new state law on vital statistics, which went into effect October 1, physicians and midwives are required to file certificates of birth with the city clerk within five days, under a penalty of $50 for each violation. Under the new law, the city receives twenty cents for every birth or death reported.

Elections.—At the meeting for organization of the Woodbury Society for the Prevention and Relief of Tuberculosis, the following officers were elected: President, William T. Cooper; vice-presidents, Mrs. Elizabeth Cooper, Miss Elizabeth Matlack, and Mrs. Charles Eastlack; secretary, Howard S. Davis; treasurer, Dr. Thomas E. Parker, and solicitor, A. L. Rogers. ——At the annual meeting of the Practitioners' Society of East Monmouth, October 8, Dr. William B. Warner, Red Bank, was elected president; Dr. Reginald S. Bennett, Asbury Park, vice-president; Dr. Harry E. Shaw, Long Branch, secretary, and Dr. William K. Campbell, Long Branch, treasurer.

Fewer Deaths in September.—During the month ended September 15, 3,153 deaths were reported, a decrease of 102 from August, and of 311 as compared with September, 1908. The decrease in mortality is in a great measure believed to be due to the efficient work of local health authorities. Chief among death causes for the month were infantile diarrhea, 553; diseases of the nervous system, 343; diseases of the circulatory system, 317; tuberculosis, 302; diseases of the digestive system, 257; nephritis, 204; cancer, 119; diseases of the respiratory system, 115; pneumonia, 93; whooping cough, 33; suicide, 32; diphtheria, 31; typhoid fever, 23; cerebrospinal meningitis, 18; scarlet fever, 11; measles, 7, and malarial fever, 6.

NEW YORK

Hospitals Consolidate.—Action has been taken consolidating the New York Infant Asylum and the Nursery and Child's Hospital, both of New York City. The institutions have combined assets of $1,000,000.

New Superintendent.—Dr. William T. Shanahan, Sonyea, who for nearly nine years has been a member of the medical staff of the Craig Colony for Epileptics, has been appointed medical superintendent of that institution.

A Million for Charity.—A New York philanthropist, whose name is withheld, has written, through his attorney, asking Dr. Robert W. Hill, secretary of the State Board of Charities, for advice as to the best way to distribute one million dollars for charity in this state or in New Jersey.

Medical College Opens.—The formal opening exercises of the College of Medicine of Syracuse University were held October 6. Dean Smalley, of the university, delivered the opening address on "The Value of a Liberal Education," and Dr. John L. Heffron, dean of the Medical College, spoke on the development of medical science in the last fifty years.

New York City

Ambulances in Collision.—Three ambulances belonging to the J. Hood Wright Hospital were damaged in collisions on three consecutive nights. In two of these accidents the ambulance surgeons and drivers were severely cut and bruised.

Open-Air School Rooms Wanted.—The Department of Education, in addition to the sum of $3,400 asked for the instruction of tuberculous children, has asked for $6,500 to build and equip open-air school rooms for anemic children.

A More Vigorous Antituberculosis Fight.—The representatives of seventy-five civic and charitable institutions met at the Colony Club to discuss the 1910 city budget. Lawrence Veiller stated that the death rate from tuberculosis had not decreased in this city since 1902 and that it would be greater this year than for several years past. The Board of Health has on its register 48,000 cases of tuberculosis; 28,000 of these are not receiving any medical attendance and 20,000 patients have been lost sight of during the last two or three years; their fate is unknown. The Board of Health is doing its best with limited funds but needs $250,000 at once. With this fund it will be possible to provide only one visit a month by a physician and a nurse to each patient. For the sanitarium at Otisville, Riverside Hospital and Bellevue and the Allied Hospitals more money is needed, hence a resolution was offered urging the Board of Estimate and Apportionment to grant an increase of $487,250 for the campaign against tuberculosis, $362,169 for municipal charities and hospitals and $6,800 for Bellevue and the Allied Hospitals.

PENNSYLVANIA

Auto Ambulance.—An automobile ambulance has been purchased by the city of Harrisburg. The ambulance will accommodate four patients in addition to the necessary attendants.

New Hospital Opened.—The new hospital, recently erected in Nanticoke, at a cost of $50,000, was formally opened October 12. The dedicatory address was delivered by Lieutenant-governor Murphy.

District Society Meeting.—At the annual meeting of the Fourth Censorial District Medical Society, held in Harrisburg, September 16, Dr. George W. Berntheizel, Columbia, was elected president, and Dr. Chester F. Markel, Columbia, secretary.

Physicians Arrested.—Sixty physicians of Schuylkill county were placed under arrest October 2 by Dr. R. J. Brauner, state inspector of health, charged with violation of the act of 1905, which requires that births of all children be reported within ten days.

New School Building.—It is announced that plans for the new building of the Medical Department of the University of Pittsburg will be completed and construction will be started this month. The new building will be located at the extreme west end of the grounds of the university and almost at the highest point.

Vaccination Upheld.—In an opinion handed down in Common Pleas Court, by Judge J. J. Miller, of Pittsburg, the right of the authorities of the State Department of Health, through Dr. Samuel S. G. Dixon, Commissioner of Health, and his advisory board, to regulate vaccination in the public schools of this state, is upheld.

Tuberculosis.—More than $20,000 was collected in Reading, September 20, by Berks County Tuberculosis Aid Society. ——The new buildings of the Jewish Consumptive Sanatorium Association at Eagleville were dedicated October 10. A fund of $6,500 toward the maintenance of the institution was pledged at the dedication exercises.

Tuberculosis Pavilion.—Through the generosity of Hon. James R. and Mrs. Macfarlane, a fresh-air pavilion for tuberculous patients is to be added to the Pittsburg Hospital for Children, in memory of a child of the donors, who died several years ago. The pavilion is of the one-story bungalow type, and will cost, when completed, about $3,000.

Personal.—Dr. William S. O. Sherman, Pittsburg, has been appointed chief of the surgical staff of the Carnegie Steel Company.——Dr. John F. McGrath, medical examiner for the bureaus of police and fire, Pittsburg, has resigned.——Dr. James E. Silliman, Erie, was operated on recently at Jefferson Hospital, Philadelphia, for ventral hernia.

Acquitted.—Dr. Condy C. Gallagher, Coaldale, charged with the illegal practice of medicine, was acquitted.——In the case of Drs. John C. Weidman and Anthony I. Hoon, Mercer, charged with sending anonymous communications through the mails, libeling Lyle W. Orr, the jury decided in favor of the defendants, the prosecutor to pay the costs.

Dr. Weeks Vindicated.—At a meeting of the Board of Trustees of the Eastern Pennsylvania Institution for Feeble-minded and Epileptics, Spring City, October 13, Dr. Henry M. Weeks, the superintendent, was vindicated of the charges of mismanagement made against him. The full board, after going over the evidence, declared the charges untrue and furthermore declared their confidence in the superintendent.

First-Aid Contests.—First-aid teams of six coal companies competed at Wilkes-Barre, October 2, for the prizes offered by the American National Red Cross. The judges of the contests were Major Charles Lynch, Major Charles R. Reynolds and Captain Howard B. Bailey, Medical Corps, U. S. Army. The first prize was won by the Pennsylvania team, the second by the Hillside team, and the third by the Susquehanna team.

Physicians Honored.—At the annual meeting of the Erie County Medical Society, held in Girard, September 21, the birthday of Dr. Orlando Logan, the oldest physician in the organization, was celebrated. In token of the esteem in which he is held, he was presented with a cane, Dr. E. H. Strickland making the presentation address.——At a reception given by the State Board of Medical Inspectors at the home of Dr. Samuel G. Dixon, State Commissioner of Health, Bryn Mawr, a silver loving-cup was presented to Dr. Dixon, Dr. Edgar M. Green making the presentation speech.

Public Health Education.—The meeting of the Pennsylvania Branch of the Public Health Education Committee of the American Medical Association was held in Philadelphia September 28, at the time of the meeting of the State Medical Society. Dr. Elizabeth Leiper Martin, Pittsburg, state secretary for Pennsylvania, presiding. Dr. Rosalie Slaughter Morton, New York City, chairman of the National Committee, described the origin and aims of the committee, which was formed at the request of the House of Delegates of the American Medical Association for the purpose of educating the public, through various women's organizations, in the prevention of disease. Plans for work in Philadelphia and all over the state were outlined by Drs. Francis C. Van Gasken, Philadelphia, and Dr. Martin. The unanimous spirit of enthusiasm was most gratifying and it was felt by those present that great good might result from this movement of women members of the American Medical Association. The House of Delegates of the State Society passed a resolution endorsing the work of the committee, and authorizing a public health and education committee in every county in the state.

Philadelphia

Officers Elected.—At a meeting of the Pathological Society, October 15, the following officers were elected: President, Dr. David Riesman; vice-presidents, Drs. Aloysius O. J. Kelly, Alleen J. Smith, David L. Edsall and Joseph Sailer; secretary, Dr. Edward H. Goodman; treasurer, Dr. Courtland Y. White; recorder, Dr. Frederick H. Klaer, and curator, Dr. Howard T. Karsner.

Personal.—Dr. Harry Lowenburg has been elected pediatrist of the Northwestern General Hospital.——Drs. Benjamin L. Gordon and John H. Musser have returned from Europe.——Dr. Gerald D. O'Farrell was thrown from a carriage in a runaway October 4, fracturing his clavicle and sustaining scalp wounds and contusions.——B. Byron Dawson, the newly appointed executive secretary of the Pennsylvania Society for the Prevention of Tuberculosis, has assumed his duties.

College of Physicians to Open.—The new building of the Philadelphia College of Physicians on Twenty-sixth and Ludlow streets will be formally opened November 10. The building will be handed over to the college by Dr. William J. Taylor, secretary of the building committee, and will be accepted by the president, Dr. George E. De Schweinitz. The dedicatory address is to be delivered by Dr. James Tyson, president of the college, and addresses will be delivered by Drs. Robert Fletcher, Washington; John S. Billings, New York City; William Sydney Thayer, Baltimore; Charles L. Dana, New York City, and Reginald H. Fitz, Boston. At the evening session an address will be made by Dr. S. Weir Mitchell, after which a reception will be held.

Tuberculosis Exhibit at Normal School.—The educational exhibit of the Pennsylvania Society for the Prevention of Tuberculosis was opened in the Girls' Normal School, October 18. The principal of the school presided, and addresses were made by Dr. Martin Brumbaugh, director of public schools; Dr. Joseph Neff, director of the Department of Health and Charities, and Dr. Charles Hatfield, president of the Pennsylvania Society for the Prevention of Tuberculosis. The exhibit was open daily from 2 until 3:30 p. m. and was closed October 22. Demonstrations were given each day and the exhibit was composed of material displayed at the exposition held in this city last spring. From the normal school the exhibit will be placed on view at the various public schools throughout the city.

New Milk Rules in Effect.—Rules and regulations for the sale of milk recently adopted by the Board of Health were made effective October 15. One of the rules, in conformity to an act of legislature, provides that every milk dealer and storekeeper who sells milk must be provided with a special license, the cost of which will be $5 per year. This license must be displayed in the dealer's principal place of business and duplicates must be placed in all delivery wagons, and all wagons must be numbered for identification purposes. Selling without license will be punishable by a fine of $50 or imprisonment of not more than one hundred days. License will be revoked for violation of rules, regulations and requirements of the board. Dealers, thus deprived, have the right to appeal within five days to the courts.

WEST VIRGINIA

Personal.—Dr. D. B. Bushong, Summit Point, has been appointed medical examiner of the Baltimore and Ohio Railroad Company Relief Association at Cumberland, Md.——Dr. James L. Massey, Parkersburg, is said to have been fined $50 and sentenced to imprisonment for three months in jail for contempt of court August 31. He is alleged to have failed to pay alimony and to have threatened the life of the judge.

Elections.—At the forty-second annual meeting of the West Virginia State Medical Association, held in Elkins, October 6-8, the following officers were elected: President, Dr. Thomas W. Moore, Huntington; vice-presidents, Drs. Claude L. Holland, Fairmont; James McClung, Richwood, and A. L. Grubb, Berkeley Springs; secretary, Dr. Arthur P. Butt, Davis; treasurer, Dr. Hugh G. Nicholson, Charleston; councilors—first district, Dr. George H. Benton, Chester; second district, Dr. John C. Irons, Elkins; third district, Dr. J. G. Wheeler, Hanford; fourth district, Drs. Lonzo O. Rose, Parkersburg, and Alva S. Grimm, St. Marys; and fifth district, Dr. Joseph E. Rader, Huntington; and delegates to the American Medical Association, Drs. Albert S. Bosworth, Elkins, and Charles A. Wingerter, Wheeling.——The Ohio County Medical Society, at its annual meeting in Wheeling, elected the following officers: President, Dr. John J. Osborne; vice-president, Dr. William S. Fulton; secretary, Dr. Randolph J. Hersey; treasurer, Dr. Reed McC. Baird; and councilors, Drs. Samuel L. Jepson, Charles A. Wingerter and Robert M. McMillen, all of Wheeling.——At the annual meeting of the Barbour-Randolph-Tucker County Medical Society, held at David, Dr. Lurty N. Harris, Mill Creek, was elected president; Drs. Arthur P. Butt, first vice-president, Davis, and E. Mendel Hamilton, Belington, vice-presidents; Dr. T. Jud McBee, Elkins, secretary-treasurer; Dr. John W. Bosworth, Philippi, censor, and Dr. George C. Rodgers, Elkins, delegate to the state medical association.

GENERAL NEWS AND COMMENT

Italian Physician in America.—Prof. Dr. Nicolo De Dominicis, of the University of Naples, is making a second visit to this country and is being entertained in Boston, New York and other cities.

Navy Medical School Opens.—The Naval Medical School opened for its annual session, October 4. The faculty includes Medical Director John C. Boyd, president of the school; surgeons Charles F. Stokes, Frank L. Pleadwell, Eugene J. Grow, and Charles St. J. Butler; passed assistant surgeons, Owen J. Mink and Francis M. Shook, and Lieutenant Commander Downs L. Wilson, retired, instructor in hospital corps drills and signaling.

Bilibid Prison.—In the report of the Bilibid Prison, Manila, for the fiscal year 1909, it stated that the prevailing diseases among the prisoners were helminthiasis, malaria, morphinism, bronchitis, tuberculosis, dyspepsia and dysentery in the order named. The deaths during the year amounted to 129, of which 93 were due to tuberculosis, and of these 82 were from pulmonary tuberculosis, while the other deaths from all causes were only 36.

Monument to Dr. Turner.—The American Society for the Study of Inebriety and Narcotics has erected a monument to the memory of Dr. J. Edward Turner, the founder and builder of the first inebriate asylum in the world, at Binghamton, New York. The dedicatory services will be held October 27, at Wilton, Conn. A historic address will be delivered by Dr. H. O. Marcy, of Boston; the dedicatory address by Dr. L. D. Mason, of Brooklyn, and the memorial oration by Dr. T. D. Crothers, of Hartford, Conn. This monument is a tribute to the memory of Dr. Turner from the various inebriate asylums, homes and sanatoriums of the country.

Wants Pay for Correcting an Error.—A well-known pharmaceutical house, which makes vaccine virus as one of its products, prepared and propagated a large amount of virus that the Public Health and Marine-Hospital Service declared contaminated. This was made while the firm was operating under the federal license which is required of all manufacturers of such products. On ascertaining the facts the government suspended this license until the firm had withdrawn all of the contaminated virus from the market. By order of the Public Health and Marine-Hospital Service the product was condemned and ordered destroyed. The company then withdrew the condemned product from the market and destroyed it; the value of the amount destroyed being stated as over $14,000. The firm in question then presented a bill to the government for the amount of the virus destroyed! The bill was not allowed.

The English Sparrow as a Disseminator of Disease.—A correspondent of *Bird Lore*, the organ of the Audubon societies of the United States, includes, among other evil results of the introduction of the English sparrow to this country, its agency in the propagation of disease. She says: "To the dog and cat is often charged the spreading of the infectious germs of swine and poultry diseases. While these animals have one chance to be such carriers, the English sparrow is probably guilty a hundred times in his rôle of gleaner in the hog-pen and poultry yard." The English sparrow has been called "the feathered rat," and it well deserves the name. Its danger to human kind is not altogether negligible, for it is a ubiquitous little creature, and, while it does not enter our habitations directly, it has ample opportunities to communicate any disease germs of which it may be the bearer to our domestic animals and household pets. The germ-carrying capacity of the English sparrow and its relation to public health and disease might make a profitable subject for investigation and study.

Railway Surgeons Meet.—At the annual meeting of the Association of Surgeons of the Southern Railway Company, held in Lexington, October 11, the following officers were elected: Dr. James P. Salb, Jasper, Ind., president; Drs. R. Craig Falconer, Lexington, Ky., and James H. Lacy, Albion, Ill., vice-presidents; Dr. Frederick R. Gobbel, English, Ind., secretary-treasurer, and Drs. Martin F. Coomes, Louisville, Ky., Julien W. Scott, Venice, Ill., and Frederick R. Gobbel, English, Ind., executive committee.——The chief medical examiners of the relief departments of the Pennsylvania Lines, Chicago, Burlington and Quincy, Philadelphia and Reading, Atlantic Coast Lines, Western Maryland, and the Baltimore and Ohio systems met in the offices of the Baltimore and Ohio Railroad, Baltimore, October 9, and organized, to better facilitate the interchange of experience, and in a general way promote the work of the medical and surgical corps under their direction.

Death Causes.—The preliminary report of the Census Commission relative to the second decennial revision of the Classification of Causes of Death, made by the International Commission in Paris, together with a revised list of titles, will be found in Census Bulletin No. 104, soon to be published, and copies will be sent to all the registration officials of the United States and to the members of the American Statistical Association. A new manual of classification will be prepared for the use of registration officers of the United States as soon as detailed results of the revision are available, and an effort will be made to bring the revised classification to the attention of every physician and local registrar in the country, as an aid to the proper reporting of causes of death. Dr. Wilbur states that the United States starts at the beginning of a new census decade with revised classification of causes of death, in which American registration officials and American physicians have had their say; a revised standard certificate of death, which will be adopted by the American Public Health Association, in Richmond, this month, and put into effect Jan. 1, 1910; and with new rules and instructions recently formulated by the Directors of the Census, and promulgated to all reporting officers for the purpose of obtaining more complete and correct transcripts of the deaths now registered.

FOREIGN

Death of Lombroso.—Cesare Lombroso, the noted alienist and criminologist, died at Turin, Italy, October 18, of heart disease, aged 73.

Fourth Latin-American Medical Congress.—The *Brazil Medico* gives the details of this successful gathering of medical men from all the Latin-American countries, held at Rio de Janeiro in August. Dr. A. Sodré, editor-in-chief of our esteemed exchange, was president of the congress, which attracted 1,500 members, and at which over 100 papers were presented. There was an exhibition in connection with the congress, but the most interesting exhibit was the city of Rio itself, which has eradicated yellow fever mainly by the initiative and efforts of Oswaldo Cruz, at the head of the board of health. The congress adopted a resolution congratulating him on this, "the most brilliant sanitary triumph of the contemporaneous epoch."

LONDON LETTER

(From Our Regular Correspondent)

London, Oct. 9, 1909.

The Education of the Medical Student

The unceasing progress of medical science necessitates constant changes in the education of the medical student and a constant increase in his curriculum. The problem how to teach him all that he should learn becomes more and more difficult. Some years ago it was found necessary to increase the course of study from four to five years, but so difficult is it found that the average time now spent before a qualification is obtained is nearly seven years; only 13.8 per cent. of the students obtain a qualification in the minimum period of five years, 35.9 per cent. take six years, while the remaining 51 per cent. consume seven years or more in getting their medical education. The General Medical Council (the body appointed by government to control medical education and to exercise disciplinary powers over the profession) has had the question under consideration whether it would be expedient to again lengthen the course, either by extending it to six years or by setting back the preliminary subjects of chemistry, physics and biology to a period anterior to the commencement of the medical curriculum proper. A committee appointed by the council to investigate the subject has reported that the length of time now occupied in obtaining a qualification renders further extension of the course undesirable. It does not consider the second alternative feasible at present, partly because the secondary schools of the country, from which the medical students come, are not adequately equipped in sufficient numbers for the purposes of instruction, and partly because it is as much as the medical students now can do to pass the present entrance examination at a reasonable age. The average age of the students is 18½ years. Another important subject discussed was whether the fifth year should be confined to clinical study. When the fifth year was added to the curriculum the object was that it should be devoted entirely to this study, but it often happens that other subjects which the student has not succeeded in completing, are also studied in this year. The committee recommends that no fixed rule be made on the point, and hopes that by better distribution of the work in the earlier years the object intended may be achieved.

London Medical Schools

The opening of the London medical schools this session has been characterized by unusual activity, and the result of recent developments are apparent. Many have enlarged their premises and improved their equipment. The younger schools of the provinces have for some time shown themselves serious competitors, for they are equipped in the most modern fashion and most of them have the advantage of being attached to a university, while the majority of the London medical schools are not. Moreover, the London schools are to a large extent without public endowment, which is a common feature of provincial schools. The advantage of London is the size of its hospitals, which furnish a wealth of clinical material seldom approached in the provinicial schools. It is now recognized, however, that much reliance must not be placed on this, and that it is necessary that medical schools be equipped in the most modern manner. Another new feature in the London schools and hospitals is the increasing provision for postgraduate teaching. Twenty years ago no provision whatever existed; now several hospitals are devoted entirely to it, and many others are making or have made arrangements for it. A great disadvantage under which the London schools labor is the greater difficulty of obtaining a doctor's degree (M.D.) in the metropolis than in the provinces and in Scotland and Ireland. In the latter localities nearly every medical school is attached to a university where the average student can obtain a degree. But in London there is only one university and the standard for its degree is the highest in Great Britain, much too high for the average student, who therefore contents himself with obtaining a license to practice from the Colleges of Physicians and Surgeons (L.R.C.P., M.R.C.S.). Though the license of the colleges confers the same right to practice as does a degree, the latter gives the physician a better status and alone entitles the holder to be called "doctor." But this title is indiscriminately applied to all who practice medicine by the majority of people. However, the holder of a license is placed at some disadvantage, especially among patients of the wealthier class. The difficulty of obtaining the doctor's degree has long been a grievance with the London medical schools, and attempts have been made to overcome it without success. The London University has been approached with a view to modifying its standard so as to render its degree more accessible to the bulk of the London students, but the university authorities and the alumni naturally object to a course which would lower the prestige of their degrees, which is now regarded as the foremost in the kingdom. The consequence of the comparative difficulty of obtaining a medical degree in London is that students are going in large numbers to the provincial schools, where for the same expenditure of time and money as it takes to obtain a license in London a degree can be obtained, and the London schools are, in spite of their unrivaled opportunities for clinical teaching, being depleted.

Increase of Women Pharmacists

A noticeable feature of the inaugural meeting of the present session of the Pharmaceutical Society was the large attendance of women, showing that the sex is alive to the opportunities presented by pharmacy as a lucrative and suitable occupation. In recent years there has been a great increase in the number of female pharmacists. Thirty years ago scarcely any entered the profession. As dispensers they are being employed in hospitals and by physicians who dispense their own medicines. They are also employed by pharmacists, but they are kept in the background and seldom seen in the shop, for the public has a great prejudice against being served with drugs by girls. The scale of payment is sufficient to attract women into the profession.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Oct. 5, 1909.

A New Trick of the Antivivisectionists

Certain classes of "nature-healers" and other groups of dubious affiliation have lately attempted to secure legislation against what they call "vivisection." A large number of physicians and surgeons have been taken unawares and prompted to sign a harmless-looking leaflet, in which "unnecessary cruelty toward animals in experiments" was deprecated. Once the names and signatures were obtained, they were used to convince the public that even medical men themselves have come to believe that "vivisection" can be dispensed with without stopping the progress of science. Much mischief has been done by this misleading use of medical opinions. The "committee" which is responsible for the agitation remains quite anonymous. Thus the protests from those who want to disclaim the use of their names in this way cannot be addressed to any person. Medical councils have warned their members of the risk they run if they reply imprudently to such an invitation. A careful study of the replies given by medical men shows that not a single one is averse to experimental pathology, if conducted by proper men in a proper manner, with an anesthetic. The movement urges the passage of a bill in which each animal experiment should be made subject to a special written permission to be granted by a joint committee, to consist of an equal number of "experts" (not otherwise defined) and of members of the associations for protection of animals from cruelty. Needless to say, such a law would mean the extinction of that enormously important branch of medical research without which modern scientific work is impossible. As permission for the experiment would be given only with the understanding that the animal must be killed (by chloroform) after the end of the experiment, such proceedings would be simply useless for medicine. There is little probability that the bill will really be brought before parliament within the next few years, as our legislative fathers have very important political matters on their hands. But still the profession, and the teaching staff of the universities have seen enough of the animosity against education, so strong in the present ruling party, not to be quite free from anxiety.

The Overproduction of Medical Privat-Docents

The number of privat-docents in Austria has increased so rapidly that if the privat-docents of theoretical subjects are counted as well as others, at present there are in Vienna no less than 300 amongst 3,000 medical men in this city, or 10 per cent. This would be of little consequence if the "privat-docents" were such only for teaching purposes. But as a rule this title is aimed at solely for the purpose of commanding a better fee for medical advice, as the majority of our public are very fond of titles. They esteem a privat-docent or a professor of any small special branch more than an experienced mere practitioner, however superior the knowledge of the latter may be to that of the former. The title of "privat-docent" may be obtained by an assistant who does a few scientific researches and writes a good deal about his specialty. Several university men have raised objections both to the "proletarization," as they termed it, of the teaching staff, and to the misuse of this title in medical practice. It has been suggested for instance that the use of the title "privat-docent" should not be allowed on the door-plate or visiting-card or the prescription, but only in connection with university work and in literature. This title should be granted under severer restrictions, and only in recognition of really important scientific contributions.

The Coming Winter Term of the Vienna Medical School

The great majority of the lectures and classes of the Vienna medical school will take place, as usual, in the Allegemeines Krankenhaus and the Poliklinik, the remainder in the smaller hospitals. Twenty-nine ordinary, 67 extraordinary professors, 170 privat-docents have announced their classes. There will be 97 classes in internal medicine, 49 in surgery, 43 in gynecology and obstetrics, 39 in pathology and morbid anatomy; 38 classes will deal with dermatology, including syphilis; ophthalmology has 32 classes, otology 27, psychiatry 23, anatomy 18, pediatrics 17, chemistry 15, forensic medicine 14, rhinolaryngology 14, materia medica 13. Altogether, 457 classes, against 445 in the last winter-term, will be held this year. This does not include the classes which are repeated because an excessive number of students apply for them. These parallel classes increase the number by about 10 per cent.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Oct. 6, 1909.

Prizes Offered by the German Central Committee for Cancer Research

The management of the German central committee for cancer research has offered prizes on the somewhat strange assumption that the general practitioner needs further instruction in the early clinical diagnosis of carcinoma. These prizes are to be awarded for an exposition of the early diagnosis of cancer as brief as possible, but covering the entire field, which shall be suitable for distribution as a pamphlet to practicing physicians. Three prizes are offered of $250, $125 and $75 (1,000 500 and 300 marks). The competition is open to every physician in Germany.

Comparative Mortality in England and Germany

On the basis of the latest published German mortality tables for 1891 to 1900 and the mortality table for England published in 1907 and covering the same period, the well known medical statistician, Dr. Prinzing, publishes investigations in the last number of *Soziale Medizin und Hygiene*, which yield the following interesting results:

The mortality in England and Germany for the last decade for the ages of from 2 to 30 has materially diminished. The mortality of infants, which was formerly already smaller in England than in Germany, is still at the present time much more favorable, especially in the period of early infancy and at the ages of from 6 to 11 years. The lower mortality of the latter life period in England, depends for the most part on the fact that for decades diphtheria in England has been much less widespread than in Germany. In adult life, on the other hand, the mortality in Germany has diminished more than in England, so that to-day the male sex of ages from 28 to 66 years and the female of ages 37 to 62 years show relatively a smaller mortality in Germany than in England, although three decades ago this was true only for short life periods. It may safely be assumed for Germany that the more favorable showing of the mortality in the life period of the greatest earning power is to be attributed, in addition to the increase of the general welfare and the improvement of housing conditions, to the extended social precautions and the system of compulsory insurance. The reason for the higher mortality in England in this period of life is the predominant urban character of the English population. The mortality after the sixtieth year has been considerably reduced in Germany, while it has risen in England. It is, to be sure, still lower in old age in England than in Germany, but the difference has notably decreased. Although the evolution of the mortality in Germany affords reason for considerable satisfaction, still marked progress must yet be made for the mortality in infancy, at the age of from 6 to 10 years, in young men from 17 to 21, and women from 20 to 30, to reach the low figure which it has already reached in England.

Meeting of the German Scientific Association

The annual meeting of the association of German scientists and physicians (*Gesellschaft deutscher Naturforscher und Aerzte*), which closed a few days ago, had to its credit only a relatively small number of important contributions. One important reason for this was naturally the occurrence of the international congress at Budapest only two weeks previously, which had attracted a number of German physicians. This circumstance also shows again the unfavorable result of the undue frequency of congresses. The scientific output of the naturalist section was also unimportant. Only the special congresses that meet as sections of the scientific association—the German pediatric society, the German pathologic society and the medicolegal society were able to show a somewhat extensive program. The meeting for next year will be held at Königsberg.

Chronicle for Berlin University for 1908

Some interesting data are furnished from the announcement of our university which has just appeared. Six thousand two hundred and nine students were matriculated in the summer semester of 1908. Of these, 909 were medical students, but to these are to be added 366 students of the Kaiser Wilhelm army medical school. In the medical school were 321 foreign students. In the winter semester of 1908 and 1909 the number of students was 7,869 men and 409 women. The number is, as may be seen, greater than in the summer, because at that season the South German universities are attended to a greater extent. There were 1,224 men and 88 women medical students, and in addition, 377 students of the Kaiser Wilhelm Academy. Seventy-nine were graduated as doctors of medicine in the entire year; 10 were admitted to the faculty as privat docents in medicine.

Pharmacology

THE PURITY OF COMMERCIAL BILE SALTS

J. H. Long, M.S., Sc.D., and W. A. Johnson, Ph.C.

On account of the increased interest in the physiologic behavior of the bile salts and acids a number of these preparations in purified form have appeared in the market. It has been thought desirable to make a rather complete examination of some of the best known of these products, and the results obtained in this work are given below. The substances analyzed were all secured from the manufacturers by the secretary of the Council on Pharmacy and Chemistry.

It requires but a very superficial examination to show that these salts, as now sold, in some cases at least, are very different from the old gummy products obtainable a few years ago. The initial step in the separation of the salts from the bile is doubtless that followed in the production of the "crystallized bile" of Plattner, that is, precipitation of the alcoholic solution of the evaporated bile by an excess of ether. This treatment throws out the alkali salts of the bile acids. The further treatment evidently varies with the different manufacturers, and leads to products with different degrees of purity. The following tests have been made:

BILE SALTS (FAIRCHILD BROTHERS & FOSTER)

This is a dry and very nearly white powder of crystalline appearance under the microscope. It dissolves readily in water, giving a yellowish solution. We found on analysis:

		For Dry Subst.
Moisture	1.67 per cent.	
Ash	8.85 per cent.	9.01 per cent.
Nitrogen	2.57 per cent.	2.61 per cent.
Sulphur	3.70 per cent.	3.76 per cent.
Phosphoric anhyd....	1.10 per cent.	1.12 per cent.
Specific rotation	20.9°	21.3° for c = 5

A word must be said about some of these determinations. The ash as here reported is the residue left after incineration and prolonged heating over the blast lamp. Sodium taurocholate leaves an acid ash containing acid sodium sulphate, which becomes the ordinary sulphate on strong ignition. The glycocholate leaves an alkaline ash containing carbonate, and the two salts heated together would increase the yield of sulphate through the added alkali from the glycocholate. The ash of the taurocholate, after prolonged fusion, should amount to about 13.2 per cent. and the sulphur to 5.95 per cent. Our results suggest a mixture, but the sulphur and ash determinations can not be calculated to a mixture of the two principal salts, the glycocholate and taurocholate. The difficulty is partly accounted for by the presence of phosphorus in the ash, which appears in relatively large amount. So far as known none of the bile salts contains phosphorus, but another constituent of the bile, usually overlooked, holds phosphorus in marked quantity. This is a lecithin, and it has been shown that in the preparation of the bile salts this phosphatid clings tenaciously. Hammarsten refers to the presence of the phosphorus in bile salts as probably due to a lecithin, and the matter has been rather fully investigated in this laboratory by one of us and Gephart,[1] who prepared and purified a bile salt which on analysis gave these figures:

N	2.64 per cent.
S	3.70 per cent.
P_2O_5	0.66 per cent.

It was found by these authors that a given weight of bile salts will carry down a much greater weight of lecithin than is indicated by these figures. A second salt prepared in the laboratory showed on analysis:

N	2.43 per cent.
P_2O_5	0.87 per cent.

When this salt was mixed with egg lecithin in the proportion of 5 parts of the first to 3.95 of the other, taken up with alcohol and precipitated by ether, a mixture was secured which gave as follows:

N	2.24 per cent.
P_2O_5	3.94 per cent.

How the lecithin is held in such mixtures, of which many were made, can not be stated, but it is not removable by ether washing. In view of these facts we must look on this bile salt as a normal one containing from 12 to 13 per cent. of a lecithin body, or similar phosphorus-holding complex. Assuming this to be the common monamino monophosphatid, the above figures may be approximately duplicated by a mixture of salts and lecithin as follows:

	Per Cent.	S	N	P_2O_5
Lecithin	12.5	0.00	0.22	1.10
Sodium taurocholate ...	63.5	3.78	1.65	
Sodium glycocholate ...	24.0	0.00	.65	
		3.78	2.56	1.10

The relatively low ash of the preparation examined, and the high specific rotation are well accounted for by such a mixture as the above. In many other salt mixtures which we have examined the ratio of the taurocholate to the glycocholate is about the same as here indicated, as ox-bile is the common material worked up.

BILE SALTS (ABBOTT ALKALOIDAL COMPANY)

This preparation is not as light as the one just described. It is brownish yellow, and dissolves in water to which it imparts considerable color. On this account much difficulty was found in purifying a solution sufficiently to permit a satisfactory determination of the specific rotation. This was finally accomplished by long treatment with animal charcoal, without loss of the substance itself. Analysis gave:

		For Dry Subst.
Moisture	3.15 per cent.	
Ash	8.44 per cent.	8.71 per cent.
Nitrogen	2.44 per cent.	2.52 per cent.
Sulphur	3.95 per cent.	4.08 per cent.
Phosphoric anhyd. ..	1.82 per cent.	1.88 per cent.
Specific rotation ...	18.3°	18.9° for c = 5

It is evident from these figures that the percentage of taurocholate is a little higher in this sample than in the last one. The most marked peculiarity, however, is in the much higher phosphorus content. The nitrogen and the specific rotation are correspondingly low. Phosphatids like lecithin are gummy substances, but the combinations with the bile salts are hard solids. It is possible that the phosphorus may be held wholly in such a combination, in which case the above figures correspond closely to a mixture like the following:

	Per Cent.	S	N	P_2O_5
Lecithin	21	0.00	0.36	1.85
Sodium taurocholate ...	68	4.05	1.77	
Sodium glycocholate ...	11	0.00	.32	
		4.05	2.45	

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[1] Jour. Am. Chem. Soc., August, 1908, where the literature is quoted.

A mixture in these proportions would give a specific rotation of 19.3°, while we found 18.9°. In this calculation Ulpiana's value for lecithin is used, which possibly is high.

This salt is apparently likewise a normal product from the bile, notwithstanding the high phosphorus content. Our knowledge as to the nature of the bile-salt and lecithin combination is as yet too imperfect to warrant any very definite opinion as to the average composition of the mixture precipitated by ether. The amount of phosphorus given here is not as large as in some of the analyses reported in the work of Hammarsten, referred to above.

SODIUM TAUROCHOLATE (MERCK & COMPANY)

In some biles this salt is relatively abundant, and the separation is not considered difficult. In the case before us, however, the separation and purification have been far from satisfactory, as the analytical figures show. They are as follows:

		For Dry Subst.
Moisture	2.87 per cent.	
Ash	13.60 per cent.	14.00 per cent.
Nitrogen	0.97 per cent.	1.00 per cent.
Sulphur	1.68 per cent.	1.73 per cent.
Phosphoric anhyd. ..	trace per cent.	trace per cent.
Specific rotation ...	16.0°	16.4°

On ignition of the salt over the Bunsen burner the white ash secured amounted to about 19 per cent. of the whole. This over the blast lamp was reduced to the value given, which behavior, taken alone, is somewhat suggestive of the taurocholate. But the very low nitrogen, low sulphur and low specific rotation indicate, apparently, a decomposition product. The salt dissolves, giving a solution with a very dark color and a bad odor. It is possible that in the attempt at purification some cholate was formed with loss of a corresponding amount of taurocholate. The analytical results are best explained in this way, but the rotation should be higher in such case. No effort was made to follow the matter further. The product is evidently not what it is labeled.

SODIUM GLYCOCHOLATE (MERCK & COMPANY)

This salt appears to be even more contaminated with foreign substances than is the preceding one. The water solution secured was very dark and the odor bad. The purification for the specific rotation determination was unusually difficult. The following results were obtained on analysis, and here, as in all the other cases, duplicate tests were made. The nitrogen and sulphur determinations were repeated by a second analyst, with very close agreement.

		For Dry Subst.
Moisture	1.69 per cent.	
Ash	12.85 per cent.	13.07 per cent.
Nitrogen	0.53 uer cent.	0.54 per cent.
Sulphur	0.84 per cent.	0.86 per cent.
Phosphoric anhyd. ..	trace per cent.	trace per cent.
Specific rotation	14.0°	14.2°

It will be observed that the phosphorus is low in both of these salts, which further goes to show profound alteration from the normal condition. It is not possible to account for the decomposition here indicated, but it will be noticed that the nitrogen is decreased as well as the sulphur. The optical rotation is only about two-thirds of the normal.

COLALIN (RUFUS CROWELL & COMPANY).

This product has been described as hyocholalic acid, and as such should contain no nitrogen. According to the manufacturers, it is made by the process of Jolin, as described in vol. xiii, of the *Zeitschrift für physiologische Chemie*, which, if properly carried out, should furnish a nitrogen-free product. The following results show the actual situation, as found by our recent analyses:

		For Dry Subst.
Moisture	3.80 per cent.	
Ash	2.00 per cent.	2.08 per cent.
Nitrogen	2.90 per cent.	3.01 per cent.
Sulphur	0.60 per cent.	0.62 per cent.
Phosphoric anhyd. ..	trace per ceut.	trace per cent.
Specific rotation	5.48°	5.69°

The ash is not present as a residue from the alkali salts of the bile, but is practically all in insoluble form. According to the manufacturer, it is magnesia, added to prevent the caking of the product; our tests agree with this statement. The sulphur points to the presence of taurocholic acid, not fully separated from the glycocholic acid by the original process. The very high nitrogen content is interesting; for pure glycocholic acid this should amount to 3.01 per cent., and for hyoglycocholic acid, which, according to Jolin and others who have worked on the problem, has a slightly different composition, the nitrogen content is 3.04 per cent. Counting out the magnesia, the results found by us would approximate to this value very closely. The small content of taurocholate, suggested by the sulphur, would not lower the nitrogen value appreciably.

The data for the optical rotation of hyoglycocholic acid are not very definite, and different values seem to belong to the two forms, the alpha and beta varieties, said to be present in hog bile. Our value was obtained from the alcoholic solution after a rather lengthy purification process, which was possibly attended with some loss. Jolin gives the value for the alpha form of hyoglycocholic acid as + 9.7°, and states that for the other form the rotation is lower. For hyocholalic acid he gives + 5.9°.

If it were not for the presence of the large amount of nitrogen our rotation would suggest this acid, as the preparation is claimed to be. The rotation of the acid from ox-bile is much higher than from the bile of the hog, and in this respect our results point to the latter as the original source in the manufacture.

Taking all things into consideration, it is evident that the product is probably a mixture of hyoglycocholic and hyotaurocholic acids, rather than the corresponding cholalic acids, as the manufacturer assumes it to be. A revision of the description is evidently called for. It should be added that the nitrogen is not present as an ammonium or other soluble salt, nor in a protein combination. Both nitrogen and sulphur are present in forms insoluble in water, but soluble in alcohol, and are evidently a part of the acid molecule.

A Correction

Among the reports issued by the President's Homes Commission (Senate Document No. 644) was one by the Committee on Social Betterment which contained a chapter on "The Drug Habit." In this chapter was a list, furnished the committee by the Department of Agriculture, of "patent medicines," containing habit-forming drugs, among which was "Fruit-Lax," alleged to contain morphin. This list was reproduced in THE JOURNAL, May 29, 1909. Now we are informed that this particular preparation—"Fruit-Lax"—was included in the list furnished the committee and published in Senate Document No. 644, through a clerical error, since there was no reason to suppose that it contained morphin.

Seizure of Waterbury's Metabolized Cod-Liver Oil Compound

On two occasions[1] THE JOURNAL has shown the falsity of the claims made for Waterbury's Metabolized Cod-Liver Oil Compound. As recently as October 9 it was demonstrated that the product contains salicylic acid, and "does not deserve to be designated as a cod-liver oil preparation," as the amount of fatty acids it contains is not more than one part in a thousand. It is interesting to note in this connection that the United States Government has now seized a consignment of this product on the ground that it is misbranded. The reasons given for the government's action are that:

> " . . . the labels bear certain statements regarding said drug which are exaggerated, false and misleading and that among the said exaggerated, false and misleading statements are the following, that is to say: 'Waterbury's Metabolized Cod-Liver Oil. This product contains the metabolized product obtained by the action of ferments on cod-liver oil;' and the further statement: 'Waterbury's Metabolized Cod-Liver Oil Compound does contain cod-liver oil;' and the further statement that many institutions are using it exclusively as the one general tonic and tissue builder; and the further statement that 'blue wrapper indicates product without antiseptic' . . ."
>
> "These statements and all of them are exaggerated, false and misleading in this, that said product obtained contains no material

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[1] Oct. 13, 1906, and Oct. 9, 1909.

part derived from cod-liver oil, due to metabolic changes; and further, that said product contains no cod-liver oil; and further, that said product is not such that is could be a tissue builder, and that it is not a tissue builder; and further, that said product contained in the bottles wrapped as aforesaid in the blue wrapper contains a product which is an antiseptic, that is to say, contains salicylic acid, and that these statements heretofore enumerated, and all of them, regarding said liquor or drug are exaggerated, false and misleading . . ."

The manufacturer will have thirty days in which to reply to the charges brought by the government and to show cause why the product should not be condemned and confiscated.

Correspondence

Hygiene of Childhood

To the Editor:—On the invitation of the Department of State of the United States Government, the Fifteenth International Congress on Hygiene and Demography will convene for the first time on the American continent in Washington, D. C., Sept. 26 to Oct. 1, 1910. Section III of this congress deals with the subjects of the "Hygiene of Infancy and Childhood: School Hygiene." It is believed that this will be a meeting of the utmost importance. We take this means of requesting your readers to let us know [at 1 Madison av., New York City] of any pieces of original work which are being done, bearing on this topic.

A. Jacobi, President.
Luther H. Gulick, Secretary.

The Investigation of Blood for Tubercle Bacilli

To the Editor:—In a letter in The Journal (Oct. 2, 1909, liii, 1113), Burnham claims "priority" for Burnham and Lyons *apropos* of the work published by me in The Journal (Sept. 18, 1909, liii, 909), in which I found distilled water contaminated with acid-fast bacilli. Burnham and Lyons found vibrios contaminating their water while they were searching for typhoid bacilli in fresh blood, but they did not find acid-fast organisms in the water. In one of their preparations, made with blood from the lobe of the ear, they found tubercle-like bacilli which they considered contaminating organisms from ear wax. Apparently, it did not occur to them that these might have come from distilled water.

It does not seem to me that their experience was similar to mine, as Burnham's letter states, or that Burnham is justified in his claim. Their work was published in the *New Orleans Medical and Surgical Journal*, October, 1909.

Walter Brem, M.D., Colon Hospital, Cristobal, C. Z.

Miscellany

Impressions of America.—Professor Hofmeier devotes twelve pages in the *Zeitschrift für Geburtshülfe und Gynäkologie*, lxv, p. 242, to an account of a trip through the United States last spring. He was the representative of Germany at the centennial of the first ovariotomy, celebrated by the American Gynecologic Society, and deplores the earliness of the date, which left an interval of six weeks before the session of the American Medical Association, so that he was unable to attend the latter. In commenting on the limitation of membership to 100, he remarks that this must shut out a large number of the younger physicians from the work in this scientific society, and the latter loses the inspiration from young enthusiasm which in Germany is found so useful. He slyly adds that this is a striking example of the democratic conception of freedom and equality in America. "With all its external democratic form it does not exclude a far-reaching social exclusiveness." He also comments on the difference between American and German gynecology; the American gynecologists do abdominal surgery in the widest sense of the term, and not on women alone, while many cut out obstetrics altogether. The society loses, he thinks, by excluding the anatomic, bacteriologic, embryologic and obstetric questions to which the German society pays so much attention. Clinical instruction in obstetrics seems to him rather backward here, which he ascribes to the disinclination of American women to go to a maternity; only 949 of the 6,274 patients in the Lying-in Hospital of New York in 1908 were American born. The lack of reciprocity between the different states impressed him as very strange, as also the enthusiasm for athletics, but he adds that German students might well learn from Americans that it is possible to enjoy their youth without pouring a couple of quarts of beer into their stomach every day. American academic athletics must encroach, he thinks, on the scientific work, but it would be a great gain in Germany if more in this line could be fostered at the expense of the time spent by students in the saloons, the *Kneipenleben*. In conclusion he speaks rather wistfully of the way in which the Germans residing here are fast becoming Americanized. They maintain their national characteristics nearly unmodified in Slavonic, oriental and Latin countries, but they soon blend with Anglo-Saxon civilization.

Infant Mortality.—The problem of infant mortality must be solved in the tenements. By reason of large numbers and gross ignorance the vast majority of deaths occur here. There are many factors which enter into the problem. The milk supply of New York City has been decidedly improved during the last few years, and it is questionable whether a still further improvement which under present conditions would be difficult and expensive, would be followed by a marked lowering of the death rate. The questions of poverty, poor housing, alcoholism, cannot be materially influenced within a few years. What can be done now? It is a significant fact that the infant mortality is highest in those countries in which illiteracy among the women is greatest. The colossal ignorance of the poor on questions of infant feeding and hygiene can be immediately dealt with. Aside from economic and humanitarian considerations the health authorities and physicians are in duty bound to see to it that there is no needless waste of human life. In no department of medicine are proper measures more likely to be followed by rapid and striking results than in the reduction of the infant mortality.—C. Herrman, in *Pediatrics*.

Free Information on Hygiene.—Dr. Irving Fisher says that just as the Department of Agriculture supplies specific information to the farmer concerning the raising of crops or live stock, so another department, devoted perhaps, to health and education, should be prepared to provide every health officer, school teacher, employer, physician and private family with specific information in regard to hygiene.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

INTRAVENOUS INJECTION OF MERCURY SUCCINIMID

To the Editor:—Please answer the following queries:

1. Is it possible to inject mercury succinimid by the intravenous method without harmful effect, and if so, in what dosage?

2. Are mercury and arsenic preparations incompatible when used in the same solution or, if given intramuscularly, at the same time?

3. Could novocain be used with mercury succinimid to deaden the pain of injection?

H. Smith, Los Angeles, Cal.

Answer.—1. There appears to be no reason why mercury succinimid should not be used in the same dosage as other soluble salts of mercury for intravenous injection. The dose recommended is from 2 to 3 c.c. of a 1 per cent. solution, injected once in two or three days.

2. The arsenious preparations, such as salts of arsenious acid and trioxid of arsenic, are reducing agents and hence incompatible with the mercuric salts, which they reduce to insoluble mercurous compounds or to metallic mercury. The arsenates of mercury are insoluble and therefore salts of arsenic acid are incompatible with the mercuric salts. It is stated that atoxyl (sodium arsanilate) is incompatible with compounds of mercury. The reason for this is not certainly known. If a solution of an arsenious compound, and a solution of a mercuric compound are injected separately, the chemical reasons for incompatibility would probably not be valid,

except that if reduction of the mercury compound should occur the mercury might not be so quickly absorbed.

3. As the text-books do not answer this question, it was submitted to the Chemical Laboratory of the Association for investigation. The report of the laboratory is as follows: "Solutions of mercury succinimid and novocain were prepared separately and mixed, and the mixture allowed to stand over night. No reaction was observed. Hence, there would seem to be no reason why novocain cannot be used with mercury succinimid to deaden the pain of injection."

VASECTOMY AND CASTRATION OF CRIMINALS AND DEFECTIVES

To the Editor:—Please give a bibliography of the more important literature in English on vasectomy and castration of criminals, idiots, insane, etc. J. A. BURNETT, Chismville, Ark.

ANSWER.—Ewell, J.: "Plea for Castration to Prevent Criminal Assault," *Virginia Med. Semi-Monthly*, Jan. 11, 1907.

Belfield, W. T.: "Race Suicide for Social Parasites," THE JOURNAL A. M. A., Jan. 4, 1908, L, 55.

"Vasectomy for Confirmed Criminals and Defectives," editorial in THE JOURNAL A. M. A., April 3, 1909, lii, 1114.

Belfield, W. T.: "Sterilization of Criminals and Other Defectives by Vasectomy," *Chicago Med. Recorder*, March, 1909; abstr. in THE JOURNAL A. M. A., April 10, 1909, lii, 1211.

"The Sterilization of Defectives," a monograph published by H. C. Sharp, Jeffersonville, Ind.

The Public Service

Medical Department of the Army

Changes for the week ended Oct. 16, 1909:

Havard, Valery, colonel, granted leave of absence for three months, twenty-three days.

Woodbury, Frank T., capt., granted leave of absence for two months.

Byrne, Charles B., colonel, granted leave of absence for two months, twenty days.

Hains, Edgar F., 1st lieut., M. R. C., ordered to active duty; will proceed to Fort Moultrie, S. C., for duty.

Hull, Alva R., 1st lieut., M. R. C., granted an extension of fifteen days to his leave of absence.

Wiggin, Dayton C., 1st lieut., M. R. C., granted leave of absence for one month.

Leeper, John F., 1st lieut., M. R. C., relieved from duty at the Army General Hospital, Fort Bayard, N. M., and ordered to Fort Duchesne, Utah, for duty.

Van Kirk, Harry H., 1st lieut., M. R. C., relieved from duty at Fort Duchesne, Utah, and ordered to Fort Levett, Maine, for duty.

Scott, Minot E., D. S., ordered to proceed from South Berkeley, Cal., to Vancouver Barracks, Washington, for duty.

Gunckel, George I., D. S., left Fort Oglethorpe, Ga., for duty at Fort McPherson, Ga.

Ames, John R., D.S., left Fort Lincoln, N. Dak., for duty at Fort Assinnibeine, Mont.

Medical Corps of the Navy

Changes for the week ended Oct. 16, 1909:

Fitzsimons, P., medical director, detached from command of the Naval Medical Supply Depot, New York, N. Y., and ordered to Washington, D. C., for duty as a member of the Naval Retiring Board.

Dickinson, D., medical director, detached from duty as a member of the Naval Retiring Board, Naval Examining, and Naval Medical Examining Boards, Washington, D. C., and ordered home to wait orders.

DuBose, W. R., medical inspector, detached from the Bureau of Medicine and Surgery, Navy Department, and ordered home to wait orders.

Lovering, detached from the Naval Hospital, Norfolk, Va., and ordered to command the Naval Medical Supply Depot, New York.

Holeman, C. J., asst.-surgeon, detached from the *Arethusa* and ordered to duty in connection with the *Iris* and to duty on board that vessel when commissioned.

DuBose, W. R., medical inspector, ordered to command the Naval Hospital, Norfolk, Va.

Casto, D. H., asst.-surgeon, detached from the *Concord* and ordered to duty in connection with the fitting out of the *Princeton* and to duty on board that vessel when commissioned.

Gardner, J. E., medical inspector, detached from the Naval Recruiting Station, Boston, and ordered to continue other duties.

Wilson, H. D., surgeon, unexpired portion of leave revoked; ordered to the Naval Recruiting Station, Boston.

Strite, C. E., asst.-surgeon, unexpired portion of leave revoked; detached from the Naval Recruiting Station, Baltimore, and ordered to the *Franklin*.

Public Health and Marine-Hospital Service

List of changes for the week ended Oct. 13, 1909:

Trask, J. W., asst.-surgeon-general, Anderson, John F. P. A. surgeon, detailed to represent the Service at the annual meeting of the American Public Health Association, to be held in Richmond, Va., Oct. 19-21, 1909.

White, J. H., surgeon, directed to proceed to Galveston, Tex., on special temporary duty.

Eager, J. M., surgeon, granted 1 day's leave of absence, Oct. 17, 1909.

Oakley, J. H., surgeon, granted 1 day's leave of absence, Oct. 12, 1909.

Lavinder, C. H., P. A. surgeon, bureau order of Sept. 22, 1909, amended to read on completion of duty enjoined, directed to proceed to Jackson, La., on special temporary duty.

Moors, Dunlop, P. A. surgeon, directed to report to the medical officer in command at San Francisco, for temporary duty and assignment to quarters.

Francis, Edward, P. A. surgeon, on being relieved by Passed Assistant Surgeon Hugh de Valin, directed to proceed to Washington, D. C., and report to the Director of the Hygienic Laboratory for duty.

Boggess, J. S., P. A. surgeon, granted 3 months' leave of absence from Oct. 15, 1909.

Sweet, Ernest A., P. A. surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to Stapleton, N. Y., and report to the medical officer in command for duty and assignment to quarters.

Ashford, F. A., P. A. surgeon, on arrival of Passed Assistant Surgeon Ernest A. Sweet, relieved from duty at Stapleton, N. Y., and directed to proceed to Ellis Island, N. Y., and report to the Chief Medical Officer for duty.

De Valin, Hugh, P. A. surgeon, on being relieved by Assistant Surgeon Charles M. Fauntleroy, directed to proceed to the Mobile Quarantine Station and assume command of the Service.

Krulish, Emil, asst.-surgeon, granted 10 days' leave of absence from Oct. 15, 1909.

Fauntleroy, Charles M., asst.-surgeon, on the arrival of Assistant Surgeon R. H. Lyon, directed to proceed to Savannah Quarantine Station, Ga., and assume command of the Service.

Lyon, R. H., asst.-surgeon, relieved from duty at Reedy Island Quarantine Station, and directed to proceed to New Orleans Quarantine Station, and report to the medical officer in command for duty and assignment to quarters.

Gustetter, A. L., acting asst.-surgeon, granted 5 days' leave of absence from Oct. 13, 1909.

Hallett, E. B., acting asst.-surgeon, granted 7 days' leave of absence from Oct. 12, 1909.

Hume, Lea, acting asst.-surgeon, granted 10 days' leave of absence from Oct. 10, 1909.

Lowthian, E. L., acting asst.-surgeon, granted 27 days' leave of absence from Oct. 4, 1909.

BOARD CONVENED

Board of medical officers convened to meet at Seattle, Wash., Oct. 6 and 7, 1909, for the purpose of examining an alien. Detail for the board: Passed Assistant Surgeon M. W. Clover, chairman; Assistant Surgeon C. W. Chapin; Acting Assistant Surgeon F. R. Underwood, recorder.

Health Reports

The following have been reported to the Public Health and Marine-Hospital Service, during the week ended Oct. 15, 1909:

SMALLPOX—UNITED STATES

District of Columbia: Washington, Sept. 25-Oct. 2, 2 cases.
Massachusetts: Boston, Sept. 25-Oct. 2, 1 case.
Minnesota: Duluth, Sept. 17-24, 1 case.
Missouri: St. Louis, Sept. 25-Oct. 2, 1 case.
Montana: Butte, Sept. 23-30, 3 cases.
New Jersey: Newark, Sept. 18-25, 1 case.
North Carolina: Charlotte, Sept. 24-Oct. 1, 2 cases.
Ohio: Dayton, Sept. 25-Oct. 2, 2 cases.
Wisconsin: Milwaukee, Sept. 25-Oct. 2, 1 case.

SMALLPOX—FOREIGN

Brazil: Rio de Janeiro, Aug. 23-Sept. 12, 6 cases, 2 deaths.
China: Shanghai, Sept. 1-7, 1 case, on *U. S. S. Wilmington*.
Egypt, general, Aug. 12-19, 101 cases, 16 deaths; Cario, Sept. 2-9, 1 case, 2 deaths.
France: Bordeaux, Aug. 27-Sept. 4, 1 death; Paris, Sept. 11-18, 1 case.
Germany: Konigsberg, Aug. 22-28, 1 case, 1 death.
India: Bombay, Sept. 1-7, 1 death; Madras, Aug. 28-Sept. 3, 2 cases.
Indo-China: Saigon, July 31-Aug. 7, 1 case, 1 death.
Italy, general, Sept. 12-19, 9 cases; Naples, 10 cases, 2 deaths.
Mexico: Monterey, Sept. 19-26, 1 death.
Russia: Moscow, Sept. 4-11, 3 cases, 2 deaths; Odessa, Sept. 4-18, 17 cases, 3 deaths; Riga, Sept. 11-18, 2 cases; St. Petersburg, Sept. 4-11, 8 cases, 6 deaths; Warsaw, Aug. 7-14, 1 death.
Spain: Barcelona, Sept. 13-27, 5 deaths; Valencia, Sept. 11-18, 1 case; Vigo, 2 deaths.
Uruguay: Montevideo, July 1-31, 6 cases.

YELLOW FEVER

Ecuador: Guayaquil, Aug. 27-Sept. 11, 4 deaths.
Mexico: Merida, Sept. 28-Oct. 1, 1 case, 1 death; Tekik, Oct. 1, 1 case.

CHOLERA

China: Chefoo, Sept. 15, present.
Germany: Russ, Sept. 19, 1 case, 1 death, vicinity; Stolzenhagen, Sept. 18, 1 case.
India: Bombay, Sept. 1-7, 27 deaths; Rangoon, Aug. 21-28, 4 deaths.
Japan: Nagasaki, Sept. 9, 7 cases, 1 death, from *S. S. Taim Maru*.
Korea: Chemulpo, Sept. 15, present.
Netherlands: Halsteren, Sept. 1-7, 1 case; Hoogvliet, 1 case; Pernis, 1 case.
Russia: Moscow, Sept. 4-11, 3 cases, 1 death.
Straits Settlements: Singapore, Aug. 21-28, 1 death.
Sumatra: Djambi, July 1-31, 205 cases, 108 deaths.

PLAGUE—INSULAR

Hawaii: Hilo, Sept. 4-11, 1 case, 1 death.

PLAGUE—FOREIGN

Ecuador: Guayaquil, Aug. 27-Sept. 11, 14 deaths.
India: Bombay, Sept. 1-7, 27 deaths; Rangoon, Aug. 21-28, 19 deaths.
Indo-China: Saigon, July 31-Aug. 21, 18 cases, 18 deaths.
Japan: Kobe, Sept. 15, epidemic present; Nagasaki, present in quarantine; Shimonoseki, present.
Mauritius, general, July 15-Aug. 5, 9 deaths.
Morocco: Casablanca, July 15-Sept. 17, 4 deaths.
Siam: Bangkok, Aug. 21-28, 9 cases, 9 deaths.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Public Health Cooperation in Minnesota

A most commendable movement was inaugurated at the recent meeting of the Minnesota State Medical Association held at Winona on October 12-14, when on the second day of the meeting the afternoon session was practically devoted to a symposium on the cooperation of state forces in Minnesota medicine, the object of the discussion being to evolve ideas and methods whereby all of the forces which make for better public health could be correlated and united. The titles in the symposium were as follows: "The State Medical Society," Dr. E. L. Tuohy, Duluth; "The State Board of Medical Examiners," Dr. F. A. Knights, Minneapolis; "The State Board of Health," Dr. H. M. Bracken, St. Paul, secretary of the State Board of Health; "The State Board of Control in its Medical Relationships," Dr. A. C. Rogers, Faribault; "The University of Minnesota in its Medical Relationships," Dr. Charles Lyman Greene, St. Paul; "The Medical Press," Dr. W. A. Jones, Minneapolis, editor of the *Journal of the Minnesota State Medical Association and the Northwestern Lancet;* "The Lay Press," Mr. Charles H. Grasty, of the *St. Paul Journal.*

The papers read were suggestive and the discussion which followed was enthusiastic and interesting. A committee was appointed to devise ways and means of cooperation of all the health forces of the state. Minnesota is in a peculiarly fortunate position for undertaking such coordinate work, as the only medical college in the state is the Medical Department of the State University, while the State Board of Health, the State Board of Medical Examiners, the Board of Control (having supervision over all state institutions) and the State Medical Association are all working with the utmost harmony and mutual understanding. Under these favorable conditions and with the best men in the state interested in the work, there is no reason why Minnesota cannot lead in a movement for better and more effective work in public health lines.

Census Plans

Hon. E. Dana Durand, director of the United States Census, has promulgated instructions for securing transcripts of deaths in selected registration states and cities. These transcripts are obtained every month by the Census Bureau from city and state registrars in the registration area and form the basis of the mortality statistics prepared by the Division of Vital Statistics under the supervision of Chief Statistician Cressy L. Wilbur. The enforcement of these new regulations will make possible the compilation of the most scientific and trustworthy mortality statistics ever compiled in connection with the United States census. The new revised version of the classification of the causes of death, adopted at the Paris conference for the second decennial revision of the international classification will go into effect Jan. 1, 1910. The new United States standard death certificate which the Vital Statistics Section of the American Public Health Association is expected to adopt at the coming meeting at Richmond, Va., will also be used for reporting of deaths of the registration area after January 1.

In his communication to state registrars, Mr. Durand emphasizes the importance of the exact agreement between the number of deaths as compiled by the state officials and by the Census Bureau. For the purpose of preventing discrepancies a monthly check list showing the deaths by months and weeks is supplied to each state registrar. The importance of accuracy and promptness in making reports is emphasized. City registrars are requested to observe these instructions the same as state registrars. Mr. Durand states that a city registrar should have in his hands the certificate for every death that occurs before any disposition is made of the body. Imperfect certificates or unsatisfactory statements of the cause of death should not be accepted. The cooperation of all registration officials is requested in order that the value of mortality statistics in the United States may be improved. Special attention is called to the importance of accurate and complete reports for 1910 in order that the complete returns for this year may be used as a basis of comparison.

Dr. Wilbur, chief statistician of the Division of Vital Statistics, states that the opportunity of inaugurating the use of the revised classification for mortality statistics in the actual census year is of the greatest value. In accordance with the resolution of the international commission, an official version of the revised titles used in the classification is being prepared in each language represented at the conference. The English translation has been made by Dr. Wilbur, assisted by the other American representatives, and Dr. G. W. Knibbs, commonwealth statistician of Australia. As a result, exactly the same tabular list will be used by all English-speaking countries. The next session of the conference for the revision of the International classification will be held in Paris in 1919, unless other arangements are made. It is the hope of those interested in the advancement of American vital statistics that the third decennial conference may be called by the American government and may meet at Washington.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Second Month—Fourth Weekly Meeting

Diseases of Cerebral Veins and Sinuses

Primary, Marantic, Thrombosis: Etiology.—Age, prolonged illness, cachexia. Symptoms.—Preceding disease, venous stasis, local edema, mental symptoms.

Secondary, Infective, Thrombosis: Etiology.—Middle-ear disease, fractures, infections in nose, mouth and pharynx, erysipelas, anthrax. Symptoms.—Preceding infection, local symptoms, brain symptoms, septicemia.

Cerebral Palsies of Children

Etiology: (a) Prenatal conditions, lack of development, prematurity, porencephalia; (b) accidents at birth, protracted labors, vertex and breech presentations, abuse of forceps; (c) postnatal causes, age, infectious disease, injuries.

Symptoms: Hemiplegic cases. Sudden onset, convulsions, loss of consciousness, development of hemiplegia, spasticity, exaggerated reflexes, contractures, attitude and gait. Atrophy of affected side. Athetosis. Tendency to epilepsy. Diplegic cases, may be paraplegic. Usually of prenatal or birth origin. Slow development of cranium, convulsive seizures, rigidity and contractions, upper and lower limbs involved. Lack of mental development, tendency to epilepsy and idiocy.

Monthly Meeting

Varieties of Aphasia and Significance of Each.
The Localization of the Lesion in Intracerebral Hemorrhage.
Early Diagnosis and Treatment of Cerebral Palsies of Children.

REFERENCE BOOKS FOR THE SECOND MONTH

Church and Peterson: Nervous and Mental Diseases.
Strümpell: Practice of Medicine.
Osler: Practice of Medicine.
Gowers: Brain and Crainal Nerves, vol. ii.
Mettler: Diseases of the Nervous System.
Sachs: Nervous Diseases of Children.

Nothing New Under the Sun.—It is curious to observe that the present scientific teaching on the basis of demonstrated fact is a return to a much earlier popular conception. Consumption was formerly popularly believed in some localities to be contagious. That belief rested on superficial observation, while the present teaching rests on demonstrated fact.—*Propaganda of the N. Y. State Charities Aid Association.*

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arkansas: Regular, Little Rock, November 9. Sec., Dr. F. T. Murphy, Brinkley.
Connecticut: Homeopathic, New Haven, November 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.
Connecticut: Regular, City Hall, New Haven, November 9-10. Sec., Dr. Charles A. Tuttle, 196 York St.
Florida: Jacksonville, November 10-11. Sec., Dr. J. D. Fernandez.
Louisiana: Homeopathic, New Orleans, November 1. Sec., Dr. Gayle Aiken, 1102 St. Charles Ave.
Maine: Portland, November 9-10. Sec., Dr. Frank W. Searle, 806 Congress St.
Massachusetts: State House, Boston, November 9-11. Sec., Dr. E. B. Harvey, Room 159, State House.
Nebraska: Senate Chamber, State House, Lincoln, November 10-11 Sec., Dr. E. Arthur Carr, 141 South Twelfth St.
Nevada: Carson City, November 1. Sec., Dr. S. L. Lee.
Texas: Levy Bldg., Greenville, November 9-11. Sec., Dr. M. E Daniel, Honey Grove.
West Virginia: Chancellor Hotel, Parkersburg, November 9-11 Sec., Dr. H. A. Barbee, Point Pleasant.

Kentucky July Report

Dr. J. N. McCormack, secretary of the Kentucky State Board of Health, reports the written examination held at Louisville, July 6-8, 1909. The number of subjects examined in was 10; percentage required to pass, 70. The total number of candidates examined was 124, of whom 107 passed and 17 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Bennett Medical College	(1908)	81
Northwestern University Medical School	(1909)	86
College of Physicians and Surgeons, Chicago	(1909)	78
University of Louisville (1908) 70, 70, 74, 75, 77, 84; (1909) the grades of 70, 71 and 72 were reached by one each; 73 by two; 74 by six; 75 by one; 76 by three; 77 by one; 78 and 80 by two each; 81 by three; 82 by five; 83 by six; 84 by eight; 85 by five; 86 by eight; 87 by one; 88 by four; 89 by five; 90 by seven; 91 by three and 93 by one.		
Kentucky School of Medicine	(1891) 75; (1898)	77
Louisville Medical College	(1894) 70; (1907)	83
Southwestern Homeopathic Medical College	(1909)	86
Louisville National Medical College	(1904)	78
Hospital Coll. of Medicine, Louisville	(1905) 73; (1907)	75
Medical College of Ohio	(1905) 82; (1909)	82
Pulte Medical College	(1909)	85, 88
Miami Medical College	(1895) 84; (1909)	75, 79
Eclectic Medical Institute, Cincinnati	(1909)	73
Vanderbilt University	(1909)	82, 87
University of Nashville	(1909)	72, 77
Jefferson Medical College	(1909)	84
University of Virginia	(1907)	91

FAILED

College	Year Grad.	Per Cent.
University of Louisville (1909) 45, 56, 60, 63, 64, 66, 68, 69, 69, 69		
Louisville and Hospital Medical College	(1908)	52, 59, 60, 63
Kentucky University	(1905)	56
Meharry Medical College	(1908) 49; (1909)	64

Wisconsin July Report

Dr. J. V. Stevens, secretary of the Wisconsin State Board of Medical Examiners, reports the written examination held at Madison, July 13-15, 1909. The number of subjects examined in was 21; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates was 50, of whom 40 passed, 8 failed, and 2 were conditioned. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
George Washington University	(1908)	90
Northwestern University Medical School	(1909)	87, 87, 88
Hahnemann Medical College and Hospital, Chicago	(1909)	88
College of Physicians and Surgeons, Chicago	(1909)	89
Keokuk Med. Coll., Coll. of P. & S.	(1900)	82
Hamline University	(1908) 81; (1909)	77
University of Minnesota	(1909)	82.5
St. Louis University	(1909)	80
Creighton Medical College	(1909)	82.5
Columbia University, Coll. of P. and S.	(1909)	87
Jefferson Medical College	(1909)	84
University of Pennsylvania	(1909)	84
University of Virginia	(1908)	89
Marquette University (1908) 75.5; (1909) 75, 76, 77, 79, 80, 80, 81, 82, 83, 86.		
Wisconsin College of Physicians and Surgeons (1909) 75, 75, 76, 79, 79, 80, 80, 84, 84, 85, 87, 87.		
Western University, London, Ontario	(1907)	77

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1909)	69
Wisconsin College of Physicians and Surgeons	(1909)	71
Marquette University	(1895) 60; (1909)	62, 64, 68, 69, 71

CONDITIONED

College	Year Grad.	Per Cent.
Northwestern University Medical School	(1909)	
Marquette University	(1909)	

Marriages

Simon Wendkos, M.D., to Miss Sara Seidman, both of Philadelphia, October 10.

Frank R. Morley, M.D., to Miss Linnie B. Camp, both of Sedalia, Mo., October 1.

William A. Walters, M.D. Chicago, to Katherine Stull, M.D., of Auburn, Neb., October 6.

Rufus E. Fort, M.D., Nashville, Tenn., to Miss Louise Clark of Framingham, Mass., October 12.

Harry Joseph Sheffield, M.D., Narrowsburg, N. Y., to Miss Edna M. Cassebeer, October 1.

John Hunter Selby, M.D., Warrenton, Va., to Miss Delia Slaughter, at Warrenton, October 6.

William R. Marshall, M.D., Butler, Pa., to Miss Alma G. Bradley of Philadelphia, October 9.

Nathaniel Burwell, M.D., to Miss Loraine Turner, both of Shepherdstown, W. Va., October 7.

Nathaniel Thomas Ennett, M.D., to Miss Amy Conyers Tutwiler, both of Richmond, Va., October 6.

Clarence T. Lewis, M.D., to Mrs Van Pelt, both of Staunton, Va., at Washington, D. C., October 1.

Harold Roy Lucas, M.D., Chaffee, Mo., to Miss Mary May Neergaard of Springfield, Mo., September 13.

David T. Martyn, Jr., M.D., Columbus, Neb., to Miss Winnifred Rottger of Mt. Sterling, Ill., October 19.

Davenport White, M.D., New York City, to Miss Maude Cecelie Lambert of Washington, D. C., October 5.

Roy Ernest Leitz, M.D., Musselshell, Mont., to Miss Rosa Waters Ridgely of Washington, D. C., October 7.

John William Moore, M.D., Charleston, W. Va., to Miss Anna Estill Preston of Lexington, Va., October 6.

Chester Waterman, M.D., Central Islip, N. Y., to Miss Eleanor Alicia Atkinson of Yonkers, N. Y., October 6.

Thomas J. Nalley, M.D., St. Louis, to Mrs. Nellie Bradley of Seattle, Wash., at Minneapolis, Minn., October 1.

Frederick Tremaine Billings, M.D., Pittsburg, Pa., to Miss Romaine Le Moyne, at Garrison Forest, Md., October 6.

William Claiborne Powell, M.D., Petersburg, Va., to Miss Sara Breckenridge Early of Campbell county, Va., at Lynchburg, Va., October 5.

Deaths

Joseph P. Cox, M.D. Medical College of Indiana, Indianapolis, 1879; a member of the Wisconsin State Medical Society; formerly president of the Barron-Polk-Washburn-Sawyer and Burnett County Medical Society; a member of the American Association of Railway Surgeons; surgeon to the Chicago, St. Paul, Minneapolis and Omaha Railway, and Red Cross Hospital, Spooner, Wis.; a member of the local board of U. S. Pension Examining Surgeons; was killed in a railway wreck at Trinidad, Wash., September 30, aged 50.

Howard Sumner Dearing, M.D. Dartmouth Medical School, Hanover, N. H., 1882; of Boston; a member of the Massachusetts Medical Society; assistant professor of clinical medicine in Tufts College Medical School, Boston, Mass.; for more than twenty-five years an officer of the Massachusetts Volunteer Militia, retiring with the rank of lieutenant-colonel; major and surgeon of the First Massachusetts Heavy Artillery, U. S. V., during the Spanish-American War; died at his old home in East Waterboro, Maine, from cerebral hemorrhage, aged 52.

John Phillips Reynolds, M.D. Harvard Medical School, Boston, 1852; president of the American Gynecological Society in 1889; a member of the Massachusetts Medical Society; for twenty years professor of obstetrics in his alma mater; for several years a member of the Boston School Committee; physician to the Boston City Hospital, and consulting surgeon to the Boston Lying-In Hospital; died at his home in Boston, October 10, aged 83.

Robert Henry Jones, M.D. Medical College of Ohio, Cincinnati, 1878; formerly a member of the Clay County (Ill.) Medical Society; a member of the local board of U. S. pension examining surgeons; surgeon of the Illinois Soldiers and Sailors' Home, Quincy, in 1897 and 1898; died at his home in Lebanon, Ill., August 5, from paralysis and senile gangrene, aged 86.

Felix Jenkins, M.D. University of Maryland, Baltimore, 1849; of Baltimore; formerly a member of the Medical and

Chirurgical Faculty of Maryland: from 1850 to 1854 resident physician at the University Hospital, Baltimore; died at the home of his daughter in Towson, Md., October 9, from senile debility, following a fracture of the hip, aged 83.

Samuel Carter Van Antwerp, M.D. University of Michigan, Ann Arbor, 1872; a member of the American Medical Association; and once president of the Kalamazoo County (Mich.) Medical Society; secretary of the school board of Vicksburg, Mich., for many years; a veteran of the Civil War; died at his home in Vicksburg, October 4, aged 62.

Henry C. Palmer, M.D. New York University, New York City, 1865; of Utica; a member of the Medical Society of the State of New York; assistant surgeon of a New York regiment during the Civil War; physician to the Faxton Hospital, Utica; died in the Hamot Hospital, Erie, Pa., October 6, from pneumonia, aged 68.

James McClure, M.D. Starling Medical College, Columbus, Ohio, 1864; of Marietta, Ohio; a member of the American Medical Association; assistant surgeon of the Twenty-third Ohio Volunteer Infantry during the Civil War; died in a hospital in Chicago, October 6, aged 74.

Amos Northrop Bellinger, M.D. Medical College of the State of South Carolina, Charleston, 1860; for many years physician to the Charleston county jail; a surgeon in the Confederate service throughout the Civil War; died at his home in Charleston, October 3, aged 72.

Nelson Tillman Chenoweth, M.D. Eclectic Medical Institute, Cincinnati, 1867; Miami Medical College, Cincinnati, 1883; a member of the Indiana State Medical Association; a veteran of the Civil War; died at his home in Windsor, Ind., October 8, from asthma, aged 72.

Charles Arthur Elliott, M.D. Western University, London, Ont., 1894; of Harrison Hot Springs, B. C.; died in Vancouver, B. C., September 30, from the effects of a fracture of the spine, due to a runaway accident a month before, aged 40.

Edward O. Peyton, M.D. Jefferson Medical College, Philadelphia, 1859; a surgeon in the Confederate service during the Civil War; died at his home in Greenville, Va., February 4, from uremia, due to prostatic hypertrophy, aged 75.

Paul Randall Abell, M.D. Long Island College Hospital, Brooklyn, N. Y., 1902; of Norwich, N. Y.; a member and formerly president of the Susquehanna Valley Medical Society; died in Norwich, August 24, from paresis, aged 31.

Augustus F. Tulley, M.D. Cincinnati College of Medicine and Surgery, 1879; of Brazil, Ind.; formerly secretary of the board of health of Clay county; died at the home of his daughter in Mooresville, Ind., October 8, from paresis, aged 63.

Isham S. Burdett, M.D. Missouri Medical College, St. Louis, 1861; a member of the Lincoln County (Ky.) Medical Society; an eye and ear specialist of Crab Orchard; died at his home in that place, April 30, from nephritis, aged 75.

John M. Bearden, M.D. Southern Medical College, Atlanta, Ga., 1881; of Ellijay, Ga.; died in his barn, October 7, from the effects of a gunshot wound of the head, believed to have been self-inflicted with suicidal intent.

Eugene A. Gaston, M.D. University of Pennsylvania, Philadelphia, 1867; a member of the Kansas Medical Society and physician of Pratt county; died at his home in Pratt, July 21, from spinal sclerosis, aged 64.

Robert Morrison, M.D. Jefferson Medical College, Philadelphia, 1883; a member of the American Medical Association; died suddenly at his home in Sheridanville, Pa., October 3, from heart disease, aged 54.

G. William Park, M.D. Medico-Chirurgical College of Philadelphia, 1897; formerly of Harrisburg, Pa.; died in the Glockner Sanatorium, Colorado Springs, Colo., October, 2, from tuberculosis, aged 35.

Abraham F. Crans, M.D. University of Buffalo (N. Y.) 1890; formerly of Owego, N. Y., and health officer and trustee of that city; died at his home in Olyphant, Pa., October 2, from heart disease, aged 68.

Charles E. Coppedge, M.D. Kansas Medical College, Topeka, 1906; a member of the American Medical Association; died at his home in Bixby, Okla., August 5, from typhoid fever, aged 39.

Wilbert Henry Monroe, M.D. Rush Medical College, 1884; a member of the American Medical Association; died at his home in Merrill, Wis., October 4, from tuberculosis, aged 53.

Daniel Garrison, M.D. Jefferson Medical College, Philadelphia, 1880; a member of the American Medical Association; died at his home in West Collingswood, N. J., October 4, aged 62.

Reynolds C. Taylor (license, Ill., years of practice, 1877); a homeopathic practitioner of Carmi, Ill.; a veteran of the Civil War; died at his home, October 11.

George C. Potter, M.D. Northwestern Medical College, St. Joseph, Mo., 1882; died at his home in St. Joseph, October 7, from cerebral hemorrhage, aged 57.

William A. Hassler, M.D. Jefferson Medical College, Philadelphia, 1866; died at his home in Allentown, Pa., October 6, from cerebral hemorrhage, aged 68.

John S. Mushat, M.D. University of Virginia, Charlottesville, 1895; of Fountain, Colo.; died at his former home in Birmingham, Ala., September 30, aged 34.

William H. Burroughs, M.D. Medical College of Indiana, Indianapolis, 1886; died at his home in Shannondale, Ind., October 8, from nephritis, aged 59.

Irvin Calhoun Wright, M.D. Washington University, St. Louis, 1873; died at his home in Logan, Ohio, October 7, from cerebral hemorrhage, aged 64.

Orson Valentine Thayer, M.D. Vermont Medical College, Woodstock, 1846; died at his home in Hillcrest, San Diego, Cal., September 28, aged 86.

John W. Huddleston, M.D. Medical College of Virginia, Richmond, 1906; died at his home in Bedford City, Va., October 7, from tuberculosis, aged 33.

J. Thomas Calvert, M.D. University of Tennessee, Nashville, 1882; died at his home in Spartanburg, S. C., October 6, aged 53.

Clarence E. Tinsley, M.D. Louisville (Ky.) Medical College, 1906; died at his home in New Waverly, Texas, September 22, aged 31.

Cyrus Pickett, M.D. Eclectic Medical Institute, Cincinnati, 1870; died at his home in Dunning, Neb., August 7, aged 69.

Joseph Antoine Rodier, M.D. Laval University, Quebec, 1889; died at his home in Montreal, October 4, aged 46.

Society Proceedings

COMING MEETINGS

Hawaiian Territorial Medical Society, Honolulu, November 19.
Medical Association of the Southwest, San Antonio, Tex., Nov. 9-11.
Nevada State Medical Association, Goldfield, November 2.
Southern Medical Association, New Orleans, November 9-11.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Thirty-Fifth Annual Meeting, held at St. Louis, Oct. 12-14, 1909

The President, Dr. John A. Witherspoon, Nashville, Tenn., in the Chair

Addresses of welcome were delivered by Dr. Tinsley Brown, president of the Missouri State Medical Society, and by Dr. Clarence M. Nicholson, president of the St. Louis Medical Society. The response on behalf of the association to these addresses was made by Dr. T. Hunt Stucky, Louisville, Ky.

Officers Elected

The following officers were elected for the ensuing year: President, Dr. Frank Parsons Norbury, Kankakee, Ill.; vice-presidents, Drs. George W. Cale, Jr., St. Louis, and William V. Laws, Hot Springs, Ark.; secretary, Dr. Henry Enos Tuley, Louisville, Ky. (re-elected); treasurer, Dr. Samuel Cecil Stanton, Chicago (re-elected). The invitation of the Wayne County (Mich.) Medical Society to hold the 1910 meeting at Detroit was accepted.

Treatment of Peritoneal Infections in the Light of the Protective Nature of Peritonitis

Dr. Channing W. Barrett, Chicago: The spreading and absorption of infection is a process dangerous to life and inflammation is a reaction beneficial to the patient in the presence of infection. I draw the following conclusions in regard to the treatment of peritoneal infections: 1. Peritoneal infection can be prevented by the greatest care in operative work and by the approved use of such means as are best calculated to prevent peritoneal infection from other sources. An infected appendix is one which, by reason of kinking, the presence of a foreign body, etc., is likely to become infected and should be removed. Pathologic conditions of the intestines, gall-bladder, uterus, tubes and ovaries should receive attention. 2. In the presence of existing peritoneal infection an effort should be made to discover its origin and further infection prevented, if possible. 3. Easily and safely removable sources of infection, such as a badly infected appendix or in some instances an infected kidney, ovary or uterus, should be removed. But when this is done during an acute process it should be done not because the structure is inflamed, but because the source of infection is being thereby entirely or largely removed. 4. All physical activity of the patient, massage, peristalsis, etc., which will tend to distribute infection should be avoided. 5. The development of bacteria in, and their distribution through, the intestinal tract should be lessened by the removal of gaseous fluid contents of stomach, lavage, rectal flushings and, if necessary, as is sometimes the case, by enterostomy during the operation. 6. Whenever and wherever the area of infection can be reached or whenever the infectious material exists in the general peritoneal cavity that can be drained, drainage should be established. The tendency of infection is to break down its limiting wall and to increase its area and the damage done not only depends on the virulence of the infection, but on the area involved. The application of this principle to the treatment of appendiceal infection is: (1) The removal of troublesome appendices before the acute onset of infection; (2) the removal of the infected appendix before any considerable peritoneal infection takes place; (3) drainage of localized appendiceal abscess with removal of the appendix if it is easily found; (4) drainage of the peritoneal infection with the removal of the diseased appendix if easily found, if a localized wall has not formed, the absence of wall or weakness of wall making drainage very urgent; (5) treatment of inflammatory wall is a benign and protective process in conditions interfering with the bowels in a mechanical way when it may have to be disturbed by the existence of the distributing infection; (6) rest, general and local, emptying the intestinal tract, dilution of the toxins and supportive treatment with salt solution should be made use of as in keeping with or without operative treatment.

(*To be continued*)

VIRGINIA STATE MEDICAL SOCIETY

Fortieth Annual Meeting, held at Roanoke, Oct. 5-8, 1909

Case of Chronic Invagination of Sigmoid and Rectum

Dr. E. H. Terrell, Richmond: A medical student, eighteen months ago suffered from obstinate constipation which grew worse; stool was secured with difficulty, and it was liquid and mucus, with sense of insufficient evacuation. Medicines of various kinds were given by mouth and injection. Finally he was referred to Dr. Hazen, an electrotherapeutist. Electric treatment was given for several weeks at regular intervals with marked improvement, and now satisfactory results.

Ova of House-Fly Passed from Child's Rectum

Dr. W. B. Barham, Newsoms: The peculiar worms passed from rectum of a little girl, caused irritation which at first was thought to be piles, but examination showed no hemorrhoids. Hookworms were then thought of. A specimen was sent to Washington, and the report stated that the worm was the ova of the house-fly. I should like to know if others have had any similar experience.

DISCUSSION

Dr. W. A. Plecker, Hampton: I had a similar case in a colored girl, only the worms were in the vagina instead of the rectum. I used a phenol wash and cleaned them out readily.

Case of Rupture of Posterior Wall of Uterus

Dr. R. D. Garcin, Richmond: So far as I am able to find out, this is the only case of the kind in Richmond in the last forty years in which the patient recovered. The patient was a primipara aged 27; posterior occipital presentation, third position. I applied forceps, after consultation, and finally delivered the woman but ruptured the posterior uterine wall. Operation was followed by tedious convalescence and recovery.

DISCUSSION

Dr. W. E. McGuire, Richmond: About a year ago I was called to see a patient at 4 a. m. I took her to the hospital at 8 o'clock. The patient was lying very comfortably in bed and had no pain; I did not examine her. The obstetrician arrived at 11 o'clock. I opened the abdomen and found a large dead baby in the abdomen up under the liver, the placenta in the abdominal cavity, and the uterus torn three-fourths of the whole circumference. Only about a quart of blood had escaped; the uterus was well contracted. I did hysterectomy, the patient recovered and in eighteen days left the hospital.

Dr. Garcin: My case occurred in 1907.

Acid Intoxication

Dr. Douglas Vanderhoof, Richmond: I have reported two cases of acid intoxication to the Richmond Academy, and in the past summer found the fourth case. This condition is characterized by two signs, peculiar breathing, very rapid and very deep, different from that in pneumonia, which is very rapid but shallow; and by fruity, sweet-smelling odor to breath, which fills the room. The urine is loaded with acetone. The treatment is not generally understood. I saw one case in which the diet had been cut down to almost water alone. These patients need sugar, their condition is that of the diabetic who is dying. Their high temperature burns up carbohydrates. I give ordinary cane sugar by mouth, every two hours. If the patient cannot swallow I give the sugar under the skin.

Dilatation of Uterus

Dr. M. W. Peyser, Richmond.: This paper deals with the substitution of painless for painful dilatation of the uterus. Usually this procedure is very painful. Recently I have been doing dilatation with the negative pole of a battery. In one case at first the os would hardly admit the smallest sound; at the end of the fourth treatment it admitted No. 35 French.

SYMPOSIUM ON PNEUMONIA

Lobar Pneumonia in Children

Dr. W. E. Anderson, Farmville: Lobar pneumonia in children does not differ much from the disease in adults. If Holt were in Virginia, and away from the crowded districts of New York, he would not have written some things he has in his book. Children in congested districts are always badly nourished, and that is a cause of the high mortality. Lobular pneumonia is more usually a complication of pertussis, measles, etc. Disturbance of pulse and absence of vesicular murmur are points in diagnosis. It is hard to give medicines, or even enough water, on account of dyspnea. Relief comes more quickly to children than to adults. More fatal cases follow measles than any other disease. Generally these children have too little fresh air and too much cover. More air early means less need of the oxygen tank later. Oil silk interferes with the action of the skin, is uncomfortable, and there is danger of taking cold when it is removed. In breast-fed infants water should be given before nursing, as it helps elimination and dilutes the milk. Tincture of strophanthus, one drop and up, may be given according to age; rarely digitalis is necessary. A mustard bath is good. I am convinced that we give too much medicine.

Treatment of Pneumonia

Dr. W. A. Plecker, Hampton: The patient should have the purest air possible. A low temperature is stimulating, but the patient must be kept warmly covered. Fresh-air treatment now meets with less opposition than formerly. The bowels, skin and kidneys must be stimulated for elimination; water should be given freely. Salt solution may be given subcutaneously if there is falling blood pressure. Creosote enhances the antiseptic value of blood. If the pulse be kept below 100 the patient's chances for recovery are better. There is a revulsion of feeling in regard to alcohol; there are better agents, except in case of old topers. The mortality is 15 per cent. lower when it is not used. Sleep is of more value to children than either food or medicines.

DISCUSSION

Dr. Hawes Campbell, Enfield: Mortality from pneumonia in country practice is not nearly so great as stated in the average text-book. I see from 30 to 40 cases in Tidewater every winter, and I can truthfully say that the mortality is not over 10 per cent. The amount of toxemia is not dependent on the size of the area involved. I am not prepared to join in the crusade against coal-tar derivatives. I recall one case in which the temperature remained 106 F. some hours. A sponge bath made the patient purple; I gave phenacetin guarded by caffein, and believe that the child owes its life to this prescription. I abandoned digitalis, as it produces a jerky pulse; strophanthus is better.

Dr. Thomas, Washington, D. C.: It has been noticed of recent years that abdominal symptoms are present in pneumonia. Abdominal operations have been done when the patient had pneumonia. This mistake is a serious one, as pneumonia usually contraindicates operations. Many of these operations are never reported. An early symptom in children is exaggerated breathing in the opposite lung.

Dr. R. K. Flannagan, Charlottesville: As a health officer, I want to say: Quarantine against measles as much as against smallpox. The sooner we do this, the sooner we will reduce the mortality of pneumonia.

Dr. T. M. Cherry, Norton: I have not heard anything of the mud-poltice, and I am glad of it. I seldom use alcohol and am still looking for a specific.

Clinical Significance of Aërophagia

Dr. Douglas Vanderhoof, Richmond: The term aërophagia is often erroneously used for fermentative dyspepsia. It is a condition similar to "wind sucking" in horses, and is a neurosis.

DISCUSSION

Dr. M. W. Peyser, Richmond: In some cases the condition is due not to swallowed air but to gas passing from the blood vessels. If the patient's attention is distracted the belching then stops.

Dr. A. G. Brown, Jr., Richmond: This is one of the symptoms of angina pectoris not in the text-books.

Paratyphoid

Drs. J. S. Sellers and **H. T. Hoskins**, Weyers Cave: The literature on this subject is scarce. The Germans claim that the disease is due to a germ in meat. I treated three patients in one family—the first on March 26, the second four days later and the third nine days later. Water was obtained from an old cistern. Uncooked vegetables may be responsible for paratyphoid in many instances.

What the Practising Physician Can Do in Prevention of Typhoid Fever

Dr. L. L. Lumsden, Washington, D. C.: Preventive measures are known, but it is a problem to carry them out. Typhoid is fourth in the mortality list, in the United States. Careless disposal of excreta is nearly always the cause. The conduct of the physician at the house and in the sick-room, washing hands when leaving, etc., is an example to the family. He should advise only those measures that can be readily carried out—boiling the water, scrubbing hands, and isolation. Country physicians should have properly constructed earth closets as an object lesson. They should also cooperate with the health officers.

DISCUSSION

Dr. A. W. Freeman, Richmond: Typhoid is largely a rural disease. In August nearly 4,000 cases were reported in Virginia, of which three-fourths were in the country or small towns. The place to prevent its spread is at the bedside of the patient. Three points only are to be borne in mind in dealing with excreta, viz.: keep off of ground, keep dry, and keep flies away, till disposed of.

Economic Value of Early Diagnosis of Pulmonary Tuberculosis

Dr. Truman A. Parker, Richmond: The average practitioner can diagnose tuberculosis if careful. Physical signs are not necessary. Two or three negative sputum examinations do not exclude tuberculosis. Family history is not necessary. A few symptoms, such as slight loss of weight, little cough, paleness of mucous membranes, are suggestive. Subnormal morning temperature, followed by a rise to 99 or 100 F., is strongly suggestive. Fit of clothing may give hint of loss in weight.

DISCUSSION

Dr. Tuxberry, Catawba Sanatorium: I do not think Dr. Parker laid stress enough on combining the clinical picture with the physical diagnosis.

Dr. A. L. Gray, Richmond: Physical diagnosis is only to be added to the *x*-ray. I maintain that with the *x*-ray diagnosis can be made earlier than by any other means. Tuberculin reacts sometimes when tubercle bacilli are not present. Depth of shadow is an index of activity of disease.

Dr. W. A. Plecker, Hampton: There are very few greater responsibilities than that of diagnosing a case of tuberculosis. General practitioners do not see enough cases to become skilful.

Dr. Thomas, Washington, D. C.: I agree with Dr. Tuxberry that physicians should be encouraged to make physical examinations. It makes great difference to a patient to say that he may have tuberculosis. We should take this into consideration even in provisional diagnosis.

Dr. Parker: Carry in mind the little points mentioned in the text-books. If quinin does not relieve the temperature, watch the patient closely.

Treatment of Fractures Involving the Elbow

Dr. A. R. Shands, Washington, D. C.: I urge operative treatment of these fractures in children when the *x*-ray shows improper position of the fragments. After operation I put up the elbow acutely flexed (Jones' position). I insert drill through the fragments and let it project through the dressings; I leave this for two weeks. It is an ideal method. The plaster dressing is removed in three weeks. Perfect functional result was obtained in over 20 cases. Ischemic paralysis may occur if the splints are too tight. It is important to take *x*-ray picture in more than one plane.

Sterilization of Criminals

Dr. C. V. Carrington, Richmond: This procedure is new and hedged about by ideas of cruel and unusual punishment, but it is far-reaching in its deterrent effects. Four states—Indiana, Utah, Connecticut and California—have laws permitting this operation. The first-named state has sterilized several hundred men. Reproduction of criminals should be prevented. I do not say which criminals should or should not be sterilized. Simple operation, resection of the vas deferens, generally under cocain, is done through a small incision which is then closed by one or two stitches. I have sterilized four men in the penitentiary. Good results were obtained in the first two; the third and fourth are too recent to report final results.

DISCUSSION

Dr. E. T. Brady, Abingdon: Sterilization of epileptics is as important as criminals and is closely correlated. One county in this state is noted for epileptics, and this county has the record for crime. It is hard to get legislators to agree.

Dr. L. G. Pedigo, Roanoke: If we read Lombroso and Nordau on heredity we find epilepsy interchangeable with criminal types. Sterilizing criminals only shuts off a small source of supply. The whole group of neuroses breeds degenerates and criminals in one generation, and perhaps genius in the next.

Dr. C. V. Carrington: I do not advocate this operation as a punishment, but as a health measure, though I do think it well to stop the breed. I have operated only on insane patients. The testicles do not atrophy.

Syphilis and the Negro

Dr. Thomas W. Murrell, Richmond: There is a lack of statistics and consequent ignorance on this subject. Southern men are most conversant with things standing in the way of the advancement of the negro. There are no statistics by the census bureau on this subject south of the Potomac and Ohio rivers, where 28 per cent. of the negroes live. During slavery days he was made to preserve his body: his master's own physician attended him when sick; good hygiene and care caused him to outstrip the whites in fecundity. After that period he was free, not only to live, but to die as well, and to be infected with every disease. Disease and dissipation have done their work well. Then there were only a few insane negroes, confined in almshouses and jails; now 1,500 are confined in the Virginia state asylum, an increase of over 1,000 per cent. Tuberculosis is often spoken of as a scourge, but there must be twenty syphilitic negroes to every tuberculous one. There is greater prominence of pustular syphilides, indicating less resistance. Serotherapy is the only hope, but till it is perfected mercury and potassium iodid must be given by mouth. Pain is too dreaded by the negro to permit hypodermic medication and he will not take the trouble to use inunction. Every syphilitic should be registered and forced to take treatment.

DISCUSSION

Dr. P. B. Barringer, Blacksburg: I am glad to see the younger men taking up this subject. Syphilis produces abortion and so prevents reproduction. The negro carries diseases to give them to the white man, as uncinariasis.

Dr. H. E. Jones, Roanoke: The only defect in Dr. Murrell's paper is that he fails to give us a remedy. I think one great preventive is circumcision; the Jews are less susceptible to the infectious and contagious diseases for this reason. The people of a certain South Sea island were free from all infectious diseases till they were infected with syphilis by English sailors; tuberculosis then broke out and practically depopulated the island. Immunity was destroyed by incurring syphilis. Circumcision will tend to help acquire immunity.

Dr. L. G. Pedigo, Roanoke: One factor in cutting down fecundity is miscegenation. Another factor in thinning the ranks is the congestion in railroad towns; also the tremendous development of the cocain habit. Immigration from Europe increases the white but not the colored population. This giving away of the inferior to the superior race is seen in New Zealand in the gradual extinction of the Maoris. The only hope of the southern part of the United States is just these forces, leading to the gradual extermination of the negro.

Dr. Brady, Abingdon: The time has arrived when we should inject these sociologic questions into our meetings. Syphilis is a terrible menace, and it is providential that tertiary syphilis is not communicable; otherwise our children would be in great danger of infection from nurse-maids.

Dr. C. M. Miller, Richmond: I have found in dispensary practice that a little potassium iodid is good for a negro with any disease. Gumma of the throat is frequent. Their response to antisyphiltic remedies is marvelous.

Dr. T. W. Murrell: In this matter we have a problem such as exists probably in no other part of the world. A large percentage of students in our medical school are from the North, and they say they had no idea of the prevalence of syphilis in the negro.

Duty of the Physician to His Municipality

Dr. Roy K. Flannagan, Charlottesville: The public is not alive to the good of health departments. The health department is absolutely dependent on the physician for reports of preventable diseases. With increasing knowledge, people are falling into line. The council needs the physician; the school board needs his qualities of heart and head and hand. He owes expression of his thought to the public either by spoken or written word. Each physician bears his torch; it should be a flaming arc light. On the medical profession depends largely the checking of the social evil, if it is ever to be checked. I deplore the sentiment that seals the physician's lips to the secret in reference to the victim of marital infidelity. It is his duty to get closer in touch with his professional brethren in the local society. There should be a publicity committee to enlighten the laity on the problems confronting society as it affects them. Every agency is ours to use, not bound by sectarian tenets.

Pellagra

Dr. Vanderhoof, Richmond: I wish to place on record a case of pellagra brought to Richmond by Dr. J. W. Smith, of Cumberland. The patient is a white woman, aged 45, a farmer's wife. Past history is negative. Since last April she has had a peculiar vertigo, with headache; she feels continually as if she were drunk. The backs of the hands peeled off; there was parchment-like erythema, like sunburn, half way up the arm. She had chronic diarrhea for the past six months, from four to six bowel movements a day. There was characteristic melancholia, which to a stranger was not marked, but her physician said that there was distinct mental change. There was no stomatitis, but a gumboil. There was no ataxia; the reflexes were active but not exaggerated. Blood examination showed anemia. Urine was negative, except excess of indican; stools negative except excessive mucus. She has grown progressively worse; the hands exfoliated a second time. She developed stomatitis, continued to lose weight and the mental symptoms became more serious. The interesting thing is that she has not used corn diet, does not eat corn products half a dozen times a year and does not use corn whisky.

Clinical Aspects of Hyperthyroidism

Dr. McCaw Tompkins, Richmond: Slight cases are often overlooked and diagnosed as neurasthenia, hysteria, etc. Cases are of two kinds, nervous and toxic. Most cases never progress beyond a certain point. There is a widespread belief that surgery offers promise of relief, but the mortality is high and myxedema may be thus substituted.

Present Status of Treatment of Goiter

Dr. LeGrand Guerry, Columbia, S. C.: This is one of the splendid achievements of modern surgery when we consider the mortality and certainty of cure. Ten years ago the mortality was from 10 to 20 per cent. Surgeons were only willing to operate when forced to, a fact which explains the percentage. There are two classes of goiter—simple and exophthalmic. Medicine cannot influence the encapsulated gland. In simple goiters occurring at puberty, recovery generally ensues. If the thyroid grows after the age of 35 it is wise to suspect malignancy. There is hardly a class of cases which can be approached with better chance of cure. The patient should be made to understand that the good gland is left *in situ* and only the tumor removed. Nature gives one-sixth as much blood to the thyroid as to the brain. Serotherapy is not uniform in results. Drugs should be given only reasonable trial; if no result, surgery should be tried.

DISCUSSION

Dr. Royster, Raleigh, N. C.: The most encouraging improvement in surgery in the last five years is that of the thyroid and the prostate. In thyroid surgery this is due to the greater knowledge of pathology. Study after removal gives the keynote for treatment. If little blood is lost mortality is almost *nil*.

Dr. A. L. Gray, Richmond: With the x-ray in the hands of a competent man definite good may be expected in 75 per cent. of cases, with a fair number of cures. Early cases are more amenable. The x-ray is of value both before and after operation.

INDIANA STATE MEDICAL ASSOCIATION

Sixtieth Annual Session, held at Terre Haute, Oct. 7-8, 1909

(Continued from page 1320)

Heredity and Disease

Dr. Joseph Collins, New York: It is now a part of the intellectual creed of the educated that man is a product of evolution, due largely to natural and sexual selection and adaptation. Modern civilization and humanitarianism have cramped the action of these and from the point of evolution man has ceased to progress. If there is to be a renaissance the primary factors of evolution, variation and heredity, must be discovered. The physician has unique opportunity for doing this. He learns that heredity is the most important factor in his effort to interpret and thwart disease. His attitude toward disease has changed. It is to prevent. To obviate predisposition is frequently paramount to preventing disease. The physical basis of inheritance is the fertilized ovum. Initial heredity is dual, as stated by Galton, who formulated the law of ancestral inheritance, and by Karl Pearson, who shows its application, and as shown by the law of Mendel, which defines the dominant and recessive units concerned in the constitution of organisms. Complete family records properly interpreted will reveal the secrets of heredity in disease. Acquired characteristics are not transmitted. We can do little to influence succeeding generations through nurture, but a great deal by aiding Nature. Hereditable diseases of the blood, muscular and nervous system are most striking, but especially striking are the abiotrophies of Gowers. A predisposition to disease is inherited and there is evidence to show that at least partial immunity may be inherited. The departures from normal termed degeneracy are inherited and the functional diseases of degeneracy are remarkable for their interchangeability, and the same neuropath may have at different periods of life epilepsy, tic, hysteria, psychasthenia and migraine. Insanity is definitely related to pathologic heredity and nervous exhaustion may be an expression of inadequate neural endowment. Predisposition encompasses the hereditability of infections and parasitic diseases. The study of prevention has directed the keenest efforts of the profession toward the microbic causes of disease to the neglect of the most important factor, heredity. Present-day humanitarianism seeks to benefit the individual, but if the object is the improvement of the human race the biologist and the student of heredity should be taken more intimately into counsel. Galton tells us "the first object of eugenics is to check the birth-rate of the unfit," and if the land shall not be desolate because of them that dwell therein for the fruit of their doing, we must increase the birth-rate of the fit. The physician should enlarge the sphere of his usefulness by studying biology, for, as Descartes said, if man is to be perfected the means of perfecting him must be sought in the medical sciences. Let us to our task.

President's Address: The Art of Medicine

DR. GEORGE D. KAHLO, French Lick: Scientific research has given us an insight into disease scarcely dreamed of a generation or two ago. Modern sanitation has eliminated many of the greatest human scourges and diagnosis is approching an exact science. Yet in spite of this progress there is a widespread tendency in the public to self-treatment and the acceptance of occult doctrines which can but result in needless suffering and the actual sacrifice of human life. The education of the public in medical and sanitary matters in order to procure needed legislation has contributed to this tendency to self-treatment, as has also the tendency of the profession to become laboratory experimenters rather than clinicians. The patient wants relief. Also there is the belief that medical treatment always means drugs. Great epidemics of contagion have been eliminated, but modern life and luxury have developed neuroses and psychoses in the cure of which psychic influences play an important rôle, and ridicule cannot overcome these cults. Medicine is still an art. To attempt to treat a purely psychic condition by physical means is just as illogical as to rely on mental healing for the relief of physical ailments. In the borderland cases the art of the physician comes into play, and the criticism that we are sacrificing our art on the altar of science is not altogether unjust. Medicine is no longer shrouded in mystery, and treatment that is so narrowed by orthodoxy and so hampered by scientific prejudice that it is lacking in that most valuable of all good qualities, common sense, is inevitably calculated to discredit the medical art.

Cesarean Section as a Means of Rapid Delivery in Eclampsia

DR. WALKER SCHELL, Terre Haute: Cesarean section has its place and offers a valuable resource when rapid delivery must be accomplished in eclampsia. Its mortality has sunk to 10 per cent. in all cases, and to 2.5 per cent. in patients uninfected by previous attempts at delivery. Eclampsia occurs in about 1 per cent. of all pregnant women, the mortality in the mothers is 25 per cent. and in the children 50 per cent. Section, therefore, with its low mortality, offers the safest and quickest means of delivery, less traumatism being inflicted than by attempts at dilatation or rapid forceps extractions. The mother operated on at seven months and the living child presented here are evidence of its value.

DISCUSSION

DR. MILES F. PORTER, Fort Wayne: The case of the mother and child presented by Dr. Schell is a strong, clear and forcible illustration of a man being guided by surgical judgment and wisdom rather than by the worship of tradition, and we should not lose sight of the fact that by a clean surgical operation he has avoided the subsequent morbidity entailed almost unavoidably by the so-called obstetric procedures.

Results of Neglected Appendicitis

DR. B. VANSWERINGEN, Fort Wayne: Early operation is indicated in practically all cases, and from this point of view the appellation, "neglected," is correct, not always on the part of the physician, but many times by the patient or his family. The Germans are too conservative in treatment, waiting for suppurative processes to become walled off. In the meaning of this paper, these patients are neglected because the time was when this disease could have been cured by operation, without abscess forming and without complications and sequelæ such as phlebitis and pylephlebitis of various veins, abscess of the liver, pelvic inflammation, necrosis of the intestinal walls, fistulas, pneumonia, pleurisy, ileus, adhesions, etc. The dictum of Moynihan that in many cases of abscess the removal of the appendix is unnecessary is not always wise practice. In fatal cases, adhesions do not form and when present they are evidence that the body's defensive powers are capable of dealing with the infection already present and therefore the diseased structures should be ablated whenever possible.

DISCUSSION

DR. GEORGE J. COOK, Indianapolis: In recent years the neglect is not so often with the general practitioner, because he is able now to recognize these cases quickly and if he does not operate himself he refers them to a surgeon. The people also are becoming better educated to the importance of operation and do not so often object to prompt action. In the case of a little girl who had eaten some raw turnips a bellyache following in a few hours was diagnosed by two general practitioners appendicitis, and operation within twenty-four hours from the onset revealed a gangrenous appendix. That could not be said to have been a neglected case. The surroundings also determine sometimes whether one can do an immediate operation or whether one must trust to an ice bag and strychnin and starvation. Suppose a physician has a case of general peritonitis on the third day, with pulse of 130 or 140 and a high temperature? If he operates the shock of the anesthetic and a complete operation will kill the patient. My rule in such cases is to adopt the Ochsner treatment plus an opening in the abdomen done under local anesthesia to let the pus and serum out.

DR. DAVID ROSS, Indianapolis: I have sometimes doubted whether it is these acute cases in which the patient most unquestionably can be and, every one agrees, should be operated on, that are the most neglected. I think we meet these cases most frequently in children in whom there are so many things which might cause abdominal pain. The physician is likely to make a snap diagnosis of colic and let it go at that. These children recover, but have attacks again and again until finally some one makes the diagnosis when the time for operation has passed. These are the most frequently neglected cases. In many instances the worst features of cases that prove to be chronic appendicitis are not the localized conditions about the appendix, but certain forms of nervousness or general ill health, and when the diagnosis is finally made and operation done the nervousness and ill health disappear. Morris of New York calls attention to the fibrous appendix that may cause general symptoms of ill health and make life a burden without being a menace to it; the symptoms clear up when the patient is operated on. These might be termed cases of neglected appendicitis.

Dr. A. M. Hayden, Evansville: There are many cases of catarrhal appendicitis producing distress in the stomach. The condition is often called dyspepsia, and the appendix is not suspected by the patient. I believe eight-tenths of all cases of chronic indigestion are due to some disturbance about the appendix, involving the ascending and transverse colon. Sometimes the symptoms are negative. The patient may complain of pain, but with no increased pulse or temperature, and operation reveals a gangrenous appendix. I recall such a case in a girl 16 years old, in whom within twenty-four hours from the commencement of the attack, gangrenous appendix and cecum were found. This class of cases is overlooked by the surgeon, as well as by the general practitioner.

Dr. Joseph R. Eastman, Indianapolis: When we compare the teaching of men like Deaver, who says operate in every case on the spot, and Ochsner who says put on an ice bag, give strychnin and wait, one's first impression is that both are incorrigible liars, for one operates at once in about as large a number of cases as the other; I confess I am frequently in a quandary as to what to do. I recently had a patient who worked in the harvest field until 4 o'clock one day, and I operated on him the next day immediately after noon, and following the knife wound the pus flowed profusely. It seems inconceivable that so much pus could develop in such a short time, but it has been suggested that possibly the peritoneum can secrete fluid with the same rapidity that it can absorb fluid.

Dr. Schmauss, Alexandria: If the heart be examined in cases of appendicitis pursuing a rather virulent course, not infrequently an endocarditis will be found, which is a serious condition, and unless attended to may lead to permanent crippling of the organ. I do not agree with Dr. Cook that physicians as a general rule recognize appendicitis; I have been surprised to find typical cases being treated as typhoid, and I know of two patients who died recently in whom the disease was not recognized as appendicitis.

Dr. H. O. Pantzer, Indianapolis: A class of cases of neglected appendicitis not referred to here should be mentioned, in which pus is early secreted and the patient makes an apparent recovery by the discharge of the pus through the bowel. These patients recover slowly and weeks of absorption of pus give rise to hyaline degeneration of all the glandular organs, particularly in young individuals. I remember one case in which the family congratulated itself that they had escaped the surgeon. The child recovered seemingly, and in two and a half months was sent back to school. But in less than two years she died with parenchymatous nephritis.

Iliohypogastric Hyperesthesia

Dr. M. A. Austin, Anderson: We have too long denied the possible relation between functional disorders and a mental state. In no class of cases does the surgeon find so many contradictory results and wasted effort as in pelvic complaints of women. Certain nerves, because of some peculiarity of location, exposure or function, are susceptible to irritation resulting in what is termed neuralgia. The lumbar plexus with its ramifications and connections principally through the ilioinguinal and iliohypogastric, are in direct contact with the entire urogenital tract, and often troubles ascribed definitely to ovaries or appendix may be due to tissue relaxation and visceral ptoses, diminished blood-pressure and vascular impoverishment or a hypersensitive urogenital tract. Eighty per cent. of women seen by physicians have floating kidney, which is but an index of tissue relaxation, and permanent cure by a year or two of physical culture and development is better than doubtful relief by fixation. Too many women are operated on when no pathologic changes are found, though real changes are frequent enough. The ilioinguinal region offers brilliant results to the conscientious application of suggestive therapeutics, and physical development does more than surgery or medicine in this class of cases, particularly in young and unmarried women, in whom a morbid mental tendency may have been created by too much misdirected treatment. This article is a plea for more simple measures, hygiene, elimination, proper support of the viscera, vibratory or other massage, electricity, or even if necessary sometimes the nerve-blocking alcohol treatment of Schlösser, and the fostering of a corect mental attitude in the patient.

DISCUSSION

Dr. J. H. Ford, Indianapolis: Many cases of obscure pelvic pain may be due to a relaxation of the sacroiliac joint, which Kellogg of Boston and Bland of Washington have demonstrated has more or less movement, following a wrench or injury. The pain may be severe in the interpelvic region, in the sciatic region or down the thigh. The diagnosis is determined, as well as relief afforded, by a supportive strapping of the pelvis by adhesive plaster.

(To be continued)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Fifty-ninth Annual Session, held in Philadelphia, Sept. 27-30, 1909

(Continued from page 1323)

SYMPOSIUM: THE MUNICIPAL MANAGEMENT OF COMMUNICABLE DISEASE

The Rôle of Microzoa in the Causation and Transmission of Communicable Disease

Dr. Joseph McFarland, Philadelphia: Bacteria and other fungi maintain an indefinite existence under uniform conditions. The only known modification is entrance on a resting stage in the form of spores. These spores are able to grow and multiply when proper substratum is provided. With protozoan parasites the life history is more complex. In some cases parasites may be transplanted directly from the blood of one animal to another, but in most cases they pass indirectly through some other animal, or after transformation in the parasitic organism in the outer world. The patient and the infectious agents in his body are to be considered in most infectious (bacterial) diseases, but insect hosts and infectious agents in their bodies are also to be considered. Knowledge of the lattter group is but in its inception and made difficult by our inability to recognize many of the parasites because of small size or other peculiarities.

Etiologic Factors in Scarlet Fever

Dr. Jay F. Schamberg, Philadelphia: The streptococcus bears much the same relationship to scarlet fever that it does to smallpox. The influence of cutaneous burns and surgical operations under anesthesia are depressing factors increasing the susceptibility to scarlet fever. Most of the scarlatinoid eruptions occurring after burns represent the exanthem of scarlet fever. Such patients, even though they present an incomplete syndrome of the disease, should be perfectly isolated. Under certain conditions children may carry around in their throats the germs of scarlet fever and develop the disease only after the depression of the vital forces by a burn, surgical operation or other cause. There is no proof that infection is resident in the desquamating epithelium of scarlet fever; on the other hand, there is both clinical and experimental proof that infection resides in the discharge from the ears, nose and throat. The condition of these cavities may be regarded, therefore, as a safer criterion for the prolongation or cessation of isolation than the termination of the stage of desquamation.

Food Supplies Likely to Transmit Disease

Dr. M. B. Ahlborn, Wilkes-Barre: Concerning milk and milk products the most important prophylactic measures are education of the public regarding infection and the creation of public sentiment in favor of clean food supplies. There should be sensible sanitary legislation and its strict enforcement by trained sanitarians. There should also be supervision of all dairies, farms and cattle and of all employees on farms or in daries, and rigid inquiry made into the health of all cattle and employees handling milk. In cities there should be compulsory registration of all dairies at stated intervals, as to location, methods of handling products, and chemical and bacteriologic examinations should be made regularly. Regarding meat, fish and shellfish, supervision should be required of all slaughter-houses and carcasses of animals killed for food, with the regulation of the health of those engaged in the production of meat products. Rigid attention should be given to cleanliness in storage and shipping. Sale should be prevented of fish and shellfish taken from contaminated waters. No human manure should be used on truck farms or contaminated water employed in the washing of vegetables and fruits. All vegetables and fruits should be protected from dust and insects when exposed for sale.

What Shall We Do About Trachoma?

Dr. Clarence P. Franklin, Philadelphia: Trachoma was originally an alien disease, but is now acclimated. It interferes with the "workability" of the eyes of adults and children, and thus is a menace to the public welfare. Interest should be aroused to accomplish its elimination. There is need of more active interference with the course of the disease in Pennsylvania, of trachoma hospitals and trachoma schoolhouses in this state as are successfully maintained abroad.

Quarantine and Isolation

Dr. William M. Welch, Philadelphia, explained the object of isolation and enumerated the diseases requiring the enforcement of the measure. He emphasized the importance of the procedure and described effective methods. He also considered restrictive measures applicable to the well members of the household. The duration of isolation must vary, he said, in different communicable diseases.

Disinfection

Dr. James J. Quiney, Easton, said that many disinfectants generally employed are of questionable value. There should be careful disinfection of eating utensils, medicine and drinking glasses, clothing, bedding, etc. The cleansing of floors, woodwork and furniture should be thorough. No cuspidors should be allowed. The paper deals further with the disinfection of discharges from nose and throat, of excreta, water used for bathing purposes, of the patient and nurse, of room and furnishing, the preparation of the room for disinfection, and with the materials used for fumigation.

SYMPOSIUM: STATE APPROPRIATIONS TO HOSPITALS

What Pennsylvania Is Doing

Dr. John B. Roberts, Philadelphia, gave a short history of the origin of the present system of making appropriations to hospitals not under state control by the legislature of Pennsylvania. He mentioned the benefit that had come from these appropriations in giving all sections of the State Hospital facilities with the accompanying valuable training of nurses and doctors. He seemed to think that these advantages were offset by the manner in which the appropriations were granted by the legislature without any definite restrictions such as the law supposed would be thrown around the appropriation system by the investigations made by the board of public charities. He showed that hospitals were granted large sums for maintenance even before the institutions were built in some instances, and that in some cases the amount given for buildings and maintenance was out of proportion to the small amount raised by private subscriptions. The suggestion was made that the system led to an actual plunder of the public treasury.

State Appropriations to Hospitals: What Other States Are Doing

Dr. Charles McIntire, Easton, Pa.: This paper was planned to give a comprehensive view of the relation sustained by the various states to hospitals within their borders but not directly under state control. With the exception of Arkansas and Arizona, from which no information was received, for the purpose of this paper, the states of the Union could be tabulated in three divisions: 1. Those which are forbidden by law to make appropriations to institutions not entirely under state control. 2. Those which, while there is no legal prohibition, do not make such appropriations. 3. Those which are making such appropriations. As in the practical outcome there is no difference between the first and the second class these two divisions are included in one list. According to the information furnished, thirty-four states in all make no appropriations. In the remaining list are included those that make appropriations under any conditions whatsoever. As these conditions vary, the acompanying statements are interesting: Of Connecticut the state controller writes: "It has been the practice of this state for many years to appropriate toward the maintenance, and in some instances toward the building, of hospitals under private control in various parts of the state."

Kansas makes appropriations, apparently without conditions.

Louisiana "partially" supports two hospitals; one at New Orleans and one at Shreveport.

Maine makes appropriations. My correspondent writes: "You ask, 'What are the principles governing the appropriations and are there any means of over-sight?' The principle in all these things is to get all that is possible by any means, fair or foul. 'Log rolling' is everywhere. The state has control over the two insane hospitals; the other institutions are conducted by boards which are practically self-perpetuating. Some of the organizations which get appropriations are absolutely private affairs."

Of Mississippi, the secretary to the governor writes: "There are three charity hospitals in this state to which appropriations are made by the legislature on condition that a fixed amount of money shall be donated by the county and municipality in which they are located. These institutions were not originally organized by the state, but for years have been receiving state aid to the extent mentioned."

From the attorney general of New Mexico I learn that the territory does not maintain any public hospitals, and has therefore made it a practice in the past few years to make appropriations to the various charitable hospitals in the territory. The legislature, however, is about to strike out all the appropriations to charitable institutions with the exception of two orphan asylums. . . . However, there is no constitutional provision in this territory prohibiting such action.

The Albany Hospital in the state of New York is the only hospital in the state that receives an appropriation directly from the state treasury, and this is to pay for the care of employees of the state who may become injured or sick while on duty at the capitol. The secretary of the State Board of Charities of New York writes that while most of the cities and counties, as provided by the constitution, do pay sums of money to hospitals, it is in the shape of *per capita* for services and not the appropriation of a gross sum.

Rhode Island makes appropriations to various "charities," among which are enumerated some hospitals.

While I have included Vermont among the states making no appropriations, to be literally accurate, I should report that from 1834 until 1888, the only hospital for the insane in the state was one founded by private bequests. This institution, in return for special privileges granted, received small appropriations from time to time, amounting, probably, to about $35,000 in sixty-five years. This money is a lien on the property should it ever cease to be used for an insane hospital.

Advantages of the Pennsylvania System

Dr. Horace G. McCormick, Williamsport: The state is out of debt, she has ample means, the taxes she receives and the money she distributes come from those who are amply able to pay, and what better use, both from the standpoint of humanity and as a financial investment, can she make than is shown by her appropriations to the hospitals of the state? Have any of her appropriations ever been more carefully used, have any shown less graft, have any done more for the relief of the poor and the betterment of humanity than those given to the hospitals of the state? The appropriations made by the legislature each two years, at least to the hospitals outside of the two great cities of this commonwealth, are probably as fairly distributed as could be done by any system that could be devised. The people have put their stamp of approval on the system of the state, giving them all in its power, and it never will be otherwise.

Objections to the Pennsylvania Method

Dr. Lawrence F. Flick, Philadelphia: The whole subject of state appropriations to hospitals as practiced in Pennsylvania can be categorically stated as follows:

1. State appropriations to incorporated non-sectarian hospitals are constitutional.

2. The incorporated hospital is the best channel for expending public money for the sick poor.

3. The state hospital was introduced in 1845.

4. A state department of charities for the control of all the charities of the commonwealth was created in 1869.

5. Our constitution and laws contemplated the administration of our charities by incorporated bodies under the supervision of the state board of charities.

6. In the spirit of our laws no appropriations should be made for charitable purposes except upon the recommendation of the state board of charities.

7. Practical politics have militated against the proper application of public charity.

8. Appropriations to hospitals have become a corrupting influence in politics.

9. The state department of health's assumption of hospital and eleemosynary functions was a further inroad of practical politics upon hospital work and is illegal and unconstitutional.

10. The objections to the Pennsylvania method of state appropriations to hospitals are in the politics which have crept into these appropriations and in the disregard for our constitution and law.

11. The remedy is the exclusion of politics from public charity and the strict enforcement of our laws bearing on it.

12. State appropriations should be made to all hospitals on the basis of private resources and the number of patients treated.

Suggested Improvements

Dr. William L. Estes, Bethlehem: 1. State supported hospitals should carefully guard against imposture and assistance unworthily bestowed, in order to prevent the pauperization of communities. No efficient system has yet been devised to accomplish this end. 2. It is recommended that every person admitted to the hospital shall be charged a fixed definite rate, according to the accommodations selected. Those demanding free treatment, who enter the charity wards, should be charged for treatment, an amount necessary to cover the expense of this treatment. If the person so charged can prove that he is absolutely not able to pay for treatment the state should pay for him. The burden of proof should always be on the patient. 3. Hospitals should use the data in regard to the number of days in the hospital each free patient has spent, and the actual cost, plus a moderate percentage to cover the repairs and maintenance of the buildings, as a basis for soliciting state aid. 4. The state has a right to demand economy and efficiency in the treatment of its wards. The multiplication of hospitals beyond the needs of the communities is to be deplored, because many small hospitals cost much more than a few larger ones to run, and, as a rule, are not as efficiently conducted. 5. All state assisted hospitals ought to be made a part of the educational system of the state. The clinical material of these hospitals ought to be made available for the instruction of the physicians of the community. 6. Some suggestion as to how the cases in hospitals may be used for instructing physicians.

Discussion on State Aid to Hospitals

Dr. Henry W. Cattell, Philadelphia: There is great difficulty in properly discussing the question of state appropriations to hospitals without making the issue a political one. Money appropriated to hospitals under the conditions as they exist in Pennsylvania to-day must too often be considered as a direct bribe for political influence. The recipe for getting an appropriation to a hospital in Pennsylvania to-day is somewhat as follows: Devote from 10 to 20 per cent. of appropriation to political purposes and charge it up to local expenses. Have plenty of private rooms and give 50 per cent. of these rooms to the politicians and their friends and permit the other 50 per cent. to be occupied by the pay patients exclusive of the medical and surgical staff of the hospital that receives the appropriation. The time has arrived in the Commonwealth of Pennsylvania to separate distinctly the charitable institution from that managed with an ulterior object in view. It is an absurdity that there are six medical schools in the city of Philadelphia, and one of the solutions in this problem of state appropriations to hospitals lies in reducing at once the number of medical schools in this city from six to three.

Dr. C. E. Thompson, Scranton: It is not the experience in our part of the state that, as claimed by Dr. McCormick, the hospitals receiving state aid are valuable as schools for physicians and nurses. Against his claim that we must have these hospitals supported by the state in order that we should have professional nurses, if he will come to our community I will show him a hundred nurses graduated and now in practice who came from schools that never received any state aid. He speaks of improvements in the non-admission of patients who can afford to pay in our hospitals. There is no improvement in our end of the state. In fact, it is getting worse; and, as to the reduction of graft, I don't think that the state of Pennsylvania has ever taken up the reduction of graft as a specialty. We all know these political evils and we are here to try to correct them, and I should like to make a recommendation that Dr. Estes be instructed to make a draft of his recommendations and bring it before our house of delegates. (The motion was carried.)

(To be continued)

AMERICAN ROENTGEN RAY SOCIETY

Tenth Annual Meeting, held at Atlantic City, September 23-25

(Concluded from page 1321)

Roentgen Diagnosis of Pulmonary Lesions

Dr. Charles Lester Leonard, Philadelphia: The Roentgen method of examination of the chest is of great value as an adjunct to physical diagnosis, particularly in early deep-seated lesions, peribronchial infiltrations and bronchial adenitis. In the advanced cases it adds an element of greater accuracy and detail in localizing the affected area; it corroborates the physical signs and is at all times a mechanical method of registering observations which can be compared with others later. Not infrequently, deeply situated areas of consolidation and cavities are seen in the skiagraph that have escaped other methods of examination. Besides the alterations in the lungs and pleura produced by tuberculosis, the Roentgen ray discloses pericardial effusions and thickenings of all kinds. Other features seen are the relative height of the diaphragm on both sides, the relations of the heart and larger blood-vessels, and calcification of the costosternal cartilages.

DISCUSSION

Dr. P. M. Hickey, Detroit: I wish to sound a note of warning with reference to interpreting shadows around the root of the lung as being due to enlarged glands when in reality they are the result of a chronic inflammation around the bronchi. In two cases I made the diagnosis of tuberculosis, but the tuberculin test failed to confirm the diagnosis.

Dr. L. G. Cole, New York: I agree with Dr. Hickey, but nevertheless I am convinced of the superiority of the Roentgen ray in diagnosing early incipient cases of tuberculosis. The radiogram registers pathologic changes long before they can be detected by physical examination. The mottled appearance of the lungs is absolutely characteristic of tuberculosis, no matter where it is found.

Dr. K. Dunham, Cincinnati: We must not lose sight of the fact that the tuberculin test is the most valuable means of diagnosis in tuberculosis and that the Roentgen ray is next.

Dr. Arthur Holding, Albany: The important feature of roentgenography of the chest is not the making of the diagnosis, but the determination of the pathologic condition present. A skiagraph should be made of both sides of the chest for purposes of comparison.

Dr. George C. Johnston, Pittsburg: Not infrequently a few small doses of potassium iodid, about three grains three times a day, produce sufficient local congestion to facilitate materially the diagnosis of tuberculosis. Care must also be taken not to mistake syphilis of the lung for tuberculosis.

Dr. K. Dunham: Tuberculin has the same effect in these cases as has potassium iodid.

Roentgen-Ray Diagnosis of Diseases of Bone

Dr. W. H. Dieffenbach, New York: I have made a special study of bone lesions caused by gonorrhea, and have found certain lesions which I believe are characteristic of the condition. These are (1) deformity and enlargement of joints; (2) diminution of shadow involving the peripheral portion of all bones of the affected joints (3) small sclerosed intraosseous areas in the shaft or epiphysis, the so-called Carleton's spots.

DISCUSSION

Dr. Percy Brown, Boston: I believe Dr. Dieffenbach is in error in this matter, because the changes in bone enumerated by him as being characteristic of gonorrhea are found in nearly every case of infectious disease.

Dr. F. H. Baetjer, Baltimore: I have found that in gonorrhea the bone is never attacked until after the cartilage has been eroded. The disease never attacks the diaphysis.

Technic in Calculus Diagnosis

Dr. A. L. Gray, Richmond, Va.: In this work I prefer to use a cone or cylinder because it obviates a source of error that may present itself in foci of calcification in the lower costal cartilages and it is an easy method of directing the rays through the kidneys to the plate. By forcing the back into close contact with the plate, the sharpness of the calculus shadow is increased. I always make four plates, one of each kidney, one embracing the ureters well into the true pelvis, and the fourth of the true pelvis, including the entire surface of the symphysis pubis. The kidney and ureter plates are made with the patient in the dorsal position, the head low and the thighs well-flexed on the pelvis; the semi-sitting posture is the best for making a plate of the pelvis. I wish to call attention to soiling the plate by sweat, because a sweat stain cannot be differentiated from a calculus shadow. I protect my plates with rubber dam or thin celluloid.

Speed Mania in Radiography

Dr. L. G. Cole, New York: The disadvantage of making extremely rapid exposures is that it spoils many good tubes; however, absence of motion is essential to good detail. In chest and abdominal work the exposure should not exceed the time the patient can hold the breath. Detail and not speed is the object to be sought after in radiography.

DISCUSSION

Dr. P. M. Hickey, Detroit: Speed is not always necessary, but no hard and fast rule can be laid down except that as much speed should be used as is needed to get detail. The smashing of tubes is a minor consideration, and it is up to the manufacturers to overcome this by making better tubes. The tubes in use to-day are far better than those employed five years ago.

Dr. George E. Pfahler, Philadelphia: In order to secure a skiagraph of a moving part of the body, it must be made in a period of time that is too short for that part to move in. If detail is not essential there is no necessity for speed, but unfortunately detail is the one thing needed in radiography.

Dr. E. W. Caldwell, New York: When a satisfactory appliance to produce a satisfactory current for the proper excitation of tubes is devised, the speed problem will to a large extent disappear, and with it many of the difficulties of the tube manufacturer. An apparatus which will supply a tube with one hundred milliamperes will do away with the necessity for high speed.

X-Ray Work in Hospitals

Dr. Rollin H. Stevens, Detroit: A large number of hospitals are equipped with suitable radiographic apparatus, owned either by the hospital, the staff, or the radiographer, usually the former. Some of the hospitals pay the radiographer a salary, others a percentage; and still others divide the fees. Inquiry has convinced me that every modern hospital is alive to the advantages of a Roentgen-ray equipment, not only for diagnosis but for treatment. I find that many hospitals keep careful records and some employ a staff of assistants to do this work. No hospital aiming to do scientific work can afford to be without such an equipment.

Use of Roentgen Ray in Goiter

Dr. Carl Beck, New York: I have employed the Roentgen ray in treatment of all forms of goiter, with varying success. In exophthalmic goiter I favor the combination method, that is, removal of a portion of the gland followed by Roentgen irradiation. In advanced cases in which immediate operation is contraindicated the ray should be employed until the condition of the patient has been improved sufficiently to permit of operation. I have employed the combination treatment in fourteen cases, a cure resulting in thirteen.

Tuberculous Cervical Glands

Dr. K. Dunham, Cincinnati: In thirteen cases which I have studied I found an enlargement of the mediastinal glands, which I believe proves conclusively the fallacy of attempting a radical removal of the cervical glands in the hope of eradicating the disease. I find that the combined use of mercurial injections and Roentgen irradiation of the affected glands is the best treatment. Surgery should be reserved for those cases in which the glands are broken down and sinuses are present.

DISCUSSION

Dr. Arthur Holding, Albany: I am convinced that the Roentgen ray is possessed of curative powers, almost specific in character, in tuberculous adenitis. When the lesions are small I use the high-frequency vacuum electrode first; in the more advanced cases I use the ray at once. When the glands break down they should be opened and then rayed.

Roentgen Ray Dermatitis

Dr. M. K. Kassabian, Philadelphia: This dermatitis may be either acute or accidental, the dermatitis of the patient, or chronic, the dermatitis of the operator. Both now occur rarely, owing to improved apparatus and greater care in its use. Only the most thorough protection against exposure to the ray gives the operator any degree of safety. I never use a fluoroscope and I am never exposed to the ray to the slightest degree. The operator's dermatitis usually comes on slowly and passes through stages of redness, dryness, itching, ulceration and pain. The most effective treatment in the acute cases is hot normal salt solution. In the chronic cases, exposure to the ray and trauma of any kind should be avoided, the affected parts should be anointed with lanolin, the hands kept warm, gloves worn, no soap used, the hands immersed frequently in hot water, fissures touched with a 5 per cent. argyrol solution. A posterior digital splint will hasten the healing of a fissure, but rest, absolute rest, is the most essential factor in the treatment. Warty growths must be excised and the defect covered with a skin graft.

Roentgen Ray in Carcinoma of the Uterus

Mr. H. W. Dachtler, Toledo, Ohio: I have had good results from the use of the Roentgen ray following operation for carcinoma of the uterus, but sufficient time has not yet elapsed to permit of drawing conclusions as to the effectiveness of the treatment. I employ a short, wide tubular speculum, and a tube of small diameter, so that the rays are brought as near the seat of trouble as possible. The treatment is begun the second day after operation, and is continued daily during the patient's stay in the hospital.

Measurement of the Roentgen Ray

Dr. C. M. Peabody, South Orange, N. J.: The fundamental principles involved in my method of measurement are based on known physical laws, and the method is easily applicable by any one under any circumstances. By making a series of exposures so as to obtain plates of graduated density, various units of work are obtained, and by bearing in mind that "the work done by any force varies with the time through which it acts," and "that the work done by a given light varies inversely as the square of the distance from the source of light," and "that the work done by any x-light varies with the quantity of current passing in the tube, other conditions remaining constant," a working formula may be evolved.

Book Notices

Constipation and Intestinal Obstruction. By Samuel Goodwin Gant, M.D., LL.D., Professor of Diseases of the Rectum and Anus in the New York Post-Graduate Medical School and Hospital. Cloth. Pp. 559, with illustrations. Price, $6. Philadelphia: W. B. Saunders Co., 1909.

This work begins with a preliminary section on anatomy and physiology, after which etiology is extensively discussed to the amount of 70 pages, the greater part of which is taken up by mechanical (obstructive or surgical) causes. Symptoms, consequences and diagnosis are next considered to the extent of 77 pages. The remainder of the volume, over 300 pages, is taken up with treatment. The exciting causes given have been pointed out many times—neglect of parental supervision, false modesty, abuse of purgative drugs, etc. Visceral ptosis is probably given too prominent a place in the etiology, and some aspects of the former seem entirely outside the scope of the work.

Coming now to the treatment, while the routine use of drugs is not advised, yet, for those who prefer their use, an account of the various agents is followed by a rather lengthy selection of formulas. The non-medicinal treatment is considered at great length—massage, vibration, psychotherapy, diet, etc. Included in the surgical treatment are descriptions of various stock operations, enterectomy, end-to-end anastomosis, and so on, which might very well have been omitted, with references to any modern operative surgery for details of the technic. This, of course, does not apply to Dr. Gant's personal technic and modifications. Again, more than one of the illustrations—for example, that of a nurse wringing out fomentations, and pictures of Davidson's syringe and similar devices—add nothing to the text. Moreover, a great deal of the apparatus alluded to will scarcely be found save in the armamentarium of the specialist.

The work as a whole, however, impresses us rather favorably and a perusal of it will result in the acquisition of much interesting information concerning this wide-spread ailment.

Diet in Health and Disease. By Julius Friedenwald, M.D., Professor of Gastro-Enterology in the College of Physicians and Surgeons, Baltimore, and John Ruhräh, M.D., Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Cloth. Pp. 765. Edition 3. Price, $4 net. Philadelphia: W. B. Saunders Co., 1909.

The revisions and additions to be found in the third edition of this work have increased its value and broadened its scope. A number of useful tables have been added, one of the most notable being Winton's list, giving the composition of diabetic foods, in which many of the so-called diabetic flours on the market are shown to be dangerously rich in carbohydrates. The chapters dealing with alcohol and milk have been practically rewritten and a brief description of the less complicated methods of detecting preservatives and adulterations in food has been added. In dealing with a subject that, at present, is receiving more than usual attention, viz., the use of chemical preservatives in foods, other than the commoner ones of sugar, salt, vinegar and wood-smoke, the authors take a conservative stand. Admitting that the question of the actual effect of various preservatives on the human body is still an unsettled one they assert: "It may safely be stated that the addition of any chemical preservative to food is undesirable." In fact, the general tone of the book is one of conservatism; the authors ride no dietetic hobbies and the result is a work that is eminently practical in scope whether it be used by the practitioner or the medical student.

Report of the Board of Trustees "Commissioners of Water-works" of Cincinnati, Ohio. By Geo. H. Benzenberg, Chief Engineer. 1909. Cloth. Pp. 267, with illustrations.

The city of Cincinnati was one of the first of the large cities in this country to install complete water-purification works. Lime and sulphate of iron are used as coagulants. The construction of the plant was undertaken only after careful investigation into the local conditions, and the work throughout has been supervised by some of the leading American sanitary experts. The present report gives an admirable history of the enterprise, including a summary of the experiments on filtration which were discussed in full in a previous publication. A section on the operation of the plant for the year 1908 is given, in which we learn that over 50 per cent. of tests made with 100 c.c. of filtered water were negative for *Bacillus coli.* The cost of filtration is stated at $4.40 per million gallons. The report is beautifully illustrated with photographs and line drawings.

Inborn Errors of Metabolism: The Croonian Lectures Delivered Before the Royal College of Physicians of London, in June, 1908. By Archibald E. Garrod, D.M., M.A., Fellow of the Royal College of Physicians. Cloth. Pp. 168. Price, $1.35. New York: Oxford University Press, 1909.

A year ago Garrod delivered a series of lectures before the Royal College of Physicians of London on the above topic, which were shortly afterward published in the *Lancet.* They have now been somewhat amplified, brought up to date, and published in the form of a small book, which makes them much more accessible and useful to many readers. The known conditions which correspond to the title are albinism, alkaptonuria, cystinuria and pentosuria, and after an introductory chapter on the general relations of heredity to metabolic variations, these four subjects are considered at length. In all respects the discussions are interesting, authentic and readable. They bring the knowledge of the subject well up to date, and the chapters on alkaptonuria and cystinuria probably represent the best summary of these subjects to be found anywhere. Albinism is not discussed to as great length as it might be, and it would seem that retinitis pigmentosa, with its striking relation to parental consanguinity, should have been considered. Any physician who wishes a pleasant bit of reading which will give him an insight into the way chemical methods are making progress in medical problems, will find much to interest and please him in this little book, while every progressive physician will value it for its thorough consideration of four obscure metabolic abnormalities.

A Text-Book of the Diseases of the Ear. By Prof. Dr. Adam Politzer, Imperial-Royal Professor of Aural Therapeutics in University of Vienna. Translated at the Personal Request of the Author, and Edited by Milton J. Ballin, Ph.B., M.D., Assistant Surgeon, New York Ophthalmic and Aural Institute, and Clarence L. Heller, M.D. Edition 5. Cloth. Pp. 892, with 337 original illustrations. Price, $8.00. Philadelphia: Lea & Febiger, 1909.

Since the appearance of the last edition of Professor Politzer's "Diseases of the Ear" six years ago, most marked advancement in otology has been made in the physiology and pathology of the internal ear. As a result, new operative procedures have been pointed out and made possible in that region. During the same period intracranial lesions of aural origin have been rendered more accessible by improved operative methods. The new edition of this standard work gives the results of the investigations of Politzer and his followers in these new fields, as well as a revision of those subjects made necessary by the recent advancement in the pathology and therapeutics of aural affections in general. The addition of this new material again places a work of inestimable value in the hands of students of otology.

Genetic Psychology: An Introduction to an Objective and Genetic View of Intelligence. By Edwin A. Kirkpatrick, B.S. M.Ph., Author of "Fundamentals of Child Study." Cloth. Pp. 373. Price $1.25. New York: Macmillan Company, 1909.

As an invitation—Mr. Kirkpatrick calls it an "introduction" —to the further and deeper study of modern psychology, this little book is deserving of commendation. Beyond all doubt it is true that "the theory of evolution has completely revolutionized the biologic sciences and is now making similar changes in psychology, the science dealing with the highest form of life, that of consciousness;" but none the less true is it that we are yet very far from being able to apply all the observations recorded in the biologic sciences as explanations of all the phenomena noted in the mental sciences. It is on this point that nearly all of the books of this class become unreliable. Not being large enough to present all sides of the questions at issue, including the data both for and against the theories of mind, they become too dogmatic in assertion, make assumptions not fully warranted by the facts in hand, and lead the careless and little-read student to accept as the final word of science what is merely the one-sided view of an over-enthusiastic writer.

The earlier chapters of the book, devoted to a discussion of behavior and its structural basis, to types of animal behavior, to complex behavior characteristic of species, to behavior of individuals, and to the structures concerned in complex behavior and in ideation, though brief and compressed, are admirable, so far as they go, in summarizing in general the observations made in the experimental laboratory.

The chapters in which there is a consideration of consciousness, of specific conscious states, and of types of adaptive activity or intelligence are far less satisfactory. Here too often Mr. Kirkpatrick plays on words or assumes that the mere description, in scientific jargon, of commonly observed phenomena is equivalent to explanation. Occasionally he contradicts himself. These faults, however, are not at all uncommon among compilers of psychologic handbooks, who are unduly impressed with the inductive methods of the laboratory. Space does not permit of more than one illustration. By attaching a novel meaning to the word "intelligence," so as to have it synonymous with "the adaptation of means to ends," and thereby conferring on it a breadth to include unconscious as well as conscious processes, chemical, physiologic and physical, Mr. Kirkpatrick concludes that man posseses four kinds of "intelligence," physiologic, sensory-motor, representative and conceptual, all of which differ from one another in degree more than in kind, all being dependent on like neural elements and processes. Both the liver and the brain functionate, of course, in the line of adapting means to an end; but to call the force behind these functions "intelligence" it thereby assumes that the functions are essentially the same, is pushing the logic of analogy rather far. A mere play on the word intelligence is made to take the place of scientific proof. The use of the term "growth" in connection with the processes of crystallization and of protoplasmic development does not establish the similarity of the processes.

The best chapter in the book is that entitled "Types of Learning Activity: Nature of Learning." It is full of valuable suggestions, showing Mr. Kirkpatrick's familiarity with the science of practical pedagogics.

The final chapter is a summary of Mr. Kirkpatrick's own particular psycho-physiologic theories and their use in accounting for man's autogenetic and phylogenetic progress.

A Treatise on the Principles and Practice of Medicine. By Arthur R. Edwards, A.M., M.D., Professor of the Principles and Practice of Medicine and of Clinical Medicine and Dean of the Faculty in the Northwestern University Medical School, Chicago. Second Edition. Cloth. Pp. 1212, with 100 engravings and 21 plates. Price, $5.50. New York and Philadelphia: Lea & Febiger, 1909.

A new edition of a book frequently means simply a new impression with no alterations whatever. With the work before us, however, it is different. We quote from the preface: "Particular attention has been given to therapeutic details in accordance with the recent awakening of the profession to the importance of logical treatment; numerous new preparations and modified names and dosages, particularly for children, are explicitly specified. There are practically new chapters on the arrhythmias and other cardiac neuroses, tropical splenomegaly and various other tropical affections. Due consideration has been given to the meningitis serum of Flexner and Jobling, Strong's work on amebic dysentery, blood cultures in typhoid and other bacteriemias, the "carriers of infection," the recent epidemics of meningitis and poliomyelitis, the accumulating evidence in favor of the spirochete as the cause of syphilis, and the recent status of tuberculin in its therapeutic application and in its various diagnostic uses, as the ocular-reaction and von Pirquet's test.

Thus there has been no labor spared on the part of the author, or expense on the part of the publishers to improve the book in every particular, and especially to bring it thoroughly up to date. The fact that a new edition has been demanded within two years after its initial issue does not always mean that the book is a success, but this is undoubtedly the case in this instance. Edwards' "Practice" has deservedly taken its place as one of the standard text-books on practice, and it will continue to hold this place if future editions are as honestly and conscientiously revised as this one has been.

It is to be regretted that there is no analytical table of contents in the front of the book. The index is an elaborate and satisfactory one, but an analytical summary in such a work as this is of as much importance as the index.

Clinical Diagnosis and Treatment of Disorders of the Bladder, with Technique of Cystoscopy. By Follen Cabot, M.D., Professor of Genito-Urinary Diseases, Post-Graduate Medical School, New York. Cloth. Pp. 224, with illustrations. Price, $2.00. New York: E. B. Treat & Co., 1909.

The clinical diagnosis of disorders of the urinary bladder, with especial reference to the use of the cystoscope, the technic of cystoscopy, and the treatment of disorders of the bladder are the chief subjects of Dr. Cabot's little book. It takes up systematically case records; management of the patient; anatomy of the genitourinary tract; urinalysis (a short chapter); a description of the methods of examining the bladder and the segregation of the urine; the technic of and indications and contraindications for cystoscopy; the causes, diagnosis and treatment of cystitis, and the diagnosis and treatment of senile prostatic hypertrophy. The book does not attempt to cover the entire subject, but is in a great measure a record of personal experience, set forth clearly and plainly, by a man who is evidently a practical teacher.

Diseases of the Pharynx and Larynx. By Dr. E. J. Moure, Surgeon in Charge of the Nose, Ear and Throat Department of the Faculty of Medicine, Bordeaux. Translated and Adapted by J. Malcolm Farquharson, M.B., F.R.C.P., Lecturer on Diseases of the Nose, Ear and Throat in the School of Medicine of the Royal College, Edinburgh. Cloth. Pp. 403, with illustrations. Price, $4. New York: Rebman Co., 1909.

The experience and knowledge of the distinguished author of this work have eminently fitted him to write a treatise on the diseases of the pharynx and larynx; he has condensed a surprising amount of information into a comparatively small volume. The profuse illustrations, both colored and in black and white, are all good and many of them admirable; they are most instructive because of their exactness.

The book would have gained in power to instruct had there been less attempt at brevity in its writing, for the description often suffers in clearness on account of the effort to employ a laconic style. Logical and connected, yet concise, expression implies a rare command of language; and this may exist in the original French version of this book, but is certainly not a quality of the translation. Some passages are so confused as to be quite unintelligible. A representative example is the following, referring to laryngeal paralysis of central origin: "Along with Lannois, the author admits that vocal disturbances are most frequent in labio-glosso-laryngeal paralysis. Charcot has described a defect of adduction of the cords which explained their aphony. Laryngoscopic examination alone determines the nature of the lesion, which produces vocal disturbances. Here it is a comparatively trivial symptom, but otherwise in the case where the two vocal cords are fixed in the mesial line, direct examination permits of therapeutic deductions being drawn." This disconnected and incoherent passage is so meaningless that it could hardly instruct the general practitioner, for whom the book is supposed to be designed. Even one familiar with the nervous affections of the larynx cannot understand what is meant.

A similar paragraph, referring to the vagospinal paralysis, reads: "On laryngoscopic investigation the vocal cord appears as in recurrent lesions. However, the pneumogastric being a mixed nerve, its compression determines immobilization of the two cords almost in the middle line, the one being paralyzed and the other in reflex contraction." This passage is also quite confused, and a condition is merely alluded to which requires a logical explanation for the student's sake. By "recurrent lesions" in this paragraph the translator, of course, means lesions of the recurrent laryngeal nerve. In ordinary English the expression "recurrent lesions," however, would imply returning lesions, and the expression would be so understood by readers not familiar with the subject. In other parts of the book paralysis of the recurrent laryngeal nerve is spoken of as "recurrent paralysis"—an equally misleading use of the word "recurrent."

Those especially versed in laryngology and the diseases of the pharynx can grasp the author's meaning in the many confused passages of the translation; but the work cannot be recommended as an introductory text-book. It is to be regretted that the translation of this book, which shows in part the excellence the whole might possess, should have such serious defects.

Medicolegal

Courts Cognizant of Accuracy of X-Ray Photographs—Damages for Injuries

The Court of Civil Appeals of Texas says that in Houston & Texas Central Railroad Co. vs. Shapard (118 S. W. R. 596), a personal injury case, objection was made to the admission in evidence of photographs of the bones of the plaintiff's injured leg taken with an *x*-ray instrument, the burden of the objection seeming to be that, without cutting away the intervening flesh, skin, etc., it was impossible to tell whether the pictures correctly represented the condition of the injured bones. But the court holds that there was no error in admitting the photographs in evidence, in connection with the testimony of a physician as to the character and use of the *x*-ray instrument and the manner in which the photographs were taken, it being shown that the instrument used was a correct one of the kind and had been frequently used by the witness. It would be strange, the court, says, if in the trial of cases in the courts use could not be made of facts elicited by means of a process the usefulness and absolute accuracy of which has been so completely demonstrated as have been photographic views of the bones of a living body by means of the *x*-ray. When properly taken, as these views were shown to have been, it is a matter of such common knowledge that they accurately represent what they purport to show that even courts may take cognizance of the fact.

The plaintiff was a railway fireman, 27 years of age, when injured. The evidence showed that both bones of the leg were broken between the knee and the ankle, that one of the bones had never properly united; and that in consequence the foot was turned in, interfering with his walking. While in the hospital, about a dozen small pieces of the bone of the leg were taken out. Also, according to his testimony, flames from burning oil reached him at the time of the accident and set his clothing on fire, and his legs, feet and some parts of his body were severely burned. He endured very great physical suffering for several months, from the burns and from the wounds on his broken leg, which required some time to heal. The jury allowed him $25,000 damages, but the court thinks $17,500 sufficient.

No Extra Compensation for Disinfecting

The Supreme Court of Michigan says that the case of Tabor vs. Board of Supervisors of Berrien County (120 N. W. R. 588) was based on a city health officer's claim for disinfecting and fumigating houses in which were or had been contagious and dangerous communicable diseases, smallpox, typhoid fever, scarlet fever, consumption, diphtheria, measles and pneumonia. The board of supervisors refused to allow the claim. It contended that the services rendered were the ordinary services required of a health officer by Section 4460 of the Compiled Laws of Michigan, which were compensated by the salary which it was conceded was provided for the claimant. The Supreme Court thinks that the board's position was well taken. Section 4460 is Section 1 of Act No. 137 of the Public Acts of Michigan of 1883, entitled "An act to specify certain duties of health officers and provide for compensation therefor, in townships, cities and villages where the health officer is not otherwise instructed by the local board of health." Section 4460 specifies the duties to be performed. The same section makes it the duty of the health officer "to disinfect rooms, clothing and premises and all articles likely to be infected before allowing their use by persons other than those in isolation." Section 4462—Section 3 of the act—provides that: "In the fulfillment of the requirements of this act, the health officer, unless other provision shall have been made in accordance with law, shall be entitled to receive from the township, city or village of which he is health officer, compensation at the rate of not less than two dollars per day," etc. It was the plainly expressed object of the statute to specify the health officer's duties and to provide the compensation for the specified duties. The service performed by the claimant was in discharge of a clearly specified duty, and the compensation therefor was provided for in Section 4462, or the provision for a salary "made in accordance with law."

Illegal Physical Examination of Defendant in Rape Case

The Supreme Court of Missouri, Division No. 2, says, in the rape case of State vs. Newcomb (119 S. W. R. 405), where there was evidence that the prosecuting witness had been found afflicted with gonorrhea, that the defendant, while in custody and charged with the crime of rape, and when without counsel, was ordered by the justice of the peace, at the demand of the prosecuting attorney, to submit to a physical examination of his privates by a physician. He was taken into a room of the courthouse, and in the presence of the sheriff was examined by a physician, both of whom testified as to the result of that examination, and as to what they saw during that examination and what they said to him. It was insisted that this was flagrant error and was a conspicuous violation of the constitutional right of the defendant to be exempt from testifying against himself. Some effort was made to show, on the other hand, that the defendant voluntarily consented to this violation of his person, but the court thinks that it was apparent that he simply submitted because he thought he was compelled to do so. When it is considered that he was at the time in custody for this very crime; that the prosecuting attorney demanded an order from the justice for this examination; that the sheriff took the defendant into a private room for the purpose of the examination—it is not strange that the latter thought he was compelled to submit. It is idle to talk of his having consented to this violation of his person. As the court reads the record, he had no option in the matter. The salutary provision of the statute would seem to have been overlooked. The court thinks that all of this testimony of the physician and the sheriff as to this examination should have been excluded. This testimony was incompetent and inadmissible and violative of the defendant's constitutional right not to be compelled to testify against himself. Furthermore, the court holds that, without regard to the legality of the examination, there can be no doubt but that it was error to permit the physician to detail to the jury what he said to the defendant during said examination.

Libel in Unauthorized Testimonial—Representing Physician as Advertising

The Supreme Court of the United States says, in reversing a judgment directing a verdict for the defendant in the libel case of Peck vs. Chicago Tribune Co. (29 S. C. R. 554), that the libel alleged was found in an advertisement printed in the defendant's newspaper, which read: "Nurse and Patients Praise Duffy's. Mrs. A. Schuman, One of Chicago's Most Capable and Experienced Nurses, Pays an Eloquent Tribute to the Great Invigorating, Life-Giving, and Curative Properties of Duffy's Pure Malt Whisky." Then followed a portrait of the plaintiff, with the words, "Mrs. A. Schuman," under it. Then in quotation marks, "After years of constant use of your Pure Malt Whisky, both by myself and as given to patients in my capacity as nurse, I have no hesitation in recommending it as the very best tonic and stimulant for all local and run-down conditions," etc., with the words, Mrs. A. Schuman, and an address at the end, conveying the notion of a signature, or at least that the words were hers. The plaintiff declared that she was not Mrs. Schuman, was not a nurse, and was a total abstainer from all liquors.

The court considers that the plaintiff had a case which it was her right to prove and have go to the jury. It was pointed out that there was no general consensus of opinion that to drink whisky is wrong, or that to be a nurse is discreditable. It might have been added that very possibly giving a certificate and the use of one's portrait in aid of an advertisement would be regarded with irony, or a stronger feeling, only by a few. But it appears to the court that such inquiries were beside the point. If the advertisement obviously would hurt the plaintiff in the estimation of an important and respectable part of the community, liability was not a question of a majority vote. There was some suggestion, to, that the defendant published the portrait by mistake, and without knowledge that it was the plaintiff's portrait, or was not what it purported to be. But that fact, if it was one, was no excuse. If the publication was libelous, the defendant took the risk.

Obviously an unprivileged falsehood need not entail universal hatred to constitute a cause of action. No falsehood is thought about or even known by all the world. No conduct is hated by all. That it will be known by a large number, and will lead an appreciable fraction of that number to regard the plaintiff with contempt, is enough to do the latter practical harm. Thus, if a physician were represented as advertising, the fact that it would affect his standing with others of his profession might make the representation actionable, although advertising is not reputed dishonest, and even seems to be regarded by many with pride. See Martin vs. The Picayune (Martin vs. Nicholson Pub. Co.), 115, La. 979.

Fees Allowed Family Physician

The Appellate Term of the Supreme Court of New York says that the plaintiff in the case of Haas vs. Read (117 N. Y. S. 106) sued to recover $300 for services as a physician rendered between October, 1907, and January, 1908. He resided next door to the defendant, whose wife and child he concededly attended until dismissed by the calling in of another physician. He sent in his bill for $300. The defendant retained it. Three months thereafter, the plaintiff insisting on its payment, the defendant refused on the ground that it was exorbitant.

On the trial the plaintiff testified to 57 visits, of the value of $5 each. The defendant conceded 42 visits, denied any others, and claimed the value of those made to be $2 or $3 each. He placed in evidence a bill rendered to him by the plaintiff for one visit, made in April, 1907, in attendance on Mrs. Read, for which he charged and was paid $4. The defendant's proofs as to the number of visits lacked probative force, while the plaintiff's was corroborated by written memoranda made at the time of each visit. The plaintiff called a specialist in children's diseases, with whom he consulted twice while attending the defendant's child, to prove the value of the plaintiff's services at $5 per visit; but the exceptions to that testimony were well taken, and it must therefore be disregarded. The defendant offered no evidence of other physicians as to said value, so that the plaintiff's testimony on that subject stood practically unchallenged. It may be assumed from the record that the plaintiff's attendance was as a family physician, not as a specialist in children's diseases. It would seem that by his previous charge of $4 he had established with the defendant his fee per visit.

The trial court found that 57 visits were made, at $5 each, and gave judgment for $285. This should be reduced to $228 ($4 a visit).

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

October 9

1 An Appreciation of Evolution and Darwinism. W. B. Konkle, Montoursville, Pa.
2 The Important Pathogenic Protozoa Found in Man. W. M. Kerr, Newport, R. I.
3 *A Danger-Free Method of Using Freshly Prepared Virus (*Virus Fixé*) from the Brain of a Hydrophobic Rabbit. F. Proescher, Pittsburg.
4 Isolated Fracture of the Transverse Process of a Lumbar Vertebra. S. Lange, Cincinnati.
5 Tracheobronchoscopy and Its Merits in Foreign Body in the Bronchus. B. A. Thomas, Philadelphia.
6 Orthodontia as Related to Medicine. S. M. Weeks, Philadelphia.
7 *Practical Test for Indican (Indoxylsulphuric Acid) in Urine. F. C. Askenstedt, Louisville, Ky.
8 Mental Hygiene. C. E. Wood, New York.

3. **Untreated Rabietic Virus.**—The practical value of using fresh *virus fixe* for the treatment depends on a single factor, and that is, that the *virus fixe* used must be absolutely atoxic and avirulent for the human being. In the last two years 40 patients have been treated under Proescher's direction. Some of these patients were bitten by dogs actually proved mad; others by dogs which were only suspected to be afflicted with rabies. No patients have died from hydrophobia and none showed any evidence of intoxication due to *virus fixe*. The first 10 patients were given two injections daily for ten days; 11, one injection daily for ten days, and the last 10 were given daily injections for six days. It is no longer necessary to dry the spinal cord, and at the same time the more virulent brain tissue can be used, thus eliminating the tedious and difficult dissection of the spinal cord. The using of fresh *virus fixe* is very advantageous to both physician and patient as it offers greater security than the old Pasteur method due to the giving of fresh *virus fixe* on the first day, thus losing no time in the immunization with avirulent *virus fixe*, which all authorities agree does not give any protection, but affords time for possible development of rabies. By the method described in this paper, the immunization time is said to be shortened two-thirds, and both trouble and expense are saved.

7. **Test for Indican.**—Askenstedt has evolved from the Obermeyer test a modification which, he says, though still possessing certain imperfections, yet combines the advantages of the ordinary quantitative tests for indican with a greatly simplified technic, rendering it the one best adapted to the requirements and limitations of the medical practitioner. The test is carried out as follows: To 10 c.c. of urine in a test tube add 10 c.c. of the ferric chlorid solution and mix by inverting the tube once; then add quickly 8 c.c. of chloroform, and extract the indigo in formation by shaking the tube 400 times, holding it in a horizontal position. After this let the chloroform fall to the bottom of the tube, then pour off most of the supernatant fluid, fill the tube nearly full with water, invert it a few times to wash the chloroform, and let this again precipitate in the tube, and pour off most of the water. Repeat twice this process of washing, taking care that no chloroform escapes with the wash water, and allowing not more than 2 or 3 c.c. of the last wash water to remain over the chloroform. Now add from 13 to 15 c.c. of alcohol and mix by shaking. A clear blue fluid should result. If hazy, add one or two c.c. more of alcohol until the fluid clears up. Compare the color of this fluid with an equal quantity of a standard solution of indigo blue in the second test tube by holding the two test tubes in front of a white surface. This standard solution is made by pouring into the empty second tube a quantity of water equal to the amount of the fluid in the first tube, and then dropping the stock solution of indigo blue into the water, inverting the tube after each drop, until both solutions have the same amount of blue color. If this requires four drops of the stock solution the percentage is 0.0004; if five drops, 0.0005; if six drops, 0.0006, etc.

The indican extract will often prove slightly greenish. By adding one or more drops of the picric acid solution to the standard solution in the test tube, this can be made to conform to the color of the extract. Albumin or bile in the urine will not interfere with the estimation; sugar reduces it. To compensate for indican not collected by the chloroform and the small amount lost in the washings, add 20 per cent. to the final result. Urine containing 0.002 per cent. or more of indican, or giving a blackish extract, should be diluted with equal quantity of water and retested.

Medical Record, New York

October 9

9 The Development of Gastroenterology in America. J. Friedenwald, Baltimore.
10 *New Method of Catheterizing the Pylorus and Duodenum. M. Einhorn, New York.
11 Clinical Results of Gastroenterostomy. H. W. Bettmann and F. W. White, Boston.
12 Gastric Symptoms and Gall-Bladder Disease. H. Adler, Baltimore.
13 *Cesarean Section in Placenta Prævia. V. E. Marshall, Appleton, Wis.
14 Chronic Varicose Ulcers of the Leg. A. J. Buka, Pittsburg.
15 Trichinosis. L. Dobson, Ashland, Maine.
16 Permanent Blood-Pressure Records. B. W. Foutaine, Memphis, Tenn.

10. **Catheterizing the Pylorus and Duodenum.**—Einhorn again describes the use of his duodenal bucket.

13. **Cesarean Section in Placenta Prævia.**—In Marshall's case there was a central implantation of the placenta in a woman with moderately contracted pelvis, who had had two difficult deliveries of stillborn children, and in whom the Cesarean section was performed in the third pregnancy, in which central placenta prævia existed. The patient was sterilized by tying the tubes. The operation resulted in recovery for the mother and the delivery of a healthy child.

Boston Medical and Surgical Journal

October 7

17 *Study of the Reticulated Red Blood Corpuscles by Vital Staining Methods; Its Relation to Polychromatophilia and Stippling. J. B. Hawes, Boston.
18 The Post-Mortem Diagnosis, Prevalence and Prevention of Rabies. L. Frothingham, Boston.
19 Human Rabies. C. F. Withington, Boston.
20 Varicose Veins of the Leg. H. M. Chase, Boston.
21 *Arteriovenous Anastomosis for Senile Gangrene. J. C. Hubbard, Boston.

17. **Reticulated Red Blood Corpuscle.**—Hawes believes that the condition known as stippling of the red cells and that known as polychromatophilia are probably but different forms of the same process. Reticulated red cells, *"les hematics granuleuses,"* of Chauffard and Feissinger, as shown by simple vital stains, either in temporary or permanent specimens correspond to the stippled or polychromatic cell as seen in the fixed preparation, and are due to the same causes. Owing to the greater delicacy of the vital staining method, the reticulated forms will always be found in considerably greater percentages than stippled or polychromatophilic cells. All these phenomena Hawes regards as evidences of cell regeneration and indications of the activity of the blood-forming organs. Reticulated forms occur in normal blood in slightly less than 1 per cent.; in certain pathologic conditions they may be present up to 22 per cent., or even up to 65 per cent.

21. **Arteriovenous Anastomosis for Senile Gangrene.**—In Hubbard's case the circulation in the foot was sufficiently improved by the operation so that the color of the area, originally purple, changed and became almost normal in appearance, with the exception of the toes. Edema of the leg, which was slight at first, became excessive. It made the leg seem stiff and full to the patient. Coincident with the appearance of this edema, pain, which had decreased since the operation, returned, and from that time on became the most prominent symptom. Hubbard asks: Was this pain due to pressure exerted by the edema on nerves already in an enfeebled condition, or was it due to progress of the nerve changes started by the impending gangrene and not stopped by the apparent improvement in the circulation? He points out that the case demonstrated beyond dispute, for the first time in man, that an anastomosis can be performed which will remain patent for some time. The lesson taught by it is that a single anastomosis between the artery and the vein renders the return of the venous blood too difficult. A complete reversal of the circulation is, therefore, to be recommended. Whether this will prevent edema, and if so, the pain, remains to be seen.

Dominion Medical Monthly, Toronto

September

22 Gastrogenic Diarrhea. G. Chambers, Toronto.
23 Sterility in Women. F. A. Cleland, New York.
24 Glioma of Optic Thalamus. W. C. Heggie, Toronto.
25 Esophagoscopy and Tracheobronchoscopy. D. J. G. Wishart, Toronto.
26 Foreign Body in the Esophagus. D. J. G. Wishart, Toronto.

Bulletin Johns Hopkins Hospital, Baltimore

October

27 Clinical Methods of Investigating Cardiovascular Conditions. L. F. Barker, Baltimore.
28 *Small Epidemic of Jaundice with Symptoms of Gastrointestinal Catarrh. L. F. Barker and F. J. Sladen, Baltimore.
29 Primary Melanotic Sarcoma of the Ovary. M. C. Winternitz, Baltimore.
30 Results of the Injection of Beck's Bismuth Paste in Treatment of Tuberculous Sinuses. W. S. Baer, Baltimore.
31 Bleeding from the Intestinal Tract of an Infant in the Course of Alimentary Decomposition in the Sense of Finkelstein. S. Amberg, Baltimore.
32 Conveniences in Laboratory Technic. R. G. Perkins, Cleveland.

28. **Epidemic of Jaundice.**—Several features of this epidemic are emphasized by the authors. In the first place, the infectious character of the disease was clear. The sudden onset with chill, fever, headache, general muscular pains and leucocytosis are evidence of infection and intoxication. The negative results of blood cultures point to some local infection rather than to a bacteriemia. Secondly, the gastrointestinal features, nausea, vomiting, diarrhea and colicky abdominal pain make the diagnosis of gastroenteritis necessary, and this is in accord with the opinion that food, and probably meat, was the most likely source of the infectious agent. Thirdly, in every case the jaundice was obstructive in type, lasted only from two to three weeks, and exhibited the characteristics of catarrhal jaundice associated with gastroenteritis. A bacterial invasion of the bile passages and even the liver is possible. The finding of tyrosin in the urine of two cases is in favor of this. Fourthly, either water or food (the only things in common in these cases) must have been the source of the infection. The only positive results of the bacteriologic study in the authors' cases suggest the *B. paratyphosus* as the invading micro-organism. Two possibilities present themselves. Either it may be assumed that the bacillus already present in the intestinal tract of several prisoners rapidly multiplied during a period of lowered resistance from unknown cause, or the bacillus was introduced through the food. The sequence of events in these cases was as follows: (1) Ingestion of tainted meat, containing living paratyphoid bacilli; (2) development of a gastroenteritis due to this micro-organism; and (3) the appearance of a catarrhal jaundice due to extension of the gastroenteritis to the biliary passages.

Journal Infectious Diseases, Chicago

September

33 *Milk-Sickness. E. O. Jordan and N. M. Harris, Chicago.
34 The Bacteriology and Pathology of Milk-Sickness. A. B. Luckhardt, Chicago.
35 *Studies on the Chemistry of Anaphylaxis (II). H. G. Wells, Chicago.
36 *Coccidioidal Granuloma and Blastomycosis in the Central Nervous System. N. Evans, Nashville, Tenn.
37 *Toxic and Antigenic Properties of Bacterium Welchii. E. F. McCampbell, Chicago.
38 Influence of Scurvy on Hemorrhages in Plague. W. B. Wherry, Oakland, Cal.

33. **Milk-Sickness.**—Jordan and Harris give a complete review of the literature as to prevalence in early and recent times, symptoms, theories as to nature and other features of milk-sickness, together with full report of the results obtained by them from the examination of recent cases of the disease in cattle and horses (New Mexico) and in human cases (Illinois). The most pronounced lesions found postmortem in cattle are fatty degeneration of the liver and heart muscle; similar changes were found in the single human case examined after death. From practically all the cases of the disease observed by the authors in man and animals they isolated a characteristic aerobic, spore-bearing bacillus—*B. lactimorbi*—which they also found in the soil of so-called milk-sick regions. Injected into and fed to rabbits and guinea-pigs the bacillus has little or no effect. When fed to dogs and cats symptoms and lesions similar to those in animals naturally milk sick were produced. Jordan and Harris do not feel that their facts absolutely establish that this bacillus is the cause of milk-sickness, because, as shown by Luckhardt, the bacillus seems widely distributed, even in regions where the disease has never been known to exist, and from the feces of normal cows. It is possible that where soil or other conditions are especially favorable, strains of the bacillus may assume pathogenic or toxigenic powers.

Luckhardt's observations indicate that the bacillus may occur more commonly on certain plants than on others. In view of the rarity of material available for the study of this disease, the facts recorded will be of value to others who come across the malady from time to time.

35. **Chemistry of Anaphylaxis.**—The experiments indicate that proteins cannot be decomposed much, if any, beyond the coagulable form without losing their anaphylactic properties. In order to establish the reaction of anaphylaxis, intact protein molecules in soluble form are necessary. It seems that ovomucoid may have a specific anaphylactic action, reacting only with itself, a form of specificness not conclusively demonstrated in other biologic reactions. Ovomucoid remains active even after being heated several hours at or near the boiling point and after being precipitated with alcohol, so that it is evident that heat affects the anaphylactic properties of proteins only when it renders the proteins insoluble.

36. **Granuloma and Blastomycosis in Central Nervous System.**—The lesions in the central nervous system in a case of coccidioidal granuloma are reported. Microscopically, they resembled very much those of tuberculosis, but tubercle bacilli were not found, while typical encapsulated and sporulating fungi were present. The indications are that the nervous lesions in coccidioidal disease have a predilection for the pia mater, while the nervous lesions in systemic blastomycosis tend more to involve the deeper tissues.

37. **Properties of Bacterium Welchii.**—The toxic substances of *B. welchii* (*B. aerogenes capsulatus*) are not true bacterial toxins, but products of the bacterial cells capable of generating organic acids, and in infections these acids act as toxic agents. Butyric acid of the same acidity as the cultures of the bacillus produces the same effect. The hemolytic and leucocytotoxic action of the bacillus is also due to organic acids. Opsonin and bactericidal substances for *B. welchii* are present in normal rabbit serum and may be increased on immunization, which also gives rise to agglutinins and precipitins. In test-tube experiments only, little phagocytosis of the bacillus takes place unless the bacteria are first washed free from the organic acid, beause the acids neutralize the opsonins in the serum and also cause marked changes in the leucocytes. The proteins of *B. welchii* give the anaphylaxis reaction. As shown by Holst, guinea-pigs, when kept on a one-sided diet consisting of different sorts of grain, groats or bread, may die in eighteen days or so from a disease that corresponds macroscopically and microscopically to human scurvy. Wherry's experiments were made with guinea-pigs rendered scorbutic in this way, and he found more hemorrhagic extravasation in such scorbutic animals than usually is seen otherwise. Hence, plague and scurvy in the same person might lead to excessive hemorrhage.

The Proctologist, St. Louis, Mo.

September

39 Progress in Proctology. G. B. Evans, Dayton, Ohio.
40 Review of Proctologic Literature from May, 1908, to May, 1909. S. T. Earle, Baltimore, Md.
41 *Operation for Pruritus Ani. T. C. Martin, Washington, D. C.
42 Treatment of Pruritus Ani. W. M. Beach, Pittsburg.
43 *Pruritus Ani. T. C. Hill, Boston.
44 *Ball's Operation in Pruritus Ani, with Report of a Case in which Necrosis of the Flap Occurred. L. J. Krouse, Cincinnati.
45 Prophylaxis and Treatment of Cicatricial Rectal Stricture. A. B. Graham, Indianapolis, Ind.
46 Spinal Anesthesia in Rectal Surgery. C. F. Martin, Philadelphia.
47 *Vaginal Anus in the Adult. L. J. Hirschman, Detroit.
48 Tuberculous Fistula, with Very Extensive Infiltration. S. T Earle, Baltimore.
49 Fistulas in the Posterior Anal Commissure. J. C. Brick, Philadelphia.
50 Abdominal Massage as a Means of Relief in Chronic Constipation. T. L. Hazzard, Pittsburg.
51 Intestinal Autointoxication; Its Treatment by Irrigation. W. L. Dickinson, Saginaw, Mich.
52 Perirectal Abscess. J. A. MacMillan, Detroit.
53 Diseases of the Colon Due to Extra-Intestinal Causes, with Special Reference to Membranous Colitis. A. B. Cooke, Nashville.
54 Necessity for Routine Examination of the Rectum in Intestinal Diseases. D. H. Murray, Syracuse, N. Y.
55 *Ball's Operation for Internal Hemorrhoids. G. W. Combs, Indianapolis.
56 The Test-Diet, Nitrogen and Sulphate Partitions as an Aid to Diagnosis, in Intestinal Disturbances. J. M. Lynch, New York.
57 Primary Gonorrhea of Rectum in the Male. A. J. Zobel, San Francisco.
58 Multiple Adenomata of the Rectum. J. P. Tuttle, New York.
59 Surgical Treatment of Diarrhea and Description of New Cecostomy which Permits Free Irrigation of Both the Small and Large Intestine. S. G. Gant, New York.
60 Anomalous Sigmoids. A. Hebb, Baltimore.
61 Nevus of Anal Region with Report of Case Associated with Internal Hemorrhoids. L. H. Adler, Philadelphia.
62 Technic of Injection Treatment for Internal Hemorrhoids. E. A. Hamilton, Columbus, Ohio.
63 Appendicostomy as an Aid to the Treatment of Malignant and Intractable Dysentery. J. L. Jelks, Memphis.

41. **Anal Pruritus.**—Martin has modified the Ball operation in the following points: The use of a solution of cocain and adrenalin secures local anesthesia and a dry visible field for dissection. Radiating incisions do not endanger the nutrition of the parts. The corrugations of such flaps may be effaced by traction on their margins. A skin-tag may be removed within an elliptic incision, which by suture may be given a linear form. Radiating wounds require no suture, coaptate automatically when the patient is in extension and heal by first intention.

43. **Id.**—Hill advises instructing the patient to cleanse thoroughly the anal region after defecation, preferably with absorbent cotton soaked in some antiseptic solution, and then wrung dry. The parts should be protected from friction and the irritation of the discharge by wearing day and night an anal pad held in place by a T-bandage. The pad is best made with absorbent cotton wrapped with but one thickness of sterilized gauze. Too many thicknesses of gauze when ointments are used absorb the greasy portion of the ointment, and shortly the anal region becomes dry and coated, with only the irritating mineral ingredients left. The methods of applying and removing ointments are such important details that in the first few weeks of treatment the patient should be seen daily by the surgeon. To instruct the patient to use some of the ointment, morning and night, is not enough. Those cases in which the dermatitis is acute (eczema ani), accompanied by many excoriations from scratching and rubbing, require applications and ointments of a soothing and protective nature. In this latter class, in which the secretions are increased, Hill has found the *x*-ray of marked benefit. However, in the class of patients who are especially referred to here, the skin is nearly always tough and leathery and covered with dead and sodden epithelium. The problem in these cases is to bring about a gradual destruction of this newly formed epidermis, without too much inconvenience to the patient, and no agent, he asserts, serves the purpose better than nitrate of silver and citrin ointment applied as suggested by Adler.

It has been Hill's experience that in those cases in which the skin was considerably thickened and tough, the saturated solution of silver is more satisfactory. On the third day after its application, by placing hot fomentations over the anus for a few minutes, a layer of exfoliated epithelium may be removed almost *in toto*.

44. **Id.**—In order to derive the full benefit of Ball's original operation and still maintain the vitality of the flap, it is imperative that the flap dissected from the underlying tissue should receive its blood supply from the vessels coming from the skin; and that the circulation should be as abundant as possible. Krouse accomplishes this by making from 6 to 8 linear incisions through the skin and subcutaneous connective tissue. These linear incisions, beginning at a point outside of the point of irritation, follow the course of the radii of a circle whose center is the anal canal. The skin lying between the adjacent radii is then undercut until the whole affected area is undermined. Should the dissection be difficult, and more room be needed, then every alternate flap could be loosened at the anal margin and dissected outward toward the periphery. After all the adhesions are loosened and the bleeding has been stopped, the parts are again replaced and sutured.

47. **Vaginal Anus in the Adult.**—Hirschman suggests from his experience with two cases in the adult, that infants born with imperforate ani, in whom some abnormal outlet for the feces is present, it is far better to allow the patients to go on in their abnormal condition, until they grow old and strong enough for surgical interference and the correction of Nature's failure.

55. **Ball's Operation for Internal Hemorrhoids.**—The results obtained by Combs with Ball's operation have not been so favorable as those that should follow the procedure, in the author's opinion. He found that the postoperative pain is greater than after the usual ligature or the clamp and cautery method. The duration of the healing period is not shortened because of the sloughing of the ligature from either the skin-ring or the pedicle before union takes place, leaving the wounds to heal by granulation. There is a necessity for unusual watchfulness that all ligatures may be removed as they slough. Failing to secure primary union, skin-tabs frequently remain for subsequent removal. No time is saved by this modification of the ligature operation. There is danger of secondary hemorrhage from an early tearing off of the pedicle by traction.

Western Medical Review, Omaha

September

64 Obstetric Anesthesia. F. A. Butler, Harvard, Neb.
65 Hay Fever. W. R. Hobbs, Omaha.
66 Lessons of the International Tuberculosis Congress, 1908. K. R. J. Edholm, Omaha, Neb.
67 Latest Phases of Vaccine Therapy in Pulmonary Tuberculosis. J. H. Tyndale, Lincoln, Neb.

Montreal Medical Journal

September

68 Cancer of the Prostate. J. Bell, Montreal.
69 *Cyst of the Wall of Carotid Artery. A. Freedman, Montreal.
70 Analysis of Two Hundred Autopsies on Infants. J. McCrae, Montreal.
71 Treatment of Prostatic Obstruction. G. S. Gordon, Vancouver, B. C.

69. **Cyst of Wall of Carotid Artery.**—Freedman's patient died of acute lobar pneumonia. The autopsy which was performed three and a half hours after death, revealed the following pathologic conditions: acute left-sided lobar pneumonia, generalized arteriosclerosis, arteriosclerosis of coronaries and peripheral vessels, fatty change of the intima of the pulmonary artery, fatty and calcareous degeneration of the aorta, fibrosis of myocardium, calcification of papillary muscles, chronic interstitial nephritis and chronic mitral endocarditis. The generalized arteriosclerosis was of moderate grade, and affected not alone the aorta, but also the smaller vessels of the muscular type. In the right common carotid, at a distance of 2.5 cm. from its origin, and lying in a portion of the artery which showed few degenerative changes, was a small cyst with gelatinous contents occupying the middle zone of the arterial coat. The cyst was oval in shape, with its long axis running parallel to the direction of the vessel. The cyst lay on the anterior side of the artery, and from the inner surface of the vessel it was seen to project above the general level of the intima. Similarly when viewed from without, there was a definite bulging of the arterial coat in the adventitia. The intima covering the cyst was quite smooth and free from atheromatous or endarteritic change. Likewise, there was no evidencee of disease or of a neighboring inflammatory process on the external surface of the artery. The adventitia covering the cyst was quite pale and similar to the tissues in the neighborhood. On opening the cyst, it was found to contain a gelatinous semisolid substance, looking not unlike the colloid material of the thyroid. This material was of such consistency that it remained *in situ* after the cyst was bisected.

The inner and outer walls of the cystic cavity were formed by the arterial coats and were of about equal thickness. There was no evidence of a thinning of the vessel coats and the combined thickness of the inner and outer walls of the cyst was about equal to that of the wall of the carotid on either side of the cyst. Freedman claims this the only case of the kind on record.

Wisconsin Medical Journal, Milwaukee

September

72 *Pseudocoxalgia Relieved by Suggestive Therapeutics. R. Dewey, Wauwatosa.
73 Intravenous Therapy. A. N. Baer, Milwaukee.
74 Discussion of the Suicide Problem. A. W. Rogers, Oconomowoc.
75 *Conservative Surgery of the Ovaries. J. M. Dodd, Ashland.

72, 75. Abstracted in The Journal, Aug. 7, 1909, p. 480.

Archives of Pediatrics, New York

September

76 A Few of the Things a Pediatrician Should Teach. P. J. Eaton, Pittsburg.
77 Scarlet Fever, Rubella Scarlatinosa, and So-Called Duke's Disease. D. J. M. Miller, Atlantic City, N. J.
78 Relation of Duodenal Ulcers to Atrophic Conditions of Infants. H. F. Helmholz, Chicago.
79 *Bacterial Vaccines in Children's Diseases. B. R. Hoobler, New York.
80 Sarcoma of Kidney. J. F. Bell, Englewood, N. J.
81 Status Lymphaticus. G. R. Satterlee, New York.
82 Empyema: Report of Two Cases. O. M. Schloss, New York.

79. **Bacterial Vaccines in Children's Diseases.**—Hoobler records the results obtained in the use of autogenous vaccines in 8 cases, each representing a general type of infection, in which he has used vaccines, but his conclusions are based on the outcome of all the cases on which he has used the vaccine treatment successfully. The paper reports the following cases: 1. Chronic bronchitis, following whooping-cough, complicated by acute purulent otitis media. 2. Bronchopneumonia, delayed resolution. 3. General rheumatic infection. 4. Septic infection after operation for double mastoid. 5. Streptococcic empyema following lobar pneumonia. 6. Streptococcic septicemia following acute purulent otitis media. 7. Furunculosis, complicating lobar pneumonia. 8. Furunculosis following infection from hypodermic injections. Hoobler claims for vaccines a place in the therapy of certain infective processes in children, which, until now, have resisted nearly all surgical or medical measures.

Detroit Medical Journal

September

83 The Laboratory as an Aid in Diagnosis. J. Sill, Detroit.
84 Mental Development of the Child and the Public School Curriculum. A. W. Ives, Detroit.
85 Talipes Equinovarus; Report of Case. V. L. Smith, Detroit.
86 Technic of Removal of Tonsil in Capsule. J. E. Gleason, Detroit.

Journal Arkansas Medical Society, Little Rock

September

87 *Duration of Treatment of Syphilis. E. C. Hay, Hot Springs.
88 Present Status of the *Spirochæta Pallida*. T. E. Sanders, Hot Springs.
89 Laboratory Diagnosis of Syphilis. E. P. Bledsoe, Little Rock.
90 Venereal Prophylaxis. G. O. Hebert, Hot Springs.
91 Tuberculosis. W. Crutcher, Pine Bluff.
92 Psychic Phenomena. J. Z. Sexton, Siloam Springs.

87. **Duration of Treatment of Syphilis.**—Hay says that the thorough and complete treatment of syphilis comprises methodical, intensive and prolonged administration of mercury, assisted with strict hygienic precaution, from the fifth to the twelfth year; complementary courses of treatment repeated every six or twelve months are necessary, and this treatment is not only curative but preventive. A properly treated patient usually escapes with slight secondary manifestations and his liability to later tertiary and parasyphilitic affections is notably diminished. In 95 patients thus treated the tertiary period remained mute and inoffensive. The offspring of these patients is practically immune in respect to heredosyphilis, and the women cease to be liable to repeated abortion.

Old Dominion Journal of Medicine and Surgery, Richmond

September

93 The County Medical Society. W. E. Driver, New Market, Va.
94 Indicanuria. H. B. Hiatt, Ashboro, N. C.
95 *Sarcoma of Upper Jaw, Cheek and Orbit. Removal of Half the Face. Anesthesia Administered by Rectum. G. P. LaRoque, Richmond, Va.
96 Operating Room Technic. E. H. Beckman, Rochester, Minn.
97 *Prevention of Nausea, Vomiting and Pneumonia Following General Anesthesia. L. F. Watson, Oklahoma City, Okla.

95. **Sarcoma of the Upper Jaw.**—LaRoque mentions a dressing which he employs after the removal of the superior maxilla to substitute for the dental plate while this structure is being made, and thus allow the patient to take sufficient food and to speak distinctly. The dressing consists of an ordinary gauze strip about one inch wide and 12 inches long. About 6 inches of this strip are placed in hot paraffin so that the meshes will be impregnated by this substance. The paraffin is then allowed to cool and the other end of the strip is lightly packed into the wound while the paraffin end is moulded so as to form a sort of hard palate.

97. **Prevention of Nausea.**—Watson urges the patient to drink an abundance of water for two days preceding the operation, and receive saline enemas every few hours after the operation, to lessen the thirst, nausea and shock. When not contraindicated by the operation, he says that it is sometimes advisable when ether mucus has been swallowed to allow the patient to drink all the water desired as soon as consciousness returns; if this is vomited, the stomach is washed out, and if it is retained the ether mucus is diluted. Another method advocated by Kelly that is often successful in preventing nausea and vomiting following ether narcosis, is to wash out the stomach thoroughly at the conclusion of the operation and then leave in the stomach 6 ounces of a saturated solution of magnesium sulphate.

Iowa Medical Journal, Des Moines

September

98 *Strangulated Hernia with Suspicious Gut: A Suggestion for Treatment. D. Macrae, Council Bluffs.
99 Local Cocain-Adrenalin Anesthesia. J. C. Hancock, Dubuque.
100 Necessary Failures in Brain Surgery. L. L. McArthur, Chicago.
101 Acute Pancreatitis. D. C. Brockman, Ottumwa.
102 Appendiceal Cyst. J. L. Crawford, Cedar Rapids.
103 Treatment of Acute Insanity. S. Brown, Chicago.
104 Surgical Treatment of Gastric Ulcer. O. J. Fay, Des Moines.

98. **Strangulated Hernia.**—When the gut is dark and suspicious Macrae makes an incision two inches long at the lower external border of the rectus muscle, draws the intestine out through this and wraps it in a towel or gauze wrung out of hot normal salt solution. The bowel is kept warm by repeated changes of gauze by an assistant while the operator proceeds with the operation for radical repair at the original site of the hernia. Much time is saved by this method by reason of the fact that no time is lost in the often tedious attempts made to determine the vitality of the gut. If after the operation for hernia is over, the gut is

found to have completely recovered, it may be returned and the second wound rapidly closed. On the other hand, if resection is demanded, it may be done more easily and thoroughly through the second opening, without interfering with the recovery of the original hernial site, which, if infected by the resection, is a most disagreeable complication. When the gut is absolutely gangrenous, with ulcerating areas, the intestine is drawn out until the normal healthy tissue presents, then tied off with strong silk, leaving the ends long. The dead portion is cut away, ends of the gut cauterized with carbolic acid and alcohol, hemorrhage controlled, and parts thoroughly cleansed. After a change of gloves, or rescrubbing, an incision is made, the same as described above, at the border of the rectus. The long ends of the silk are caught in forceps inserted through the second incision and the gut is drawn out through the latter. Macrae then proceeds to do a radical operation for hernia. In this class, however, he always provides two or more avenues for drainage. Attention is now directed to the bowel stump, general condition of the peritoneum, arterial pulsation of the mesentery, and other complications which may be present. When satisfied that the peritoneum is not sufficiently infected to cause trouble, the gut is united by any method most satisfactory to the individual surgeon.

Pennsylvania Medical Journal, Philadelphia

September

105 *Factors Influencing the Coagulation Time of the Blood. M. Solis-Cohen, Philadelphia.
106 Relations Between Blood Diseases and the Digestive Tracts. R. S. Lavenson, Philadelphia.
107 Two Hundred Surgical Cases in 1907, with Special Reference to Accidents, Errors and Results. C. E. Thomson, Scranton.
108 *Exstrophy of the Bladder Treated by Extraperitoneal Implantation of the Ureters into the Rectum: End-Results of Intestinal Implantation. J. J. Buchanan, Pittsburg.
109 Plea for a Stronger Effort to Acquaint Women with the Early Symptoms of Cancer of the Uterus. R. F. Woods, Philadelphia.
110 *Buried Catgut and a Subcuticular Stitch—in Plastic Operations on the Perineum. B. M. Anspach, Philadelphia.
111 Dysmenorrhea, Cervicismus as a Cause. C. E. McGirk, Philipsburg.
112 *Treatment of Fracture of the Patella. F. LeMoyne, Pittsburg.
113 Aërophagia. J. J. Gilbride, Philadelphia.
114 Pancreatitis. C. R. Jones, Pittsburg.
115 Peripheral Facial Palsy of Syphilitic Origin. A. Gordon, Philadelphia.
116 Chromocystoscopy in Functional Renal Diagnosis Based on the Employment of Indigocarmin. B. A. Thomas, Philadelphia.
117 Medical Organization and Postgraduate Work. G. D. Nutt, Williamsport.
118 Medical Inspection of Public Schools. C. S. Rebuck, Harrisburg.

105. Abstracted in The Journal, Oct. 31, 1908, p. 1542.

108. A similar article was published in *Surgery, Gynecology and Obstetrics*, February, 1909.

110. **Subcuticular Stitch.**—In using the stitch employed by Anspach any form of perineoplasty may be selected; the only modification required is to insert and bring out the perineal sutures just inside the peripheral limits of the denuded area. After the sutures are tied and the ends are cut short, the skin is united over them with a running subcuticular stitch. It is important to use well-prepared catgut, of medium size, which will not be absorbed in less than two weeks. The commercial chromic gut answers very well. Formalin-cumol gut is the ideal suture material. A finer size should be used for the subcuticular suture, but it must be 8 or 10 day gut. For this reason the ordinary cumol preparation will not do. The perineum is cleansed daily with sterile water. There is no need for the careful drying and powdering which external sutures usually require. The patient does not complain of the discomfort which tied or knotted sutures often occasion; there are no sutures to remove; the case is virtually out of the surgeon's hands when the operation is completed.

112. **Fracture of the Patella.**—LeMoyne emphasizes that satisfactory adjustment may be accomplished in the majority of cases by drilling the fragments in an oblique direction, so that the wire shall not enter the joint. In single fractures, one loop of wire will be sufficient in whatever direction the fracture line may be. In multiple fractures additional wires will be necessary. The unguarded points of the wires are liable to become engaged in the cavities of the cancellated structure which may be partially avoided by applying a small drop of solder to each point. Ample exposure of the fragments by suitable incisions and retractions of the soft tissues must be provided. Holes should be drilled for the wires, entering near the border of the internal surface of each fragment and passing in an oblique direction to terminate in the fracture surface, near the edge of the articular face; two being placed in each fragment of a single fracture, parallel to each other and about one-half an inch apart. The terminals of such holes in each fragment should correspond in their location as nearly as possible with those in the other. A loop should be made of annealed iron wire, with branches of equal length; the Malgaigne hooks with long curves, or some similar appliance, may be used to facilitate approximation during the tightening and twisting of the wire.

Southern Medical Journal, Nashville

September

119 *Therapeutic Administration of Tuberculin to Wage-Earners. P. H. Ringer, Asheville, N. C.
120 Modern Advancement in Genitourinary Surgery. P. Bromberg, Nashville.
121 Nephrolithotomy. M. Simons, Charleston, S. C.
122 Plea for Operative Cure of Hernia, and Employment of Cocain Anesthesia. G. P. La Roque, Richmond, Va.
123 *Multiple Symmetrical Lipomata. H. P. Cole and G. J. Winthrop, Mobile, Ala.
124 Morbus Coxarius, or Hip-Joint Disease. C. F. Anderson, Nashville.
125 Tonsillectomies. H. H. Martin, Savannah, Ga.
126 Spontaneous Occurrence of Cardiovascular Diseases in the Dog. W. de B. MacNider, Chapel Hill, N. C.
127 *Psychic Phenomena. J. Z. Sexton, Siloam Springs, Ark.

119. **Administration of Tuberculin to Wage-Earners.**—Ringer believes that it is in wage-earners that tuberculin has one of its most useful fields. Its administration, begun on the foundation laid by a strict regimen of hygiene and diet, finds the body at the outset in a receptive and comparatively well-prepared condition. Continued with moderation and with care, unhampered by the necessity for haste, aided and abetted by the constant physical supervision of the patient, finally sustained by short supplementary courses, it becomes the most potent medicinal agent in preserving the health and strength that have been restored by those three great surpassers of all specific medication: rest, fresh air and good food.

123. **Multiple Symmetrical Lipomata.**—Twelve years ago, the patient, a medical student, developed a skin eruption. This disappeared and reappeared at intervals for eight years, and was last seen four years ago. The patient recognized the disease as psoriasis. Shortly after the disappearance of the skin lesions, he noted numerous small masses under the skin. He complained of no discomfort or irritation from the presence of these tumors. The tumors had a tendency to disappear on massage, and some to reappear. Two on the abdomen disappeared permanently. The patient was a very well-developed muscular individual. There was considerable subcutaneous fat over the entire body. With the exception of the tumors the examination presented nothing abnormal or bearing on the pathologic condition. At the junction of the middle and lower thirds of each thigh in the anterior median line there was a subcutaneous tumor, ovalshaped, semisolid to the touch. The tumor was apparently fixed to the subcutaneous fascia, and was movable only with the skin. Each tumor was about 3x5 cm. in size; the long axis of the tumors lay in the long axis of the body. Two inches above, and two inches to the inner side of each tumor was a similar tumor at exactly symmetrical points in each thigh. These were slightly smaller and lie in the same axis. At the junction of the upper and middle thirds of each thigh on the anterior surface there was a similar tumor at symmetrical points. Each was about 2x4 cm. They lay in the long axis of the body. On the posterior surface of each thigh at the upper angle of each popliteal space there was a similar tumor, slightly smaller in size, same axis. One inch above each tumor in the popliteal spaces was a similar tumor, slightly smaller in size, same axis. On the posterior surfaces of the two thighs there were also six tumors arranged in three pairs at symmetrical points and lying in the same axis. One of the tumors was removed under cocain anesthesia for purpose of diagnosis. The tissue consisted of a lobulated mass 1x3x5 cm., and presented the typical gross and microscopic appearance of a lipoma.

127. Published in the *Journal Arkansas Medical Society* September, 1909.

Archives of Internal Medicine, Chicago

September

128 *Effects of Cutting the Branch of the His Bundle Going to the Left Ventricle. L. F. Barker and A. D. Hirschfelder, Baltimore.
129 *Experimental Parotitis. I. C. Herb, Chicago.
130 *Unusual Lesions of the Lymphatic Apparatus. D. Symmers, New York.
131 Sphygmographic Study of Case of Complete Heart-Block. G. Bachmann, Philadelphia.
132 *Effects of Administration or the Withholding of Iodio-Containing Compounds in Normal Colloid or Actively Hyperplastic (Parenchymatous) Thyroids of Dogs. D. Marine and C. H. Lenhart, Cleveland, Ohio.
133 *Observations on a Child with a Gastric Fistula in Relation to Recent Advances in Physiology of Gastric Digestion. R. S. Lavenson, Philadelphia.
134 Absence of Adrenalin in Malignant Renal Hypernephromas. J. R. Greer and H. G. Wells, Chicago.

128. **Cutting Branch of His Bundle.**—In all, 14 operations were performed by Barker and Hirschfelder, in 5 of which the left branch of the His bundle was cut without injury to the right. In all but one of the successful experiments this was followed by complete atrioventricular heart-block, but both ventricles contracted synchronously. The rhythm was the slow, regular, independent ventricle rhythm. In these experiments several cuts were made, and the heart stopped beating after a few minutes, so that it cannot be stated whether the complete block was due to the section of the branch and the trauma to the entire bundle, or was merely a terminal phenomenon. In one experiment, however, in which only a single cut was made, the ventricular rate remained entirely unchanged and no block was present. The heart continued to beat vigorously even after removal from the body. The left branch of the atrioventricular bundle was cut through, but the septum was not pierced and the right branch was absolutely intact. It would appear, therefore, that the His bundle plays little, if any rôle in the coordination of the two ventricles. The muscular bridge between the two chambers is formed by the entire musculature of the heart wall, and hence there is no such narrow connection as is present between atria and ventricles at which a block might be produced. It seems more probable that any such incoordination, if present, would be between the different layers of muscle fibers common to the walls of both ventricles, rather than between the two ventricles themselves, and that in some cases of apparent hemisystole seen in animals just before the heart stops beating (and after the circulation has ceased) the outer layer of fibers in one ventricle has stopped beating while the outer layer of the other (inner layer of the first) continues to beat for a few minutes longer.

129. **Experimental Parotitis.**—The principal, distinguishing or characteristic features of a diplococcus isolated by Herb from a case of mumps are the following: Gelatin is very slowly liquefied. In broth a slight cloudiness is produced in twenty-four hours; later a tenacious deposit forms in the bottom of the tubes. Milk is soured in twenty-four hours and coagulated in forty-eight hours. Potato produces a grayish-white abundant growth. Agar cultures show pearly white, tenacious, pin-point, round, discrete colonies. There is no production of indol. The organism occurs most frequently as a diplococcus, occasionally in small groups or chains of from four to six elements. It is non-pyogenic. When injected into Steno's duct in monkeys and dogs this diplococcus causes a diffuse non-suppurative parotitis, the infiltration being composed of mononuclear cells, and occasionally also orchitis of a similar character. In one case of human mumps (the only one studied) a similar rise of the opsonic index for this organism took place. Herb believes that there is consequently good reason to regard this diplococcus, which corresponds well with the description given by Laveran and Catrin of the diplococcus isolated by them from cases of mumps, as the actual cause of mumps and the disease produced in dogs as genuine experimental mumps.

130. **Hodgkin's Disease and Pseudoleukemia.**—In view of the doubtful etiology of Hodgkin's disease and the several synonyms which have been incorrectly applied, Symmers suggests the term "Hodgkin's granulomatous lymphoma" for the usual one of "Hodgkin's disease," because it designates the type of tissue in which the disease commences, the initial changes by which it is characterized, and the secondary changes that occur in the course of its development, while it reserves to Hodgkin the recognition that is due him. At all events, it is scarcely justifiable to employ the term "pseudoleukemia" as a synonym for "Hodgkin's disease," since the two processes, when fully developed, are readily separable and present totally different histologic alterations. From microscopic studies Symmers is convinced that there is a primary splenic form of Hodgkin's disease, and that the abdominal lymph nodes may be the seat of origin. The histogenesis of Hodgkin's disease, both in the lymphatic system proper and in the viscera, appears to be conceived in the formation of lymphomatous foci, while the characteristic granulomatous changes are sequential.

132. **Iodin in Thyroids.**—Marine and Lenhart summarize the results of their experiments as follows: 1. The tendency of all active hyperplasias is to revert spontaneously to colloid glands, and this change is hastened or delayed by the presence or absence of iodin. The amount of iodin given is of little consequence in normal and colloid glands, but is of the greatest significance in the active hyperplasias. 2. The ability of the glands to take up iodin does not depend so much on the form, mode or amount of its administration as it does on the degree of active thyroid hyperplasia. 3. There is a minimum amount of thyroid tissue below which iodin does not protect against compensatory hyperplasia. This limit is roughly the same whether colloid or normal gland.

133. **Gastric Fistula.**—Lavenson states that the importance of psychic stimuli in the production of gastric juice as determined by Pawlow and others in animals applies equally well to man. These psychic stimuli may be classified as positive and negative. Positive psychic stimuli are those which induce a flow of gastric juice. Negative psychic stimuli are those which inhibit or annul a gastric secretion. Psychic stimuli, both postitive and negative, may originate in the higher mental processes as memory and imagination, or, as is more usual, they may come from without and influence gastric secretion by appealing to any one of the five senses. Those stimuli which influence gastric secretion by appealing to the senses of taste or smell may be called direct psychic stimuli; those that act through the other senses or originate in higher mental processes may be called indirect or associated psychic stimuli. This dependence of gastric secretion on psychic processes and stimuli permits the formulation of the statement that appetite is the emotional expression of the group of phenomena of which the secretion of gastric juice is the psychic expression. The mechanical act of chewing seems to be powerless to induce a secretion of gastric juice; if the act of chewing becomes mentally associated with the process of eating agreeable food it probably is capable of inducing a flow of gastric juice. The human stomach appears to behave in the same way toward chemical stimuli as does the dog's stomach. Water is a definite though not a powerful stimulus to gastric secretion. Hydrochloric acid is not a stimulus to gastric secretion. Egg albumin does not induce the secretion of any more gastric juice than does an equal amount of water. The same is true of tea and commercial preparations of pepsin. Beef extracts are powerful stimuli to the secretion of gastric juice. Bitter stomachics, though of themselves incapable of inducing a secretion of gastric juice, when administered previous to a substance which does induce a secretion of gastric juice, are capable of increasing this secretion. In other words, they may be looked on as sensitizers of gastric secretion. This sensitizing action is manifested when the stomachic is introduced directly into the stomach or when it merely remains for a time in the mouth and pharynx. Its action seems to be more powerful in the latter case than in the former. From the observations Lavenson made on the effect of the introduction of acid and alkaline solutions into the stomach it appears probable that the predominating influence in the control of the periodic opening of the pylorus is exerted by the chemical reaction of the contents on the duodenal side of the pylorus. Though the chemical reaction prevailing on the gastric side of the pylorus is of importance in the pyloric mechanism, it is distinctly subordinate to that on the duodenal side. This hypothesis explains the slow discharge of gastric contents of high acidity and the more rapid discharge of gastric contents of low acidity.

International Clinics, Philadelphia

Volume III, Nineteenth Series

135 Treatment of Tuberculosis. A. P. Francine, Philadelphia.
136 Present Position of Antitetanic Serotherapy. L. Lagane, Paris, France.
137 Mesmer and Perkin's Tractors. D. Waterson, Baltimore.
138 Clinical Observations in 500 Cases of Typhoid. J. H. Barach, Pittsburg.
139 Graves' Disease, Raynaud's Disease, and Some of the Allied Forms of Vasomotor Disorder (Vasomotor Ataxia). S. S. Cohen, Philadelphia.
140 Gonococcus Septicemia. G. Dieulafoy, Paris, France.
141 Women in Medicine. J. J. Walsh, New York.
142 Association of Migrating Thrombophlebitis with Thromboangeitis Obliterans. L. Buerger, New York.
143 Exophthalmic Goiter from the Standpoint of the Clinical Surgeon. A. J. Ochsner, Chicago.
144 Post-Operative Complications. D. N. Eisendrath and D. C. Straus, Chicago.
145 Pathology and Surgical Treatment of Bilocular Stomach. C. G. Cumston, Boston, Mass.
146 Early and Complete Resection of Varicose Veins of Leg. O. Alglare, Paris.
147 Cases at the Samaritan Hospital for Women, Montreal. A. L. Smith, Montreal.
148 Constitutional Treatment of Chronic Pelvic Diseases. C. D. Palmer, Cincinnati.
149 Congenital Joint Deficiencies. C. H. Muschlitz, Philadelphia.
150 Hirschsprung's Disease. P. S. Potter, North Adams, Mass.
151 Unforeseen Death in Scarlet Fever. Drs. Gouget and Dechaux, Paris.
152 Radiographic Examination of the Gastrointestinal Tract from a Practical Standpoint; in Connection with Diagnosis and Treatment of Gastroenteroptosis. H. K. Pancoast, Philadelphia.
153 Intracranial Complications of Acute and Chronic Suppurative Otitis Media. E. B. Dench, New York.
154 Neuropathology in Childhood, with Consideration of Pathologic Factors in Some Cases of Retarded Mental Development. D. J. McCarthy, Philadelphia.
155 Chronic Constitutional Headaches. T. Diller, Pittsburg.
156 Interstitial Keratitis. I. Lederman, Louisville, Ky.
157 Exotic Dysentery. P. G. Woolley, Omaha.

American Journal of Public Hygiene, Boston

August

158 Principles of Smokeless Combustion. E. S. Hallett, St. Louis.
159 Pollution of the Great Lakes. J. A. Amyot, Toronto.
160 *State Control of Public Water Supplies. C. O. Probst, Columbus, Ohio.
161 Water Problem of Illinois and Neighboring States. E. Bartow.
162 Water Problems of the Middle West. R. J. Manion, Fort William, Ont., Canada.
163 Diseases Found in the Interior of the Northwest of Canada. J. H. O'Donnell, Winnipeg, Man., Canada.
164 Commercial Pasteurization of Milk. B. R. Rickards, Columbus, Ohio.
165 Routine Counts of Bacteria in Water Supplies. K. F. Kellerman and H. A. Whittaker.
166 Determination of Nitrates by Reduction with Aluminum. E. Bartow and J. S. Rogers.
167 Certain Paracolon Forms Found in Polluted Deep Wells. E. B. Phelps and F. S. Hammond, Trenton, N. J.
168 Aesculin Bile Salt Media for Water Analysis. F. C. Harrison and J. Van Der Leck.
169 Aesculin Bile Salt Media for Milk Analysis. F. C. Harrison and J. Van Der Leck.
170 Relative Proportion of Bacteria in Top Milk and Bottom Milk. J. F. Anderson, Washington.
171 Some Freak Results from Animal Inoculations. B. L. Arms, Boston.
172 Investigation to Find the Most Economic Ratio of Permanganate to Formaldehyd for Use in Practical Permanganate Formaldehyd Disinfection. H. W. Hill and M. G. Roberts, St. Paul.
173 Longevity of *B. Tuberculosis* in Sputum. B. R. Rickards, Columbus, Ohio, F. H. Slack and B. L. Arms, Boston.
174 Maryland Biometer and Its Mathematic Relations. M. L. Price, Baltimore.
175 Typhoid Fever: Incidence of Disease as Contracted in Massachusetts General Hospital from 1899 to 1908. L. H. Spooner, Boston.
176 Protective Inoculation Against Typhoid. M. W. Richardson, Boston.
177 Conveyance of Bacteria by Sewer Air. C. E. A. Winslow, Boston.
178 Personal Hygiene. P. G. Stiles, Boston.
179 Municipal Sanitation. C. V. Chapin, Providence, R. I.
180 Vital Statistics. M. L. Price, Baltimore, Md.
181 Public Health Legislation, News and Notes. F. H. Slack, Boston.
182 Veterinary Hygiene. W. L. Beebe, St. Paul, Minn.

160. Abstracted in THE JOURNAL, Sept. 12, 1908, p. 942.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

September 25

1 Medical Aspects of Athleticism. W. T. Brooks and C. Dukes.
2 *Natural Experiment in Cardiac Strain. C. Riviere.
3 *Administration of Oxygen in High Percentage. B. Moore.
4 Pneumaturia Apparently the Sole Indication of Glycosuria. F. C. Eve.
5 Influence of Soil on Phthisis as Illustrating a Neglected Principle in Climatology. W. Gordon.
6 The Gastroscope and Its Use. H. S. Souttar and T. Thompson.
7 Hour-Glass Contraction of the Stomach. A. G. Gullan.
8 Tic Douloureux: Technic and Results of Schlösser's Method of Treatment. P. Stewart.
9 Treatment of Tabes Dorsalis. T. A. Williams.
10 Pruritus in Lymphadenoma. H. D. Rolleston.
11 The Value of Mental Symptoms in Diagnosis. W. J. McGuire.
12 The Pathology of Innocent Goiter. H. Chambers.
13 Absence of the Altmann's Granules from Cells of Malignant New Growth. H. Beckton.
14 Cancer of the Pylorus. J. L. Smith.
15 Roentgen Ray Carcinoma. C. W. Rowntree.
16 Etiology of Dysentery. M. A. Ruffer and J. G. Willmore.
17 Value of Colored Substrata for the Detection and Differentiation of the Typho-coli Group. E. J. McWeeney.
18 Heterologous Agglutinins. W. J. Wilson.
19 *Portals of Entry of Tubercle Bacilli into the Body. L. Cobbett.
20 Protozoan Origin of Tumors. W. F. Robertson and M. C. W. Young.
21 Effect on the Growth of Micro-Organisms of Different Percentages of Oxygen. B. Moore and R. S. Williams.
22 Eye Injuries in Relation to Workmen's Compensation. F. Fergus.
23 Ipsolaterality of Optic Neuritis and the Lesion Causing It. Sir V. Horsley.
24 Acute Orbital Periostitis Consequent on Dental Disease. N. B. Harman.
25 Adenoids and Asthenopia. W. M. Killen.
26 Compressed-Air Illness Cured by Recompression. G. C. C. Damant and E. R. Lockwood-Thomas.
27 *Calomel in Asthma. C. B. F. Tivy.
28 *Simple Method of Treating Certain Fractures of the Mandible. H. P. Pickerill.

2. **Cardiac Strain.**—With a view to coordinating ideas on the subject of cardiac enlargement in boys, Riviere carefully examined the hearts in a large number of boys taken at random, and also under conditions which necessarily throw a strain on this organ. The importance of the inquiry impressed itself on him as the result of an examination of a party of 40 boys chosen for a school holiday excursion, and a description of this excursion and its result form the basis of his paper. The party consisted of boys ranging from 7 to 14 years. The excursion was of a week's duration and planned to be of educational value; the locality chosen was a hilly district, the actual center being established on a hill at the height of 600 feet above sea level, with a climb of 400 feet from the valley below at the end of each day's tramp. Expeditions were undertaken daily, including the day of arrival and also that of departure. Breakfast was at 8 a. m. on most days, and an early morning walk at 6:30 a. m. was part of Sunday's program. The actual road distance covered each day was from 5 to 7 miles, but the expeditions lasted the whole of each day, the time being well filled with sight-seeing and instruction. On two days the walking for the bigger boys was increased up to twelve miles. In addition to excursions any available time was given over to football and games. In short, it is obvious that the boys were subjected to considerable physical strain. At the same time the hours of sleep were decidedly insufficient; bedtime was 9 to 9:30 p. m. and lights were out at 9:45, but as the boys generally rose at 6 a. m. provision was made for but eight and a half hours of sleep.

The boys were medically examined ten days before starting, and were mostly well-built and sound. Examined again five days after their return, 20 out of 33, or rather over 60 per cent. of these healthy boys were found to show cardiac enlargement of various grades. This was, in most cases, no temporary condition, for at subsequent examinations at the end of two, four, six and ten weeks, only a few of the hearts each time had returned to normal, and 10 of them, or 50 per cent. still remained dilated two and a half months after the excursion. An interesting point was the age incidence of these cases of dilatation. Of boys of 13 and 14 years, only 3.6 per cent. suffered; at ages of 10, 11 and 12 years, 75 per cent. suffered, and among the youngest boys, of 7, 8 and 9, fully 83 per cent. were affected. With regard to the 7 boys whose hearts were already strained, in all but 1 there was an increase of dilatation in spite of restrictions.

3. **Administration of Oxygen.**—Moore claims that the usual methods of administering oxygen by delivering it from a steel bottle in a constant stream into a tube or funnel or open mask are so wrong in principle as to be practically useless,

and it is questionable whether the patient ever gets a mixture containing more than a small percentage of oxygen above the atmospheric amount, nearly all the oxygen escaping into the air of the room. The nature of the respiratory process is such that the patient does not require a continuous stream of oxygen bubbling out at or near the mouth, but rather a plentiful reservoir to breathe from rapidly each time he draws his breath. An apparatus based on this principle for continuous administration of a high percentage of oxygen consists of a collapsible holder, or gas-bag, sealed off from the air below by a water seal, and having in its base four large circular trays containing lime slaked with caustic soda for uptake of carbon dioxid during the breathing. The bag is first filled with oxygen, either made from the potassium permanganate, or obtained from a steel gas cylinder. The patient then simply breathes backward and forward into the bag through an air-tight mask and a very wide tube. There are no valves to obstruct the breathing, and the carbon dioxid is completely taken up by the soda lime. No discomfort whatever is felt in using the apparatus, nor was there any difficulty in breathing.

19. **Portals of Entry of Tubercle Bacilli.**—Cobbett endeavored to find out: 1. Whether or not bacteria can gain entrance to the lungs directly through the air passages. 2. Whether, after being absorbed from some part of the alimentary canal, they can pass at once through the lymph glands and gain entrance to the lungs. The general intention of the experiments was to throw light on the question of the portals of entry of the tubercle bacilli into the human body in the causation of phthisis. The experiments, as a whole, are not yet completed, but they show already that in the guinea-pig, bacilli suspended in the air readily pass down the bronchi deeply into the lungs. The experiments are not sufficiently advanced to justify conclusions as to the course of infection which follows the introduction of tubercle bacilli into the alimentary canal.

27. **Calomel in Asthma.**—Tivy prescribes a powder of calomel, from ½ to 2 grains, according to the habit of the patient, accompanied, of course, by some of the usual antispasmodic remedies, and his experience is that relief is rapidly obtained, even before purgation takes place. Other cathartic drugs do not seem to have the same effect or certainly not so rapidly, and the ease with which all the powder or tablet is taken is an important factor.

28. **Fractures of Mandible.**—Pickerill's method consists in fixing the lower to the upper jaw by means of horizontal ligatures passing round the crevices of two or more teeth in each jaw, the ligatures being securely connected by a third ligature. The method is said to be especially applicable to fractures at the angle of the mandible or in the region of the last molar tooth.

Lancet, London

September 25

29 Modern Moods and Movements in Medicine. Sir T. Oliver.
30 Treatment of Lupus Erythematosus. Sir M. Morris.
31 Spinal Anesthesia in Children and Infants. H. T. Gray.
32 Acute Torsion of a Wandering Spleen; Splenectomy; Recovery. I. MacDonald and W. A. Mackay.
33 *Arteriovenous Anastomosis for Gangrene. D. J. Armour and E. A. Smith.
34 Treatment of Syphilis by Intramuscular Injection of Insoluble Salts of Mercury as Contrasted with the Innuction Method. H. C. French.
35 *Congenital Dislocation of Hip-Joint: Ultimate Results of the Manipulative Operation and Note on New Open Operation for Relapsed Cases. J. J. Clarke.
36 Juvenile Myxedema. D. A. Thomson.
37 Trypanosoma Dimorphon Dutton and Todd: T. Confusum, SP. Nova. R. E. Montgomery and A. Kinghorn.

33. **Arteriovenous Anastomosis for Gangrene.**—The patient, a very feeble old man, aged 69, complained of swelling, coldness, and feelings of pins and needles in his right leg and foot. The arteries were tortuous and thickened, the pulse tension was not high; the right leg and foot were cyanosed and the circulation in them was very sluggish. The pulse could be felt in the right femoral artery, but not in the popliteal or below it. Being fully aware that his leg was doomed if left alone, he was willing that an arteriovenous anastomosis should be done with the view of reversing the circulation of the limb and so attempting to stay the gangrene by conveying arterial blood through the branches of the veins. The operation was done under spinal analgesia. The upper end of the femoral artery was then sutured to the lower end of the femoral vein. Finally the internal saphenous vein was exposed at the upper end of the thigh and divided between ligatures, in order to close the most obvious of the possible short-circuits of the circulation of the limb. On the seventh day after the operation the condition of the leg was—no further extension of the gangrene, and a distinct pulse and thrill to be felt over the vessel as far as the adductor foramen. Fourteen days after the anastomosis it was necessary to amputate the leg by the circular method, a hand's breadth above the knee-joint. After dividing the main vessels it was seen that the vein (as originally constituted) was patent, while the artery was occluded with fibrinous clot. On tying the vessels and loosening the tourniquet the vein pulsated in the end of the wound exactly as a ligatured artery would. There was no blood extravasated in the sheath of the vessels, showing that the suture line had held absolutely fast.

35. **Congenital Dislocation of Hip-Joint.**—The operation done by Clarke consists in exposing the joint from behind, making a small opening in the lowest limit of the posterior aspect of the capsule, and introducing an elevator to raise the periosteum and with it the cotyloid ligament for a short distance at the upper and posterior borders of the acetabulum. Next three stout silk stitches are passed in turn through the periosteum, thus raised into the joint cavity under the cotyloid ligament, out of the capsule again and through a fold of the capsule, then once more through the capsule near its femoral attachment, where the two ends are tied. These stitches remove the over-distention of the back of the capsule and hold the cotyloid ligament over the outer part of the head of the femur. The limb is put up in plaster, as after the manipulative operation, which must always have preceded this open operation. The postoperative course is like that after the manipulative operation, and in the cases so treated there was no evidence of intraarticular adhesions being present when the plaster was removed. This proceeding differs from the open operations of both Hoffa and Lorenz, which involve an excavation of the acetabulum, and, when necessary, a reshaping of the femoral head through a free opening in the joint capsule.

Clinical Journal, London

September 8

38 Puerperal Septicemia and Its Modern Treatment. G. B. Smith and J. W. Eyre.
39 Disorders of the Cerebral Circulation and Their Clinical Manifestations. A. E. Russell.
40 Spa Patients. D. W. R. Gore.

September 15

41 *Colostomy. F. C. Wallis.
42 *Disorders of the Cerebral Circulation and Their Clinical Manifestations (continued). A. E. Russel.
43 *Painful Spots in Appendicitis. M. Lejars.

September 22

44 Diagnosis of Early Pregnancy. G. F. Blacker.
45 *Disorders of the Cerebral Circulation and Their Clinical Manifestations (concluded). A. E. Russell.

41. **Colostomy.**—Wallis again describes the operation he has performed for the past fourteen years with good results.

42. **Cerebral Circulation.**—In this lecture Russell discusses convulsions, physiologic mechanism underlying recovery from an epileptic fit, postepileptic phenomena, cerebral intravascular clotting as the cause of the epileptic fit, and vasomotor spasm in the brain as a cause of epilepsy.

43. **Painful Spots in Appendicitis.**—Speaking generally, says Lejars, the point of maximum tenderness, when clearly defined and fixed, affords a very fair indication of the situation of the appendix, but the area of tenderness spreads as the adhesions become more extensive. Certain is it that without carrying the search for the painful spot too far, thus incurring the risk of setting up hematomata of the mesoappendix, without departing from an attitude of caution and not neglecting lightness of touch, the direct and indirect exploration of the whole abdominal wall, and especially of the ileocecal region, from the point of view of pain, retains its importance in the diagnosis of appendicitis, with the reservation, however, that no exclusive importance be attributed to this or that spot in particular.

45. **Cerebral Circulation.**—Russel concludes his lectures by discussing migraine, *petit mal*, infantile convulsions, the symptoms following on sudden and prolonged cerebral anemia, and similar symptoms resulting from prolonged chloroform syncope.

Journal Laryngology, Rhinology and Otology, London

September

46 Histology of Nasal Accessory Sinus Suppuration. J. S. Fraser.

Archives générales de Chirurgie, Paris

August, III, No. 8, pp. 771-864

47 *Primary Gastric Sarcoma. (Les sarcomes primitifs de l'estomac.) Lofaro.
48 *Gangrenous Inflammation of the Penis. E. Tédenat and J. Martin.
49 Backward Dislocation of the Forearm. (Luxation bilatérale et symétrique de l'extrémité inférieure du cubitus en arrière avec radius curvus.) R. Burnier and A. Neveux.
50 Fistula and Sequesters in Steno's Duct. (Fistule sténonienne.) Mauclaire.

47. **Sarcoma of the Stomach.**—Lofaro reports two cases from Durante's clinic at Rome and states that in 39 operative cases on record 17 of the patients did not survive the operation.

48. **Gangrenous Inflammation of the Penis.**—Tédenat has operated in two cases with superficial gangrene, and knows of a similar case on record, all with successful outcome. In four others the fascia was involved, one in his own experience, although there was more destruction of tissue in this group. In ten other cases the inflammation involved the corpus cavernosus, with total destruction, the list including two from his own experience. The general symptoms in this last group were severe, but only one of the patients succumbed. The only means of knowing the extent of the process is by early and deep incision, and this should be the rule, as otherwise a mild simple process may result in great destruction, as in a few of the cases reported. In one the abscess in the cavernosus was not discovered until at autopsy.

Obstétrique, Paris

August, II, N. S. No. 8, pp. 545-627

51 *Review of 148 Suprasymphyseal Cesarean Sections. (L'opération césarienne supra-symphysaire.) C. Jeannin.

51. **Suprasymphyseal Cesarean Section.**—By this term Jeannin means the Frank-Sellheim technic of operative delivery and he has been able to find records of 148 such operations which he here summarizes and compares from various standpoints. The method has passed through several phases since Frank proposed the suprasymphyseal transperitoneal Cesarean section in 1907. This was modified by Sellheim into an extraperitoneal technic, which seems to have the greatest vogue at present. The mortality of the mothers was 3.08 per cent. for the latter and 3.8 for the transperitoneal technic. The extraperitoneal method is more difficult on account of the danger of injury of the bladder. The total morbidity of the mothers with suprasymphyseal delivery was 30.7 per cent., including 25 per cent. from infection; the total mortality was 7.37 per cent.; from infection, 4.21 per cent., while that of the children was 8.18 per cent., or omitting the cases in which other causes were responsible, 3.62 per cent. Jeannin concludes his review with the remark that neither the figures nor the histories of the cases show that the suprasymphyseal technic has any advantage over ordinary Cesarean section, other things being equal, but if there is suspicion, but not actual certainty, as to infection, the suprasymphyseal technic is safer. Neither should be considered in case of known infection.

Presse Médicale, Paris

September 15, XVII, No. 74, pp. 649-656

52 *Sciatica of Tuberculous Origin. (Sciatique radiculaire d'origine tuberculeuse.) Lafforgue.

September 18, No. 75, pp. 657-664

53 *Transient Peripheral Neuritis in Parturients. (Des névrites périphériques transitoires dans l'état puerpéral.) E. Bonnaire and Rosenzwitt.
54 *Technic for Administration of Colchicum. (Comment il faut administrer le colchique.) A. Martinet.

52. **Sciatica of Tuberculous Origin.**—Lafforgue's patient was a young soldier, and the tuberculous nature of the sciatica was evidenced by exclusion, by the fever that accompanied each recurrence of the pain, the debility, tuberculous lesions in the right apex, positive seroreaction and the fact that there was no trace of endocarditis which apparently excluded rheumatism as the cause of the four serious and prolonged attacks of the sciatica. The sciatica was evidently of radicular origin, and due to toxins rather than to mechanical compression, as there were no signs of lesions in the spine or pelvis, and no lymphocytosis, while the comparatively rapid course of the sciatica and its complete subsidence speak also in favor of a toxic origin. There are about ten cases on record of typical radicular sciatica; syphilis or gonorrhea was incriminated in the etiology of the majority, but in two a tuberculous origin was beyond question. In the present case the subsidence of the sciatica seemed to have been hastened by potassium iodid, antipyrin and belladonna.

53. **Transient Peripheral Neuritis in Parturients.**—Bonnaire remarks that the slight transient neuritis generally fails to attract attention as the woman lies in bed, but that it should be sought for, as failure to differentiate it may lead to wrong therapeutic measures. Leopold Meyer found this transient neuritis in 1.7 per cent. of 1,000 parturients examined at Copenhagen, while in Bonnaire's experience at Paris it has been found in 4.7 per cent. The neuritis may involve one or more branches of a nerve; but the most usual site is in the lumbar plexus. Pain on pressure is the most constant and sometimes the only sign of the neuritis, but there may be also paresis of the psoas, anterior rectus or adductor muscles of the thigh. Spontaneous pain may be constant or intermittent and may range from slight to intense, exaggerated by movements. The pain follows the course of the nerve and may radiate to the front and inside of the thigh, with or without hyperesthesia or anesthesia of the skin above. The knee-jerk is exaggerated, and there may be slight edema and cyanosis of the leg. The neuritis may be bilateral but is generally confined to one side. This neuritis is frequently mistaken for phlebitis, and treatment is applied directly contrary to the indications for the neuritis. Instead of the immobilization required on suspicion of phlebitis, the limb with neuritis should be exercised and massaged to prevent trophic disturbances, atrophy and impotence. Mistaken treatment may thus transform an insignificant, promptly curable affection into a chronic infirmity. The pain of the neuritis can be differentiated from the disturbances resulting from the birth trauma by studying its localizations, not mistaking the sensitiveness of the body of the pubis, from relaxation of the symphysis, for a tender nerve. If a fold in the abdominal wall, just above the crest of the ilium, is taken up between the fingers, pain can be elicited by pinching the fold, in case of neuritis, while if the pain is deep in the abdomen it is merely due to soreness of the uterus and adnexa. The tenderness with neuritis is, of course, most marked at the point where the nerve emerges.

54. **How to Administer Colchicum.**—Martinet declares that when a patient is taking colchicum the slightest gastrointestinal disturbance, especially diarrhea, is an imperative warning to discontinue the drug. All the remedies for gout on the market, he says, contain more or less colchicum, and the gouty are liable to do themselves serious injury if they dose themselves without medical supervision. He has had 2 such cases of grave colchicum intoxication in his experience, and states that it is our duty to warn gouty patients of this danger.

Semaine Médicale, Paris

September 13, XXIX, No. 37, pp. 433-444

55 Clinical and Experimental Serum Anaphylaxis. Weill-Hallé and H. Lemaire.

September 22, No. 38, pp. 445-456

56 Implantation of Vasa Deferentia in Anterior Urethra. A. Boari.

Berliner klinische Wochenschrift

September 13, XLVI, No. 37, pp. 1677-1716

58 *Cancer in Man and Animals. (Ueber den Krebs der Menschen und der Tiere.) E. F. Bashford. Commenced in No. 35.
59 *Significance for Pathology and Treatment of Gonorrhea of Involuntary Contraction of the Muscles, and Its Dependence on Atropin. (Bedeutung unwillkürlicher Muskelkontraktionen und deren Abhängigkeit vom Atropin für die Pathologie und Therapie der Gonorrhoe des Mannes.) C Schindler.
60 Combined Staining Technic for Tubercle Bacilli. (Kombinierte Färbungsmethoden für Tuberkelbacillen.) S. Hatano.
61 Mental Disorders and Civil Law. (Krankhafte Störung der Geistestätigkeit, Geisteskrankheit, Geistesschwäche in ihren Beziehungen zum bürgerlichen Recht.) H. Lieske.
62 *General Anesthesia After Intravenous Injection of Cocain. (Totalanästhesie durch Injektion von Cocain in die Vene.) C. Ritter.

58. Abstracted in The Journal, Sept. 18, 1908, p. 968.

59. **Importance of Automatic Muscular Contractions in Spread of Gonorrheal Process.**—Schindler has studied the automatic muscular contractions in the genital organs which his experimental research has shown are a constant and physiologic phenomenon. These muscular contractions may also be elicited by reflex stimuli. They are an important factor in the spread of the gonorrheal infectious process, and treatment should aim to suppress them entirely. This can be accomplished by keeping the patients under the influence of atropin, and he makes it a rule to order suppositories twice a day, each containing 0.001 gm. atropin, or 0.002 or 0.003 gm. can be injected subcutaneously. The tolerance of human beings for atropin kept up for weeks is surprising. No massage of the prostate is allowed during the acute and subacute phase of the gonorrheal process, as this stimulates still more the muscular contractions which spread the infection. If the prostate is inflamed he adds 0.1 or 0.25 gm. potassium iodid to the suppositories. In connection with these measures to suppress the muscular activity he applies energetic local treatment to the urethra. He adds a few cases to show the details of and benefit from this technic. In this communication he refers especially to male patients, having reported last year the advantages of atropin in gonorrhea in women.

62. **General Anesthesia by Injection of Cocain Into a Vein.**—Ritter experimented on dogs and found that complete analgesia was induced by injection into a superficial vein of 10 c.c. of a 1 per cent. solution of cocain, or 5 c.c. of a 3 or 5 per cent. solution of the cocain in a 0.1 per cent. salt solution. The dogs lie quiet but alert, breathing normally, but insensible to the action even of the actual cautery applied to the penis, vagina, anus, tail, face, ear and lining of the mouth. There is no sign of pain and the dog wags his tail during these manipulations except when his tongue is seized with forceps. To this he objects, but not apparently because it is painful. The anesthesia lasts from fifteen to thirty minutes or more and none of the dogs showed any serious disturbances afterward. Only a few manifested any unpleasant by-effects, and these were all small dogs injected with unusually large doses. One dog reacted, however, always in the same way even to small doses. The disturbances noted were all of the same type; the animal becomes restless, tosses his head up and down in increasingly rapid tempo and, if placed on the floor, runs swiftly around in circles. This was kept up sometimes for fifteen minutes, after which the animal quieted down and was quiet and apparently normal by the end of the half hour or hour; actual convulsions were never observed with any dosage. None of the larger dogs showed any by-effects. The communication issues from Payr's clinic at Greifswald, but no clinical application of the method is reported, although the suggestion is made that this method might be applied possibly with "dammed circulation."

Correspondenz-Blatt für Schweizer Aerzte, Basle

September 15, XXXIX, No. 18, pp. 617-648

63 *Epidemic Cerebrospinal Meningitis at Zurich. (Beobachtungen bei den Genickstarrefällen des Jahres 1908.) H. v. Wyss.
64 Pancreas Diabetes: Importance of Changes in the Islands. Saltykow.

63. **Epidemic Meningitis in Zurich.**—Wyss relates the experiences at Zurich last year with 20 cases of epidemic cerebrospinal meningitis at the medical clinic. With one exception there was no known contact connection between the various cases which occurred in different quarters of the section, all between March and July. One case developed with a syndrome suggesting tuberculous meningitis and the patient was not taken to the hospital until after the third week, but no other case developed in the environment. The clinical picture varied with each individual. In one case a healthy young man was seized with stupor, stiff neck and furious delirium but no fever, and this condition persisted until death on the sixth day. In one case the stiffness of the neck and other symptoms ascribed at first to epidemic meningitis proved to be merely gonorrheal arthritis of the cervical vertebræ. The findings in the fundus of the eye were negative in all the cases, but lumbar puncture always confirmed the diagnosis suggested by the stiffness of the neck. If the spinal fluid is scanty and thick, the prognosis is grave beyond relief, as also when the fluid becomes exceptionally abundant as the disease subsides, showing that hydrocephalus is impending. The mortality in his cases was 50 per cent. and serious complications were observed in some of the others, such as total deafness in 2 cases, imbecility, decubitus and sepsis in 1, hydrocephalus in 2, phthisis bulbi in 1, and acute polyarthritis, or monarthritis in 1 and acute hemorrhagic nephritis in 2 cases, only one of the latter patients recovering. As the patients were seen so late in many instances his experience with serotherapy is not conclusive; it was applied in 15 cases with a mortality of 40 per cent.

Deutsche medizinische Wochenschrift, Berlin

September 16, XXXV, No. 37, pp. 1593-1640

65 *General Anesthesia. (Ueber Narkose.) M. Verworn.
66 *Nervous and Mental Disturbances in Arteriosclerosis. (Die nervösen und psychischen Störungen bei Arteriosclerose.) A. Cramer.
67 Conception of Neurasthenia. (Ueber den Neurastheniebegriff.) E. Jendrassik.
68 Cancer of the Liver. (Das maligne Adenom der Leber.) H. Ribbert.
69 Duodenal Ulcer and Its Treatment. (Ueber das Duodenalgeschwür und seine Behandlung.) M. Einhorn.
70 *Gastric Ulcer. (Ueber Pathogenese, Indikationsstellung und Therapie des runden Magengeschwüres.) E. Payr. (Commenced in No. 36.
71 Two Cases of Gonorrheal Serpiginous Ulcer in Men. Xylander.

65. **General Anesthesia.**—Recent research has shown that the anesthetics most soluble in fats and lipoids and less in water have the most powerful effect, and Verworn's experiments sustain the hypothesis that the drug enters into chemical combination with the oxygen-bearing group of atoms and thus renders them incapable of carrying oxygen. By this blockade of these groups of atoms the clinical facts observed are fully explained. During the anesthesia, the processes of oxidation are known to be paralyzed, while retrograde metabolism goes on as in asphyxia, that is, exclusion of oxygen, under other circumstances. The retrograde metabolism may even be accelerated during the anesthesia, and the tissues suffering from lack of oxygen may lose their vitality beyond redemption. There is no justification for identifying the condition of general anesthesia with that of sleep. During sleep the oxidations proceed and restitution results; during general anesthesia the taking up of oxygen ceases while the destruction of the living substance continues. It is thus seen that general anesthesia is not a stationary condition. The longer the anesthesia, the more the tissues suffer from lack of oxygen until asphyxia is complete. The loss of conductibility of a nerve in general anesthesia is due to the reduction in the intensity of the stimulus passing through the anesthetized area. This reduction occurs more rapidly the deeper the anesthesia. In applying "vein anesthesia," according to Bier's technic for local blockade of the nerve by intravenous injection of the anesthetic, the dose can be proportionately smaller, the longer the stretch of nerve exposed to its influence.

66. **Nervous and Mental Disturbances in Arteriosclerosis.**—Cramer emphasizes anew the great importance of early differentiation of arteriosclerosis of the central nervous system, as proper treatment may arrest the trouble and ward off social and material loss. When headache occurs and persists, with occasional vertigo, the possibility of arteriosclerosis should be suggested. The dizziness in these cases is extreme and unless the patient can catch some support he may fall. It is important to exclude vertigo from an ear affection and from varieties of true nervous vertigo. When due to arteriosclerosis, the memory for recent events is liable to suffer. The patients lose the thread of their discourse, forget the number of their room in the hotel, figures and names; they get into the habit of noting down whatever they wish to remember. A tendency to facile emotions and irritability may also be observed, and to lasciviousness. The local symptoms may indicate a neuron affection; among these he has frequently encountered a slowness in speech, first noticed by stenographers, or the speech may be difficult and indistinct. Sluggishness in the pupil reaction to light is another important differential sign, as also a difference in the innervation of the face. The reflexes are generally increased, and there may be pains and paresthesia. All these symptoms may occur on a purely nervous basis, and the arteriosclerosis can be differentiated only by exclusion and by remembering that signs of an organic affection of the

nervous system do not accompany a purely nervous trouble. It is much wiser to assume arteriosclerosis in case of doubt, rather than neurasthenia, as treatment of the larger includes the less. The mental disturbances of arteriosclerosis may be grouped as those showing decay of the mental power, depression, or conditions of exaltation with paranoia as the acme. It is characteristic for the latter group that the process occurs with remissions, leaving tranquil intervals simulating recovery. In progressive paralysis the entire personality seems to be changed more than in arteriosclerosis. The Wassermann reaction of the spinal fluid testifies to progressive paralysis.

70. **Gastric Ulcer.**—Payr's extensive experience has shown that the indications vary widely in individual cases, especially in view of the general health, the location, the anatomic form and the stage of the process. Gastroenterostomy is reliable, he states, for ulcers and resulting stenosis in or close to the pylorus. Tumors in the lesser curvature and rear wall of the stomach indicate transverse resection of the middle part of the stomach, which is much more promising than excision. Gastroenterostomy he considers a good palliative operation in these conditions when the general health does not permit a more complete operation. Jejunostomy under local anesthesia is advisable only in severe inanition. The slightest suspicion of cancer justifies resection, and a family history of cancer should turn the scale when gastroenterostomy is being considered. Very important is a course of internal treatment, as for acute ulcer, following the operation. This logical demand is frequently disregarded; the surgeon dismisses the patient on recovery from the operation, and sees him no more. Many patients with recurring ulcer are then encountered which throw discredit on operative treatment. Nowhere is the necessity for cooperation between internist and surgeon so important as in treatment and after-treatment of gastric ulcer.

Medizinische Klinik, Berlin

September 12, V, No. 37, pp. 1377-1410

72 *Anatomic Changes in the Stomach with the Gastric Crises of Tabes. (Anatomische Mageoveränderungen bei gastrischen Krisen der Tabischen.) H. Eichhorst.
73 Physico-chemical Behavior of Uric Acid and Its Salts in the Blood, and Influence of Radium. (Verhalten der Harnsäure und ihrer Salze im Blut.) F. Gudzent.
74 *Reacting Capacity After Hydriatic Stimuli as Guide to Prognosis. (Die Reactionsprüfung nach hydriatischen Reizen im Dienste der Prognosenstellung bei Puerperalfieber.) H. Sellheim.
75 Scrofula and Lymphocytosis. (Skrofulose und Lymphozytose.) E. Becker.
76 Treatment of Chronic Skin Disease. (Zur Behandlung chronischer Hauterkrankungen.) Dreuw.
77 Roentgen Treatment of Chronic Nephritis. (Mitteilungen aus der Praxis.) Lenné.
78 Internal Treatment of Gall-Stones. Id.
79 Dietetic Treatment of Diabetes. Id.
80 Viscosimeter. (Die Viskosimetrie des Blutes.) W. Hess.

72. **Anatomic Changes in the Stomach with Tabetic Gastric Crises.**—Eichhorst remarks that it is by no means uncommon to have the tabes overlooked and the patient treated for the stomach disturbances alone, and reports a case of this kind in which a locksmith of 47 had been under the care of twelve different physicians during five years on account of attacks of pain in the stomach and vomiting. No relief had been obtained from the ulcer cures and other treatment instituted, and the emaciation suggested cancer. When the patient came into Eichhorst's hands, he examined for the knee-jerk but was unable to elicit it, which at once differentiated the unsuspected tabes, confirmed by other findings and the course of the case. The gastric crises of tabes may be either of a neuralgic, hypermotor or secretory nature or these combined, and in three of his patients there was tetanic contraction. As the contraction subsided the pain vanished. In two other cases he examined the stomach post-mortem; the patients were tabetic women, about 48, who had been under supervision for two and five years respectively. Notwithstanding the long duration of the gastric crises, the stomach wall was found free from even microscopic changes in one and in the other there were merely diffuse atrophy of the stomach glands and isolated proliferation of round cells—an interstitial insular gastritis. This case suggests that the tendency to emaciation in the course of tabes may be due to the increasing atrophy of the stomach glands.

74. **Testing the Reacting Power for Prognosis of Puerperal Fever.**—Sellheim has found it possible to foretell the course of puerperal fever by the response to a simple hydriatic measure. At the first visit he takes the pulse, temperature and respiration, and then has a broad tepid compress applied to cover the abdomen completely. Just as he leaves he notes again the pulse, temperature and respiration. If the temperature shows any signs of declining, the pulse growing stronger and slower, the blood-pressure rising and the respiration a tendency to become slower and less shallow under this simple hydrotherapeutic measure, he regards the prognosis as favorable. If the functions are not influenced in this way there is little hope of recovery, as the defensive reactions are at too low an ebb. The reaction on the part of the pulse and respiration to this mild stimulus denotes the degree of intoxication of the vasomotor system. This reaction test, in combination with the expression, the complexion, the tongue and pulse, reveal the outlook for the moment, and repetition every day permits constant control of the disease. At the same time the measure is an aid in treatment of puerperal fever.

Münchener medizinische Wochenschrift

September 14, LVI, No. 37, pp. 1873-1928

81 Permeability of Kidneys for Bacteria. (Zur Frage der Durchgangigkeit der Niere für Bakterien.) F. Rolly.
82 Origin of Albumin in Urine of Children. (Herkunft des Harneiweisses bei Kindern.) R. Hecker.
83 The Cammidge Pancreatic Reaction. (Ueber die Brauchbarkeit der sogen "Pankreasreaktion" nach Cammidge.) O. Schumm and C. Hegler.
84 Nature and Cause of Serum Anaphylaxis. (Zur Frage der Serumüberempfindlichkeit.) H. Braun.
85 Electric Treatment of Inoperable Carcinoma. (Ueber Fulguration von inoperablen Karzinomen.) H. Schulz.
86 Cause and Cure of Laceration of Entire Perineum. (Zur Entstehung und Heilung kompletter Dammrisse.) H. Sellheim.
87 History and Outlook of Treatment of Scoliosis. (Vor und zurück in der Skoliosenbehandlung.) O. Vulpius.
88 Mechanical Treatment of Hip-Joint Contracture. (Ueber eine zweckmässige Form der Behandlung der Kontraktur bei der tuberkulösen Hüftgelenksentzündung.) A. v. Lichtenberg.
89 Tuberculin in Diagnosis and Treatment of Urogenital Tuberculosis. W. Karo.
90 Ethyl Chlorid Refrigeration in Treatment of Warts. (Behandlung der Warzen mittels Keleuvereisung.) K. Büdinger.
91 *Syphilis Affecting the Muscles, Testes or Conjunctiva. (Zwei interessante Luesfälle und aus diesen Beobachtungen gezogene Schlüsse.) M. von Zeissl.

91. **Syphilis Affecting Muscles, Testes and Conjunctiva.**—One of the patients whose cases are reported presented severe myositis with orchitis, but electric tests of the muscles gave normal findings and under mercurial treatment all the disturbances vanished. In the other case the infection dated from a cut while being shaved; after various manifestations the syphilis entered a latent phase for a few months, but then severe conjunctivitis developed. It proved rebellious to mercurial and iodid general treatment, but promptly subsided when this was supplemented by local application of calomel. Previous local applications of other forms of mercury had not benefited; it is possible that the mercury accumulated in the organism first made itself felt at the moment of the application of the calomel. Zeissl has encountered in his practice forty-five cases of extragenital syphilis, including five in medical men, four of whom succumbed to cerebral manifestations, while the fifth recovered entirely after a period of right paralysis. In four other cases the primary manifestation was in the tonsils, and these cases were distinguished by violent headaches and exceptionally severe course.

Wiener klinische Wochenschrift, Vienna

September 16, XXII, No. 37, pp. 1257-1288

92 *Aims and Tasks of Social Medicine. (Die Aufgaben und Ziele der sozialen Medizin.) L. Teleky.
93 Epidemic of Poliomyelitis in Vienna, 1908-9. R. Neurath.
94 Frequent Occurrence of Long Bacillus in Urine in Bacteriuri and Cystitis. (Das häufige Vorkommen des Boas-Opplerschen Bazillus im Harne bei Bakteriurien und Zystitisfallen.) A. Rodella.

92. **Social Medicine.**—Teleky refers in particular to the medical aspect of the compulsory insurance of wage-earners agains sickness and accident, and emphasizes the new task which i has imposed on the profession. The physician not only has t treat the patient but he has to deliver a certificate and repor on the ultimate prospects in the case. The surgeon also ha had to change his aim; instead of trying to restore norm anatomic conditions he now endeavors to secure the bes possible functional and wage-earning capacity. Social medicine is the borderland between medicine and applied sociology

Its task is to enable each one to profit by the progress of individual hygiene and clinical medicine, to train physicians for these new duties, and to study the transformation in the status of the profession under the influence of these tendencies. He adds that the young student hungers for knowledge of real life on his emancipation from the parental roof, and in no other way can he obtain such an insight into real life than in studying, not only the sick, but the well, from this standpoint of social medicine, how people live, how they labor, and how they become diseased by their mode of life or their occupation.

Zentralblatt für Chirurgie, Leipsic

September 18, XXXVI, No. 38, pp. 1313-1344

95 *Dislocation of the Pelvis in Coasting Accidents. (Ueber schwere Beckenluxationen und Verletzungen der umgebenden Weichteile: Typische Rodelverletzungen.) A. Fischer.

95. Dislocation of the Pelvis in Coasting Accidents.—Fischer relates the details of an accident to a bob-sled on which six young men were coasting, seated in a row, the legs of each projecting beyond the fellow seated in front of him. As the sled ran into a tree, the impact of the pelvis of each against the sacrum of the man in front caused separation and dislocation of each of the articulations of the pelvis, with injury of the soft parts. The disturbances of this nature were the more severe the nearer the man to the front of the sled, except that the front man escaped this, but was killed by the concussion against the tree. Two others also succumbed to their injuries. Fischer obtained an unusual opportunity for autopsy of the different degrees of this typical coasting accident injury in these fatalities.

Zentralblatt für Gynäkologie, Leipsic

September 18, XXXIII, No. 38, pp. 1313-1352

96 Placental Theory of Origin of Eclampsia. Lichtenstein.
97 *Treatment of Eclampsia. (Zur Behandlung der Eklampsie.) Uthmöller.
98 Modification of Hysterectomy Technic. (Zu dem Vorschlage Zweifel's "Ein neues Verfahren zur Exstirpation des Uteruskarzinoms.") C. Lauenstein.
99 *Plastic Operations on Abdomen. (Bauchdeckenplastik.) Weinhold.

97. Treatment of Eclampsia.—Uthmöller reports success in the treatment of severe eclampsia in two cases by evacuating the toxins by extensive venesection. This not only helps to eliminate the toxins but relieves the pressure on the circulation and, last but not least, weakens the body until it is unable to react to the eclampsia toxins with the convulsions. He withdrew 1,250 c.c. of blood in one case and about 900 c.c. in the other, applying no other treatment.

99. Plastic Operations on the Abdominal Wall.—Weinhold declares that too little attention is paid to improving the appearance of the abdomen when a laparotomy is necessary for any cause. It is not enough to restore previous conditions; the shape of the abdomen should be improved if needed. He describes several cases to show the advantages of doing this. In one case he removed 11½ pounds of skin and fat restoring the large pendulous abdomen to normal outlines. After a plastic operation of this kind he orders a stout bandage worn for a year, after which it is no longer necessary. Six illustrations of the technic followed accompany the article.

Gazzetta degli Ospedali e delle Cliniche, Milan

September 7, XXX, No. 107, pp. 1129-1136

100 Toxic, Hemolytic and Sensitizing Properties of Fluid in Blisters. (Potere tossico, emolitico e sensibilizzante del liquido delle bolle di pemfigo.) G. Burzi.

September 9, No. 108, pp. 1137-1144

101 Principles of Hospital Management. (Degli studi e delle condizioni per il miglior ordinamento degli ospedali.) L. Baldassari.

September 12, No. 109, pp. 1145-1160

102 Influence of Emotions on Mother's Milk. (Influenza dell'emozioni sulla secrezione lattea.) G. Benassi.

September 14, No. 110, pp. 1161-1168

103 *Epilepsy with Apoplectiform Symptoms Benefited by Organotherapy. (Un caso di epilessia con fenomenologia apoplettiforme trattato colla terapia organica: Neuroprina e Cefalopina.) G. Trevisanello.

September 16, No. 111, pp. 1169-1176

104 *Serous Meningitis. A. Rossi.

September 19, No. 112, pp. 1177-1190

105 *Serotherapy of Erysipelas. (Ricerche sperimentali e considerazioni intorno al probabile meccanismo d'azione del siero Behring nella cura dell'eresipela.) G. Migliacci.

103. Epilepsy with Apoplectiform Symptoms Benefited by Organotherapy.—Trevisanello reports a case interesting from the prolonged and varied syndrome presented by the patient, a man of 31, who was under observation for a number of years, and from the apparently complete cure under treatment with nerve and brain extract, the cure persisting two years to date. The symptoms indicated a combination of hysteroneurasthenia, cerebral endoarteritis, epilepsy with apoplectiform manifestations, cerebral hemorrhage and consecutive hemiplegia.

104. Serous Meningitis.—Rossi reports 3 cases in patients of 20 and 28, including two men, one of whom succumbed to the disease. This patient was taken to the hospital practically moribund, the symptoms suggesting tuberculous meningitis. But the sudden onset of the symptoms less than a month before, with fever, excluded the tuberculous form, and lumbar puncture gave a limpid sterile fluid under high pressure. Blindness came on early, the early development of choked disc being another element in the clinical picture which testified to almost immediate diffuse and uniform increase in the endocranial tension, such as is observed otherwise only with acute hydrocephalus. In the woman, the first symptoms of the serous meningitis appeared in the third week of typhoid, but subsided in six days. In all the cases there was a basis of inflammation for the effusion, the condition blending into that of "meningism" without distinct demarcation. The fluid is always serous in this form, although possibly containing slight amounts of fibrin.

105. Diphtheria Antitoxin in Erysipelas.—Migliacci analyzes the various reports that have been published on this subject and describes his own experimental and laboratory research to explain the benefit observed from the antitoxin in the clinic. He found that the antitoxin induced pronounced leucocytosis in the animals, involving chiefly the polynuclears. The findings indicate that phagocytosis is a secondary phenomenon due to the presence of certain substances in the blood serum, the opsonins, which he believes to be a secretion of the leucocytes, not a product of their disintegration. Injection of diphtheria antitoxin seems to favor the production of these substances and thus to promote phagocytosis—its action reenforced by its power to induce leucocytosis. The benefit from the antitoxin was marked in his three clinical cases, as also in a number that have been reported by Italian writers in addition to Babes, Cantu and some Russian writers.

Policlinico, Rome

September 12, XVI, No. 37, pp. 1157-1188

106 Certain Forms of Anemia in School Children. (Alcune forme d'anemie infantili in rapporto all'igiene della scuola.) V. Giudiceandrea. Commenced in No. 36.

September 19, No. 38, pp. 1189-1220

107 *Transplantation of Vasa Deferentia into Anterior Urethra. (Deferento-uretrostomia. Indicazioni.) A. Boari.

September, XVI, Medical Section, No. 9, pp. 381-428

108 *Iced Liver. (Sulla cosi detta forma di fegato candito di Curschmann.) L. Gazzoti.
109 *Changes in Spleen with Cirrhosis of the Liver. (Alterazioni anatomo-patologiche della milza nella cirrosi epatica.) G. Egidi.
110 Nitrogen Metabolism in Lead Poisoning. (Ricambio azotato nel saturnismo.) L. Preti.
111 Resistance of Red Corpuscles in Malta Fever. (Resistenza dei globuli rossi nella febbre di Malta.) A. Tomaselli.
112 Behavior of Nitrogen and Iron in Two Cases of Ankylostomiasis. (Sul comportamento del gruppo azotato e del ferro in due casi di anchilostomiasi.) P. Petrarca.

107. Transplantation of Vasa Deferentia into Urethra.—Boari gives an illustrated description of an operation which supplies an outlet for the spermatic fluid after perineal prostatectomy in tuberculous affections of the prostate and bladder, and in traumatic injury of the vasa or organic impotency from atresia of the ejaculatory ducts. His experiments on large dogs confirmed the practicability of the operation, which he then performed with success on a man of 60 requiring perineal prostatectomy for hypertrophied prostate. The vasa are severed through an incision 4 or 5 cm. long on the scrotal raphe, as high up as possible, and the peripheral stumps are sutured together, bringing them together like the barrels of a gun. Thus sutured, they are brought into the anterior urethra through a transverse incision and fastened in place.

108. **Iced Liver of Traumatic Origin.**—In the case reported by Gazzotti, a man of 51 had been kicked in the right iliac fossa by a horse. The injury was followed by high fever and daily chills for two weeks. After this he felt better, but suffered from intense thirst, irregular bowel functioning and abdominal pain, which commenced in the linea alba but spread throughout the abdomen, which became enlarged. The amount of urine decreased and edema and ascites developed. The patient soon succumbed to the progress of the diffuse traumatic peritonitis. He had been previously healthy except for smallpox and malaria before the age of 20 and influenza at 28. Autopsy revealed a typical iced liver only half the normal size, and the various steps of the process could be readily traced.

109. **Changes in the Spleen with Cirrhosis of the Liver.**—Egidi concludes from research on this subject that the changes observed in the spleen with cirrhosis of the liver should not be confounded with the changes and enlargement of the spleen from chronic congestion. It seems to be evident that the cause inducing the lesions in the liver acts on the spleen in much the same way. It is absurd to assume that the entire syndrome of cirrhosis of the liver is due exclusively to this organ, or to mechanical congestion in other organs. Changes are found in other organs which are beyond the influence of congestion from this cause, such as the transformation of the yellow bone marrow into red marrow, which has been cited as an argument in favor of the assumption that cirrhosis of the liver is primarily an affection of the blood. In conclusion he tabulates the details of the twenty cases on which his communication is based.

Riforma Medica, Naples

September 13, XXV, No. 37, pp. 1009-1036

113 Paratyphoid Infection. (Sulle febbri e febbricole setticemiche polimorfe. VI.) G. Rummo.
114 Loss of Passive Immunity to Diphtheria in Consequence of Development of Anaphylaxis. (Perdita della immunita passiva antidifterica in seguito alla malattia da siero.) C. Francioni.
115 Blood Reaction in Diagnosis of Hidden Suppuration. (La reazione ematologica di Cesaris Demel nella diagnosi delle suppurazioni nacoste.) G. Finzi.

September 20, No. 38, pp. 1037-1064

116 Malta Fever. (Sulle febbri e febbricole setticemiche polimorfe. VII.) G. Rummo.
117 *Test of Pancreas Functioning. (Nuovo metodo per determinare la funzionalita pancreatica.) A. Fedeli and G. Romanelli.
118 Endoscopy of Mouth of Ureter. (La meatoscopia a visione diretta. Suo valore diagnostico nelle lesioni ureterorenali.) A. Boari.

117. **Reactivation of Saliva as Test of Pancreas Functioning.**—Romanelli has applied for this purpose the discovery of Roger and Simon that saliva, inhibited in its special activity by the gastric juice, recovered its specific properties when transferred to an alkaline medium and a little unmodified saliva or pancreatic juice added. The findings with this test applied to the feces were always confirmed by the ordinary reliable tests of pancreas functioning. The test is not only qualitative, but also gives a quantitative estimate of the proportion of pancreatic juice present. The test is made with 1 c.c. of the individual's saliva mixed with 5 c.c. of gastric juice or an equal amount of a 2.5 per cent. solution of hydrochloric acid. After thorough mixing and an interval of rest of about half an hour, he adds 4 c.c. of a 1 per cent. solution of sodium carbonate to render the mixture slightly alkaline, and then he adds 20 c.c. of a 10 per cent. starch paste. The whole is then kept in the incubator for two hours, at a temperature of 37 C., shaking up the mixture at intervals. It is then examined for the proportion of sugar that has been produced, and then 10 c.c. of an emulsion of fresh feces (1 part stool to 3 parts distilled water) are added to the mixture, which is then replaced in the incubator, shaking it up occasionally. After twelve hours the qualitative and quantitative determination of the sugar that has been produced testifies to the intensity of the pancreatic functioning. The variation in the findings in regard to starch digestion in the first and second examinations give an oversight of the conditions in respect to the saliva and pancreas functioning when compared with the findings in health.

Ugeskrift for Læger, Copenhagen

September 9, LXXI, No. 36, pp. 999-1020

119 *Treatment of Trigeminal Neuralgia. T. Levison.

119. **Treatment of Trigeminal Neuralgia.**—Levison discusses the various methods of treating the malignant form of trigeminal neuralgia, which is rebellious to the salicylates. The pain does not radiate as in the mild form, and there is no local tenderness. It is liable to be brought on by movement of the face muscles, laughing, sneezing, etc., and in order to avoid this the patient is inclined to hold his features still, which imparts a characteristic expression. Levison ranks aconite highest after the salicylates in drug treatment and has had good results in some patients with this type of neuralgia; they took from one to four pills of aconite three times a day. In four the neuralgia was over ten and in the others from one to three years' standing. In three cases the effect of the aconite was marked; another patient was benefited more by potassium iodid. Levison refers in particular to Vitek's method of treating the neuralgia with a weak electric current, with one anode in the mouth to act on the second and third branches, the other under the upper eyelid to act on the first. In some of Levison's patients the neuralgia had returned after Gasserectomy. Deep injections of alcohol offer the best prospects in treatment of neuralgia rebellious to drugs and physical measures, he is convinced.

Norsk Magazin for Lægevidenskaben, Christiania

September, LXX, No. 9, pp. 769-912

120 13 Vaginal Cesarean Sections. (13 vaginale, konservative keisersnit.) K. Brandt.
121 Paratyphoid. (Om paratyfusinfektioner.) O. Scheel.
122 Sclerectomy in Glaucoma. (Sklerektomi med trepansaks i glaukom. Irisfrit fistelar.) S. Holth.

Books Received

All books received are acknowledged in this column and such acknowledgement must be considered as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Chemical Tests for Blood. By J. H. Kastle. Hygienic Laboratory Bull. No. 51. Paper. Pp. 62. Washington: Government Printing Office, 1909.

Adrenalin and Adrenalin-Like Bodies. By W. H. Schultz. Hygienic Laboratory Bull. No. 55. Paper. Pp. 77. Washington: Government Printing Office, 1909.

A Manual of Natural Therapy. By Thomas D. Luke, M.D., F.R.C.S., Physician at the Peebles Hydropathic. Cloth. Pp. 295, with 125 illustrations. Price, $2.50. New York: William Wood & Co.

A System of Operative Surgery. By Various Authors. Edited by F. F. Burghard, M.S., F.R.C.S., Teacher of Operative Surgery in King's College, London. In Four Volumes. Vol. II. Cloth, Pp. 710, with illustrations. Price, per volume, $10. New York: Oxford University Press, 1909.

Lehrbuch der Ernährung und der Stoffwechselkrankheiten für Aerzte und Studierende. Von Professor Dr. F. Umber, Aerztlichem Direktor am Städtischen Krankenhause in Altona. Paper. Pp. 394, with illustrations. Price, 12.50 marks. Berlin: Urban & Schwarzenberg, 1909.

Lehrbuch der topographischen Anatomie für Studierende und Aerzte. Von Dr. H. K. Corning, Professor E. O. und Prosektor an der Universität Basel. Second Edition. Cloth. Pp. 767, with 653 illustrations, 424 in colors. Price, 16.60 marks. Wiesbaden: Verlag von J. F. Bergmann, 1909.

Selected Papers on Hysteria and Other Psychoneuroses. By Prof. Sigmund Freud, Vienna. Authorized Translation by A. A. Brill, Ph.D., M.D., Chief of Nervous Dispensary, Beth Israel Hospital. Paper. Pp. 200. New York: The Journal of Nervous and Mental Disease Publishing Co., 1909.

Elements of Orthodontia. A Laboratory Note-Book for Students and Beginners. By B. E. Lischer, D.M.D., Professor of Orthodontia, Washington University Dental School. Cloth. Pp. 95, with illustrations. Price, $1. St. Louis: The C. V. Mosby Co., 1909.

Contributions to the Study of Rectal Disease. By F. Victor Milward, B.A., M.B., B.C., F.R.C.S., Assistant Surgeon to the General Hospital, Birmingham. Cloth. Pp. 92, with illustrations. Price, 2 shillings. Birmingham, England: Cornish Brothers, 1909.

Diseases of the Nose, Throat and Ear. By Charles Huntoon Knight, A.M., M.D., Professor of Laryngology, Cornell University Medical College, and W. Sohier Bryant, A.M., M.D., Consulting Otologist, Manhattan State Hospital. Second Edition. Cloth. Pp. 609, with 239 illustrations. Price, $4.50 net. Philadelphia: P. Blakiston's Son & Co., 1909.

The Practical Medicine Series. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol. VII, Pediatrics, Edited by Isaac A. Abt, M.D., Assistant Professor of Medicine (Pediatrics Department), Rush Medical College, with the Collaboration of May Michael, M.D. Orthopedic Surgery, Edited by John Ridlon, A.M., M.D., Professor of Orthopedic Surgery, Northwestern University Medical School, with the Collaboration of A. Steindler, M.D. Cloth. Pp. 234. Price, $1.25. Chicago: The Year Book Publishers.

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Original Articles

THE PRESENT STATUS OF THE SERUM THERAPY OF EPIDEMIC CEREBROSPINAL MENINGITIS *

SIMON FLEXNER, M.D.
NEW YORK

My intention is to present a very brief statement of the status of the serum treatment of epidemic meningitis. It is now about three years since the serum was first used therapeutically in this country. Gradually its employment has extended until now it is being used in Great Britain, France and Germany, as well as in the United States and Canada. Indeed, the Rockefeller Institute has sent supplies to India and to Jerusalem, but, as no reports have been received from these distant places, they will not be further considered at present.

At the time of the first employment of the serum in this country the epidemic of meningitis had already receded in the East, and, although the disease spread westward even beyond the Rocky Mountains and was often very severe and fatal, yet the number of cases arising or being recognized in any one community was not large. I, therefore, view the test made of the serum in America as having coincided with the period of recession of the epidemic.

At the period of the first employment of our serum in Belfast and Edinburgh the epidemic was at its height; that is to say, it had reached its maximum development, from which it was tending to recede rather than to extend. All the evidence at hand shows that the disease at that time had not diminished in virulence and fatality, but the number of cases appearing was in a given time less than before.

In Germany, also, the epidemic was virtually at an end when the serum was received. In France, on the other hand, the serum was available at the beginning of the outbreak of the epidemic which is now prevailing in Paris and the provinces. To the fortunate circumstance that Professor Calmette, on his return from the International Congress on Tuberculosis, carried with him to Lille a considerable quantity of the serum is to be ascribed its prompt employment. Subsequently the Rockefeller Institute sent large supplies to him, to Professor Netter and to Professor Roux. The reports of the serum treatment now appearing in French medical journals are based chiefly on the employment of the serum prepared at the Rockefeller Institute.

If, therefore, the decision of the value of the serum treatment was properly withheld until the opportunity arose to subject it to a test at the beginning of a severe epidemic, when the fatality is commonly at its height, this opportunity has now arrived in France. The outlook is further promising for a comparative study of cases of epidemic meningitis treated with the serum and in other ways. While the serum is being employed widely, apparently, in Paris and in the intense way that experience has indicated to be the best, namely, by successive injections of relatively large doses, in the provinces it is being less generally employed and it has been found difficult to have the intense method carried out by the provincial practitioners. When the reports are all in and the figures have been collected we may expect, therefore, valuable information on the value of the serum.

In the meantime, I can report to you that the excellent results obtained from the serum in America and Great Britain are being repeated in France. There have already been published reports covering 100 or more cases of the disease treated with the serum in which the mortality will probably be less than 25 per cent. On the other hand, a smaller number of cases thus far reported treated by other methods have given a far greater mortality and one approaching 80 per cent. Moreover, the phenomena of diminution in severity of the symptoms and reduction of the period of infection and convalescence have been observed there as elsewhere.

We may, then, consider fairly, I think, that the serum treatment has now been subjected to test under a variety of conditions, some of which were as severe as probably ever occur. And yet I should still advise caution in concluding that the case has been proved for the serum. The total number of reports of cases of epidemic meningitis treated with the serum prepared at the Rockefeller Institute which I have collected is under one thousand, and it obviously will take a larger number than that to establish its value. I wish now to present a tabulation which has recently been prepared based on 712 cases of the disease in which the bacteriologic diagnosis was made and the serum treatment used. In the first table the cases are subdivided according to certain age periods, and in the second the total cases of each age period are further subdivided according as the serum was injected in the three arbitrarily chosen periods of duration of the disease.

TABLE 1.—CASES OF EPIDEMIC CEREBROSPINAL MENINGITIS TREATED WITH THE ANTIMENINGITIS SERUM

CASES ANALYZED ACCORDING TO AGE GROUPS

Age years.	Total no. cases.	Recovered.	Died.	% Mortality.
1-2	104	60	44	42.3
2-5	112	82	30	26.7
5-10	113	95	18	15.9
10-15	101	73	28	27.7
15-20	107	72	35	32.7
20+	175	106	69	39.4
Total, all ages	712	488	224	31.4

Table 1 brings out several points of interest. The highest mortality is shown to have occurred in the first two years of life. But contrary to the rule under the older forms of treatment in which the mortality was 90 per cent., or over, in this series it was 42.3 per cent. The second age period is from 2 to 5 years, in which the mortality was 26.7 per cent. The third age period embraces children from 5 to 10 years of age and gave the lowest mortality of all, namely, 15.9 per cent. The next period extends from 10 to 15 years and gave a mortality of 27.7 per cent. The next period of from 15 to 20 years showed a considerable rise in mortality, equaling 32.7 per cent., and the last period, embracing the cases of 20 years and over, gave a mortality of 39.4 per cent. The average mortality in all the age periods was 31.4 per cent.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The time allowed me is insufficient to enable me to enter into a detailed discussion of the figures. It is my intention, however, to consider them in some detail in the near future. A point of importance and one to which Dr. Jobling and I have already referred is the importance of experience with the serum in securing the best results from it. If the separate large series of cases treated by individual observers are analyzed, the great discrepancy in the results as between children over 2 years of age, young adults and adults past 20 years are not encountered.

TABLE 2.—Cases of Epidemic Cerebrospinal Meningitis Treated with the Antimeningitis Serum
Cases Analyzed According to Day of Injection

	Period of Injection—Day.								
	1st-3rd			4th-7th			Later than 7th		
Ages. Yrs.	Rec.	Died.	%	Rec.	Died.	%	Rec.	Died.	%
1-2	16	1	5.8	22	10	31.2	22	33	60.
2-5	24	6	20.	40	12	23.	18	12	40.
5-10	43	8	15.6	35	6	14.6	17	4	19.
10-15	36	8	19.	23	9	28.1	14	11	40.
15-20	25	17	40.4	25	8	24.2	22	10	31.2
20+	36	21	36.8	34	24	41.3	36	24	40.
Totals . .	180	61	25.3	179	69	27.8	129	94	42.1

Table 2 is instructive in bringing out the importance of early injections of the serum. The results in the first two years of life are especially noteworthy. The extraordinary figures given under the first period of injection, namely, in the first three days of the disease, can hardly be maintained. But the influence of period of injection is shown by the rapid rise in mortality in the subsequent two periods. The rule of the effects of early injection is preserved in the age periods up to the period of from 15 to 20 years, when it disappears. The discrepancy occurring in the two highest age periods cannot be wholly accounted for at present. The explanations which suggest themselves are that among older individuals there tends to be a large number of very severe, rapidly fatal or fulminating cases of the disease, or that older persons are less subject to the beneficial action of the serum. As regards the actual proposition, it may be stated that adults not infrequently respond promptly to the serum injections by abrupt termination of the disease or ameliorated symptoms and pathologic conditions.

The total figures do not, however, fail to indicate that the early injections are more effective than the later ones, as is shown by the percentage mortality in the first-to-third-day period of 25.3, in the fourth-to-seventh-day period of 27.8, and the period later than the seventh day of 42.1.

There is one consideration which I should like to touch on. The study of certain groups of cases of epidemic meningitis, coming under one observer, indicates that the diagnosis can sometimes be made before the usual symptoms of meningeal irritation appear or are recognizable. The cerebrospinal fluid removed by exploratory lumbar puncture has been, in these cases, sometimes clear and sometimes turbid and contained more or less polynuclear leucocytes and always *Diplococcus intracellularis*. The serum being injected immediately, these cases almost invariably were abruptly terminated or ran relatively a mild course. Attention having been drawn to the cases as being possibly examples of epidemic meningitis because of the similarity of the prodromal symptoms to those of other cases diagnosed later after the signs of meningeal irritation were plain, they ran a short and mild course after the early administration of the serum, while the others, which served to direct the attention, having been injected later when the infection and inflammation were well established, assumed a far more severe and protracted form.

Rockefeller Institute for Medical Research.

ABSTRACT OF DISCUSSION

Dr. Thomas Morgan Rotch, Boston: In my wards at the Children's Hospital during the last ten years, I have had on an average twenty of these cases each year. The children treated were in the first twelve years of life and I have carried out a different form of treatment during each of the past six years. During 1899, 1900, 1901 and 1902 no special treatment was employed and the mortality varied from 60 to 80 per cent. During 1903, 1904 and 1905 the treatment was by repeated lumbar punctures and the mortality continued from 60 to over 70 per cent. Although the lumbar punctures produced no notable change in the percentage of deaths yet a certain temporary amelioration was noticed at times. During 1906, all the children were treated with diphtheria antitoxin, the doses varying from 115,000 to 144,000 units according to the age of the child. An analysis of these cases showed no especially favorable results, the mortality being about 80 per cent. During 1907, in connection with my work on the opsonic index the treatment was with the vaccines and the mortality still remained up to about 80 per cent. In all the nine years from 1899 to 1907 the mortality varied from 60 to 80 per cent.

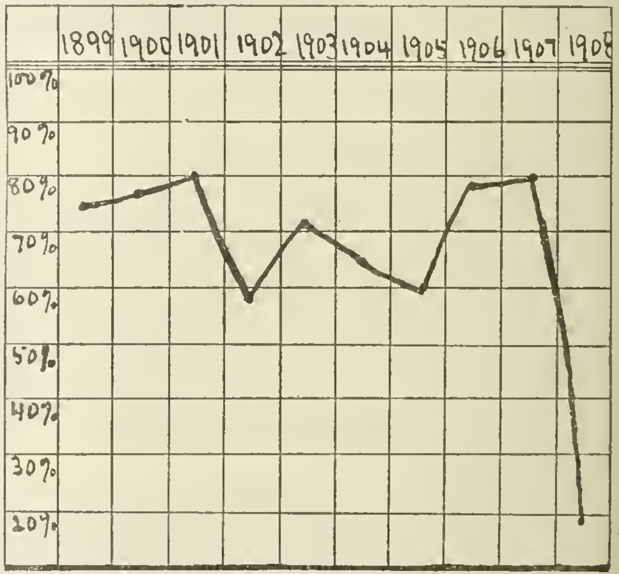

Chart showing death rate from epidemic cerebrospinal meningitis at the Children's Hospital, Boston, from 1899 to 1908.

From Nov. 1, 1907, to Nov. 1, 1908, the Flexner serum was employed and the mortality immediately fell from 80 to 19 per cent. This lower rate of mortality has varied a little since Nov. 1, 1908, but has never gone above 25 per cent.

The technic of the serum treatment in these 74 cases has been carried out by Dr. Charles Hunter Dunn. The amount of serum given varied according to the case but from 30 to 45 c.c. at a dose was found to be safe, given daily for at least four days. It is seldom that too much serum is given. In one patient, a small baby, symptoms of cyanosis, irregular respiration and collapse occurred but the symptoms soon passed off and in the Dunn series only one other child was affected and this not seriously.

The mistake which is most likely to be made is the giving of too little rather than too much. It is also a mistake to stop repeating the dose until grave symptoms return. The serum should be repeated at least once a day and in grave cases oftener until not only all symptoms have disappeared, but until the organisms are no longer found in the spinal fluid. Reports as to the results do not give a fair idea of the value of the serum treatment unless the technic is carried out in the most perfected way. In this series of 74 cases the technic was carried out with the greatest precision with the method approved by Flexner.

The serum treatment should not be mistrusted or given up because certain patients do not respond to it. There are two reasons why some individuals do not respond to the serum: 1. Because in some cases it is probable that the serum can not reach certain parts of the brain infected. For instance, if by the inflammatory process brought about by the disease the foramen of Magendie has been closed the organisms may still be active while enclosed in the ventricles where the serum can not reach them or in like manner perhaps in some remote cerebral sulcus. 2. It has not been proved that there are not a number of strains of *Diplococcus intracellularis*, some of which may be resistant to the serum.

In those cases in which an individual does not respond to the serum, cultures from the spinal fluid should at once be sent to the Rockefeller Institute in order that Dr. Flexner should be enabled to investigate this possibility and perhaps later be able to increase the polyvalent property of the serum by including them in immunizing his horses. Analogous to these characteristics of the *Diplococcus intracellularis* is the well-known efficiency of certain strains of the lactic acid bacillus and the uselessness of others on certain fermental saprophytes in the intestine. The truth of these observations has been exemplified in Dunn's clinical work.

Dr. Philip King Brown, San Francisco: Dr. Rotch's statement regarding the care of these patients in hospitals makes me wish to report a brief experience with the treatment of these cases in country towns in California where the disease seems to be endemic. It appears in epidemic form occasionally in small isolated communities. I wish especially to speak of this because of the remarkable results obtained in the use of the serum by the country practitioners and they should be given the credit of the work. I can not allow this opportunity to pass without speaking of it because of its bearing on the general use of the serum which I believe is bound to come. In all but one group of cases the serum was administered by the physician to whom I gave it, after I had made the initial injection. The most striking results occurred in one small town where eleven patients died before the serum was used. Then in a twelfth doubtful case the child recovered. The deaths occurred in periods of from five hours to four days after the onset of the initial symptoms. After the introduction of the serum, three patients promptly recovered. The fourth case died because the supply of serum gave out. A fifth patient from a distant place, ill two weeks before the serum was tried, recovered after the use of a number of doses of the serum. In a number of localities where I have gone to administer the first dose of the serum, I left a supply to be used by the local physician in the further care of patients and in subsequent cases that might arise. The best results obtained in California were obtained by the country doctors. In one late case the patient was deaf and nearly blind when the serum was begun; the sight returned to normal, but the hearing was not recovered. In another case the patient was almost blind before the use of the serum, but the sight was subsequently regained. Strange to say, the results in San Francisco were not so good as in the country towns. I did the work myself and did the best I knew how, but still I was not able to obtain the results obtained by the men in the country. Generally speaking, this seems to have been due to the late use of the serum, to complications and to the very bad hygienic surroundings in the homes of several of the patients. In no case, however, did I have to contend with the difficulties and disadvantages hygienically and as regards assistance in carrying out the treatment that attended all the cases I saw in the country towns and still my results were not as good as the country physicians'.

Dr. William Litterer, Nashville, Tenn.: There has just been an epidemic of cerebrospinal meningitis in Nashville. The number of cases was 20, which was confirmed by bacteriologic examinations. Dr. Flexner kindly furnished us all the serum that we needed. In the first three cases in which the serum was not used, the patients died promptly. Out of the seventeen remaining patients in whom the serum was used, only 7 died: 3 of those who died were practically moribund when the serum was injected. The serum acted like magic on 2 moribund patients. Leaving out the moribund patients, 4 out of the 14 died.

We were particularly struck with two cases in which the meningococci were found in fairly large numbers in the fluid. After the first injection of the serum the number had decreased materially and by the third injection cultures were absolutely negative and the spinal fluid perfectly clear, yet the patients complained of agonizing headaches which were the chief feature of these cases. One of the patients died on the eighth and the other on the sixth day of the disease. I am of the opinion that the meningococci had extended into the ventricles of the brain and that the serum could not reach them. I am further of the belief that possibly we could have saved the patients had we injected the serum into the ventricles of the brain.

Dr. Simon Flexner, New York: There are two symptoms which are likely to persist after the disease has entirely yielded to the treatment, namely, rigidity of the neck and the Kernig sign. Other things being favorable, they can be disregarded, and may persist even for several weeks, and gradually disappear. A second point I should like to refer to is that apparently certain strains of the diplococcus are more resistant to the destructive and inhibiting influence of the serum already mentioned. How to explain this I do not know. I had intended to collect some of these strains for a special study, but have had little success in securing them thus far. The cases have occurred often in distant and widely separated places, so that the cultures of the resistant diplococci have not survived the journey by mail to New York, and so far I have not succeeded in securing such resistant strains in New York. I trust to pursue this investigation in the future.

I am confident that the inflammatory exudate is sometimes formed in inaccessible parts of the meninges, or in deeper parts of the brain where the serum can not reach. Then in cases of hydrocephalus the obstruction at the base of the brain often prevents the serum from reaching the cerebral meninges and ventricles, where the exudate is contained. Cushing of Baltimore first carried out intraventricular injection of the serum in children in whom this obstruction existed, after trephining the skull; and in young children it is possible to make the injection through the anterior fontanelle, but up to the present time in no case of this kind, so far as I know, has the patient recovered. Whether better results will be obtained later can not of course be predicted, but in any event I think the operation justifiable, since these cases always terminate fatally.

Finally, I wish to express my deep sense of indebtedness to the large number of physicians, many of whom I have never met, for their hearty cooperation, which I appreciate very much, and without which this wide investigation could not have been made.

Fly Poison.—Formalin, used as a poison for flies, needs to be swallowed by the insect, hence the flies must be attracted to the poison by mixing with it an appetizing food and by spreading the mixture over a large surface. Honey has given poor results. The *Scientific American* says the best mixture is made with milk. It recommends a solution containing 15 per cent. of the formalin of commerce, 20 per cent. of milk, and 65 per cent. of water, placed in large flat vessels. Most of the dead flies fall, not within the vessels, but around them, sometimes at a great distance.

INDICANURIA AND ITS SIGNIFICANCE *

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Indicanuria is the presence in the urine of a perceptible quantity, more than a mere trace, of the indoxyl sulphate of potassium, of which the chemical formula is $C_8H_6NKSO_4$. It is derived from anaerobic bacterial putrefaction of proteids.

Indol is first produced, and, at the time of absorption, is converted into a soluble indoxyl, which, in the juices of the body, unites with a base, usually potassium, and is excreted in the urine as indoxyl sulphate of potassium. Normally, from 5 mg. to 20 mg. of this substance are excreted daily; abnormally, from 50 mg. to 150 mg.

Numerous tests, most of which I have examined, have been offered for the determination of the presence of indican. The solution of the neutral or basic subacetate of lead, commonly employed to clear the urine, is not without disadvantage. Sometimes it removes a portion of the indican; occasionally it renders the detection easy. As an oxidizing agent a 1 per cent. solution of potassium chlorate is to be preferred to the solution of chlorinated soda, because of the instability of the latter.

The test for indican which is advised is as follows:

To 10 c.c. of filtered urine add one drop of a 1 per cent. solution of potassium chlorate; then add 5 c.c. of chloroform, and lastly 10 c.c. of pure hydrochloric acid of a specific gravity of 1.19. Thorough mixing is obtained by repeatedly and slowly pouring from one test-tube to another. The indigo thus set free is dissolved in the chloroform, to which is imparted a blue color. The maximum coloration is secured in ten minutes. When large amounts of indican are present, more potassium chlorate will be required.

Clinically, a quantitative idea of the amount of indican present may be obtained by noting the depth of the blue color of the chloroform. Salkowski, Strauss and others have devised methods by which the quantity of indican may be estimated, but most clinicians employ the qualitative method. The presence of a faint bluish discoloration of the chloroform may be viewed as normal or as possessing no importance. If the urine contains iodid the chloroform will be colored violet, which color may be removed by adding three drops of a 5 per cent. solution of sodium thiosulphate. Certain observers have noted that indican is usually absent in normal children under five years of age. Indican may be constantly present in large, moderate or small quantities, or only occasionally present during certain hours of the day or certain days of the week or month. In order, therefore, that the presence of indicanuria be not overlooked it is necessary to obtain urine for examination at different times during the day or week, or under conditions produced by variations in food, exercise, or during the presence of one of the most marked symptoms of this affection, as for example, headache. Indican is often detected in the urine passed after supper (care being taken to instruct the patient to empty the bladder before beginning the meal) and may be absent at all other times. Occasionally it may be necessary to modify the articles of food composing the supper, so as to make it a test meal. The urine first passed on arising and retiring, as well as that taken from a twenty-four-hour specimen, should always be examined. Sometimes indican is observed only after the ingestion of certain articles of food, or combinations of food, which may be indigestible, unsuitable or in excess. It must always be remembered that, owing to an idiosyncrasy, certain patients suffer acute indigestion with marked toxic symptoms, when they partake of certain foods or combination of foods which may for others be digestible.

Clinically, indicanuria may be mild or severe, acute, chronic, or recurrent, and occurs as an independent affection or as a complication of other diseases. The severe forms of intestinal toxemia simulate cholera and may cause death in less than one week.

Indicanuria is significant of the absorption of the products of putrefaction, which putrefactive material is usually situated in the gastrointestinal tract, but under exceptional circumstances may be in other parts of the body. It is well known that during putrefaction, phenol, cresol, fatty acids and gases, and other substances are elaborated, in addition to indol, skatol or methyl indol. The test for indican is so simple and the test for other putrefactive products so difficult that gradually indican has assumed the position of an indicator of the absorption, not only of indoxyl, but in addition any one or any combination of the bodies produced by the decomposition of proteids.

Indicanuria may be absent when proteid decomposition is present if absorption is prevented, and it is conceivable that intestinal toxemia occurs in the absence of indicanuria.

Indol is a volatile aromatic substance of fecal odor, crystallizing in white glancing crystals, is practically insoluble, and as it passes through the mucous membrane it is converted into soluble indoxyl and is carried by the portal blood to the liver, where it becomes indoxyl sulphate and later the indoxyl sulphate of potassium. When indican appears in the general circulation it is excreted as such by the kidneys.

Jaffé states that the subcutaneous injection of indol is followed by the appearance in the urine of large quantities of conjugated indoxyl compound. Herter maintains that indol is only moderately toxic to man and that small doses may produce frontal headache, mental irritability, insomnia and mental confusion, and that the continual absorption of enough indol to yield a constant strong reaction of indican in the urine is capable of inducing symptoms of neurasthenia. Skatol is supposed to act as does indol.

Phenol is extremely poisonous, but phenol-sulphate is non-toxic. Phenol is usually coexistent with indican and is increased and decreased in like manner, the principal exception being in anemia and cachexia, in which indican is increased and phenol is decreased, and in hunger, in which phenol is increased and indican is decreased. Cresol is supposed to act as does phenol.

During proteid decomposition of fatty acids, such as formic, acetic and propionic, are formed, and also certain gases, such as carbon dioxid, hydrogen, marsh gas and sulphuretted hydrogen. These acids are probably but moderately toxic in the quantities in which they exist under ordinary conditions; but it must not be forgotten that small quantities of sulphuretted hydrogen are extremely poisonous. On one occasion I administered per rectum sulphuretted hydrogen, which produced simultaneously rapid, intermittent, weak pulse, collapse, delirium, and a slight odor of this gas in the breath. These symptoms vanished in a few moments.

It is not improbable that in certain cases unknown or undiscoverable toxalbumins are formed which may be peculiarly poisonous even in very small quantities. No

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

exact knowledge exists as to the precise manner in which the body protects itself from the poisonous compounds produced during proteid decomposition, but it is believed that such an influence is exerted by the cells of the liver and intestinal mucous membrane. Baumann was able to demonstrate that the liver contains a larger amount of ethereal sulphates than does the blood. Clinically, indicanuria occurs more readily when the hepatic function is disturbed than when this organ is normal. Indicanuria not infrequently exists without symptoms. Occasionally putrefactive bodies are produced that are but slightly toxic, and certain individuals possess an inherited or acquired immunity, while others are peculiarly susceptible to very small quantities of these bodies. As it is unsafe to assume, in the light of our present knowledge, that indicanuria produces no harm when symptoms are absent, prudence dictates the prevention of its formation.

The conditions which favor indicanuria are numerous and demand attention. Morbid conditions of the teeth, mouth, oropharynx, nose and sinuses connected therewith, in their relation to the production of indol, possess an importance which is far too little recognized. Not infrequently the buccal cavity contains much decomposing material, together with many micro-organisms, both fermentative and putrefactive. The odor often suggests decomposition and examination may reveal abscess of the gums, pyorrhea alveolaris, with soft, flabby, congested and contracted gums, forming numerous cavities, in which pus and food may be retained under conditions peculiarly favorable to decomposition. A similar condition may arise from the long-continued presence of food between the teeth, especially when there is irregular dentition or caries. Occasionally in the enlarged crypts of diseased tonsils decomposing cheesy material may be found and suppurative rhinitis or sinusitis is not uncommon. When such conditions of the oropharynx, nose or sinuses exist it is manifest that food, even during mastication and before deglutition, may become infected and putrefaction begin.

Many causes favor the production of indol, such as simple excess of proteids from gormandizing; insufficient mastication or insalivation and too rapid eating; any condition paralyzing or lessening gastric, intestinal or colonic peristalsis, or retarding the onward progress of the gastrointestinal contents or interfering with the normal secretions of the stomach, intestines, pancreas or liver, etc. It is evident, therefore, that indicanuria is to be expected in gastrointestinal or colonic atony or paralysis as well as in relaxation of the abdominal wall, producing gastroptosis or enteroptosis. Again, hernia, ileus, appendicitis, local or general, acute or chronic peritonitis and pyloric or intestinal stenosis, constitute conditions favoring the growth of putrefactive bacteria.

The absence, diminution or excess of hydrochloric acid, by producing indigestion and fermentation, favor the production of indol.

Indicanuria has been observed in diarrhea, in association with indigestion, gastritis, enteritis, colitis, ulceration or obstruction of the small or large intestines, cholera, dysentery, Addison's disease and inanition. The deep importance of the recognition of indicanuria as a complication in typhoid fever I emphasized in 1904, in a communication read before the Pennsylvania State Medical Society.

Constipation may exist without indicanuria, but is exceptional. Normal feces, the product of normal digestion in a normal individual, may remain in the colon an undue length of time without toxicity. Acute attacks of indigestion with furred tongue, offensive breath, constipation, mental and physical depression and headache, familiarly known as "biliousness" or congestion of the liver, are usually associated with indicanuria, and, in many instances, are examples of acute toxemia due to absorption of products of decomposition of the intestinal contents. It is more than probable that minor attacks of toxicity occur without well-marked symptoms. Recurring attacks of simple hepatic congestion, due to toxic poisoning, interfere with the normal excretion of bile, which in turn incites intestinal indigestion, fermentation and putrefaction, thus preparing the way for a similar attack on slighter provocation. In the course of months a chronic congestion of the liver is produced, aggravated by recurrent attacks of acute congestion, and thus, if the toxemia be moderate, in the course of years the clinical picture of hepatic cirrhosis may be developed.

Excessive formation of indol has been observed in various morbid states of the liver, with or without jaundice, in diseases of the pancreas, as well as in suppurative and gangrenous conditions of other parts of the body, as, for example, in empyema, gangrene or abscess of the lung and perityphlitic abscess; and has also been observed after the administration of turpentine or creosote.

Having thus far treated of indican as an indicator of toxemia, let us now turn to the various effects of toxemia.

Acute attacks of toxemia are frequently associated with dark-colored urine showing hyperacidity, high specific gravity, indicanuria and skatoluria, or moderate albuminuria and choluria, cylindroids and a few hyaline tube casts. As the toxemia increases in frequency and intensity, or becomes chronic with exacerbations, the albuminuria and cylindruria increase, and eventually, in consequence of long-continued irritation of the kidneys produced by the excretion of chemical irritants, resulting from intestinal putrefaction, chronic interstitial and parenchymatous nephritis develop. In the early stages, under appropriate treatment, these abnormal constituents in the urine disappear; again, in moderately severe cases, three, four or five years may elapse before this result is obtained.

The circulation in the blood of the derivatives of putrefaction absorbed from the intestines produces varying degrees of anemia, which, as a rule, is of the chlorotic type, and in long-standing and severe cases this anemia may become so extreme as closely to simulate the clinical and blood picture of pernicious anemia. The poison causes a rapid loss of hemoglobin and a slow loss of erythrocytes, but does not materially interfere with the leucocytes.

The circulation in the blood of these toxic substances at irregular intervals over a period of many years may cause the development of arteriosclerosis from direct action on the walls of the vessels. In a number of cases the conclusion was irresistible that this was the cause of arteriosclerosis.

The relationship of indicanuria to the nervous system is varied and most interesting. Several cases of neuroretinitis, associated with persistent and marked indicanuria, have gradually subsided and then disappeared, when this chronic poisoning was prevented; and in like manner, neuralgia or inflammation of other nerves have been produced. Occasionally pains in various parts of the body, due to intestinal toxemia, have been erroneously ascribed to rheumatism or gout. One of the common symptoms of acute or chronic intestinal toxemia is headache, either mild or severe, usually frontal, although it may be in the vertex or occiput. The duration varies from a few hours to a few days and may occur at intervals of two or three days, or as many weeks or months. An intermittent headache from this cause may continue unrecognized for months, and in one instance has been endured for seventeen years. Intestinal toxemia is as frequent a cause of headache as errors of refraction. Several examples of persistent insomnia, chiefly due to putrefactive poisoning, have come under my observation during the past decade. Certain individuals are peculiarly susceptible to minute quantities of putrefactive poison; this peculiarity has been especially observed among neurasthenics, in this respect resembling the well-known idiosyncrasy to alkaloids, such as atropin, etc. Chronic intestinal toxemia may induce or complicate cases of neurasthenia. It is not improbable that one of the reasons for the favorable results obtained from the use of a milk diet in treatment of neurasthenia is the incidental removal of an unrecognized toxemia.

Again, intestinal toxemia is a common complication of the various forms of mental diseases as seen at the Philadelphia Hospital, and occasionally it is the cause or complication of certain cases of epileptiform convulsions. The favorable course of many cases of pulmonary tuberculosis is interrupted by attacks of intestinal toxemia, and has been more frequently observed since the treatment of tuberculosis by large quantities of milk and eggs has become more general. The diagnosis of this complication is absolutely necessary for success in treatment of tuberculosis where a specific diet, suitable for the individual, should be substituted for the one in more general use. Putrefactive poisoning aggravates catarrhal inflammations of the respiratory tract and the recognition and removal of this complication is frequently followed by a marked amelioration of symptoms, and in like manner certain cases of bronchial asthma are greatly benefited. Eczema, pruritus, acne rosacea, and malodorous perspiration and breath have been observed in association with indicanuria.

Intestinal toxemia is a common disease in itself and a frequent complication of many diseases; its removal is very frequently followed by remarkable and prompt amelioration or disappearance of many distressing symptoms.

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ABSTRACT OF DISCUSSION

Dr. Heinrich Stern, New York: The pathologic significance of urinary indican, or rather indoxyl-sulphuric acid, has been grossly exaggerated. True, there ensues an increased production of indoxyl compounds in cholera, Addison's disease, obstructive affections of the small intestines, etc., but this does not justify us in ascribing to them toxic qualities, and to maintain that they stand at the foundation of a number of pathologic conditions. Of course, the indoxyl compounds have no direct relationship to so-called pyorrhea alveolaris, they are neither its cause nor its result. The indoxyl compounds are normal urinary constituents and we find them in small amounts in every human urine, except in that of new-born and breast-fed infants. Indoxyl is even contained in the renal secretion of infants who obtain besides human milk also some cow's milk and even in these instances, it occurs in the absence of any digestive disturbances whatsoever. Increased amounts of indoxyl as found in the urine allow of but one interpretation, namely, that we are confronted with some form of tryptic perversion. Some observers hold that the trypsin of the pancreatic secretion induces or favors the production of indoxyl. Their contention is based on two facts, viz.: the tryptic quality as regards decomposition of the ingested proteid material, and the decrease of urinary indoxyl in case of an occlusion of the pancreatic duct. Clinical experiments and observations, however, have demonstrated to my satisfaction that in the majority of instances of so-called indicanuria, we have to deal with an insufficiency of tryptic function and, consequently, with abnormal putrefactive processes and the augmentation of the intestinal bacterial flora. While it is, of course, possible that an indicanuria may occur with a process like pyorrhea alveolaris while it is even possible, although it has never been proved, that perverse intestinal putrefaction may stand in some more or less remote relationship to pyorrhea alveolaris, we have no business to maintain that one of the accidental products of such putrefaction, the indoxyl, is the true causative agent of this or of any other affection. We must not forget that pyorrhea alveolaris is an exceedingly progressive, chronic affection, and that indicanuria, that is the excessive excretion of indoxyl compounds, is essentially an acute, or at least, a limited occurrence. Is it possible that the rather ephemeral indicanuria will give occasion to the enduring pyorrhea? The same contention holds good with all other affections which, at one time or another, have been accused of having excessive excretion of indoxyl as their causative factor. The indoxyl compounds are not toxic in themselves, so far as we know, they are of more or less accidental occurrence, and may point to an occlusion of the small intestine with a decrease of tryptic function and an increase of bacterial activity. Everything else belongs to the realm of speculation. Moreover, I wish to direct attention to the fact that indoxyl occurs not only in the urine of carniverous but also in that of herbiverous animals. As a matter of fact, it is present in the urine of some of the herbivora in much larger quantities than in any of the carnivora. It occurrs in enormous amounts in the urine of the horse, from which we obtain it for experimental purposes. It may also be prepared from the urine of the dog, but, in my experience it is purer when it is derived from horse's urine. In the latter, it is present in larger proportion than in that of cattle. The reason for this seems to be the large cecum of the horse which permits additional and more complete disintegration of the ingested material. Indoxyl does not occur in the urine of the rabbit, as a general rule, but I have found it therein in the presence of artificially induced obstipation. While indoxyl appears in the urine in larger amounts after a diet rich in animal food, it never attains pathologically that proportion in the human being which is normally present in the urine of the horse. This evinces, I dare say, that animal food and the ensuing putrefactive processes, in herbivorous animals at least, are not the only source of indoxyl compounds and that vegetable ingesta and fermentative processes may give rise to indican production. I have employed for some time the potassium chlorate-chloroform-hydrochloric acid test advocated by Dr. Daland for clinical work.

Dr. Henry R. Harbower, Chicago: The subject under discussion appears to be unquestionably the entering wedge to even more important and vital studies. Dr. Daland has rightly emphasized the significance of indicanuria and its importance as an etiologic factor in disease. A point which I wish to emphasize, however, is the close relation between indicanuria and diseases of the mouth and teeth. As a matter of fact, mouth symptoms are among the first manifestations of those disturbances due to or associated with indicanuria and its causes. Acid saliva, pyorrhea and affections of the alveolar process are almost invariably accompanied by indicanuria. The pioneer work in this particular line of Dr. Eugene S. Talbot of Chicago proved this assertion. Acidemia is also frequently found associated with indicanuria; I do not refer to the acidosis of diabetes. In a series of several hundred uranalyses the average acidity was increased considerably, varying from 10° to 275°, the normal degree of acidity being from 30° to 40°. Each degree represents the amount of N 10 sodium hydrate required to neutralize 100 c.c. of urine. The number of acid units (and, by the way, this is an important factor recently suggested by Dr. A. L. Benedict of Buffalo) varied from about 8,000 to 350,000 in twenty-four hours, 40,000 being approximately the normal. In 83 per cent. of these cases indican was present to a greater or less extent, those cases showing an excess of indican always giving a marked increase in acidity. A number of cases showing indigo red instead of indigo blue all evidenced a tremendous acidity. In 81 per cent. of this series the urea index was diminished an average of one-half: in one case in which the acidity reached 220 and indican was abundant the percentage of urea was only 0.4 (2.8 gm. in twenty-four hours). About one-third of these cases showed casts. Summing up these facts it will be seen that indicanuria is practically always associated with an excessive elimination of acid substances in the urine and a marked decrease in the amount of urea, two very important findings. I believe that the condition of acidemia or diminished blood alkalinity is of far greater importance than present medical opinion or the text-books would lead one to believe; that it is a probable cause of many obscure diseases and consequently deserves more extended attention and thorough investigation. Further, the reduction of this condition of excessive acidity by the judicious use of suitable remedies brings with it a speedy and decided amelioration of many indefinable ills.

Dr. Richard C. Cabot, Boston: After using the test for indican for a long time in different clinical conditions, I have given it up and I would advise others to give it up. We sometimes get an increase of indican in the urine in pathologic conditions, of course; but in such case the nature of the pathologic condition present is much more obviously indicated from the clinical side. Indicanuria gives us no diagnostic or therapeutic indication. What was the relation of indicanuria and indican production to the diseases Dr. Daland mentioned?

Dr. Allen A. Jones, Buffalo: I think that Dr. Daland has mentioned two points in particular that are worthy of our consideration. The first is that normally from 25 to 50 grams of indican are excreted in twenty-four hours; whereas, abnormally from 50 to 150 are excreted. So I believe that it should be routine work to estimate the amount of indican excreted in twenty-four hours. The indican test has been employed in my laboratory for many years, using the qualitative but not the quantitative test. It may be that by using the quantitative test one may arrive at some definie clinical conclusions. So far as the qualitative test is concerned, very little attention is paid to it at the present time in a routine way except in the laboratories. Years ago an attempt was made to associate indicanuria with a definite condition of the stomach, a diminution of the amount of hydrochloric acid in the gastric contents; in my series of 160 cases, I could not prove any definite relation between the amount of secretion of hydrochloric acid and indicanuria, which was found with and without any diminution in the amount of hydrochloric acid in the gastric contents.

So far as can be gained from Dr. Daland's paper, we can come to but one general conclusion, *i. e.*, indicanuria is merely an evidence or symptom of a toxemia, and this toxemia may come from a variety of conditions. It is not associated with any definite pathologic condition in the body, or in other words, any definite disease.

Dr. Anthony Bassler, New York: My experience is confirmatory of Dr. Jones' statement concerning the relationship existing between states of gastric juice secretion and indicanuria. It is generally taught that the regular association with indicanuria is a low state of gastric juice secretion, but this is not always so. A marked indicanuria may exist with excess stomach secretion. Clinically speaking, I do not think that the indicanuric conditions are only produced by hypochlorhydria and anachlorhydria, but believe that the intestinal conditions called indicanuria often cause depression of the secretory apparatus of the stomach, for by the direct treatment of the intestinal condition its effects on the stomach are often mitigated or removed. I regret that Dr. Daland did not have time to describe his test, and I wish he would add whether the use of the solution he advocates will also give the uroresin reaction, which to me is just as important as indican.

Dr. Judson Daland, Philadelphia: I think that Dr. Jones' understanding of indicanuria is the correct one, namely that it is simply an indicator of the absorption of putrefactive substances, a certain toxemia. Much benefit is derived from the study of the presence of indican in the urine. To me, at least, it has been of great service. Indicanuria serves to aggravate certain conditions. To show this, I recall two cases of retinitis under the care of a skilled ophthalmologist, who found that the condition was toxic. Indican was present in the urine in large amounts. By successfully treating the indicanuria the patient made a good and rapid recovery from his retinitis. We can always take exceptions to clinical evidences; but clinical evidence is necessary because we are not in a position to offer experimental evidence. I have had the opportunity of watching the renal secretions under many conditions in association with indicanuria, and I have observed its disappearance followed by a clearing up of the evidences which make some believe there is an involvement of the kidney. I desire to repeat that indican itself is not a substance capable of producing any material interference with health; but in those conditions in which there is the continued presence of a large amount of indican I have found associated evidences of disorders of various parts of the body which, in my opinion, were due to the formation in the intestine of toxic substances of different kinds which I am unable to differentiate. Therefore, I use this test as a rough clinical method; when indicanuria is present, by causing the removal of the indican from the urine we improve the patient very materially. This is merely a clinical contribution. I was especially glad to hear Dr. Harrower speak of the condition of acidemia or diminished blood alkalinity.

CARDIAC AND VASCULAR COMPLICATIONS IN PNEUMONIA

WITH SPECIAL REFERENCE TO TREATMENT *

F. FORCHHEIMER, M.D.
CINCINNATI

If we glance at the etiologic conceptions which formerly existed in connection with lobar pneumonia—and unless otherwise stated lobar pneumonia is the only form of pneumonia referred to in this paper—it will not be difficult to see why the heart was neglected. Those who believed in a humoral origin of the disease assumed that the only thing requisite for the cure of pneumonia was blood-letting, and that it was not necessary to look to the heart. Indeed, with Bouillaud's formula of bleeding (1830), *coup sur coup* and withdrawing twelve to sixteen ounces at a time, the heart was literally neglected. Then came a time when bleeding was restricted to cases which presented some indication for it, although, as Trousseau says, most physicians and all the laity could not conceive of pneumonia patients recovering without it. The indication was not stated precisely, but more or less vaguely as, with Trousseau, general congestion. About the same time (1847) Skoda and Dietl (1847) pointed out the dangers, as well as the inutility, of the procedure in any case of pneumonia and substituted for it that which has been called the expectant treatment, or better, nihilistic treatment, which, however, was followed by more recoveries than had ever followed bleeding.

It was not until 1874, when von Jürgensen wrote his remarkable article,[1] that the heart was brought into prominence; he says: "The danger to life which croupous pneumonia produces in the patient first threatens the heart. Pneumonia death is caused by cardiac insufficiency." In this article, which in some ways is almost prophetic, he says, "Sine pulsu nulla therapia," thus differentiating pneumonia from typhoid fever, in which there is no treatment without the thermometer. Furthermore, among many other things now accepted, von Jürgensen recommends the fresh-air treatment, which has been so successfully rediscovered within the last few years.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] In von Ziemssen's Handbuch der speciellen Pathologie und Therapie, vol. v, part 2

About ten years after this (1884-5) A. Fraenkel discovered the cause of lobar pneumonia, namely, Fraenkel's diplococcus, the *micrococcus lanceolatus*, or as Fraenkel himself calls it, the pneumococcus. From this time our expectations of increased knowledge were fulfilled. For clinical and therapeutic purposes many things have been added, for the study of blood-vessel conditions the most important is found in Romberg and Pässler's contribution [2] on the effect of pneumonia infection on the general circulation. These two observers showed that the toxic albuminoid which is produced during metabolic activity of the pneumococcus paralyzes the vasomotor center in the medulla oblongata, and Pässler, in a subsequent communication[3] states that this is the most common cause of death in pneumonia, in as far as the circulatory apparatus alone is concerned. The objections to the complete acceptance of this view were that there was the incomplete accordance of experimental results and clinical observation, and that the condition had not been identified in man. At the present day the first may be considered as having been satisfactorily settled; for the second, although identification is fairly complete, much more must be done in order that the clinical picture may be accepted by the profession at large. I do not hesitate to state that with a healthy heart vasomotor paralysis is the most common cause of pneumonia death, in so far as the cardiovascular apparatus is concerned, and it goes without saying that this mode of death may occur irrespective of health or disease of the heart. As a matter of fact, there is still some doubt whether, with sufficient infection to produce this vasomotor condition, the heart muscle is not always affected and whether the former or the latter develops first.

Long ago it has been shown in animals that, on section of the splanchnic nerve, an enormous quantity of blood accumulates in the intestine, which is followed by intense anemia in other organs, especially in the central nervous system, which may cause death. The splanchnic nerve is the vasomotor nerve of the intestines, and its section causes paralysis of vasomotor function and enormous dilatation of blood-vessels. In paralyzing the vasomotor center with the pneumococcus the same result follows in man. In brief, in man there is first, dilatation of blood-vessels in the splanchnic area; the blood-pressure, which sooner or later is normally low in pneumonia, sinks; the heart, which is supplied by an insufficient quantity of blood, which is gradually becoming stationary in the affected area, continues to draw blood from other places, the liver, the skin, the muscles and central nervous system, and becomes more and more rapid and ineffectual, "bleeding itself into the splanchnic area," and finally stops. The intracardiac pressure is reduced so that the myocardium ceases to contract; moreover, the various cardiac and vasomotor centers become asphyxiated, and therefore paralyzed.

All this, as Pässler first pointed out, produces a characteristic clinical picture. My observation has led me to add to his description, so that it presents itself as follows: The first evidences are rapidity of heart and sinking of blood-pressure; with this, or shortly afterward, there comes tympanites; the patient then presents an exsanguinated appearance, with beginning evidences of collapse; the pulse becomes irregular, empty and so rapid that it cannot be counted; symptoms of cerebral anemia begin to appear—delirium, hallucinations, sometimes great restlessness; they gradually disappear to be superseded by stupor and coma; the collapse increases; the heart becomes more irregular; the heart sounds disappear, and the patient dies.

With such an appalling possibility staring us in the face in every case of pneumonia (for we are not in a condition to determine when the infection is sufficient to produce the condition described), it would seem natural to resort to means in order that its development may be prevented. In order to accomplish this purpose A. Fraenkel[4] recommends the administration of digitalis. He gives ¾ gm. a day for three or four days, maximum 12 gm. in all, in all cases which come under observation within the first three days of the disease. It is contraindicated in patients with organic disease of the heart, kidneys or blood-vessels, and he does not apply this mode of treatment in drinkers and patients over 50 years of age. His results seem to be satisfactory; the temperature sinks; the pulse does not become more rapid and the blood-pressure never diminishes. Theoretically there can be no objection to this mode of treatment, but my own experience with it has not convinced me that it is the best. In 1891 Petresco[5] of Bucharest published an article on the treatment of pneumonia with large doses of digitalis in which he recommends the administration daily of 4-8 gm. of digitalis infusion given in twenty-four hours, according to the severity of the case. In some cases he gave as much as 24 gm. in four to five days. As there was an epidemic of pneumonia in my wards at the time of the appearance of this publication, all the patients were put on this treatment. I failed to verify nearly all of his conclusions, even to the small detail that the pulse fell after one to three doses had been given. On the contrary, mortality was greater than before. All the evil effects that can be produced by digitalis were noted, and after three days of administration of the remedy such cumulative effects were produced as I shall hope never to see again.

The next remedy which I tried was the routine administration of strychnin; while I should not want to be without it in the acute infections, it does not prevent the vasomotor syndrome which is under consideration.

Because of the peculiar action of caffein, in stimulating the vasomotor center and its action on the heart, I have administered this drug for the last twelve years in a routine way. Caffein always increases blood-pressure, unless there is some organic lesion which in and of itself produces increased blood-pressure. Thus, in nephritis, when the pressure is abnormally high, it is doubtful if the pressure goes higher on administration of caffein, but the presence of this complication is, it seems to me, an additional reason for giving the drug.

In aortic sclerosis and splanchnic sclerosis caffein may be given with safety when the blood-pressure is below normal, or when it sinks. In all organic heart lesions it is also safe. So that the only contraindication for its use would be abnormally high blood-pressure, when there is danger of doing harm by the possibility of increasing it, a condition which may present itself in cases of cerebral arteriosclerosis, or in recent endocarditis. I have never seen any other effect on the heart than diminution in rate in pneumonia when the drug is given in proper doses. For prophylactic purposes it is not necessary to give more than 0.10

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[2] Romberg, E., and Pässler, H.: Experimentelle Untersuchungen über die allgemeine Pathologie der Kreislaufstörungen bei akuten Infectionskrankheiten, Deutsch. Arch. f. klin. Med., 1895, lxiv, pp. 652-763.

[3] Pässler, E.: Zur Behandlung der fibrinösen Pneumonie, München. med. Wchnschr., 1901, xlviii, No. 8.

[4] Fraenkel, A.: Spezielle Pathologie and Therapie der Lungenkrankheiten, 1904, ii, 372.

[5] Petresco: Therap. Monatshefte, 1891, p. 121.

to 0.30 gm.—(gr. i ss to v) every four hours. When the symptoms of "bleeding into the splanchnic area" have developed it should be given hypodermically 0.20 gm. three or four times daily. I employ the double salts (preferably the caffein-sodiosalicylate because it is best made in this country), as they are more stable when dissolved in water, more soluble and less irritating when administered hypodermically than any of the other salts of caffein. On the whole, they do exactly what Fraenkel has claimed for digitalis; they reduce the pulse-rate, the fever may become reduced; they increase the blood-pressure; they reduce the mortality without being subjected to many limitations in administration and without producing the unpleasant effects of digitalis when given in proper dosage. Occasionally it occurs that patients become nervous and sleepless, which is remedied by reduction of dose.

Other preventive measures of great importance should also be considered. First among them I would place the fresh-air treatment, which reduces wear and tear, rendering all patients less liable to fatigue and which also lessens toxemia. Next to this, I would emphasize the necessity of treating sleeplessness from whatever cause it may arise; the continuance of wakefulness is very dangerous, both for the nervous system and for the heart, and as von Jürgensen says, "there are cases in which the whole therapeutic problem temporarily reduces itself to the production of sleep." Lastly, it may become necessary, in individual cases to reduce the temperature. I have purposely said "individual cases," as antithermic treatment is not necessary, as a rule. When the temperature produces damage it should be reduced, but only by such measures as do no harm, and especially do no harm to the heart.

The Nauheim or calcium chlorid baths, as recommended by P. K. Brown,[6] in vasomotor paresis in acute infectious diseases might be advantageously employed instead of the ordinary cool or cold bath, especially as a preventive measure. Besides these, all those other dietetic, hygienic and therapeutic measures and the proper treatment of other symptoms must be considered as acting prophylactically, notably those which may affect the central nervous system unfavorably.

When the symptom-complex has developed then most energetic measures should be adopted. In 1898 I was successful in arresting a case of splanchnic vasomotor paralysis, and in 1904, after having had a number of cases, two of which were in children, I published the method[7] which had been successful. It is as follows: Adrenalin is employed for the purpose of contracting the blood-vessels of the spanchnic area, for which, according to Abel, it has an elective affinity; hypodermoclysis or venous transfusion with large quantities of normal saline solution (0.90 per cent. Hamburger) for the prevention of asystole, one or two ice-bags on the abdomen which reduce the pulse, probably by stimulation of a splanchnic reflex. Adrenals were first recommended in pneumonia by E. A. Gray[8] in 1902. Henry L. Elsner[9] recommends adrenalin for vasomotor paralysis for precisely the same reason as stated above. Adrenalin may be given with the hypodermoclysis, 1 c.c. of a 1000 solution; the frequency of its application must depend on the symptoms, as its effects are transitory. This is one of the few conditions in which a physician should be "in constant attendance." According to the rate and rhythm of the pulse, which are entirely satisfactory indices, even without blood-pressure estimations in the onset, the drug should be administered every two to four hours. This cannot be kept up very long, so that I have found it necessary to give hypodermic injections of caffein to take the place of the hypodermoclysis, which usually results in giving three or four saline and adrenalin injections a day and four doses of caffein. In the first twenty-four to thirty-six hours most reliance should be placed on hypodermoclysis; with the added adrenalin gradually the caffein is allowed to take its place. The ice-bags are valuable adjuncts; in one patient, without any other treatment, I succeeded in reducing the pulse-rate from 140 to 60 per minute. As soon as such an effect is produced, or when tympanites disappears, the ice-bags should be discontinued, to be reapplied when the pulse goes up or the tympanites reappears. This mode of treatment, applied in all kinds of vasomotor paralysis, has given me about 50 per cent. recoveries. Esser[10] has employed large doses of camphor hypodermically to increase blood-pressure; in one case he gave 23 gm. (345 grains) in four days. He lost 2 cases out of 13—but his record is not perfectly clear, as 2 cases, at least, belonged to another type of heart failure.

The subject of dilatation of the right heart as a menace in pneumonia has received considerable attention by modern writers. Those of us who have seen a great deal of pneumonia will admit that it is a rare occurrence. A. Fraenkel[4] states that it cannot be found in all serious cases. Petzold[11] records observations in 271 cases without having found it once. Pässler[3] claims that it may occur in rare instances from increased resistance in the pulmonary circulation. On the other hand, all pathologists point out the fact that after death the right chamber of the heart is distended by firm coagula. But, as it *is* admitted to exist by clinicians, it seems unnecessary, at this time, to discuss the apparent discrepancy between clinical and the pathologic-anatomic attitudes; we certainly must admit with A. Fraenkel that if the heart is not too unfavorably affected by toxic effects, resistance in the pulmonary circulation "is overcome without difficulty and without dilatation of the right heart in the greatest number of cases."

The clinical picture differs altogether from that produced by vasomotor paralysis. The patient is cyanotic; there is great dyspnea; increased activity of all the obligatory as well as accessory respiratory muscles, as well *as by* all the other evidences of dyspnea are present. On examination we find the jugular veins overfilled, the movements of the heart very much increased, especially those of the right ventricle; on percussion there is increased heart dulness to the right from 1 to 3 cm.; on auscultation there is accentuation of the second pulmonary sound which disappears as the case progresses. Frequently edema of the lungs is also found. The liver is usually enlarged; when the condition lasts for over twenty-four hours it is very much enlarged. The patient dies in asphyxia—never in collapse, unless this condition is combined with vasomotor paralysis. The simplest treatment of this condition is blood-letting by venesection, and ordinarily from eight to sixteen ounces should be drawn. Primarily the pulmonary circulation is relieved, and, secondarily, the dilatation of the right heart. If there is pulmonary edema this may also disappear; at all events when done properly, phlebotomy is followed by remarkable results, so remarkable, indeed, as to make one wonder if blood-letting has not become what Gross called it, a lost art. It is, however, not necessary to do this in every case. The mode of treatment which is applied in ordinary cases of acute myocardial insufficiency is usually sufficient. It consists of hypodermic injections of digitalin in large doses, of camphor and ether, of caffein. Alcohol is not indicated unless the patient is an alcoholic.

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[6] Brown, P. K.: Tr. Assn. Am. Physicians, 1906, xxi, 641.

[7] Forchheimer, F.: Acute Myocardial Insufficiency, Arch. Pediatr., 1904, xxi, 684.

[8] Gray, E. A.: The Influence of Suprarenals in Pneumonia, Med. Rec., 1902, lxi, 527.

[9] Elsner, Henry L.: Treatment of Cardiac Asthenia of Pneumonia, New York Med. Rec., 1904, lxxix, 12.

[10] Esser.: München. med. Wchnschr., 1904, li, 2314.

[11] Petzold: Deutsch. Arch. f. klin. Med., lxx, 373.

The other cardiac conditions which may develop in the healthy heart are pericarditis, acute myocarditis and endocarditis. Endocarditis is the most frequent complication, and the third most common cause for pericarditis is the pneumococus. In regard to acute myocarditis in pneumonia our knowledge is fragmentary. Without any other cause the frequency of pericarditis and endocarditis would lead one to imagine that acute myocarditis should also be present. But from what we know of the etiology of acute myocarditis this could not be final, as we find acute myocarditis in pneumonia, without either pericarditis or endocarditis. It seems, however, that acute myocarditis in pneumonia is the postfebrile form and as such leads to sudden death from acute myocardial insufficiency. Acute endocarditis is found as the simple and the septic form (malignant, ulcerative endocarditis). As pneumonia is a bacteriemia, it is not remarkable that the septic form develops with relative frequency. The treatment of these conditions is the same as is applied to them under other conditions.

From von Leyden's statement it seems that we in America, as well as the Russians, have taken to employing strychnin in the heart complications of pneumonia and, as he says, he also has employed it with benefit. As far as the heart is concerned, strychnin has an effect only in toxic doses. Indirectly given in normal doses it may, however, affect the heart by stimulating its inhibitory center, and, therefore, reducing its rate. It furthermore is followed by contraction of blood-vessels, but, in man, not sufficient to increase blood-pressure. As strychnin increases the irritability of the cord somewhat, many of the normal functions of the cord are increased in activity. Furthermore, it stimulates the respiratory center, in normal doses, but large doses are followed by paralysis. It would seem, then, that when we give large doses, so frequently administered in pneumonia in a routine way, we may stimulate the heart, but do great damage to the respiratory center. In small doses it is invaluable in pneumonia, in acute myocarditis, although it has also been given in enormous doses here with apparent success, but it is especially valuable as a stimulant of the respiratory center—indeed, as a stimulant of the whole cord. On the other hand, its routine administration, especially to the degree of producing toxic effects, should not be encouraged, as it does not prevent the accident we now most fear and, moreover, produces deleterious effects. Elsner[9] most forcibly states the position in regard to the administration of nitroglycerin in a healthy heart: we already have lowered blood-pressure: why should we increase it, and bring it to or beyond the danger line? It should not be given, even in overfilling of the right ventricle, as it especially affects the splanchnic area.

The treatment of pneumonia with coexisting heart disease has been variously described. Some authors give digitalis in every case, others only for specific indications. It would seem that as in routine administration of digitalis in any heart disease this drug might do harm, as it does when administered indiscriminately. With the present advance which we owe to modern pharmacy, in giving us reliable glucosids, acting when given in proper doses, either hypodermically or intravenously, with certainty and promptly, the preparation of the heart for a possible breakdown, which takes at least two days, is no longer necessary. At least such has been my experience in the last three or four years. In chronic valvular disease in which I always gave digitalis formerly I now restrict its administration to those cases in which there is a probability of decompensation because of the additional work put on the heart. The conditions may be summed up as follows, such as have already had decomposition or are having it when pneumonia develops, and, furthermore, in those valvular lesions in which compensation is not complete. Therefore, in all valvular lesions, except aortic or mitral insufficiency in which there is complete compensation, it is not wise to take chances.

With diseases of the myocardium we find, on the whole, the most dangerous complicated form of pneumonia; Pässler's statistics show that in pneumonia with chronic myocarditis the mortality is 93 per cent. While I believe this to be an exaggerated statement, because of the small number of cases which are considered, it is, nevertheless, true that chronic myocarditis is the greatest menace to life in patients with pneumonia. But here, as well as in all other forms of myocardial diseases, the degree of danger lies in the degree of existing chronic myocardial insufficiency. Any patient who goes into an attack of pneumonia with abnormally low blood-pressure due to chronic myocardial insufficiency has little chance for recovery.

Whenever any manifestation of myocardial insufficiency develops it should be treated as an acute myocardial insufficiency. The results naturally vary with the form of myocardial disease and with the individual condition. In the fat heart little can be expected from digitalis or strophanthus when the myocardium is already weak or there also exists arteriosclerosis. In the heart of Bright's disease when, notwithstanding the existence of heart disease, the blood-pressure goes down, caffein should be given in large doses and digitalis as well. In arteriosclerosis the blood pressure is an infallible guide to therapy; when it sinks the ordinary remedies should be applied; when it remains high it is not wise to give vasodilators. Myocardial disease due to other conditions, as chronic respiratory troubles, malformations of the thorax, etc., should be treated as all other chronic myocardial insufficiencies, in addition to which, at times, it may be possible to employ causal therapy.

Pericarditis does harm in two ways, either producing myocardial insufficiency by extension to the myocardium, by the production of adhesive processes or—which is rare—by the presence of fluid in the pericardial sac. When the latter exists the fluid should be removed, otherwise, the myocardial insufficiency should be treated.

Fourth and Sycamore Streets.

ABSTRACT OF DISCUSSION

Dr. De Lancey Rochester, Buffalo: I regret that Dr Forchheimer could not go into the details regarding the treatment of dilatation of the right heart, because that is one o the conditions that it is not uncommon in pneumonia; in fact it is very common. It is one of the conditions in which venesection is particularly indicated. I can recall at present twelv cases of pneumonia with dilatation of the right heart, and i all of them I believe life was saved by doing a prompt venesection, withdrawing from 200 to 400 c.c. of blood. As illustrative of its value, I should like to report one case. Thi patient was 18 years old, and had had a progressive pneumonia involving one lobe after another, so that all the righ lung and the upper lobe of the left as well as the pericardium were involved. The heart's apex was in the axillary line and the pulse was 180 or more, very irregular and small. The liver was two inches below the costal margin. There were present all the evidences of a dilated right heart. Flatness was complete on the right side, and it was feared that there might be fluid, and so the chest was aspirated in four directions, but nothing was found but solid lung. This patient was bled 250 c.c., and during the bleeding the respirations, which had been 66 to the minute, fell to 36; the pulse, which had been 180 and irregular and small, dropped to 120 and showed better tension. The heart, which had been in the axillary line moved to midway between the axillary and nipple lines in the fifth interspace and acted better. This patient's life was saved This illustrates one of the cases in which venesection was successful. It is a procedure which has gone into disrepute, but it should be used always when indicated.

Dr. Frank Billings, Chicago: We all agree with Dr. Forchheimer that active measures are necessary when the cardiovascular syndrome develops; until that time, we are not all agreed as to what we should do with such patients. I think there is no disease in which rare judgment is so necessary not only in knowing what to give, but in knowing when not to give drugs. From my own experience I find that the longer I live and attempt to cure patients with pneumonia, the less I am inclined to give mixtures containing drugs until they are necessarily called for, and this is especially true in hospital work. The moment that cardiovascular symptoms appear, with the lowered blood pressure, with failing left heart, the time has then come for active work. I believe in the proper use of digitalis, but not as ordinarily given and by the mouth. With the hypodermic use of digitalis I have had a sad experience; it was with the active principles of the drug, and now I practically never use them. But I do use a preparation of the leaves themselves.

In an emergency, the intravenous use of digitalis gives good results. When used in that way it is not necessary to repeat the dose unless symptoms indicate. Four, six, ten, twelve doses may be necessary, and perhaps one dose, in some instances, will accomplish all that is necessary.

There are other remedies besides digitalis which increase the ordinary tone. Caffein is a good agent and camphor will readily raise the blood-pressure in cases of failing left hearts. I give one or two-grain doses in ordinary camphorated oil. Musk also will raise the blood-pressure. Strychnin and other drugs that are commonly used in failing left heart are absolutely valueless except to stimulate nerve centers; strychnin will not raise the blood-pressure 1 mm. I have used it over and over again. If that unfortunate condition occurs, dilatation of the right heart, I think that venesection is the one remedy to be applied and immediately, and it matters not whether the patient be plethoric or not.

The use of cold applications to the chest I have followed. In failing heart the applications of bandages about the extremities is sometimes of value. But whatever is used must be used with good judgment or more harm than good may result.

Finally, the watchful and vigilant care of patients afflicted with pneumonia without the use of drugs is the ideal treatment. Do not attempt to do good by any specific medication, but attempt to preserve the functions of the individual's body, and do not be nihilistic regarding the use of remedies. I think we may say that with proper management of the patient we may occasionally save patients who might otherwise die.

Dr. C. F. Hoover, Cleveland: I wish to call attention to the danger of accepting a measurement of blood-pressure as an equivalent for the mass movement of blood. The fact that a patient has a maximum blood-pressure equal to a column of mercury 140 mm. high, does not justify the deduction that the mass movement of blood is satisfactory. Patients with severe mitral stenosis, for instance, may have a great disturbance in the blood distribution of the body with marked asystole, and still have a normal arterial pressure. The sphygmomanometer is not a safe guide in estimating the mass movement of blood. The position of the right border of cardiac dulness, the size of the liver, the pulsations in the internal jugular vein and the duration of the pulse in relation to the maximum systolic blood-pressure are all factors which must be considered in estimating circulatory efficiency. To estimate the size of the right auricle by percussion is one of the nicest refinements of physical diagnosis, and yet this very point is one which must be determined to settle the question of therapy in pneumonia if we are to anticipate an advanced cardiac incompetency with a suitable therapy.

Dr. John H. Musser, Philadelphia: It is very important that we should remember in those cases of apparent cardiac failure, that such cardiac failure is the result often of pericardial effusion. Too often do we see these patients treated for heart failure, or acute dilatation of the heart in the course of pneumonia when by removing a few ounces of fluid from the pericardial sac the serious symptoms are relieved.

Of course Dr. Forchheimer will agree that the best treatment of the heart is that which is applied in the first period of the disease, as soon as the pneumococcus infection is recognized. Therefore, the results that are to follow will depend on such form of management. I am in sympathy and in accord with what Dr. Billings stated. In the majority of the cases I prefer to rely on fresh air, on judicious local treatment, on hydrotherapeutics, on regulation of the proper amount of food taken, and particularly on care that the patient is not overfed. I watch carefully for the phenomena so well pictured by Dr. Forchheimer, guarding against the possibility of the vasomotor syndrome by proper renal elimination. Attention to proper elimination is of the greatest importance in the management of the cases of pneumonia, looking toward the prevention of cardiac failure; in other words, looking toward the reduction of serious toxic symptoms that arise and have expression more particularly in the phenomena just pointed out. To keep down the amount of food is of the greatest importance in the management of pneumonia patients. Watch carefully the state of the intestinal tract. Tympany is a serious toxic symptom in pneumonia and its increase with defective elimination is a point that I depend on as suggestive of the occurrence of vasomotor failure. This can be prevented very largely. Colitis occurs with the pneumococcus affection, and this colitis is undoubtedly the cause of the development of tympanitis; the colitis plus the toxemia invites an intestinal paresis. Hence to prevent this colitis which gives rise to the tympany, it is well to observe carefully the diet, regulating judiciously the amount and kind of food taken, and washing out the bowels with normal salt solution. Basing treatment on the idea that cardiac symptoms are threatened when renal insufficiency appears, I begin very early the use of caffein; this is perhaps the only remedy I would begin with as a routine measure. In addition I rely on cocain when the conditions become more extreme.

In regard to right-sided dilatation of the heart I agree with Dr. Rochester as to the value of early venesection. One must remember that we must not place too much stress on the physical signs brought out by percussion and auscultation. I am not so much disturbed by the development of murmurs suggestive of dilatation as I am of the appearance of vasomotor phenomena. I am not alarmed when asked to see cases of old valvulitis with mitral regurgitation. When we observe a murmur over the right heart, or a murmur at the apex, there comes into play the safety valve action of the tricuspid; this was pointed out long ago by Guiteras and often bodes much good in these cases.

Dr. Alexander Lambert, New York: Eight years ago I became dissatisfied with the results of the treatment of pneumonia that I had been following; they were very unsatisfactory and I decided that when a large number of pneumonia cases came into the hospital, as at Bellevue Hospital, it would be well to compare the results of different treatments carried on simultaneously. In my division at Bellevue Hospital (there are four divisions), I gave up the use of alcohol and nitroglycerin and simply used those drugs by which we obtain a rise in blood-pressure. After three months, when each division had had from 125 to 137 patients each, I found that in those cases where alcohol and nitroglycerin has been used, the statistics were 10 per cent. higher in death rates in which the vasodilators had been used than were shown by those in which the drugs that raised the blood-pressure had been used. In other words, judging from about 500 patients affected with pneumonia, the death rate was improved 10 per cent. by camphor, caffein, digitalis and agents which raised the blood-pressure.

Dr. Theodore Potter, Indianapolis: The most remarkable phenomena occurring in lobar pneumonia are at the crisis and, in studying that crisis, it is made plain, as Dr. Forchheimer stated in his paper, that there is great danger to the heart, not from mechanical obstruction but from the toxemia. In dealing with this toxemia there are two chief things to help us: a rational comprehension of elimination in a natural way through the skin, kidneys and bowels, and an unlimited supply of fresh air to the lungs. After all, when these things are compared with drugs directed to the cardiovascular conditions, it seems to me they are far superior. Every one I think who has had to deal with pneumonia cases in an ordinary hospital has felt the great limitations under which he labors in the hospital ward. It is almost impossible in such hospitals to apply the rational fresh-air treatment in lobar pneumonia. Here, there are a large number of patients in the same ward; this is especially true in the large city hospitals. At times I have had to adopt certain expedients. I have taken patients into the delirium tremens room where the windows are kept open; here they could get the fresh-air treatment. But in private practice the problem confronts us, how to apply the fresh air treatment in a rational way. I am sure that everyone who sees such cases in his own practice or in consultation is confronted by it. I have got into the habit lately in teaching medical students of emphasizing the fact that the chief point in the whole matter of carrying out the fresh-air treatment, especially during the winter months it that there should be two rooms in the house for the treatment of such patients: that is practically the solution of the question. Time and again I have seen merely a crack of the window open; that is not real fresh-air treatment. The solution of this problem is in having a place for the patient and a place for the nurse. The nurse should have one room, and the patient another. This is the only way that the fresh-air treatment of these patients can be properly applied.

Dr. Frederick Forchheimer, Cincinnati: In making a diagnosis of congested or over-filled right heart, it is not necessary to prove by percussion, auscultation or inspection that the right heart is enlarged. The diagnosis of this condition can be made perfectly well by simply looking at the patient. It is almost impossible to err in regard to the existence of this form of heart trouble, or the existence of the Romberg-Pässler syndrome. In the Romberg-Pässler syndrome a vasomotor affection we have the addition of a profound anemia and a condition of collapse. In the other condition we find the opposite. We have fulness of the veins, congestion of the face, and all the evidence of dyspnea, an active dyspnea. There can be no mistake regarding the diagnosis, and one need not be so very particular about the direct examination of the right heart. In the treatment of this Romberg-Pässler syndrome, or vasomotor paralysis, I do not believe that digitalis is indicated, and for two reasons. In the first place it does not produce sufficient contraction of the splanchnic vessels to help in relieving the syndrome. In the second place if we increase the heart's activity by increasing the force of the systole, the result will be that the heart will force so much blood into the splanchnic area that it will be more embarrassed than before.

I do not believe we are going to gain much by the use of camphor, musk and other agents in this condition. I believe, however, that in cases of acute myocardial insufficiency either one of these remedies can be used with the greatest good to the patient. As to the question of blood pressure, I believe that Dr. Hoover is correct in what he has stated, but in conditions of splanchnic paralysis the blood-pressure tells the story; it shows that something extraordinary must have happened and this depends entirely on the localization of a mass of blood engorged in the splanchnic area. Those of us who have taken many blood-pressure observations have found that after the second or third day of a pneumonia the pressure is 100 or 102 mm.; that is a low pressure.

I have stated that, according to my belief, tympany is due to a vasomotor paralysis. That is why symptoms of tympany are always to be feared by the clinician.

We have all been using fresh air for a long time; in fact, v. Jürgensen recommended it in 1874 and possibly it was recommended even before that date. I have been using fresh air during the past thirty years in the treatment of pneumonia, and twenty-five years ago I published a paper on the subject. I think that of all the things recommended in the treatment of pneumonia fresh air is the most important. But there is no question regarding carrying out this plan of treatment in the hospitals; I think it can be carried out in the hospital even better than in private practice. All my patients in the hospital are treated by fresh air and simply by using a window tent or by keeping the windows wide open and the results are perfectly satisfactory.

I should like to make a statement in regard to the number of patients who have had this syndrome and whom I have treated. I have had a large number of such patients and I should say, without being mathematically correct, that about 50 per cent. were helped when the treatment was instituted early enough. Recently I saw a patient who had been suffering with this syndrome for twenty-four hours: I succeeded in raising the blood-pressure a little with adrenalin: the injection of caffein did not bring the blood-pressure up. A few hours later a second dose was given. I worked with that patient for some time but he finally died. If this patient had been treated early, and this is a very important part of the treatment, the result might have been different.

THE ACTION OF INTESTINAL ANTISEPTICS ON PEPTIC DIGESTION *

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It is generally conceded, both from experimental and clinical observation, that fermentation of the contents of the alimentary canal assumes pathologic importance in proportion to the degree of retardation of digestion. To prevent the development of fermentative changes it is customary to administer certain drugs, commonly called intestinal antiseptics, with the end in view of inhibiting the growth of the bacteria responsible for the abnormal condition. If it can be determined that the action of the digestive juices is still further impaired by drugs whose effects on the intestinal bacteria are at best problematical, then their use will be shown to be harmful. The object of this experimental inquiry was to determine, if possible, how far intestinal antiseptics interfere with the action of artificial gastric juice on protein matter.

We present the results obtained merely as a suggestion, for we fully appreciate the inherent difficulty of comparing experiments *in vitro* with processes occurring in the living animal body.

In reviewing the literature we find that Wolberg[1] in 1880 was the first to investigate this subject. He studied the action of various drugs and alkaloidal salts on the digestion of fibrin in a peptic juice made from a glycerin extract of the stomach of the ox. Fubini and Fiori[2] in 1881 determined that potassium iodid disturbed the peptonization of albumin in both artificial digestion and in animals. Extending the method of Wolberg, Dusterhoff[3] experimented with organic and inorganic iron preparations and found that the former produced a greater disturbance of digestion. The bismuth salts, especially the subnitrate, were shown by Israel to affect digestion in no essential way.

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* From the laboratory of experimental physiology of Jefferson Medical College.

[1] Wolberg: Arch. f. d. ges. Physiol. (Pflüger's), xxii, 291.

[2] Fubini and Fiori: Untersuch. z. Naturl. d. Mensch. u. d. Thiere (Moleschott's), 1881, xii, 462.

[3] Dusterhoff: Diss. Berlin, 1882.

Schütz,[4] employing the polariscopic method of Klikowicz[5] of estimating the amount of peptone after digestion of egg albumin *in vitro*, determined that alcohol in the proportion of 2 per cent. inhibited and in 15 per cent. entirely stopped peptic digestion; corresponding results were obtained with salicylic acid in the strength of 0.006 per cent. and 0.01 per cent. The method of Katz[6] appeals to us as the most scientific and accurate; in a series of experiments on the effect of many drugs on artificial digestion, Katz estimated the peptone as nitrogen by the Kjeldahl process, after precipitation and separation of the undigested albumin. His results are as follows: Morphin hydrochlorid and sulphonal (3.0 to 200 c.c. of fluid) inhibited the action of pepsin on albumin; atropin sulphate, strychnin nitrate, tincture of nux vomica, chloral hydrate, potassium arsenate, tincture of strophanthus and creosote (in small quantity) were without effect; quinin sulphate, bisulphate and hydrochlorid caused an increased formation of peptone.

In our research we have studied the action of ten of the commonly used intestinal antiseptics on the digestion of egg albumin by pepsin. Five series of experiments have been carried out. In one we used the process recommended by the U. S. Pharmacopeia, 1900, for the assay of pepsin; and in the others, a modification of this test for reasons stated below. In the U. S. Pharmacopeia test, 10 gm. of coagulated egg albumin, passed through a No. 40 sieve, are digested with 0.003 gm. of pepsin in 40 c.c. of a 0.3 per cent. solution of hydrochloric acid at a temperature of 52 C. for two and one-half hours. The albumin and artificial gastric juice are agitated by inverting the receptacle once every ten minutes. At the end of the required time, 50 c.c. of cold water are added and the whole poured into a sedimenting tube and allowed to stand for one-half hour; then the quantity of undigested albumin is read off in cubic centimeters or fractions thereof. The amount of undigested albumin in the tube should not be more than 1 c.c. with pepsin of standard strength. We had some difficulty in obtaining pepsin which would conform to this test; many of the pepsins purchased in the open market were below the required standard.

The quantity of each drug to be employed in the tests was determined as follows: According to Atwater, an adult ingests about 120 gm. of proteid in twenty-four hours; this divided into three parts would be 40 gm. for the average meal. The percentage of proteid in egg albumin is about 12.5 per cent. or one-eighth. The 40 gm. of proteid, estimated as moist egg albumin, is equivalent to 320 gm.; hence the 10 gm. of albumin used in the test represent approximately one-thirtieth of the proteid ingested at each meal. On this basis we added one-thirtieth of the average dose of each drug to each test.

In the first series, in order to obtain one-thirtieth of the dose, we mixed with the average dose of the drug enough sodium chlorid to make thirty grains and used one grain of the resulting powder to each test.

Our results were shown in Table 1.

It will be seen in this series that peptic digestion was much disturbed, the amount of sediment being in every case more than in the control. Moreover, it will be observed, the state of division of the sediment in the control is much finer than in the tubes containing the antiseptics, indicating a farther advance in the process of digestion.

It seemed to us that the results obtained by subjecting the pepsin in the above tests to the temperature of 52 C. instead of about 40 C., at which digestion proceeds in the stomach, could not be compared with what occurs during gastric digestion. Of course, as already intimated, we are well aware that it is not justifiable to draw any parallel between experiments *in vitro* and similar processes taking place *in vivo*. Nevertheless we wished to imitate as closely as possible the conditions present during gastric digestion. Accordingly we modified the U. S. Pharmacopeia test as follows:

TABLE 1.—SERIES 1. PROCESS U. S. P. 1900

Albumin disintegrated by being passed through a No. 40 brass sieve; digested for two and one-half hours.

	Sediment. c.c.	State of Division.
Control	13	Very fine.
Acid, benzoic	23	Fine.
Acid, boric	23	Moderately fine.
Acid, salicylic	25	Coarse.
Beta-naphthol	25	Coarse.
Creosote	26	Coarse.
Phenol	24	Coarse.
Resorcinol	22	Moderately fine.
Sodium phenolsulphon.	24	Moderately fine.
Sodium sulphite	25	Coarse.
Thymol	24	Moderately fine.

Instead of the 0.3 per cent. solution of hydrochloric acid we employed a 0.25 per cent. solution, which more closely corresponds to the percentage found in gastric juice; the amount of pepsin remained the same, as did also the quantity of egg albumin used in the previous test; the quantity of hydrochloric acid used was 50 c.c. Thinking that perhaps the sodium chlorid with which the drugs were diluted had some active influence on the test, we decided to eliminate that factor by dissolving the drugs in such a quantity of water that 5 c.c. of the solution would represent one-thirtieth of the average dose. The addition of the 5 c.c. of the drug solution would naturally lower the strength of the hydrochloric acid solution; we, therefore, added sufficient hydrochloric acid to compensate for that effect.

TABLE 2.—SERIES 2, PROCESS, MODIFIED U. S. P.

Albumin disintegrated by being passed through bolting cloth.

	Sediment. c.c.	State of Division.
Control	5.5	Moderately fine.
Acid, benzoic	8	Fine.
Acid, boric	6.5	Moderately fine.
Acid, salicylic	8	Moderately fine.
Beta-naphthol	7.5	Moderately fine.
Creosote	6.5	Coarse.
Phenol	6.5	Moderately fine.
Resorcinol	6	Moderately fine.
Sodium phenolsulphonate	6	Moderately fine.
Sodium sulphite	12.5	Coarse.
Thymol	7	Moderately fine.

TABLE 3.—SERIES 3. PROCESS AS IN NO. 2, EXCEPT AS FOLLOWS:

The albumin was disintegrated by being passed through a No. 20 horsehair sieve.

	Sediment. c.c.	State of Division.
Control	13	Fine.
Acid, benzoic	14	Moderately fine.
Acid, boric	1.	Moderately fine.
Acid, salicylic	16	Moderately fine.
Beta-naphthol	16.5	Moderately fine.
Creosote	15	Moderately fine.
Phenol	14	Moderately fine.
Resorcinol	13.5	Moderately fine.
Sodium phenolsulphonate	14	Moderately fine.
Sodium sulphite	18.5	Coarse.
Thymol	18	Moderately fine.

The temperature at which the albumin was digested was 40 C. and digestion was allowed to proceed for four hours, the containers being agitated by inverting them once every ten minutes. At the expiration of the time the contents of the receptacles were poured into the sedimenting tubes and enough cold distilled water added to make 100 c.c. After sedimenting for one hour the cubic centimeters of undigested albumin were read off.

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[4] Schütz: Prag. med. Wchnschr., 1885, xx, 193.
[5] Virchow's Arch. f. path. Anat., 1885, cii, 360.
[6] Katz: Wien. med. Bl., 1889, xii, 19, 436, 453.

In this series the antiseptics have not interfered as much with the digestion of the albumin as in Series 1, although it is quite evident that they have had a retarding influence.

Comparison of Series 2 and 3 will show that the results correspond fairly well. The difference in the amount of albumin digested is probably due to the fact that a different brand of pepsin was used in each and the particles of albumin were much larger when passed through a No. 20 sieve than through bolting cloth, the coarser particles being more resistant to the action of the artificial gastric juice. In an average of the three series it will be noted that sodium sulphite was the most powerful in retarding digestion and that boric acid and resorcinol were the least active.

We do not believe that by the use of the U. S. Pharmacopeia process and modifications of it thus far employed in this study one can arrive at accurate conclusions either as to the digestive power of pepsin or to the effect which other substances may have on peptic digestion, even *in vitro*.

We, therefore, thought it advisable to resort to a different and more accurate method. This consisted in estimating the amount of peptone and allied products formed at the end of digestion by determining their nitrogen content according to the Kjeldahl method as recommended by Katz.[6]

The digestion of 10 gm. of coagulated egg albumin was performed as in Series 2. At the end of digestion the undigested albumin was precipitated by the addition of sodium chlorid to saturation to each bottle, followed by a few drops of acetic acid saturated with sodium chlorid. The solution of peptones was separated by filtration and its nitrogen determined as beforesaid by the Kjeldahl process.

The average of two series of experiments gave the following results shown in Table 4:

TABLE 4.—NITROGEN YIELDED BY PEPTONES *

	Quantity. Gm.	%
Control	0.01197	100
Acid, benzoic	0.0077	64
Acid, boric	0.00962	80
Acid, salicylic	0.00857	71
Beta-naphthol	0.00822	68
Creosote	0.00875	73
Phenol	0.0084	70
Sodium sulphite	0.00875	73
Thymol	0.00945	78

* Estimating control at 100 per cent.

CONCLUSIONS

1. Intestinal antiseptics interfere with peptic digestion *in vitro*.

2. Beta-naphthol, salicylic acid, sodium sulphite and thymol are the most active in retarding digestion.

3. Boric acid and resorcinol are the least active.

4. The uniformity in the results of our experiments would seem to warrant the inference that intestinal antiseptics interfere with digestion in the stomach and probably in the intestine.

1642 Pine Street.

A Model City.—Our national capital, the city of Washington, should be a model sanitary city, free from insanitary tenements and workshops, air pollution, water pollution, food pollution, etc., with a rate of death and a rate of illness so low as to arouse the attention of the world.

THE PARALYTIC COMPLICATIONS OF HERPES ZOSTER OF THE CEPHALIC EXTREMITY

A PRELIMINARY REPORT ON THE HERPETIC INFLAMMATIONS OF THE GENICULATE, GLOSSOPHARYNGEAL, VAGUS AND ACOUSTIC GANGLIA *

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Idiopathic or true herpes zoster is an acute infectious disease characterized by general symptoms; fever, headache and great prostration and a focal manifestation; an eruption of herpes zoster on the skin and mucous membranes.

The characteristic pathologic changes are found in the posterior spinal ganglia and in the Gasserian ganglion *(posterior poliomyelitis)*. These structures are derivatives of the so-called neural ridge, and the ganglion cells having this origin belong to the so-called unipolar or spinal type. The geniculate ganglion, the ganglia of the glossopharyngeal and vagus nerves, as well as the auditory ganglia (the *ganglion* of *Scarpa* and the *ganglion spirale*) also take their origin from the neural ridge, and as such must be brought within the realm of the specific ganglionic inflammation of herpes zoster.

The affected ganglion is the seat of an hemorrhagic inflammation which gives rise to pains (herpetic neuralgia), objective sensory disturbances and an eruption of herpes zoster in the zone corresponding to the affected ganglion. Milder inflammatory changes may also be present in the ganglion above and below the chief or eruptive focus. I have studied the motor complications of this affection, and more especially the cranial nerve palsies and auditory symptoms which occur in the cephalic zona.

I have collected, including my present observations, reports of 158 cases of paralyses of various kinds in herpes zoster, a complete analysis of which will be published later. They are distributed as follows:

Motor oculi, 18 cases.

Trochlearis, 1 case.

Abducens, 5 cases.

All these ocular palsies were associated with herpe frontalis or herpes facialis.

Brachial palsies, 12 cases. Eight of these were of th upper-arm types and four were mixed, upper- and lower arm types. These arm palsies all occurred in herpe zoster of the upper extremity.

Abdominal palsies, 2 cases. These were associated witl herpes zoster of the trunk.

Facial palsies, 80 cases. In all of these, the eruptio was confined to the cephalic extremity of the body as follows:

Herpes occipito-collaris, 43 cases.

Herpes facialis, 14 cases.

Herpes oticus, 19 cases.

Herpes facialis and herpes occipito-collaris combine 1 case.

Herpes oticus and herpes occipito-collaris combined, cases.

Auditory nerve complications were present in 30 c these cases. They varied in character from a simp diminution of hearing to a severe form of Ménière's sy drome.

The occurrence of herpetic inflammations in the glo sopharyngeal and vagus ganglia is worthy of empha- for the relation which they bear to the herpes pharyngi herpes laryngis and herpes oticus.

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* Read in the Section on Nervous and Mental Diseases of t American Medical Association, at the Sixtieth Annual Session, h at Atlantic City, June, 1909.

In some of these cases pneumogastric symptoms have been observed: such as bradycardia, hiccoughing, nausea and vomiting.

I, therefore, attribute to the zona of the cephalic extremity a special importance, because of the occurrence of facial palsy, deafness, symptoms of Ménière's syndrome and vagus symptoms.

These cranial nerve complications do not occur except in herpes zoster of the face, ear, pharynx, larynx and the head and neck. Therefore, these various clinical types should be regarded as constituting a definite clinical entity. I consider the zoster zones for the geniculate, glossopharyngeal, and vagus ganglia as capable of being differentiated (herpes zoster oticus, pharyngis et laryngis).

The clinical types are as follows: Herpes facialis, herpes oticus, herpes pharyngis, herpes laryngis, herpes occipito-collaris; with facial paralysis and auditory symptoms, alone or in combination.

The facial palsy in 50 cases occurred without auditory symptoms. In 30 cases of the total number (80) both facial and auditory symptoms were present. The acoustic symptoms may also occur without the facial paralysis. In some cases the auditory ganglia are alone the seat of the herpetic inflammation, giving rise to tinnitus aurium and deafness, and in some cases symptoms of Ménière's disease.

Rarely vagus symptoms may be present, hiccoughing, bradycardia and vomiting. The underlying pathologic condition in all of these types is a herpetic inflammation of cranial nerve ganglia.

112 West Fifty-fifth Street.

ABSTRACT OF DISCUSSION

Dr. James Allen Patterson, Colorado Springs, Colo.: The rarity of paralytic lesions is noticeable in the literature of ophthalmic herpes, and as I had a case last winter in which there was distinct paralysis of the external ocular muscles as well as of the pupil, I was particularly anxious to hear this paper. I want to remark in particular the infrequency of paralytic phenomena in ophthalmic herpes as seen by oculists.

Dr. Howell T. Pershing, Denver: Does Dr. Hunt regard the view that herpes follows specific inflammation as being confirmed, and does one attack of herpes protect the individual from a further attack?

Dr. J. R. Hunt, New York: I regard the true herpes zoster as a specific infectious disease. It is a disease in which the lesion is situated in the ganglion, although one must also recognize neuritic herpes and zosteroid condition of the skin which resembles it.

Fatal Effects of Lowered Air Pressure Not Due to Lack of Oxygen.—In rarefied atmospheres such as are encountered at high elevations, it is not the scarcity of oxygen which produces the weakness and depression and the other symptoms which usually accompany mountain sickness, but rather the disturbance of the circulation in the lungs due to the purely mechanical effects of a lower barometeric pressure. A. Rosendahl (*Ztschr. f. Biol.*, 1909, lii, 16), has produced in rats and rabbits, by exposure to an atmosphere which contained an excess of oxygen, but which was reduced to a low barometric pressure artificially, symptoms analogous to those seen in mountain sickness in these animals. The animals soon recovered when transferred to an atmosphere of ordinary pressure which contained less than the ordinary quantity of oxygen and an excess of nitrogen. It was further found that rats and rabbits became dyspneic in an atmosphere containing mostly oxygen, if the air pressure was only slightly lowered. An increase of pressure above the normal was well endured in atmospheres of normal consistency and in those which contained a high percentage of nitrogen.

LICHEN PLANUS

A CONSIDERATION OF ITS ETIOLOGY AS ILLUSTRATED BY AN ACUTE CASE *

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AND
HARRY E. ALDERSON, M.D.
SAN FRANCISCO

We believe lichen planus to be a distinct disease, and we also believe it to be a constitutional disease with manifestations on the skin and mucous membranes.

Lichen planus almost always occurs in its chronic forms, and as such its constitutional symptoms are frequently so slight as to escape detection. In the acute cases, however, the general constitutional symptoms become salient and form an important part of the clinical picture, of which the following is an example:

HISTORY OF CASE

Patient.—An obese, pulpy-looking Mexican woman, aged 40, and engaged in general housework, entered the University of California Hospital, July 8, 1908, with a very itchy tormenting eruption. She said that before its appearance she had worked very hard for some time and that for several months she had not menstruated.

History.—Previous to this her menstruation had been normal, and she had enjoyed good health. Her present trouble came on about the middle of June, 1908, that is, about three weeks before entering the hospital. She said she suddenly began to feel very sick, nauseated, had feverish sensations alternating with chills, most marked at night, indefinite shifting pains, and great prostration. Coincidently with these symptoms there suddenly appeared all over the body a rash, which she said was like the present eruption, but much more itchy.

Examination.—When the patient entered the hospital she had a lichen planus eruption almost universal in distribution, but gradually becoming less profuse along the extremities, and entirely sparing the hands and feet. The buttocks were also free from eruption, and there was a free strip down the inner side of both upper extremities. The scalp was studded with papules and the rash on the face was confluent, the lower eyelids were swollen, and the conjunctivæ were so inflamed as almost to evert the lids. Typical papules could be best seen on the forearms, where they were scattered between the large rounded ones. They were small, angular, yellowish red, firm, flat-topped, waxy, glistening and in many instances covered with a thin, tightly adherent scale. A few were umbilicated. All of the papules on the face, however, and most of those on other parts of the skin, were large, rounded, prominent, firm bodies resembling in appearance the lesions in syphilis or leprosy, but differing in being intensely pruritic. These papules were indeed so firm as to give the impression of little tumors set in the skin, and their rounded prominent shape was so pronounced as to deserve the designation "obtusus," although as Brocq has remarked, this adjective is applied to another form of lichen planus.[1] At first glance, indeed, it looked as if the patient were afflicted with leprosy, but this resemblance was soon seen to be fallacious, as on minuter examination the differences were seen to be more marked than the similarities. To clinch the matter, however, the juice from some of the tubercles was stained for lepra bacilli, and none was found. As for syphilis, the eruption was altogether too slow in its evolution and involution, and too thickly strewn on the face, and besides it was intensely itchy. There was no history of syphilis, no mucous patches, and the superficial lymphatic nodules were not enlarged, as they would be in early constitutional syphilis. The patient's tongue was heavily coated, the breath was foul, the throat was sore, and there were whitish, sodden-looking patches on the tonsils, which were thought to be exudate from the intensely inflamed tonsils, and were certainly not characteristic of either syphilis or lichen. No lichen patches were found on any of the mucous membranes, in this respect following the rule when the eruption is acute and generalized.[2] The gastrointestinal tract was very sluggish. The liver was slightly enlarged, but not tender. There was no demonstrable enlargement of the spleen or of the lymphatic nodules. The right lobe of the thyroid was slightly enlarged. Dr. William G. Moore found no abnormality in the vagina or pelvis. The temperature and pulse were normal in the morning, but toward evening the temperature ran up to 38. The blood examination showed:

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* Read in the Section on Dermatology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Brocq, L.: Dermatologie pratique, ii, 198.

Hemoglobin	85
Erythrocytes	3,808,000
Leucocytes	7,000
Polynuclears	75
Large mononuclears	8
Small mononuclears	13
Eosinophiles	4

An examination made one month later showed practically the same proportions. The urine was dark yellow, turbid, and its specific gravity was 1,021. It was acid, contained no sugar, and showed a trace of albumen. There was an occasional hyaline and granular cast, a few red blood corpuscles, very many squamous epithelial cells, and many white cells.

Treatment and Course of Disease.—A soothing line of treatment was adopted, and she was given:

R		gm. or c.c.	
Liquoris picis carbonis (B. P.)		2	m.xxx
Liquoris plumbi subacetatis		12	fl.ʒiii
Olei olivæ			
Liquoris calcis	āā	60	fl.℥ii

M. et sig.: Use externally.

R		gm. or c.c.	
Magnesii carbonatis			
Bismuthi subnitratis	āā	20	ʒv
Tincturæ rhei		90	fl.℥iii
Aquæ menthæ piperitæ	ad	240	fl.℥viii

M. et sig.: A dessert spoonful after eating, three times daily.

In the first forty-eight hours she was given milk alone, and afterward other foods were slowly added. The general condition and skin slowly improved. At times, however, she had acute sore throat, headache, fleeting pains in the joints, malaise, violent conjunctivitis, erythema of the eyelids and face, and a marked extension of the papular eruption, resembling in these respects the case of Nicholas and Favre.[3] The temperature ran along between 36.2 and 37.4 until August 10, when it jumped up as will be noted later.

About July 31 her eyelids became swollen and very painful, her throat again became sore, and she complained greatly of shifting pains in the joints. The trouble in the eyes was relieved by boracic acid cold compresses, and drops of a 5 per cent. argyrol solution, and the pains in the joints were controlled by five-grain doses of aspirin given every three hours, and at the same time the other symptoms were relieved. This control of the symptoms by one of the salicylates, aspirin, is very interesting and will be referred to later. On Aug. 10, 1908, on Dr. Howard Morrow's suggestion, atoxyl 0.10 was given intravenously. The patient was rather languid all through the next day, and complained of general soreness in the lesions of the skin, and of frontal headache. On the following day there was decided malaise, and the general pains were rather severe, being most noticeable between the scapulæ. During these two days the temperature gradually ascended till it reached 38.5. On the third day after the atoxyl injection, the temperature dropped to normal, she felt quite well again, and there seemed to be some improvement in the skin. These injections were resumed on August 15, and from August 15 to August 24 she was given an injection of 0.15 atoxyl every second day, without producing any reaction. Although the atoxyl did not give any reaction yet the patient steadily continued to grow worse and the itchiness, especially of the eyelids, increased. The patient was now given:

R		gm. or c.c.	
Hydrargyri chloridi corrosivi		0.06	gr.i
Syrupi sennæ			
Aquæ	āā	60	fl.℥ii

M. Sig.: A teaspoonful in a little water after food, t. i. d.

Under this mixture the patient slowly and steadily improved for one month when she complained of sore throat and increased itchiness of the face. The dose of corrosive sublimate was then raised from 0.002 to 0.005 and 0.6 of iodid of potash was added to the prescription.[4] The improvement that had set in on giving the corrosive sublimate continued, and no special effect was noted as following the addition of iodid of potash. This treatment was continued for about one month when papules over the glabella, above the eyebrows, and on the upper arms became markedly hyperkeratotic, each papule being crowned by a gray, hard, dry, tightly adherent, coruscated crust. At the same time she complained of sore throat and increased itchiness of the face. For this hyperkeratosis she was given an 8 per cent. ointment of salicylic acid. The active lesions steadily disappeared, and the hyperkeratosis improved, but now the subjective symptom of universal formication became very pronounced, and it was thought that arsenic might be beneficial. She was then given 0.12 doses of Fowler's solution three times a day for a week. The whole condition became suddenly worse, and she got a herpes labialis. She was put back on corrosive sublimate and iodid of potash.

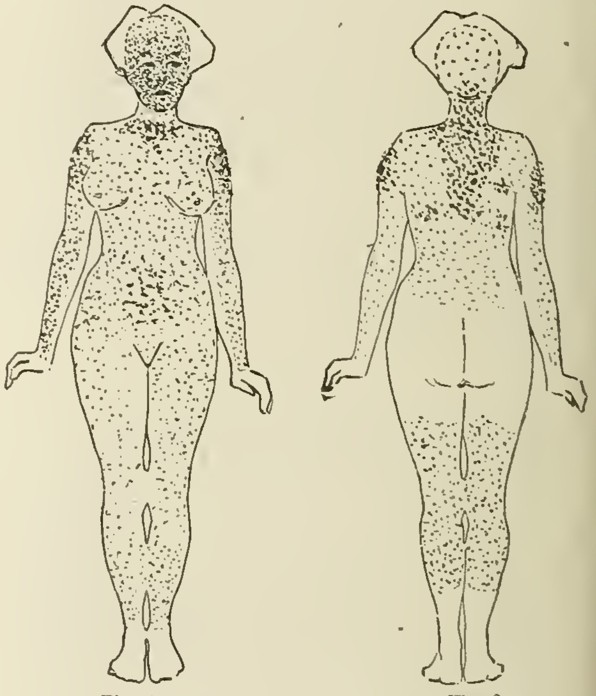
Fig. 1. Fig. 2.

Figs. 1 and 2.—Distribution of lesions. Note free areas; feet, hands, inner surfaces of upper limbs, buttocks and upper part of thighs.

By Feb. 3, 1909, a pea-sized intensely itchy hypertrophic scar had developed in a biopsy wound. On Feb. 24, 1909, the iodid of potash was omitted from her prescription because of a profuse mucous discharge from the nose. The pigmented lesions were at this time slowly fading. The patient called again on March 22, because of a few acute very itchy lesions over the supraorbital ridges, on the chin, upper lips, cheeks and over the elbow tips. Her tongue was heavily coated, breath foul, gums tender, teeth "on edge," and she had diarrhea. She was evidently suffering from hydrargyrism, and the alimentary disturbance consequent on this was accentuated by her occupation as cook in a Mexican restaurant, and eating between meals. This lichen outburst was particularly interesting because it occurred while deeply under the influence of mercury. We concluded in fact that the mercury and the errors in diet, by causing irritation of the alimentary tract, were the cause of this outbreak. Consequently the mercury was dropped, and a mixture composed of carbonate of magnesia, subnitrate of bismuth and tincture of rhubarb wa prescribed, under which the acute symptoms subsided.

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[2] Radcliffe-Crocker: Brit. Jour. Dermat., February, 1908, p. 47.

[3] Nicholas and Favre: Ann. de dermat. et de syph., July 1906, page 701. In a case reported by Dr. Howard Fox also (Jour. Cut. Dis., May 1908, p. 237) at the beginning of each attack of lichen ruber the patient generally felt weak and nauseated.

[4] This was in accordance with the recommendation given b Hardaway and Grindon (Cutaneous Therapeutics, p. 169).

Another biopsy was made at this visit of a lesion that had reached the pigmented depressed scarlike stage. This wound was dressed with collodion and cotton, and interesting to relate, the patient returned four days later with a beautiful bullous eruption surrounding the collodion dressing. We think it probable that the occurrence of the bullæ was a manifestation of the peculiar kind of irritability of the skin in these cases, and was of the same nature as the intercellular and intracellular edema and the subepithelial cleft so often observed in this disease.

It was about this time that, in conversation, Dr. H. R. Oliver mentioned that, in a case diagnosed as lichen planus by two well-known dermatologists, a Wassermann reaction positive for syphilis had been found. Dr. Oliver kindly consented to test our patient in the same way, and found her also positive for syphilis. This result caused us to review our facts carefully lest, in view of the success achieved with mercury and iodid of potash and the failure of arsenic, the presence of a few equivocal histologic features and also the difficulty often experienced in differentiating the eruption of lichen planus from some of the papular eruptions of syphilis, some should conclude that we have here to do with lues and not at all with lichen planus. That this patient may have acquired syphilis may be true. When her throat was intensely inflamed, in the early stages of her trouble, she had a white coating on her tonsils, and at one time she had a white patch on her lip. The tonsillar coating, however, was not at all characteristic of syphilis, and the lesion on the lip looked more like a cigarette burn or a herpes simplex than a mucous patch. Nevertheless scrapings from it were carefully searched for spirochetes, but none was found. Also it was noticed when making the atoxyl injections, that her veins were hard and brittle, and microscopically the arteries of the skin were thick-walled and had sleeve-like infiltrations which may have been due in part, at least, to syphilis. As for the eruption, however, that was another story. Although many of the individual papules resembled the papules of syphilis, yet the stormy intensely itchy nature of the attacks, associated with acute conjunctivitis and sore throat, and the long endurance of the eruption and uniform character of the lesions gave a picture entirely different from anything observed in syphilis. It is interesting also to note here that although the patient improved under bichlorid of mercury, yet as soon as the mercury began to salivate and so to irritate the alimentary canal new lichen papules began to appear. Microscopically also, as will be stated later, the infiltration of mononuclear cells resembling lymphocytes into the upper corium sharply circumscribed below, together with degeneration and absorption of collagen and elastin, and the subepidermal cleavage were changes just such as we would expect to find in lichen planus, and were not those of syphilis.[5]

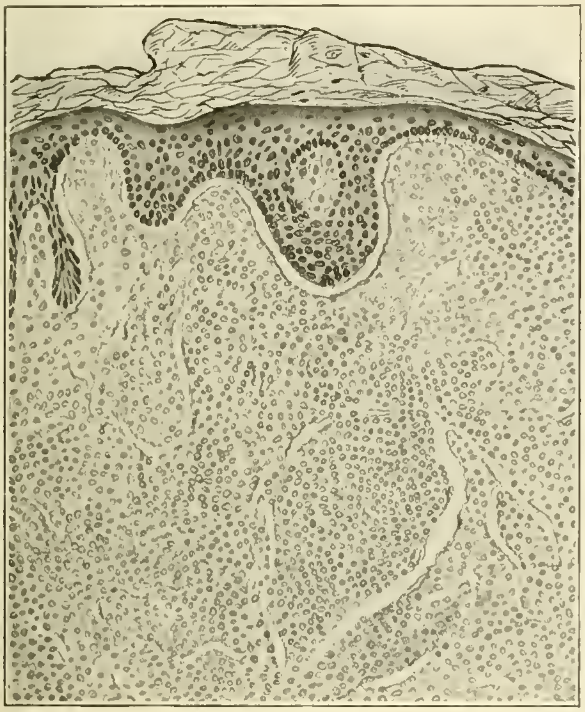

Fig. 3.—Microscopic view of cross-section of early lesion: this and the following illustrations are from drawings by Dr. A. W. Lee of the Medical Department of the University of California.

HISTOPATHOLOGY

EARLY LESION

About three weeks after the onset of the disease a small unscratched papule was removed from the right forearm under ethyl chlorid anesthesia locally. It was fixed in Müller's solution and formaldehyd, equal parts, hardened in alcohol, mounted in celloidin and stained in various ways. This lesion in many details corresponded with the findings of various investigators of lichen planus, but in some of its features it was somewhat atypical. Briefly, the following were to be observed:

Epidermis.—Stratum corneum: Hyperkeratosis with layers loosely connected. In places horny plugs were formed.

Stratum Lucidum: This was not demonstrable.

Stratum Granulosum: This was deficient, consisting in the main of but one or two layers of cells, but occasionally there was seen a small patch three to four cells deep. The keratohyalin granules were very deficient, and occasionally a clear nuclear space was seen surrounded by a faint zone of protoplasm. The nuclei varied decidedly in staining capacity, some being strongly basophilic and others only slightly so. This stratum had the appearance of being greatly stretched longitudinally.

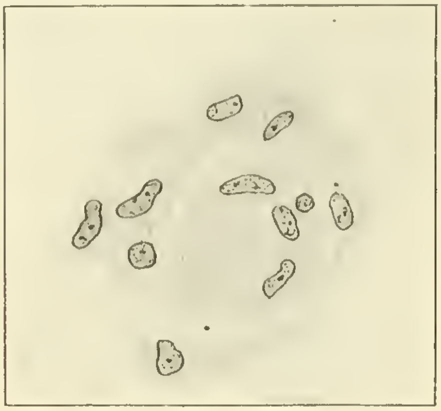

Fig. 4.—Giant cell, early lesion.

Stratum Spinosum: This varied in thickness, averaging four to ten layers. Toward one end of some of the sections, it was very thin and stretched longitudinally. Here also the rete pegs were flattened out. Toward the other end, there was hypertrophy and marked acanthosis. In places just over the papillæ, this stratum was very thin. In the main, the rete pegs were rather widely separated. There was intracellular and intercellular edema. Many of the nuclei were surrounded by a clear zone and occasionally there was seen nothing but a clear space surrounded by a faint zone of protoplasm with well-marked prickles. The prickles persisted throughout, although in places they appeared to be greatly stretched. The nuclei varied greatly in staining capacity. In the lower part of this stratum occasionally the intercellular edema was so great as to suggest commencing vesiculation. There were wandering cells in these intercellular spaces showing ameboid forms, adapting themselves to the tortuosity of the channels.

Stratum Germinativum: This presented two to four layers of cells in which the pigment was deep in color. Over the densest part of the deeper lesion and also where the edema was greatest, the pigment was absent[6].

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[5] Ehrman and Fick and also G. B. Dalla Favera (Monatsh. f. prakt. Dermat., April 1, 1909) have observed the absorption of elastic tissue in this disease.

[6] Ehrman and Fick (Histopathologie der Haut) note also this absence of pigment.

There was a thin clear line of cleavage between the basal layer and corium, which was bridged over here and there by irregular fibrils, basophilic in reaction.

Corium.—The papillæ, over the lesion, were greatly widened, but elsewhere some could be seen, narrowed and extending almost to the stratum granulosum. There was a dense cellular mass, well circumscribed below and extending up to the epidermis, from which it was separated in places by a narrow zone of basophilic, finely granular collagen, or by the line of cleavage already mentioned. The essential lesion was in the upper corium. At the periphery of this lesion, the cell mass sent out prolongations in thin zones; following the blood vessels a short distance. This cellular mass consisted of several types of infiltrating cells, which will be described in order.

1. The predominating type was mononuclear, round or oval, and as a rule, slightly larger than a red blood cell, but occasionally it was considerably larger. It resembled greatly a mononuclear leucocyte, and frequently could be seen in the lumen of a blood vessel. This type was often observed, assuming ameboid forms, and also it frequently presented appearances strongly suggestive of amitosis. The nucleus was vesicular and faintly basophilic, in some instances barely staining at all. Seldom could the protoplasm be seen, but sometimes it was represented by a narrow zone slightly basophilic. At times this zone was acidophilic. Occasionally the nucleus was placed eccentrically and the protoplasm was increased. Sometimes the cell body showed prolongations which apparently fused with the adjacent cells.

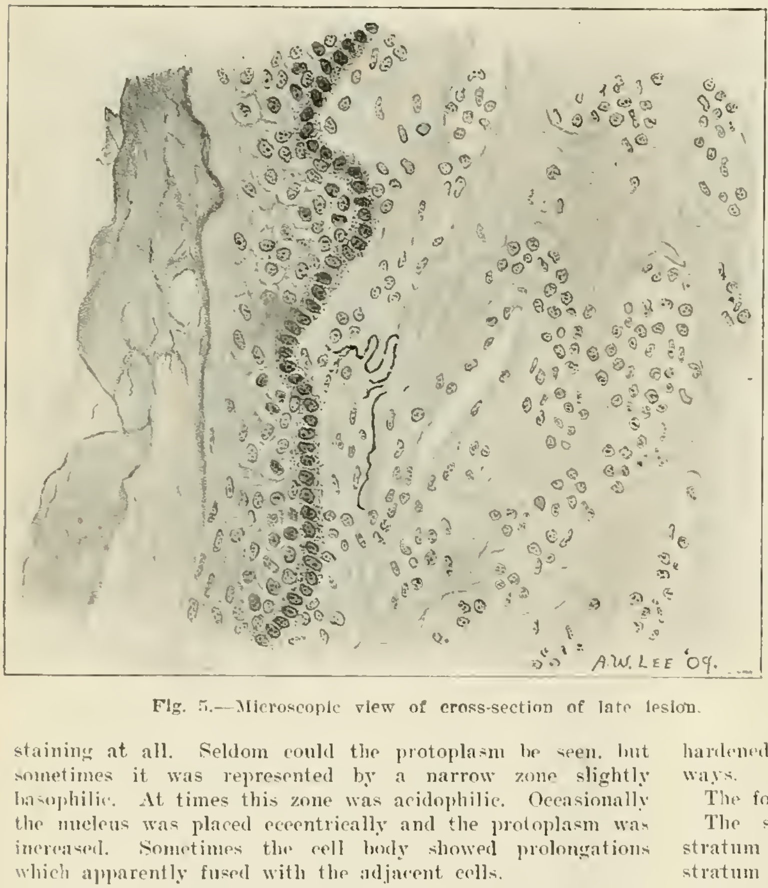

Fig. 5.—Microscopic view of cross-section of late lesion.

2. Furthermore there were smaller round cells with small, rather deeply staining nuclei, which were usually placed towards the periphery of the cell. There were no chromatin bodies in evidence, the nucleus presenting a homogeneous appearance. The protoplasm was usually acidophilic and occasionally very strongly so. This type also would be seen in some of the vessels. It often resembled morphologically the small tissue plasma cell. Occasionally two nuclei were seen, one at either pole of the cell.

3. Giant cells were seen with deeply staining nuclei, resembling in form those of connective tissue. These nuclei varied from three to fifteen or more in number in each cell. They were arranged peripherally toward one pole, and as a rule, within a narrow zone of the colloid protoplasm, but occasionally they were grouped in a bipolar manner. Two or three typical giant cells, and numerous incomplete forms were seen in each section.

4. There had evidently been some proliferation of connective tissue cells, for their nuclei were seen in increased numbers. They presented evidence of degeneration in that they were often very pale and often very deeply stained. Their protoplasm was usually basophilic, and corresponded in appearance with that seen in the giant cells.

5. Polymorphonuclear leucocytes were seen fairly often in small groups throughout the lesion, and also in the vessels.

The collagen was very edematous, and showed irregular areas of degeneration. Where the cellular mass was thickest, and particularly along a narrow zone directly beneath the basal layer, the collagen was represented by a degenerated homogeneous, basophilic, finely granular substance. Broken up blocks of basophilic collagen, in transverse section, could be seen here and there. Deeper in the lesion, opaque masses of basophilic collagen could be seen, resembling the degeneration seen in sarcoma. This type existed below this region along with large broken-up masses. This extensive degeneration of the connective tissue was a very interesting feature. The narrow zone of finely granular basophilic collagen, immediately beneath the epidermis, taken in connection with the cleft which occurred here, represented a line of lessened resistance. Bridging across the cleft at frequent intervals were tiny basophilic strands. These bridges were absent for some distance in places.

The elastic fibers had all degenerated along the "zone" above referred to, and only rarely could a few tiny fibrils be seen in a papilla. These fibers were all broken and in places absent, where the cellular mass was most dense and where the collagen had undergone marked degeneration. For the most part the remaining elastic fibers stained deeply, but occasionally they appeared very faintly. They seemed to terminate abruptly about three cell-breadths from the basal layer, at the border of the narrow granular zone above mentioned.

The blood vessels were usually dilated and in their lumina could be seen many red blood cells and mononuclear leucocytes, with occasional polymorphonuclears. The papillary vessels right up to the summits of the papillæ were dilated and full. They all showed thickened walls and greatly swollen endothelium, and were all surrounded by the infiltration and proliferating cells already described. Often the perivascular infiltration was very dense.

The coil glands showed some increase in nuclei, which were deeply basophilic. Usually the lumen was not apparent, but occasionally it could be seen dilated. Portions of their ducts showed no dilatation.

LATE LESION

Five months after the onset of the disease, a pigmented atrophic lesion was removed from the arm, under ethyl chlorid anesthesia locally, fixed and hardened in alcohol, mounted in celloidin and stained in various ways.

The following was to be observed:

The stratum corneum showed hyperkeratosis, and the stratum lucidum was well defined in some sections. The stratum granulosum was deficient, consisting usually of from one to three rows, but occasionally in a small area showing an increase of four to six cells. The entire epidermis was more nearly normal and did not show edema. The rete pegs were still somewhat flattened, and the stratum spinosum was not quite as thick as the normal. Occasionally a little pigment was seen in the stratum spinosum, but pigment in the main was limited to the two or three rows of cells constituting the stratum germinativum, where it was abundant and not absent at any point.

In the corium it could be seen that the edema had subsided, the infiltration had become dispersed in streaks and small foci, and there had been some regeneration of collagen. The infiltration extended in streaks off into the periphery, following the vessels, follicles and ducts. These cells were also grouped into small masses, surrounded by collagen fibers, and situated principally in the upper corium. This infiltration now consisted very largely of typical plasma cells, and many small round cells. Proliferated connective tissue nuclei were present in increased numbers.

There was no line of cleavage at the epidermis border, and the collagen throughout had to a great extent regenerated. The papillæ were still widened and flattened in places.

The elastic fibers showed the same degeneration seen in the early lesion. Deep in the corium some large normally staining fibers were present. There were also some few detached fibers in the papillæ. Elsewhere they were represented by a homogeneous, somewhat granular substance, which took the acid dye feebly.

The collagen, as well as the elastic tissue, was absent in the infiltrated foci.

The blood vessels were not dilated, and were not much in evidence. They showed thickened walls, swollen endothelium, and occasionally could be seen with complete obliteration of their lumen.

The coil glands showed no special abnormality. Their ducts could be occasionally observed slightly dilated.

Very few now believe in the infectious nature of lichen planus; even in those rare instances in which the disease occurs in several members of the same family the malady is attributed to some other cause, such as predisposition.[8] Many observers think the disease of nervous origin, because it occurs in nervous individuals, and because the eruption frequently appears in streaks, seemingly following along nerve tracts. This streaking, however, may be due to another cause. In fact there are many features of lichen pointing directly to its being a general disease with the eruption as one of its symptoms, and the acute cases are the ones that throw most light on this view, as the symptoms are more accentuated. In the first place the skin eruption of lichen may occur on any part of the cutaneous surface, not infrequently in the same patient either at the same time or at different times in widely separated localities. Furthermore, the eruption of lichen often appears on the mucous membranes as well as on the skin, or it may even occur on the mucous membranes alone.[9]

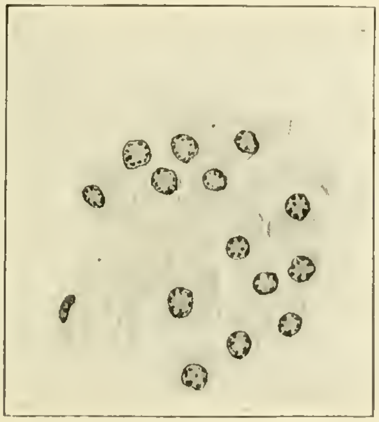

Fig. 6.—Plasma cells, late lesion.

As another evidence of the implication of the whole body in the disease process there is now the well-authenticated fact that the eruption is apt to break out on the site of any unusual irritation. That is to say, the whole skin in lichen subjects is in a state of irritability, and reacts in producing lichen eruption when the right kind of irritation supervenes. This applies probably to the entire mucous membranes as well as to the skin. In this connection we may consider the peculiar susceptibility of lichen subjects to pneumonia as noted by Schütz. Furthermore, he enumerates a great number of changes in the blood circulatory apparatus as being coincident with lichen planus and mentions that Leredde found overfilling of the blood vessels of the cutis in making a microscopic examination of the sound skin in a lichen patient.[10] The nervous system also often shows a high state of irritability, and it is a frequent observation that these patients are nervous, high-strung and sleepless. It is difficult to imagine anything but a toxin producing these results. The sudden stormy nature of the attacks in the acute cases also looks like the work of a toxin, acting much in the same way as the ferments producing the urticarias. We can imagine such a toxin only as flowing in the blood stream. This is a conclusion also reached by Fordyce.[11] Turning now to the microscopic anatomy of the lichen papule, we find that the earliest lesions are dilatation of the small blood vessels, the outpouring of serum into the affected tissues, and an abnormally stimulated proliferation of these tissues. If this hypothetical toxin is in the blood it will show its greatest effects in that part of an organ where the supply of blood is richest. This is just what we do find in the skin, where the most decided lesions are found in the papillary body, which, as the nourisher of the overlying epithelial layers, is particularly full of blood.[12] The most likely place for the production of this toxin is, of course, the alimentary canal, supplied, as it is, with the complicated ferments of the human being himself, and also with countless numbers of ferments belonging to invading bacteria. The sore throat, the heavily coated tongue, the sluggish bowels and the rheumatic pains of such patients, as the case in hand, also point to the alimentary canal as the seat of the disturbance. In the chronic cases the alimentary disturbance is too slight to be clinically appreciable, but the success achieved by such antifermentative drugs as arsenic, bichlorid of mercury[13] and the salicylates, salol (phenyl salicylate[14]), salicin,[15] in both acute and chronic cases, is a further weighty argument in support of the theory that the disease is a toxemia produced by some ferment in the alimentary canal.

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ABSTRACT OF DISCUSSION

Dr. D. W. Montgomery, San Francisco: That lichen planus is a constitutional disease there is no doubt in my mind. This also is the conclusion reached by Engman in a paper which will shortly be published, and the proofsheets of which he showed me. The generalization of the eruption, its pruritic character and the internal distress it gives rise to, is greater than could be explained by regarding the disease as being one of the skin alone. The distress of the itching is much more acute than that of scabies or any of the parasitic diseases of the skin. And besides, the patient is "bothered" internally as well as externally.

Another point is the striking results obtained by the internal administration of drugs, such as the bichlorid of mercury, salicin, aspirin and salol and, in some cases, arsenic; and this would lead one to suppose that these drugs act as eliminants of toxins, or that they destroyed something that produced toxins. The results of such treatment are all in favor of this being a constitutional disease. The same therapeutic effects are not so frequently observed in the more chronic, slower forms of the disease, because there is not enough toxin to produce these acute symptoms. Sometimes there is extensive lichen without itching, which shows that the patient does not react pruritically to the toxin, but does react papularily.

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[8] Veiel, Fritz: Arch. f. Dermat. u. Syph., December, 1908, p. 383.

[9] Dubreuilh, W.: Ann. de Dermat. et de Syph., February, 1906, p. 129.

[10] Schütz especially mentions the complication of pneumonia and gives the literature: Beiträge zur Kenntniss des Lichen ruber, Arch. f. Dermat. u. Syph., xli, 255.

[11] Fordyce: Jour. Cutan. Dis., February, 1899.

[12] See remarks by G. B. Dalla Favera (Monatsh. f. prakt. Dermat., April 1, 1909).

[13] Charles J. White (Jour. Cutan. Dis., November 1908) says that to vanquish the old disease lichen planus he makes use of the old drug, mercury, with great success, and attributes the result probably to the stimulating effect of this metal on the nutrition of cells.

[14] After two weeks of ineffective treatment with arsenic, Hartzel found that salicylate of soda did well, especially allaying the severe itching. He also found that on giving salol on account of rheumatic pains in the knees, the cutaneous symptoms were relieved. Am. Med. Jour., July 20, 1907, p. 225.

[15] Radcliffe-Crocker (Brit. Jour. Dermat., February, 1908, p. 47, advises salicin in lichen planus of the acute type.

Dr. John A. Fordyce, New York City: This paper recalled a case that I reported to the American Dermatological Association ten years ago, one of universal lichen planus, with death. In that case there were profound constitutional symptoms, with fever and chills and successive outbreaks of the eruption. The autopsy showed marked changes in the heart muscles, in the blood vessels and in the adrenals. There was marked pigmentation of the skin, which was almost black at the sites of eruption, and it occurred to me that it was possibly the involvement of the adrenal bodies that led to this pronounced pigmentation. The involvement of the mouth and vagina spoke in favor of the constitutional nature of the disease. The resemblance of this affection to syphilis and the fact that it yields at times to mercurials suggest that it may be due to a spirochete or at least to some organism of that nature. Another interesting point in connection with lichen planus is the fact that the lymphatic nodes are sometimes enlarged. I have frequently noticed this involvement in cases of lichen planus of the chest and abdomen.

Dr. Louis A. Duhring, Philadelphia: A number of points occur to me in connection with this subject, and to a few of these I wish to allude. The class of cases to which this belongs is familiar to me, and I recall one case referred to me by Dr. Tyson which was almost identical with the one described by Drs. Montgomery and Alderson. Judging from my clinical experience and observation rather than from what I have read, there are two distinct clinical types of cases which occur under the head of lichen planus. From the photograph shown, as well as from the description, I think that there could be no mistake about the diagnosis in this case. In one of the types of this disease the lesions assume a sluggish, chronic character, more or less gradually attacking certain regions or localities by preference. This type of lichen planus is well known; better far than that just described by the writers. In the first, chronic type the disease continues a slow course and behaves differently, and is also amenable to a different form of local treatment from the acute type. The lesions are usually angular and flattish, instead of acuminate or rounded, as in the acute variety.

The second type, of which the case just reported is an illustration, is the acute form. The eruption appears generally suddenly or rapidly, spreads slowly or quickly, and may be almost universal, if not entirely so. The pruritus is often intense, the lesions may not be at all flattened, and are apt to be acuminate, occurring for the most part over a large area. In addition to the pruritus, there are marked general symptoms, with great nervous excitation or depression. The nervous system is always at fault in these cases of generalized or diffuse lichen planus. In the treatment of this variety arsenic has usually signally failed to benefit, and has been distinctly inappropriate in many instances. In the case I have in mind, arsenic was not at all tolerated, as the stomach and digestive tract were much involved through depressed nerve force. After the condition of the stomach was improved by rest, hygienic and other measures, the arsenic was tolerated and may have aided in the recovery. I do not think it at all likely to confound this second form with syphilis, although the eruption may look something like it. Still, I have never seen any cases of this kind that could be confounded with syphilis. I desire to direct attention to this second acute generalized form of lichen planus, because I do not think it is so well understood as it should be. In the case I referred to, the gentlemen who saw the case before me did not seem to make the diagnosis and were disposed to regard the eruption as syphilitic.

Dr. Ernest Dwight Chipman, San Francisco: It certainly seems that there is a definite resemblance in many instances between lichen planus and syphilis. I would like to record briefly a case that came under my observation several months ago; a case which was touched on by Dr. Alderson in his paper as having been pronounced lichen planus by two dermatologists, and in which the Wassermann reaction was subsequently obtained. The patient was a robust Italian, aged 35, who gave absolutely no venereal history. He had a generalized eruption, partially macular, partially papular, with intense pruritus. Here and there were seen evidences of lichenification, involving particularly the axillæ and the flexor surfaces of the elbows. The patient was seen by a confrère who made the diagnosis of lichen planus. I could not agree with him, although the eruption was suggestive of that affection. A Wassermann test was made and was strongly positive, and an examination of the contents of several of the papules showed the presence of spirochetes.

Dr. George Pernet, London, Eng.: I have had several cases of acute lichen planus, and I agree that they are among the most troublesome cases that the dermatologist can have to deal with, especially on account of the tremendous pruritus and the depression of the nervous system. With regard to the distribution of the eruption in this case, I was interested to observe that on the anterior surfaces of the forearms it terminated rather abruptly. I have seen this in several cases, not only of acute lichen planus, but also in the stage of syphilis in which the eruption is not completely developed. In acute lichen planus it corresponds with the nerve distribution. In one case at the University Hospital the palms of the hands were severely involved, with marked swelling and hyperkeratosis. In the treatment, there is no doubt that salicin has almost a specific action in these cases. In acute or subacute lichen planus I think that arsenic in any form is contraindicated; in fact, in all skin eruptions of the acute or subacute type I have found that arsenic, which is so commonly prescribed in skin affections by men not conversant with dermatology, aggravates these cases very much indeed.

The appearance of the plasma cells in this case raise the interesting point that some of these acute conditions do lead to plasma cell formation. I have noticed in acute lupus erythematosus of sudden onset the presence of plasma cells in some of the sections.

Dr. Philip Kilroy, Springfield, Mass.: Apropos of the possibility of this affection being of syphilitic origin, as suggested by its pathology, I have had two indubitable cases of syphilis in which there was intense itching. I do not think there is any dermatosis that may not itch, and itch severely.

Dr. Harry E. Alderson, San Francisco: Of course, we considered the possibility of this being a case of lichen planus engrafted on a syphilitic basis. The finding of the positive Wassermann reaction, and certain rather atypical appearances in the histologic features seemed to point that way, but clinically there was no doubt about the diagnosis of the case. Every one will acknowledge that when the clinical evidence is sufficiently strong, it will outweigh the evidence given by the microscope. Of course, a careful search was made for the spirochetes with the dark-field condenser and by smear methods, and had they been present they would doubtless have been found. In the case mentioned by Dr. Chipman I was not aware that the spirochetes had been found.

Milk and Pasteurization.—M. J. Rosenau, in *Annals of Medical Practice*, states that harm has been done by the misleading use of the term "pasteurized milk." Popularly, this has been construed to mean a superior quality of milk in the sense that antiseptic surgery is a great advance on the old-time methods. "Pasteurized milk" really means heated milk and is not necessarily synonymous with "clean milk," "good milk," or "pure milk." The particular object of the heating is to destroy the harmful bacteria. In order to correct this misconception concerning pasteurized milk, it would be better to discontinue the use of the term and substitute therefor the name, "heated milk," stating the degree of heat and time of exposure on each bottle, as well as the date on which the milk was heated.

BROWN-TAIL MOTH DERMATITIS

REPORT OF A CASE *

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THE BROWN-TAIL MOTH

The brown-tail moth or *Euproctis chrysorrhœa* was one of the first insects destructive to fruit-trees to be described by entomologists. The moth is a native of Europe and is common in all parts, except the extreme north. It is said that it first invaded this country in 1892, infesting a small territory in the vicinity of Somerville and Cambridge, Mass., the method of introduction being the importation of some roses from Holland by a Somerville florist.[1]

It was not until 1897, however, that any scientific investigations were made concerning the insect in this country. At this date the Massachusetts State Board of Agriculture pursued a series of investigations to discover the insect causing the destruction of vegetation in and about the suburbs of Boston and proved the brown-tail moth to be the pest responsible for the trouble. The gypsy moth commission, which was at this time actively engaged in the destruction of the gypsy moth, another pest, helped to limit the spread of the brown-tail moth also; but in 1900, when, owing to lack of appropriation, this commission was forced to discontinue its work, the moth marched rapidly onward in its destruction, traveling northward through New England into Canada.[2]

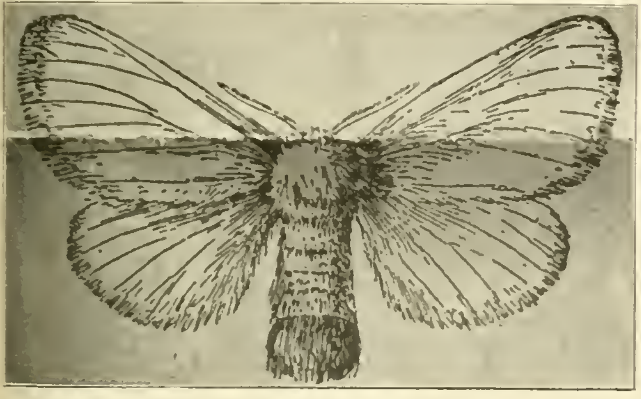

Fig. 1.—Female brown-tail moth.

The brown-tail moth is an insect which feeds principally on the foliage of fruit trees. Its average size at full growth is about one and one-half inches in length. The head is a light brown color mottled with areas of a darker brown with reddish-brown hair scattered over the surface. The body is almost black in color, with many fine lusterless, orange or silvery gray spots scattered over it. Long, finely white branching hairs arise from the upper side of the lateral tubercles. The female is almost snow-white. There is a tuft of thick brown hair on the tail of the moth, most marked on the female. The hairs are brittle and easily detached. Both male and female are free flyers and strongly attracted by light.

The moth lays three or four hundred small round eggs thickly covered with brown hairs which are dislodged from the abdomen of the moth and adhere to the eggs. The eggs are laid in July and are generally deposited on the under surface of the leaves of fruit and shade trees, forming a mass about three-quarters of an inch in length and one-quarter of an inch wide. They are hatched in about a month and the young caterpillars, forming colonies, spent the rest of the season spinning their winter webs. At the beginning of cold weather they disappear within their nests, closing the holes behind them. Here they remain only partly grown until early spring, when they come forth and grow rapidly, eating the buds and young blossoms from the trees as they appear.

The caterpillar reaches its full growth some time in June. It is about two inches in length, light brown in color with a white stripe on either side. It spins a loose cocoon and goes into the pupa stage and the moths emerge about the middle of July.[3]

BROWN-TAIL MOTH DERMATITIS

Description.—The dermatitis produced by the brown-tail moth is of two types, mild or limited and severe or extensive. In the mild form the lesions appear first as erythematous macules, few in number and situated on the face, neck and arms, sometimes spreading to the chest and back. The lesions are characterized by itching of a varying degree, depending on the extent of the eruption, which at times is almost unbearable. The macule soon becomes urticarial in character, raised above the surface, firm in consistency and disappears on pressure. The wheals are about the size of a pea, discrete as a rule and remain from a few hours to a few days. The severe type of eruption is characterized by a much more intense inflammation of the skin, a confluency of the lesions and an increase in the intensity of all the symptoms. In exceptional cases eczema is superimposed on the dermatitis and the condition becomes proportionally serious, with thickening of the skin, exfoliation and fissuring in the joints. In prolonged and severe cases the general health is sometimes seriously affected by the loss of sleep and appetite and the disturbing pruritus.[4]

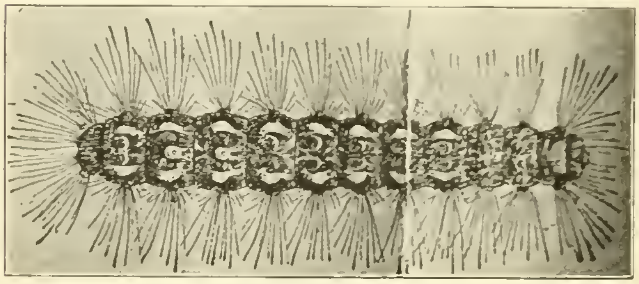

Fig. 2.—Full-grown caterpillar of brown-tail moth.

Etiology.—The lesions are produced by the tiny barbed hairs which grow on the caterpillar. The hairs are few in number during the early life of the caterpillar, but become more numerous as it reaches its full growth. These nettling hairs are straight, slender, needle-pointed rods having three rows of recurrent barbs, which average from four to five millimeters in length. The hairs are found on the moth and also in the structure of the cocoon, so that contact with the insect during any of its stages is liable to produce the disease. The hairs retain their irritating properties for a long time and the dermatitis has been caused by the handling of cocoons several years old. In the mild cases of poisoning there is generally a history of the removal of a caterpillar preceding the eruption, while the dermatitis of severe form seems to be contracted by the prolonged irritation of the skin from the hairs which become lodged in the clothing from the moths or cocoons.[5]

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* Read in the Section on Dermatology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City June, 1909.

[1] Meeks: Boston Med. and Surg. Jour., 1901, cxliv, 657.

[2] Fifty-second Ann. Rep. Sec. Massachusetts State Board of Agric., 1904; Ann. Rep. Sec. Agric., Nova Scotia, 1908.

[3] State Board Agric. Massachusetts: Nature Leaflet, No. 26, April 2, 1908.

[4] White: Boston Med. and Surg. Jour., 1901, cxliv, 590; Towle: Boston Med. and Surg. Jour., Jan. 19, 1905.

Pathology.—It was originally supposed that the irritation was purely a mechanical one caused by the inflammation under the skin of the peculiar barbed nettling hairs, but Dr. Tyzzer of Boston has practically proved by a most interesting series of experiments that the process is a chemical one. He has demonstrated that when the nettling hairs are mixed with a drop of blood the rouleaux of red blood corpuscles break down. The corpuscles become coarsely crenated; the crenations are then changed into slender spines and finally the corpuscles become spherical. The process does not, however, go to hemolysis. Further experiments show that the irritating properties of the hairs are destroyed when subjected to a dry heat of 115 C. and that they also fail to react with the red blood corpuscles, although the structure of the hairs is not destroyed even when heated to 150 C.

Prognosis.—The attack of dermatitis produced by the moth lasts from a few days to a week in the mild cases, but the severe form often lasts for six or seven weeks. The general health is not affected except in severe cases. Attacks recur whenever exposure to the poison takes place.

Treatment.—The affection responds readily to mild soothing antipruritic lotions or salves, except in the severe cases, when more persistent treatment of stronger remedies is sometimes required.

REPORT OF CASE

During the early fall of 1908 there was brought to my notice about sixty-odd cases of this disease occurring in the Annapolis Valley, Nova Scotia. The patients all gave a similar history as to the manner of contracting the disease and the course of the trouble. Most of the cases were of a moderately severe type and were contracted from the moth or the handling of cocoons. The following is the history of a severe case:

Patient.—R. W., aged 17, was a Canadian by birth and agricultural student by occupation. The boy's older brother had recurrent attacks of eczema from infancy until 5 years old, but had had no recurrence since and was now 20 years old. The father had had a number of attacks of ivy poisoning. The family history was otherwise negative. The patient had always enjoyed good health, but had thin, tender skin with a tendency to seborrheic dermatitis. Two years before the present illness he had a severe seborrhea of the scalp, losing a considerable amount of hair. The condition improved readily under treatment and he had since been free from trouble.

Present Illness.—This began in the summer of 1908, while the patient was engaged in picking cocoons from the fruit trees. The boy was first troubled with an itching of the arms and face. Shortly afterward he noticed small red spots appear on the same locations. The spots, he said, were not elevated at first, but soon became papular. The itching increased and the lesions extended to the neck, body, thighs, nates and legs. The itching became intolerable so that he was unable to sleep at night. He would often put on his clothes and walk for miles in the middle of the night. He applied home remedies without relief and his condition became steadily worse. When he presented himself to me for treatment his whole body was involved. The dermatitis was eczematous in character; the skin was intensely inflamed, hot, dry, harsh and thickened; the flexor surfaces were fissured and painful, and on removing the clothing a shower of fine exfoliating scales would drop to the floor. The patient's nervous system was greatly impaired from loss of sleep and persistent pruritus. He had lost some weight and his mucous membranes were pale and anemic.

Treatment.—The boy immediately discontinued his work. His underclothing was boiled thoroughly to prevent any irritation from hairs lodged therein. He was put to bed and wrapped in cloths saturated in sweet oil to which had been added 2 per cent. of phenol. The itching stopped almost immediately and the patient had a good night's sleep. In one week's time the exfoliation had ceased, the skin was more soft and pliable, less red and inflamed and the tenderness and itching had disappeared. The patient was now given zinc oxid ointment containing phenol and menthol. This was continued for four weeks with an occasional bran or soda bath when the skin had regained its normal condition and the patient felt perfectly well. He returned to his employment with instructions to be careful not to come in contact with the moth in any of its stages and has since been free from any trouble.

Very little reference has been made in the medical literature regarding the brown-tail moth. Dr. J. C. White,[4] in 1901, first reported a number of cases of dermatitis produced by a caterpillar. The type of eruption and the history of the disease was similar in all cases. Dr. Meeks[1] at this time asserted that the eruption described by Dr. White was due to the hairs of the brown-tail moth. Dr. Harvey P. Towle,[4] in 1905, gave an excellent account of the history of the moth and the eruption produced by it. Most of the cases he described, however, were of the mild type. Dr. Towle was convinced from his investigations that the irritation is a mechanical one due to the barbed nettling hairs.

The article[5] read by Dr. Tyzzer of Boston before the Dermatological Congress in 1907, besides giving a valuable description of the life history of the moth, proves without doubt that the irritation is a chemical one due to some poisonous substance contained within the hair.

ABSTRACT OF DISCUSSION

Dr. Clarence M. Casselberry, Boston: Some years ago we had this plague in Boston, and most of the work that has been done on this subject has come from New England, so that we are naturally interested to hear the experience of others. I know that the devastations of these moths extended as far north as Canada and that they proved a terrible pest. Dr. Potter emphasized the fact that this dermatitis affected more particularly those who handled the cocoon. That may possibly be so, but it seemed to me that during the epidemic in Boston no one was exempt; people on the street who had never touched a cocoon became infected.

Dr. William A. Pusey, Chicago: Dr. Potter has done the section a distinct service in bringing this subject before us. It is the first paper we have ever had on this subject. Two or three years ago we did not know what this form of dermatitis was. In the West we have thus far been exempt from it, but some of our Boston friends are prophesying that this brown-tailed pest will soon cross the Alleghanies, and we are at least glad to be forewarned.

Dr. Alfred Potter, Brooklyn: I did not mean to give source of the infection. The severe cases are the result of constant irritation and the hairs from the moth and cocoon which become lodged in the clothing produce this prolonged irritation, whereas the caterpillars are brushed away as soon as they are noticed, and the infection is, therefore apt to be less severe.

the impression that it was the cocoon only that was the

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[5] Tyzzer: Tr. Sixth Internat. Dermat. Cong., New York, 1907, i. 169.

IODODERMA BULLOSUM HÆMORRHAGICUM*

WILLIAM S. GOTTHEIL, M.D.
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Though Jarisch[1] asserts that the pemphigoid eruption occurs not infrequently from iodin and Thiberge[2] speaks of it as not very uncommon, both the recorded cases and every-day experience show it to be rare. Most instances have been seen in patients affected with renal or cardiac disease, or both; and the connection between the two conditions is apparent when we remember that iodin is chiefly and rapidly excreted by the kidneys. Most of the cases, also, have been rapidly fatal, the iodic intoxication, in combination with the visceral lesions, leading to speedy death. Thus in Wolf's case[3] a patient affected with both cardiac and renal disease took 30 grains of potassium iodid daily; for some time there was a very abundant bullous eruption, and the patient died on the eight day. Polland[4] had a patient affected with chronic nephritis, who took 1 gram of sodium iodid daily for ten days. A bullous eruption appeared on the face, neck, and hands; death occurred in a few days; and the autopsy showed the presence of bullous lesions on the gastrointestinal mucosæ. That the drug has an injurious effect on the vessel walls is shown by the rather frequent occurrence of iodic purpura.

A hemorrhagic bullous eruption necessarily betokens a systemic reaction of the intensest kind to the drug. Its rarity is evidenced by the fact that I have been able to find only three recorded cases.

Case 1.—Reported by Morrow.[5] The patient, a man, aged 50, had taken about 200 grains of iodid of potassium in three days when a pustulo-bullous eruption developed on the face. The iodid was continued for ten days, till 900 grains had been taken. Sanguineous bullæ appeared on the face, hands and forearms. There was great prostration, stupor and involuntary evacuation of urine, this latter being acid, 1010, and containing 10 to 15 per cent. of albumin, a few pus and blood cells, but no casts. There was mitral insufficiency. Improvement of the skin eruption took place under carbolized petrolatum for twenty-six days; the general condition was unchanged; ten days later there were involuntary evacuations, and death occurred from edema of the lungs. Autopsy showed dilatation and enlargement of the left heart, mitral insufficiency, atheroma of the aorta, edema of the lungs, and chronic granular nephritis. The skin eruption reached its height five days after the iodid was discontinued.

Case 2.—Reported by Hallopeau and Lebret.[6] This case had been presented to the *Société de dermatologie et de syphiligraphie* by Du Castel in 1896, 1899 and 1901 for hemorrhagic efflorescences on the limbs following the administration of iodid of potassium; the patient was a hereditary syphilitic. On August 7, 1903, for a recrudescence of his trouble, he was given 45 grains of iodid; the next day hemorrhagic bullæ developed on his hands. While the further history of the patient is not given, he presumably recovered from the attack. There is a cast of the eruption in the Baretta museum.

Case 3.—Reported by Russell.[7] A man of 68, suffering from chronic rheumatism, was given iodin to the amount of 15 grains in three days. There appeared a large bullous eruption, especially on the face, the blebs containing a bloody fluid. The oral mucosa showed the same lesions, most of which ulcerated. Death occurred on the tenth day from "pneumonia and inanition." This patient had had only very small doses of iodid of potassium in syrup of the iodid of iron; yet by the third day of the medication he had coryza, conjunctivitis, hemorrhagic bullæ on the face, scalp, neck, breast, arms and legs, some as large as a quarter of a dollar, blebs and ulcerations of the lids, nares and mouth, etc.

To these I add a fourth case, seen in the service of Dr. Evans, of the City Hospital.

Case 4.—*Patient.*—Bernard T., aged 45, admitted to Ward 2, City Hospital, New York, Aug. 18, 1898, was moderately alcoholic; had typhoid fever twenty years before admission; syphilis eight years before admission; he said he had had twelve attacks of "malaria" in the last eight years, accompanied by some jaundice; for the last ten years he had had some dyspnea and precordial pain on exertion. Three months before admission he began to feel weak, and lost his appetite; had headache, and jaundice.

Examination.—On admission the patient was found to have a pulse of 72, temperature 100, respirations 34, blood pressure 100; he was moderately jaundiced, and somewhat apathetic; no rigidity, pupils normal; lungs clear; heart showed a systolic murmur at the apex and over the aorta. The abdomen was soft, containing no masses; the liver not enlarged; the spleen not palpable; no edema; knee-jerks normal. Urine: 1022, alkaline, and contained hyaline and granular casts. Red blood cells, 5,100,000; white blood count, 11,700. The diagnosis was not certain, but inclined toward uremia.

Course of Disease.—The apathy gradually increased, and by September 8 the patient was semiconscious only. There appeared to be some left facial paralysis; and this, with the gradually increasing somnolence, the presence of suspicious scars on various parts of the skin, and the patient's history on admission, led to the suspicion of the presence of a gummatous brain affection, and on October 24 he was put on the iodid of potassium in doses of 100 grains a day. On the 25th, after he had taken his first 100 grains, a few small "blood blisters" appeared on the left hand and on the left side of the neck. There was also some conjunctivitis. By the 29th the blisters on the neck were retrogressing, and there was a marked iodin acne of the face. Small hemorrhagic vesicles appeared on the backs of both hands and forearms, and these increased in size and number rapidly. By October 20, there being no improvement in the patient's condition, the iodid was stopped; he had then taken some 600 grains altogether; and at that time photographs were taken from which the accompanying illustrations were made. The patient was quite somnolent, but could be roused; he had involuntary evacuations; and besides the lesions on the backs of the hands to be described, he had a few bloody vesicles on the neck and on the legs. On the backs of both hands were a number of variously sized and shaped tense bullæ; most of them were over the second phalangeal joints of the fingers. The smallest and most recent were pin-head to pea-sized acuminate vesicles, purplish in color, and with a distinct erythematous areola. The larger and older ones formed tense hemispherical or elongated bullæ an inch or more in size. They were of a peculiar purplish red color, especially at their bases, and with a whitish or milky aspect at their tops, evidently due to the epidermis. Puncture of the bullæ evacuated a non-coagulating blood-like fluid, which under the microscope showed the presence of red and white blood cells. There were no eosinophiles in this fluid; and the chemical test for iodin in it was negative. During the next few days these bullæ increased very much in size and became confluent; new ones appeared, and finally the entire backs of the hands were covered with immense confluent sanguineous blebs. Some of these ruptured, leaving extensive excoriated and readily bleeding surfaces behind; and others became infected and purulent. Toward the end the entire backs of the hands and forearms were one large raw surface. A few fairly large bullæ of precisely similar nature appeared on the face and legs. By November 7 the stupor deepened, and on November 10 the patient died comatose. It is worthy of note that there was not a single bulla or vesicle on the palms, and that, while there were a very few hemorrhagic bullæ on other parts of the skin, as noted above, the entire brunt of the dermal explosion was on the backs of the hands and the forearms.

Autopsy.—This showed many lesions of the internal organs; in fact, the patient was in the condition of many of those who come to spend their last hours in the great charity hospital. The immediate cause of death, as reported by the pathologist, was edema of the lungs, though the house record says nothing of this. The essential disease of which the patient died was syphilitic cirrhosis of the liver; but besides this he had hypertrophy of the left ventricle; dilated mitral ring with regurgitation; fatty degeneration of the heart muscle; emphysema and terminal edema of the lungs; chronic interstitial splenitis; atrophy of the suprarenals; chronic degenerative nephritis; chronic interstitial pancreatitis; enlarged abdominal lymphatic glands; chronic peritoneal and pericardial adhesions, and smooth atrophy of the larynx; not to mention a number of less important changes and degenerations. In spite of the official postmortem designation of the liver disease as the cause of death, the medical men who observed the patient during his last illness were of the opinion that the patient died of uremia.

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* Read in the Section on Dermatology of the American Medical Association at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Hautkrankheiten, 1900, p. 126.

[2] La Pratique dermatologique, ii, 484.

[3] Berl. klin. Wchnschr., quoted in Lancet, Oct. 23, 1886

[4] Monatsh. f. prakt. Dermat., 1905, xl., 288

[5] Morrow: Drug Eruptions, William Wood & Co., 1887, p. 129.

[6] Hallopeau and Lebret: Ann. de dermat. et de syph., 1903, p. 826.

[7] Russell: Med. Rec., Aug. 12, 1903, p. 207.

Iodin, as is well known, is one of the most rapidly absorbed and excreted of medicaments. All the mucosæ take it up very quickly; and so does the skin under proper conditions, as Welander[8] and Hirschfeld and Pollio[9] have shown. Lang[10] has demonstrated iodin in the blood from one to ten minutes after its ingestion, and a little later in the saliva, and still later in urine, gall and milk. In one hour it has disappeared from the blood; in twenty-four hours it has almost gone from the secretions, though a little of it may remain for weeks, to be slowly excreted by the kidneys. Any serious obstacle, therefore, to the rapid passage of the drug through the organism must lead to its accumulation in the tissue fluids.

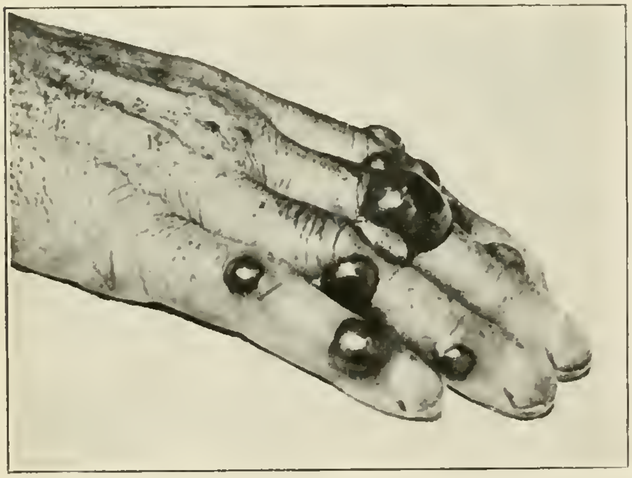

Fig. 1.—Author's case of iododerma bullosum hæmorrhagicum. Photographed three weeks before death.

It is generally held that the effects of the iodid medication, therapeutic and toxic, are due to the free iodin that is liberated in the blood from the various compounds employed. The exact manner in which the change occurs is still unsettled; but it seems probable that the theory of Binz[11] is the correct one; that in the presence of oxygen in the blood and carbonic acid in the tissues a salt such as potassium iodid is transformed into potassium carbonate and iodin is set free. At all events, free iodin is demonstrably present in the blood and acts as an irritant to the cells with which it comes in contact, exactly as it does to the dermal and mucosal cells when applied externally. Sajous[12] holds that the iodin is taken up by the leucocytes and irritates the intima of the vessels, causing their contraction and thus increasing blood pressure. This does not, however, to my mind, satisfactorily explain the marked vascular symptoms of acute iodism; and I am more inclined to agree with Thin,[13] who recognizes a distinctly disorganizing effect of the iodin on the epithelia of the blood vessels. The various dermic iodic reactions, the acne with its limited edema and congestion, the pemphigus with its effusion of serum and formed blood elements, the purpura with its extravasation of blood, the congestion and hypersecretion of the various mucosæ, the hemorrhages from the internal organs, etc., are all explainable in the same way.

The main avenue of iodin excretion being the kidneys, organs with a capillary circulation perhaps the most extensive and complicated in the body, and the free iodin itself having a directly deleterious influence on the small vessels themselves, it is not strange that the renal system should be an early sufferer from the iodin poisoning. I have made it a practice for a long time past to have regular urinalyses made in patients undergoing the iodid treatment, and I have noted the fact that in most cases, even in young and otherwise healthy individuals, there were signs of renal irritation at times. Patients without a trace of nephritis previously showed albumin in varying amount and hyaline casts at times. In fact, I think it desirable to keep track of the urine when administering an intensive iodin course, and to decrease or stop the exhibition of the drug when the excretion shows that the renal functions are being seriously interfered with. I am afraid also that I have seen a number of cases of permanent damage to the kidneys that I have been unable to ascribe to anything but the iodin medication.

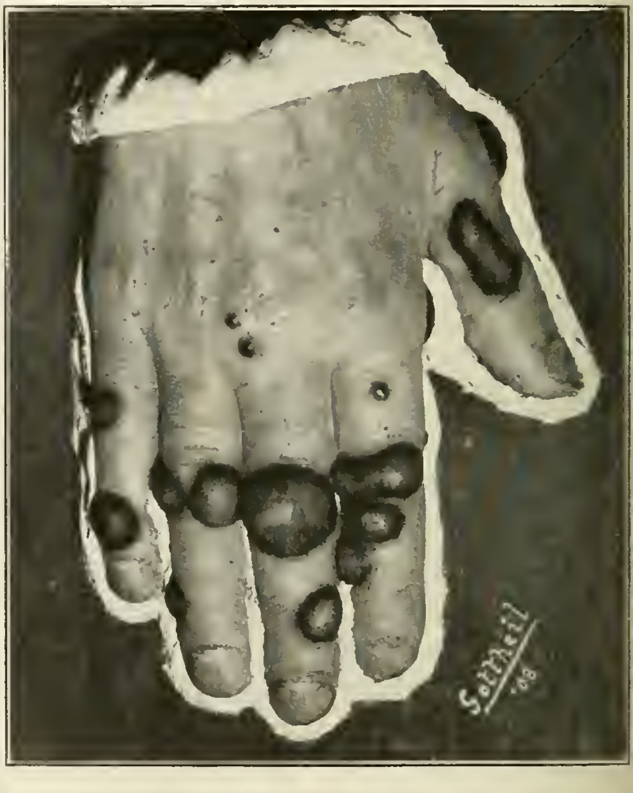

Fig 2.—Cast, taken three weeks before death.

If the healthy kidney is liable to be injured by iodin the drug has naturally a still more deleterious effect when that organ is already damaged. Here there is a true vicious circle; the damaged emunctory prevents the normally rapid excretion of the drug, so that it is kept in prolonged contact with the tissues; and the irritant drug still further injures the excretory organ. The intimate relationship of iodism and chronic nephritis has long been recognized, and has been insisted on by many writers, among whom Duckworth asserts that iodin is dangerous in these cases, George Johnson notes the frequency of severe iodism in Bright's cases, and Stewart says that there is abundant proof that the more kidney elimination is hampered the greater the danger of iodism. Ehlers, as the result of his experimental work, comes to similar conclusions. The great majority of cases of severe iodism, the cases with bullous and hemorrhagic eruptions, have occurred in patients suffering from renal insufficiency.

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[8] Welander: Arch. f. Dermat. u. Syph., July, 1901, p. 63.

[9] Hirschfeld and Pollio: Brit. Jour. Dermat., 1905, p. 163.

[10] Lang: Vorlesungen über Syphilis, p. 532.

[11] Binz: Rev. d. sc. méd., v. 485.

[12] Sajous: The Internal Secretions and the Principles of Medicine, 1907, ii, 1160.

[13] Thin: Med.-Chir. Tr., lxii, 199.

144 West Forty-eighth Street.

ABSTRACT OF DISCUSSION

DR. F. C. KNOWLES, Philadelphia: During the past two years I have had the opportunity of seeing at the Pennsylvania Hospital two cases of simple purpura caused by the internal use of the iodids. The cause of the eruption was proved by the fact that, after the drug was discontinued and the eruption had disappeared, it reappeared after the use of small doses.

DR. GEORGE PERNET, London, Eng.: I agree with Dr. Gottheil that bullous eruptions after the administration of the iodids are rare. I cannot recall any case of the hemorrhagic type like the one be described. Potassium iodid is frequently given in much too large doses, and without any reference to the state of the kidneys. Of course, potassium iodid is of itself a diuretic, and even small doses may at times do harm. Certainly some of the heroic doses are really not indicated.

DR. WILLIAM A. PUSEY, Chicago: During the past year I have had a fatal case of the same sort, and a more desperate picture of disease I have never seen. The patient was admitted to my service at the Cook County Hospital without diagnosis, but my interne, who had seen one or two similar cases during the previous month, made the diagnosis. The patient was a woman who had taken moderate doses of potassium iodid—so far as we could determine, from 7½ to 10 grains three times a day. When admitted, she presented hemorrhagic bullæ which would become blackish in color and flaccid. Then the base of the ulcer would become gangrenous, and from the sides of the ulcer a small bullous collar three or four inches in diameter would develop. Iodin was recovered from the patient's urine. She lived six or seven days after I saw her, and about ten days after the first history of the eruption. Dr. Charles J. White of Boston has reported an almost identical case.

Recently I was asked to make a diagnosis in a case in which the diagnosis of congenital syphilis had been made. This patient, a child, had hypertrophic lesions, and syphilis could be readily eliminated because of the distribution of the lesions. There were no lesions about the mouth nor buttocks. The eruption was distinctly different from that of syphilis, and there had been large ulcerative lesions, as shown by the scars. In that case the child, a nursing baby, had received the iodin through the mother's milk. In this case also, iodin was recovered from the urine. The child died in a few days with bronchopneumonia but really from the iodism.

DR. W. S. GOTTHEIL, New York City: In the City Hospital in New York, which is the great venereal center for this part of the country, the tradition still holds that it is necessary to give enormous doses of iodin, in some instances from 750 to 800 grains daily, and we think we get good results from this. In one case I gave 1,000 grains daily, and when I was interne I can recall a case of gumma of the brain in which as high as 1,200 grains daily were given. I would simply emphasize the advisability of keeping close watch on the urine while giving potassium iodid, especially if the dosage is large.

THE WET DRESSING IN SURGERY *

CHARLES A. PARKER, M.D.
CHICAGO

In our eagerness to avail ourselves of the many new and sometimes very promising announcements in surgical progress it is well not to discard too lightly older methods and principles founded on long-established and successful usage. Into the field of treatment in recent years the hyperemia of Bier and the vaccine therapy of Wright have entered as active participants for our favor in the care of infectious processes. So prominent a position have they occupied that frequently other methods have been completely overshadowed, to the serious neglect and injury of the patient. With no desire to detract from all the demonstrated and promised virtues of these newer methods of treatment, I do wish to preserve the wet dressing from even the momentary neglect that threatens it and to place it in the proper rank to which its broad range of usefulness and long record of success entitle it.[1]

Of course, any method of treatment will suffer undeserved censure when ignorantly or improperly used. Surgical measures are most efficient in the hands of a surgeon, a knowledge of surgical conditions and processes necessarily forming the basis of treatment. The automatic dressing has not yet appeared.

Little that is new can be said in support of so well known a measure; but, in view of its importance and the absence of any recent comprehensive review of the subject, it appears particularly apropos to present it now on its own merits and in relation to other measures that its present adherents may be even more firm in their faith and its future usefulness greatly extended. Continued experience with surgical material convinces me that it is not so generally employed as it should be.

DEFINITION

By the wet dressing is meant the simple form of surgical dressing consisting of plain sterile absorbent gauze, wrung out of sterile water or physiologic salt solution, covered with an impervious tissue, as paraffin paper, oil silk or gutta percha tissue, and held in place by a bandage. The gauze is usually wrung out of warm water and applied in several layers over the affected part, and is then covered with the impervious tissue, which extends beyond the margins of the gauze, so that when the bandage is applied the moisture in the gauze can not evaporate and the dressing will be as wet the day after as the day it was applied. The gauze is usually wrung as dry as possible by the ordinary means in the dressing room. When thus applied to a secreting wound it very readily absorbs the secretion, a property wholly lacking in a saturated dressing. Powders are unnecessary, nor need various aromatic and odious preparations be applied. Plain sterile water or physiologic salt solution is preferable to antiseptic solutions for moistening the gauze.

ILLUSTRATION OF USES

In Lacerated and Contused Wounds.—These wounds are of various degrees, from the crush of the boy's finger in the cogs of his "Irish Mail" to the loss of a limb in a railway accident. Taking the finger for an example, the tip is lacerated, the nail may be lost and the bone broken. With surgical cleanliness the hopeful parts are laid together, possibly stitches placed for better control of the fragments, and the whole put up in a wet dressing. Within the next twenty-four hours, when the dressings are removed, the parts not too severely crushed have regained much of their color, while the necrotic portions soon become manifest. Every living bit of tissue has a chance to live and grow, and the facility with which the dressing is removed is a revelation.

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[1] Since preparing this paper two interesting complementary articles on allied subjects have appeared in recent journals. One is by H. G. Wells on "The Resistance of the Human Body to Cancer," in THE JOURNAL A. M. A., May 29, 1909; the other is by Simon Flexner entitled "Natural Resistance to Infectious Diseases and its Reinforcement," Popular Sci. Monthly, July, 1909

The finger is again similarly dressed and redressed till the last slough has separated and the epithelial covering is complete. The same dressing is equally applicable to and indicated in the crushed limb or similar wounds occurring elsewhere in the body. In wounds of deep tissues and organs, where dressings in general are either not directly applicable or are not desirable, the use of the wet dressing is also equally limited by the same restrictions. As a matter of fact, these deep wounds are under the influence of the natural heat and moisture of the tissues, though frequently lacking in facilities for relief of irritants and tension.

In Local Infections.—The common infections of the hand serve as useful illustrations of its application in pyogenic infections. These include the various classes of panaritia, or felons, palmar infections—intra- and extra-thecal—and the lesions of bones and joints. Suitable operative or mechanical measures having been instituted, the best local application is the wet dressing. Take, for instance, the simple painful paronychia, or ungual panaritium—the so-called "run-around" of the nail—frequently resulting from an infected hangnail. Pus is commonly in evidence, but the hard and dry skin clinging firmly to the nail keeps up the pressure and the symptoms; or, the pus may be discharging somewhat around the nail, but periodically drying up and clogging its own exit, causing the exacerbation of symptoms. The wet dressing applied to this finger in the one instance softens the tissues around the nail so that the pus escapes, while in the other it keeps the parts moist so that occlusion does not occur—in either case favoring the healing and relieving the symptoms. Necessary operative measures should be employed when indicated. What has been said of the hand applies with equal force and pertinency to the foot and to infections in all other equally accessible parts of the body, varying the technic according to local conditions.

Wounds in General.—In general, the wet dressing is indicated in the treatment of all open wounds or tissues deprived of their normal epithelial covering. Infected wounds of the subcutaneous or deeper tissues when incised become open wounds and are treated as such with the necessary modifications for drainage. It exerts a distinct and favorable influence on the processes of inflammation, frequently limiting and occasionally completely controlling local pyogenic processes without drainage. Here, however, is the greatest danger in this, as in other measures, that it will be used exclusively, instead of an adjunct, as it is designed to be. Aseptic areas deprived of their proper skin covering, as in incomplete plastic operations or similar surgical procedures, are best protected by this dressing. It is equally well adapted to the treatment of infected areas with suppurating or discharging wounds, as in many forms of ulcer regardless of type or origin, though not unmindful of collateral surgical and specific measures variously indicated. It is not indicated in aseptic surgical wounds where the tissues are completely covered with skin, the proper protection of the soft tissues.

MODE OF ACTION AND SPECIAL FEATURES

Its therapeutic efficiency depends on its physical features, which will be considered in detail in connection with its method of producing results in the various surgical conditions to the treatment of which it is best adapted.

Its Absorbing Capacity.—The removal of excessive or irritating secretions from a wound must be an attribute of a good dressing. Naturally, dry gauze will absorb more fluid than already partially saturated material. The practical difference, however, is not so great, as experiment shows that the wet gauze well wrung out absorbs at least three-fourths as much fluid as the dry. One ounce of dry gauze will absorb four ounces of water. When this is wrung tightly in the hands it will weigh two ounces and will absorb three ounces more of water, showing just three-fourths the absorbing capacity of the dry gauze. Under compression in an ordinary dressing the limit of absorption is somewhat reduced in both.

The important fact is that the wet dressing continues gradually to absorb to saturation, while in the dry one the secretion, unless excessive, commonly becomes inspissated and impervious a short distance from the wound, thus effectually preventing further absorption by the gauze outside the area of dried pus and blood. On the removal of a properly adapted wet dressing all the secretion comes away with the dressing, and the wound is left clear of fluid débris. Maltreated wounds and ulcers covered with various medicaments and secretions become clean with a few dressings, when the actual condition of affairs first becomes apparent. A scab never forms under a wet dressing, and one already present is soon loosened and the fluid allowed to escape. It is a prompt and ideal method of cleaning a large ulcer preparatory to skin grafting.

Heat and Moisture.—These are the most important physical factors in biology. Without moisture cell growth is impossible, while a temperature near that of the body is necessary for best development. Next to the skin itself, the wet dressing furnishes the ideal condition for cell growth. The temperature of the wet dressing, whether put on warm or cold, soon remains near that of the tissues with which it is in contact, the impervious covering preventing evaporation and dissipation of the heat acquired. A scab is not formed and the tissues are always moist with serum or the isotonic salt solution, further conditions favoring maximum growth of granulations and epithelium. Owing to this condition, mechanical drainage can be reduced to a minimum or dispensed with entirely, as the edges of the wound do not readily adhere after incision and the slight pressure of retained secretions easily opens it. The ease and comfort with which this dressing can be removed from a raw surface or inflamed region are in themselves no small blessings. It requires no tedious and anxious soaking to remove, nor does it bring away such large portions of new and precious epithelium and granulations as are lost in the removal of the dry dressing.

A refinement in its application may be introduced here that seems to be the limit of conservation of these tissues. Narrow strips of gutta percha tissue are laid directly on the granulations and new epidermis in gridiron fashion, or at right angles to each other, till the parts are just sufficiently covered to prevent the wet gauze as it is usually applied from actually touching them. The strips of rubber tissue are commonly one-fourth of an inch wide and long enough to cross the area, the object being to prevent the tissues entering the meshes of the gauze and being torn with every removal. The narrow strips are to be used instead of one large piece covering the whole area, as in the former good drainage of all secretions is maintained from the margins of the many strips, while retention is the rule with the single piece. With this refinement all the other elements of the wet dressing, the wet gauze and the external impervious covering, remain the same. In routine work this special feature is often neglected with little difference in results, as it is but a minor factor in the process, though in some chronic and obstinate cases it decisively turns the tide toward success.

To heat and moisture are the special virtues of the wet dressing chiefly due. Their mode of action deserves further consideration. The growth and repair of tissues are fundamental functions; they are part of the pheuomenon of life, and to their maintenance proper nourishment and environment are the most essential factors. The dressing most nearly furnishing these essentials is the one of choice. Nourishment for the tissues comes from the blood and is principally in the form of nutritive lymph or serum. No artificial or other fluids can equal these for the purpose, and the best that can be said of any such fluids in or on the surface of the tissues is that they are bland or they do no harm. Thus, from the standpoint of nourishment, local applications have no practical value in surgery, their proper sphere being the improvement of environment.

The local lesion may result from various forms of tissue insults, mechanical, chemical, bacterial, and others. The local treatment consists in removing the aggressive factors and providing the best possible environment for the living tissues in their efforts at repair and resistance against further injury. The lesions from which the aggressive factors can be completely and directly removed are the simplest to care for, prompt growth and repair of the remaining living tissue being the rule. If the wound be closed the skin conserves the best physical condition for growth in the nutritive lymph. In the open wound this protection is lacking. The lymph is present, but desiccation soon renders it inert and destroys many cells in the exposed area. These elements eventually form a scab and prevent further destruction, cicatrization progressing successfully beneath. From various causes the scab is frequently incomplete or broken and some of the tissue continuously exposed to desiccation and destruction. Here dressings must be applied to prevent desiccation and maintain proper temperature while inhibiting trauma and infection. A well-adapted, non-irritating, impervious covering fulfills most of these requirements.

Excepting the intentional wounds of aseptic surgery, the vast majority of lesions requiring local dressings are of an infectious nature and often difficult to handle. These are the ones that demand the most of our attention, and measures that are practical and effective in their treatment deserve our confidence and support in direct proportion to their curative properties. Bacteria and their products are the aggressive factors here, and their treatment by other means than complete and direct removal or disinfection—in which case they become aseptic lesions—is the treatment under consideration.

Action of Antiseptics.—In some specific infectious lesions, medicinal substances entering the general circulation exert distinct local curative influences. A study of the best known and most efficient antiseptics will throw much light on the specific action of the group in general in local applications. Foremost among them are the salts of mercury, of which the bichlorid is the one most used. Its direct efficiency under favorable conditions and its limitations in the presence of serum and pus are generally well known. In a 1 to 1,000 aqueous solution it prevents the growth of anthrax spores in from 3 to 7 minutes, while a 1 to 10,000 aqueous solution kills the bacilli in 6 seconds. A 1 to 1,000 aqueous solution kills the *Staphylococcus pyogenes aureus* in from 1 to 5 minutes, though in the presence of serum, pus or fat it is rendered ineffective in much stronger solutions. A 1 to 2,000 solution in dressings frequently excites a pustular dermatitis in previously healthy skin, and a 1 to 10,000 solution in irrigation causes local cellular necrosis on exposed tissues.[2] Thus it does not meet the conditions prescribed, that it shall destroy or inactivate the bacteria without injuring the tissues containing them. Other salts of mercury are equally wanting in this particular attribute.

Phenol (carbolic acid), its related products and derivatives, iodin and its preparations, and the various formaldehyd combinations used as antiseptics, are all more or less bactericidal, but none of them limit their injurious action to the bacteria alone; to effect their purpose they destroy the tissue and thus also fail to reach the prescribed standard. The eligible substances must pass through the vital juices between or within the cells to the sheltered bacteria and produce their specific effects without disturbing the function of the lymph or the integrity of the cells.

The physical and vital relations of the bacteria and tissues being so intimate, the one being hidden in the interstices of the other and both depending on the same pabulum for their nourishment, the achievement of such a desired result could ensue under but two possible conditions: either that the agent exert a selective action on the bacteria, or that their resistance be so much below that of the tissues that they succumb to a weak solution that is harmless to the latter. Many experiments by competent observers now render it extremely doubtful if we have a single chemical antiseptic possessing these attributes.[3] Such selective substances may eventually be evolved for local use as are now used through the circulation, as vaccines, antitoxins, etc. As the effects obtained by applied irritants increasing the local reaction, phagocytosis, etc., are not specific in their nature, though often desirable in practice, the bacteria being only secondarily or indirectly affected, this process is not to be considered in the present relation. The intelligent use of antiseptics in preparation for operative work, or with the knife and cautery where the sacrifice of some living tissue occurs in the effort at stimulation or direct disinfection to save the rest, is, of course, not interdicted. The ultimate defense of the tissues through local measures designed to directly affect the contained bacteria being at present impracticable, if not impossible, means favoring the protective power of the tissues themselves, on which reliance must eventually be placed, thus become of first importance.

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[2] Halsted: Kelly's Operative Gynecology, first edition.

[3] Verhoeff and Ellis, of Boston, in summing up an article in The Journal A. M. A., June 29, 1907, say: "Our results seem to justify the belief that no non-irritating antiseptic can be effective in the presence of serum. . . . No chemical antiseptic can destroy micro-organisms within the tissues without injury to the latter." Sir Almroth E. Wright, London, in The Journal A. M. A., August 10, 1907, in an article on the opsonic theory, says of local antiseptics: "The antiseptic will directly antagonize the protective forces which the living organism has at command, it will paralyze the phagocytes and will abolish the anti-bacterial power of the blood fluids. This is not all: it injures the histologic elements and in particular the capillaries, leading to an outpouring of lymph, which not only washes away the antiseptic, but when the skin is in question converts it into a lymph-sodden envelope easily penetrated by bacteria."

EFFECT OF HEAT AND MOISTURE ON BACTERIA

The query naturally arises as to the effect of heat and moisture on the growth of the wound bacteria, as these physical conditions are quite as essential and favorable to the growth of micro-organisms as to that of the tissue elements. The immediate effect is a mechanical one, like irrigation, the bacteria free on the surface of the wound or floating in the serum being disseminated by the fluid throughout the capillary gauze. The diffusion is rapid and continuous until the gauze is saturated, the result being a great reduction in the number of free bacteria in direct relation with the wound and a corresponding diminution in the contained toxins. Growth may occur in the dressings on the nourishing wound secretions, but with their frequent renewal this growth is quite a negligible factor, as it is no longer associated with the wound itself. There are yet to be considered the bacteria remaining in contact with the wound and those within the tissues.

Intramural Bacteria.—These bacteria are beyond the direct mechanical as well as the direct bactericidal action of any safe application, and are affected solely by the tissue reaction, either normal or artificially stimulated.

Intermediate Bacteria.—There is a sort of middle or intermediate region between the free surface bacteria which are readily removed by fluid diffusion in the dressings and the intramural bacteria just mentioned, where bacteria are present in the most superficial layers of the exposed tissues, in the cells and their interstices, enjoying all the beneficence of applied heat and moisture while at the same time exposed to a diminishing degree of tissue aggression among the advanced guard of superficial cells and altered serum. The dead and dying cells and defective serum furnish a rich pabulum in which the bacteria may develop rapidly with the least antagonism on the part of the tissues. This is the region of advancing granulations and will remain the one of greatest bacterial accumulation and growth. When the accumulation exceeds certain local limitations the excess becomes superficial and is removed, or intramural and is antagonized, an automatic arrangement that confines this accumulation to rather narrow and definite limits. The bacteria that become intramural are subject to the same influence as others of their class, the much larger number that become superficial from the absence in this direction of tissue resistance are removed and cause no further trouble, the constantly changing original zone still remaining the center of active growth and distribution.

In closed infections greater extension of the bacteria into the tissues is favored by the absence of a free surface and diminished tension toward which growth preferably occurs. In some virulent types of infection, as hydrophobia, malignant edema, etc., and other infections in profoundly altered states of tissue resistance, the dissemination of the bacteria and their products is so irresistible that a differentiation into these several zones from the standpoint of local applications becomes practically useless.

Fortunately, however, these are not the ones with which we most frequently have to deal. These three zones are influenced by the local dressing, and their control is commonly the control of the infection. The superficial, we have seen, is controlled by the mechanical action of the wet dressing; the intramural depends on the resistance of the tissues; while the intermediate is subject to both influences, their combined action eventually eliminating all bacteria during the healing.

EFFECTS OF COLD

Although practically all pathogenic bacteria grow best at or near the body temperature, most of them continue to grow at temperatures both above and below this point, and the more common ones, particularly the pyogenic, have a range of many degrees compatible with existence and development. The tissues, however, are very susceptible to changes of temperature beyond comparatively narrow limits. A reduction of a few degrees in the local temperature will seriously reduce the resistance of the affected tissues, while the bacteria will continue to develop with only a slightly diminished virulence in a practically non-resisting field with a result easily foretold.

Thus it is with cold as with the bactericides, the inhibiting influence on the bacteria is more than offset by the injurious effect on the resisting tissues. Whatever salutary influence cold may be considered to exert on the inflammatory process, it certainly should not be ascribed to any direct action of the cold on the bacteria. Excessive heat is equally prejudicial to tissue resistance. Doubly disastrous is the effect of cold when it also produces characteristic circulatory changes, further reducing the vitality of the tissues by diminishing the quantity of blood.

While heat and moisture do most favorably influence bacterial development, at the same time they secure for the tissues the highest degree of efficiency in executing their aggressive or conservative action in the ultimate struggle with invasion. It is not to be presumed that any dressing will increase the resistance above nature's normal, or the greatest degree of resistance the tissues can offer to invasion without themselves suffering injury or loss of integrity. If that can be reached, or as near as may be approached, the best possible local aid has been given. Were the virulence of the bacteria under the stimulus of heat and moisture to increase *pari passu* with the resistance of the tissues, apparently nothing would be gained by the process. While ordinarily such an increase is quite improbable, it *is* true that the tissue cells start with the decided natural advantage of self-protection, so that the dressing that best conserves this advantage is the most meritorious.

This is the gist of the whole matter: that which interferes with bacterial development depresses the tissues; that which favors the tissues favors the bacteria; but, as every victory that has ever been won over invasion has ultimately been won by the tissues, reason suggests and experience proves that the dressing that keeps the inherent advantage of the tissues in the highest possible physiologic condition is the one most favorable to healing. From the foregoing considerations it is my belief that the wet dressing most nearly fulfils these requirements and furnishes the nearest approach to the ideal condition for the healing of the extensive class of surgical conditions for which it has been suggested.

LIMITATIONS AND MODIFICATIONS

The wet dressing is not a panacea nor is it without faults. Aside from the evils arising from its use to the exclusion of other indicated surgical measures, it may have unpleasant effects in its usual employment. These are more particularly its macerating effect on the skin and occasionally resulting dermatitis. When it is desired to employ a wet dressing over a long period of time, or under unfavorable local conditions, the previous application of a protective salve to the surrounding region usually overcomes all difficulties, the condition resembling that of the protective vernix caseosa in the liquor amnii. Occasionally alternating the wet and the dry dressing, part of the time one and part of the time the other, is a satisfactory solution of the problem; and when the irritating effect becomes more serious than the condition it was intended to allay it is naturally interdicted entirely. In practice these objections and contraindications seldom occur, and the occasion is exceedingly rare when it can not be used advantageously during the period when its influence is most desired.

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THE EXPERIMENTAL PRODUCTION OF THE MATERNAL PLACENTA

AND THE FUNCTION OF THE CORPUS LUTEUM *

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In former work I have shown that it is possible to produce at will any desired number of maternal placentas or deciduomata in the guinea-pig, if we make incisions into the uterus at a certain period after ovulation. Here I shall report on the continuation of my work[1] without, however, attempting to go into any details or to give definite figures.

1. In the beginning I may state that the experimental production of the maternal placenta depends primarily on three factors: first, on a chemical sensitizing of the uterine mucosa; second, on an additional mechanical stimulus applied to the uterus, and, third, on a certain condition of the body fluids of the animal.

2. In my former publication I described only the changes produced in the guinea-pig after incisions made into the sensitized mucosa. Since then I have carried out similar experiments in rabbits and I find that in the rabbit it is also possible to produce the maternal placenta experimentally. But while in the guinea-pig the newly formed structures somewhat resemble the adrenals, in the rabbit the experimental maternal placenta is differently built. Here usually no distinct tumors are obtained, such as we find in the guinea-pig, but the histologic changes are very marked; they consist in proliferation of the surface epithelium leading often to giant-cell formation, in the production of nests of glycogen cells in the uterine papillæ and in a plasmodial transformation of many uterine blood vessels, changes also noted in the normal placenta of the rabbit. These results enable us to analyze the factors leading to the building up of the maternal placenta and to state that these structures are produced independently of any specific action of the ovum, because experimentally they can be produced, without any previous contact with the ovum having taken place. I have not yet succeeded in reproducing Minot's monster cells or the multinucleated glycogen cells. At present, therefore, we can not exclude the possibility that these latter structures may owe their origin to a specific action of the ovum.

It will be of great interest to use these methods for the analysis of the formation of the placenta in other mammalians.

3. In my former publication I stated that after extirpation of the ovaries the formation of the maternal placenta takes places only in a small minority of all cases and that in the few positive cases the resulting deciduomata are very small. Since then I have continued these experiments and in a large series I have noted that the only tissue in the ovaries which is concerned in the production of the sensitizing substance is the corpus luteum. Even after extirpation of the corpora lutea small deciduomata may be produced in a small minority of cases: and in one experiment, indeed, I found a pregnancy to be established notwithstanding the absence of the corpora lutea (which was in every case proved by examining the ovaries in serial sections). The few positive results obtained after the removal of the corpora lutea are in all probability to be ascribed to the fact that in my experiments the lutein tissue was removed several days after ovulation and at that period a partial sensitization of the uterine mucosa may very well have taken place already. In future experiments it will be necessary to remove the corpora lutea or the ovaries very soon after ovulation before the specific substance has been formed, and in such cases no maternal placentas ought to develop after subsequent incision into the uterus.

4. I have, therefore, been able to ascribe a definite function to the corpus luteum, namely, that of supplying a sensitizing substance to the uterus which prepares the latter to respond with the production of the maternal placenta, if an external stimulus of a mechanical nature is added. A number of investigators, especially Born and Fraenkel, believed the corpus luteum to be indispensable for the attachment of the ovum at the surface of or inside the uterine mucosa and consequently also for the initial stages of pregnancy. Furthermore, the periodic function of the corpus luteum was believed to be responsible for menstruation and other sexual processes. No definite proof for these hypotheses, however, has been given so far; and the experimental evidence was, on the whole, unsatisfactory. My investigations led to an exact method of experimentation which permitted us to determine definitely the function of the corpus luteum, namely, that of supplying a substance which sensitizes the uterus and thus enables it to produce the maternal placenta.

5. In order to correlate the functions of the corpus luteum and the formation of the maternal placenta it was necessary to study the growth and the retrogression of the corpus luteum in the guinea-pig. Only a few data of interest may be mentioned here. The corpus luteum in the guinea-pig is formed principally through a transformation of the granulosa cells of the follicle.

6. The formation of the corpus luteum follows the spontaneous rupture of the follicle (ovulation) which usually takes place approximately six to ten hours after copulation. But ovulation with the subsequent formation of corpora lutea may take place independently of a preceding copulation. Such a spontaneous ovulation usually occurs in the mother inside the next ten hours after the young have been born; it also occurs in many cases spontaneously—approximately nineteen to twenty-four days after a preceding ovulation without the pres-

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* From the Laboratory of Experimental Pathology of the University of Pennsylvania.

[1] In regard to this work, see the following articles:

Loeb, Leo: The Production of Deciduomata, THE JOURNAL A. M. A., 1908, L, 1897.

Ueber die experimentelle Erzeugung von Knoten von Deciduagewebe, etc., Centralbl. f. allg. Path. u. path. Anat., 1907, xviii, No. 14; Die Erzeugung von Decidua in d. Uterus des Kaninchens, Arch. f Entwcklngsmech. d. Organ, January, 1909, xxvii; Zur Analyse der Wachstumsbedingungen des mütterlichen Teiles der Placenta beim Kaninchen, Arch. f. Entwsklngsmech. d. Organ., 1909, xxvii; Ueber die Bedeutung des Corpus luteum, Centralbl. f. Physiol., November 3, 1909, xxiii; The Formation of the Corpus Luteum in the Guinea-Pig, THE JOURNAL A. M. A., 1906, xlvi, 416. For a review of the literature concerning the corpus luteum see Birnbaum, R.: Sammelreferat, Ztschr. f. allg. Physiol., 1908, viii.

ence of a male. But such a spontaneous ovulation without a preceding labor and without a previous copulation does not take place in every case. Under ordinary conditions the corpus luteum grows actively for approximately eighteen days; then a spontaneous degeneration and retrogression sets in. In the case of a concomitant pregnancy, however, the period of retrogression is deferred considerably and only begins sixty days after copulation or later.

7. Although the life and growth of the corpus luteum lasts, therefore, usually eighteen days, and much longer in the case of pregnancy, the uterus is not sensitized during the whole of this period, but only approximately from the second to the ninth days after copulation. If the mechanical stimulus of the uterus is applied after the ninth day, the uterus does not usually respond with the formation of a maternal placenta. This may perhaps be due to the fact that within nine days after copulation the uterus becomes saturated with the sensitizing substance and that, after such a state of saturation has been reached, fatigue sets in and the uterine mucosa becomes unresponsive. It may be that only a dynamic process, namely, the constant addition of the corpus luteum substance, has a sensitizing effect. However that may be, this curious relation between corpus luteum and uterine mucosa exists and is easily interpreted in a teleologic sense in the following manner:

8. We see that the uterus is sensitized approximately three to nine days after copulation. If we wished, therefore, to select the safest period for the egg to attach itself to a sensitized uterine mucosa and to be sure to be welcomed at its new habitat, and to find a responsive environment, we would choose the middle of this period, namely, approximately the sixth day after copulation, and this is precisely the term at which under normal conditions the ovum does begin to enter the uterine mucosa in the guinea-pig.

We have here an example of a highly useful adaptation, most important for the propagation of mammalians, and we, furthermore, recognize the fact that this adaptation is based on a biochemical correlation between different organs.

9. In this connection I may briefly mention a few other facts concerning the life-history and the possible function of the corpus luteum. The retrogression of the corpus luteum sets in apparently spontaneously at the period mentioned above; it is not dependent on nor is it caused by a preceding new ovulation and the formation of a new corpus luteum. The retrogressive changes in the corpus luteum set in even without the previous rupture of a follicle.

On the other hand, in a number of cases I found that an early extirpation of the corpora lutea led to an acceleration of the following ovulation and consequently to an earlier formation of new corpora lutea. This observation suggests that the existence of growing corpora lutea has an inhibiting effect on the growth and rupture of ovarian follicles. Such an inhibiting action does not, however, consist in a mechanical influence exerted by the corpus luteum, inasmuch as the follicles rupture as soon as the retrogressive changes set in in the corpora lutea, although the site of the corpus luteum and, therefore, its mechanical significance has not yet changed at that time. It is, therefore, a justifiable hypothesis, if we assume that the functional, probably chemical activity of the corpus luteum is one of the factors determining the time of the rupture of the follicle and the subsequent formation of the new corpora lutea. Such an influence of the corpus luteum is, however, not the sole determining, but only a concomitant factor in ovulation; it would explain why during pregnancy a further rupture of follicles usually does not take place.

10. At present we do not know why the spontaneous rupture of follicles is followed by the formation of a corpus luteum. Two years ago I carried out a number of experiments, in which at various times, preferably near the period of ovulation, I made incisions into the ovaries, in order to open follicles and thus, if possible, produce corpora lutea experimentally, but in no case did I succeed. The cuts in follicles were not followed by the formation of corpora lutea. These experiments I intend to take up again. Perhaps some variations in the technic may give positive results, but at present it appears as if only at certain periods and under certain conditions the opening of a follicle would lead to the formation of a corpus luteum.

11. Three factors are, as stated, primarily concerned in the experimental production of the maternal placenta: (1) the sensitizing substance of the corpus luteum; (2) the mechanical stimulus exerted directly on the uterine mucosa; (3) the character of the body fluids, which is more or less specific for each individual of a certain species.

It is, however, possible to make a more far-reaching analysis of these phenomena and to reveal quantitative relations between the causative factors and the size of the deciduomata.

I mentioned above that sometimes after extirpation of the corpora lutea, deciduomata develop, which, however, under those conditions were usually very small. This can best be explained if it be assumed that a relatively small quantity of this corpus luteum substance enables the mucosa merely to form small deciduomata.

In a similar manner incisions made into the uterus inside of the first forty-eight hours lead usually only to the development of small nodules, and probably for the same reason: at that period after application of the mechanical stimulus, when the uterus begins to react, only a relatively small quantity of the sensitizing substance had been secreted and had had time to unite with the uterine mucosa.

12. Definite quantitative relations exist also between the mechanical stimulus and the size of the maternal placenta.

The volume of the deciduomata grows in direct ratio to the area of the uterine mucosa exposed by the incision. The direction of the incision is, therefore, of importance and, furthermore, it is found that the deciduomata are very small in cases in which the incision had been made near the tubal end of the uterus, inasmuch as such an incision renders possible the exposure of only a very small area of the uterine mucosa.

13. Of the three factors concerned in the development of the maternal placenta, the sensitizing substance of the corpus luteum shows the highest degree of specificity, while the mechanical factor is the least specific, inasmuch as its place can be taken by an apparently totally different process, namely, the insertion of the ovum.

It is, therefore, not to be wondered at that even the stimuli always present in normal tissue life have some effect in exciting certain reactions in a uterine mucosa which has previously been sensitized by the specific substance of the corpus luteum. In experiments in which I prevented the ova from entering the uterine cavity after ovulation I found, indeed, that even without a preceding incision at a certain period after ovulation, when the uterine mucosa has been sensitized, certain predecidual changes take place normally and rhythmically, leading in the guinea-pig to the appearance of many mitoses and to a myxomatous condition in the connective tissue, and in the rabbit to an amitotic division of the epithelial nuclei.

Here, again, a quantitative relation is seen between exciting conditions and the extent of the changes produced. The normal stimuli of tissue life are quantitatively very much inferior to the experimental incisions and to the insertion of the ovum and lead, therefore, only to the beginning of placental changes.

14. The experimental facts just mentioned may explain the difference in the structure of uterine and tubal mucosa in the guinea-pig. The former is very rich, the latter is very poor in cells. Correspondingly we find that the uterine mucosa can be sensitized by the corpus luteum substance, while, as we shall see later, the tubal mucosa in the guinea-pig can not be sensitized.

This process of sensitizing enables the connective tissue of the uterine mucosa to proliferate periodically, to be more or less in a rhythmic condition of growth, while the tubal connective tissue is resting. After cessation of sexual activity the uterine mucosa must become atrophic, being no longer under the influence of the sensitizing substance of the corpus luteum.

These observations enable us, therefore, to correlate structural differences between the mucosa of the uterus and the Fallopian tube with certain dynamic biochemical differences, namely, difference in the ability of certain tissues to combine with the sensitizing substance provided by the corpus luteum.

15. The substance which is produced in the corpus luteum and which sensitizes the mucosa of the uterus has a specific affinity to the uterine tissue. In a number of experiments I made incisions into the peritoneal wall, into the ovaries, into the Fallopian tubes of the guinea-pig, into the subcutaneous tissue, and I transplanted skin in animals at the critical period, but in no case did I find any unusual reaction in these tissues, none of these tissues or organs having become sensitized.

This is especially noteworthy if we consider that apparently the ordinary connective tissue is the same everywhere in the body.

This specific affinity of a certain chemical substance could be explained, however, if we assume that the identity of the different connective tissues of the body does really not exist, or, as an alternative, we could refer the specificity, not to the connective tissue, but to the surrounding epithelium, of which we know that it differs in structure and, therefore, in metabolism from other epithelial structures. The connective tissue would then receive the stimulus only through the intermediate action of some other cells.

16. This specificity which is established experimentally clears up another related problem.

On the basis of many experiments I can state that in the guinea-pig it is impossible to produce at will an extrauterine tubal or abdominal pregnancy. The ovum which after fertilization is prevented from attaching itself to the uterine wall perishes without forming an embryo.

We are now able to state why an extrauterine pregnancy is impossible in the guinea-pig: Neither the tube nor the peritoneal lining nor the ovarian tissues are able to produce the maternal part of the placenta in response to the stimulus of the ovum touching the uterus, and without a maternal placenta the egg is unable to develop.

In man we occasionally do find such a response in the case of tubal pregnancy; here the specificity in the fixation of the corpus luteum substance is less marked than in the guinea-pig.

17. I have already stated in a former communication that it is possible to obtain growth of the decidua in a piece of uterine tissue which is excised and transplanted into the subcutaneous tissue of the same animal. This proves that the formation of the placenta does not stand under the regulative influence of the central nervous system, and probably not of local nerves, it being very unlikely that such peripheral nerves and ganglia cells would functionate after transplantation of a small segment of the uterus. In the large majority of my experiments the pieces were transplanted several days after ovulation; therefore, at a time when the sensitizing of the uterine tissue in all probability had already taken place. Such experiments, therefore, do not prove that the sensitizing takes place through a chemical agency carried to the uterus through the circulation and not through the nerves. In two cases, however, in which the transplantation was done within the first twenty hours after ovulation and in which, therefore, in all probability the uterine tissue has not yet been sensitized before transplantation small deciduomatous areas formed in the transplanted uterus. This indicates that the sensitizing substance is carried from the corpus luteum to the uterus through the circulation and that it is not transmitted through the nerves.

18. But is it possible to obtain a decidua in the transplanted uterus only after transplantation into the same animal? I have so far not been able to obtain the formation of a well-developed decidua after transplantation into a male guinea-pig. In a large series of experiments I exchanged the uteri in animals which were known to be at the same period after ovulation, in animals therefore, in both of which the sensitizing substance was present. Notwithstanding this equality of conditions there was a notable difference in the results. After transplantation into the same female the number of deciduas formed in the various experiments was greater and the size of the deciduas was larger in the positive cases. These experiments I intend to extend still further. But at present it is very likely that the body fluids are different in the different individuals of the same species and that this difference is of importance for the cell growth and that at least some tissues show a specific adaptation to their individual body fluids and that such an adaptation becomes especially apparent in certain conditions of unusual functional activity. This result is a further confirmation of my former findings, according to which certain tumor tissues remain alive after transplantation into the individual in which they originated, but die after transplantation into other individuals of the same species.

19. We see that in the transplanted uterus a decidua can be produced under the conditions valid in the case of the untransplanted uterus.

Where and from what kind of cells does the decidua form in the transplanted uterus? Do the invading connective-tissue cells of the host tissue become converted into decidua in contact with the uterine structures? In examining the uterus at various stages after transplantation, it becomes apparent that not only the transplanted glands remain alive, but also the connective-tissue cells in the neighborhood of the glands, and precisely at this place, the deciduomata are formed; we have therefore, sufficient reason for believing that the connective tissue of the transplanted tissue of the host gives origin to the deciduomata—just as in tumor transplantation, sarcoma and carcinomata arise from transplanted cells and a new infection of the host cells does usually not take place.

20. It will not be necessary here to discuss the bearing which these experiments have on the analysis of tissue and of tumor growth, as I have done this at some previous occasions. It may suffice to state that I have here been able to demonstrate the interaction of various sets of factors which all have to participate in a quantitatively determined way at stated periods in order to produce a growth which differs from the ordinary regenerative and bears some resemblance to tumor growth.

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ABSTRACT OF DISCUSSION

Dr. Maximilian Herzog, Chicago: The work done by Dr. Loeb is interesting, and it is probable that it will give us an important clue to some of the fundamental principles underlying placenta formation. Those pathologists who have had a chance to study very early placenta formation in some of the lower animals and in the human species have been struck by the fact that it presents the paradigm of two important pathologic processes—viz., of malignant tumor formation and of inflammation. The former is represented by the trophoblast, which invades the maternal tissues in the same manner as a malignant tumor invades the tissues in which it grows. The latter is represented by the decidua, which gives us the picture of a tissue in profound acute inflammation. It has been my good fortune to obtain a specimen of a very early human ovum *in situ*, and I first presented a preliminary report of it to the Seventh International Congress of Zoology, held in August, 1907, in Boston. In my preliminary report I stated these facts and gave it as my opinion that some of the changes produced in the maternal tissues are not due merely to the mechanical insult of the penetrating ovum, but to an enzyme secreted by the trophoblast. Dr. Loeb believes that the changes, as he has produced them experimentally in animals, are due to the trauma plus a sensitizing substance secreted by the corpus luteum. If I understand him correctly, the corpus luteum in guinea-pigs is formed by the zona granulosa. This is not true in human beings, in which it is formed partly from the theca interna and partly from the theca externa. I believe that the hypothetical enzyme that causes the decidual change in the maternal tissues is furnished by the trophoblast. We find some support for this belief in the observations first made by Bonnet and Marchand, that the syncytium surrounding the trophoblast has a complete lining of cilia. Such a lining is ordinarily found in secretory epithelial cells.

One word as to the terminology: I believe that it is not correct to speak of these decidual formations as deciduomata and to classify them as tumors, because I do not think that they are true tumors, and do not suppose that Dr. Loeb considers them as such. From what I have learned and seen of Dr. Loeb's investigations I believe that these experimental decidual masses should be looked upon as inflammatory hyperplasias. We know from human pathology that there is hardly any structure in the body in which inflammatory hyperplasias are more common than in the uterine mucosa. It seems to me that in the case of Dr. Loeb's experiments in guinea-pigs we have a sensitizing of the mucosa by an enzyme; and the traumatic insult, in combination with the former, causes an inflammatory hyperplasia.

Dr. H. Gideon Wells, Chicago: The development of the placenta has peculiar interest from the general standpoint of biologic chemistry, from the fact that we have developed in a comparatively short space of time an organ equipped for carrying on complex metabolic processes. The work of Bergell has shown that the placenta is more than an organ for regulating diffusion of substances to and from the offspring—that it is intended for carrying on a considerable portion of the metabolism of the growing fetus. I have had occasion to study the purin metabolism of the human placenta, and have found that the placenta is endowed with the same enzymes common to other tissues of the adult human being; and also that among the purins there is a large proportion of hypoxanthin, whose presence is an indication of a high degree of metabolic activity going on in the tissues. Those tissues not actively carrying on nuclear metabolism have most of the purins in the form of adenin and guanin. The active tissues have large quantities of hypoxanthin, and I find that the amount in the human placenta is quite large in proportion to the other purins.

Dr. M. J. Rosenau, Washington, D. C.: How does Dr. Loeb account for the fact that these placental formations do not occur in human beings following surgical operations, which certainly occur in certain cases at favorable times following corpus luteum formation.

Dr. Leo Loeb, Philadelphia: Dr Herzog seems to assume that the corpus luteum in man originates through proliferation of the cells of the theca interna and externa. I do not believe, however, that he will be able to produce sufficient evidence for his conception. The difficulty of the corpus luteum problem is that only in a few animals has a good study of the development been made. Sobotta showed that if we take animals the age of whose corpus luteum is known it can be demonstrated that it is derived, not from the theca interna or externa, but almost entirely from the granulosa. He found it in the rabbit and white mouse, and I found it in the guinea-pig. Until an equally thorough investigation shall have been made in man we can assume that the origin of the corpus luteum in man is the same as in animals.

As to the enzymes of the trophoblast, there is great likelihood that it contains some proteolytic and, perhaps, some other enzymes. No definite study, so far as I know, has been made of it, however. That the enzymes of the trophoblast have any formative action on the placenta, however, has not been shown; and there is practically no evidence in favor of this. In the course of my investigations I found that the ovum acts in a way similar to incisions in the uterine wall. That the trophoblast represents the stimulating part of the developing ovum is quite improbable, inasmuch as under the influence of the ovum the decidua begins to form before the trophoblast has been formed. Without the sensitizing action of the corpus luteum the ovum is, in the large majority of cases (probably in all cases), unable to cause a production of a maternal placenta; after early extirpation of the corpora lutea the ovum is no longer able to call forth the development of a well formed decidua in almost all cases, as I have shown experimentally.

I would not advise classing these deciduomata as inflammatory hyperplasias, as Dr. Herzog recommends; because if we do that we shall have to call the maternal placenta an inflammatory hyperplasia, and I do not see any advantage in doing that. To some extent I sympathize with Thoma, who wanted to do away entirely with the term inflammation, as being confusing. In this case the term inflammatory hyperplasia would certainly be actively out of place, as there is no inflammation in a properly conducted experiment. As to the relations of these experimentally produced new formations to tumors, I can in the main refer to my former articles.

In answer to the question of Dr. Rosenau as to why deciduomata are not found in patients after surgical operations I would say that I have little doubt that if pathologic examinations were made at the proper time changes characteristic for human maternal placenta would be found.

Physical Exercise in Schools.—In the public schools there should be not only systematic physical exercises, which should be given in close connection with the instruction in physiology and hygiene, but there should also be the largest possible amount of muscular activity in connection with all studies.—W. E. Garrison, in *Hygiene and Physical Education.*

CANCER CYSTS OF THE BREAST AND THEIR RELATION TO NON-MALIGNANT CYSTS *

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New problems and new responsibilities accompany all surgical diseases when they appear for treatment at an earlier stage of the disease than hitherto. Accumulated experience demonstrates that surgical interference of any kind promises better immediate and ultimate results when this procedure is instituted at a period in which the diagnosis is most difficult. This is especially true of tumors and is well exemplified in tumors of the breast.

Pathologists are less interested in gross and cellular pathology to-day than formerly, because investigations as to the etiology of disease along the lines of gross and cellular pathology have been about exhausted or have reached their limit of evident usefulness. Pathologists, therefore, are more and more interested in experimental pathology and physiologic chemistry. Surgeons, I am convinced, will become more and more interested in the gross and cellular pathology of the diseases that they are called on to treat, because this knowledge is of practical importance. It does not seem a good plan to have one set of men make the diagnosis and another institute the treatment.

I can exemplify these new problems and responsibilities very clearly by a discussion of cysts of the breast. If every tumor of the breast was seen by the surgeon within a few hours or days after it was first felt, very rarely would that surgeon be able to make the diagnosis as to the nature of the tumor from the examination. The diagnosis would, therefore, have to be made by exposing the tumor so that its gross or cellular features (from a rapid frozen section) could be studied.

It appears to me that the responsibility of the surgeon is very clear: he should be his own pathologist. But I am confident that for a number of years in many clinics surgeons will still desire to have pathologists present at the operation to make for them the diagnosis from the frozen section.

These remarks, therefore, in regard to cysts of the breast are directed to surgeons who wish to make their own pathologic diagnosis, or to pathologists who are called on to assist surgeons in the diagnosis of surgical diseases.

I wish, however, to repeat that clinicians will find it incumbent on them to keep pace with that knowledge of physiology and pathology which practical surgery and medicine require for diagnosis and treatment.

Among surgeons there are various views in regard to the method of making a diagnosis when it is impossible or doubtful clinically. Some cut down on the tumor and make the diagnosis from the gross appearances; others, in addition to this, cut out a small piece for an immediate frozen section. It is this method that I prefer—the direct exploration of the tumor. After a time a surgeon can train himself to dispense with immediate frozen sections except in rare instances. In my experience, after one has had a sufficient training, the diagnosis from the gross appearance is easier and undoubtedly quicker and, in many cases, more certain than from a *rapid* frozen section.

Other surgeons prefer to cut the tumor out locally and then cut into it and make a frozen section. This method, it seems to me, has greater dangers of dissemination than the former. But I have had no experience with it, and, therefore, can not speak authoritatively. In my experience, direct exploration of the tumor, if followed at once by the indicated operation, has practically no dangers, even though the disease be malignant. One can, of course, recognize the advantages of this method if the lesion is benign.

Other surgeons expose the lesion, cut out a piece, or cut out the tumor, close the wound and then wait a day or two for a careful microscopic diagnosis based on a carefully prepared section. This method, from the standpoint of the pathologist, is undoubtedly the best, but from the standpoint of the patient and the surgeon the worst. I have had sufficient experience with the results of this method, from tumors and tissues sent to me for diagnosis, to know that in the large majority of cases it has proved fatal in tumors in which, from an experience based on the other methods, one would regard a cure as probable.

With the evidence which I have been able to accumulate I feel that there is no doubt as to which is the best method. The diseased tissue must be exposed directly and the diagnosis made at once, either from the gross appearance or from the rapid frozen section.

For this reason I would urge pathologists who are associated with surgical clinics to be present at the operations, so that they may see the gross appearance of the diseased tissue as well as the histology from the frozen section. And, in addition to this, before they make a diagnosis, they will find that knowledge of the clinical history will prove of value.

The responsibility of a diagnosis in many of these cases is a very great one: life often depends on it; unnecessary mutilation may be saved by it. From my own experience I am convinced that the careful association, in rapid sequence, of the clinical history, examination of the gross appearance and frozen section will be more valuable in the diagnosis than any one of these alone. When the surgeon is his own pathologist he has all the evidence; the pathologist, unfortunately, asks for and gets the cellular picture alone.

It is my opinion that the pathologist will be more helpful to the surgeon if he would but study the clinical and the gross as well as the histologic aspects of the surgical lesions that he is called on to diagnose.

A diagnosis at an operation is an entirely different thing from the diagnosis at an autopsy. The knowledge that a diagnosis can be made at an operation in the majority of cases should be disseminated, so that a surgeon will be discouraged from assuming the responsibility of operating on such lesions unless he is prepared himself to make the diagnosis, or unless he has connected with his clinic a pathologist who can.

Of breast tumors in the surgical clinic of Professor Halsted of the Johns Hopkins Hospital, 31.5 per cent. were benign. Among these benign lesions 25 per cent. were simple cysts, 5 per cent. papillomatous cysts, and 1 per cent. galactocele, or a cyst due to chronic mastitis. Over 30 per cent., therefor, of benign lesions are cystic. With but few exceptions, cysts appear during the cancer age. Among the carcinomas, about 25 per cent. are cysts, about equally divided between the cancer cysts and the malignant papillomatous cysts.

To about every hundred benign cysts there are about twenty-five malignant cysts. Therefore, if malignancy is not recognized in almost 20 per cent. of cases of cyst, malignant disease will be improperly treated. If the cancer operation is performed in every case of cyst four women will be unnecessarily mutilated in every five operations.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

This lesion—a cyst of the breast—exemplifies the new problem and the new responsibility which I brought out in the beginning of this paper.

CANCER CYSTS

I have notes on fourteen cases in the surgical pathologic laboratory. In seven (50 per cent.) the tumor was clinically benign, and the diagnosis had to be made, when the cyst was opened, from the contents, or from the character of the wall, or from a frozen section of the wall. In five of these seven cases the diagnosis was not made until a stained section had been studied in the laboratory.

The study of these cases allows one to give a gross description which is so characteristic that one familiar with this picture should not make a mistake.

In six of the cases the contents of the cyst has been *hemorrhagic*. Up to the present time I have never observed blood in a smooth-walled cyst, except when associated with carcinoma in the wall. The benign papillomatous cyst may have hemorrhagic contents, but when there is no papilloma to explain the presence of blood the cyst should be treated as a carcinoma. In the remaining eight cases the contents, although not hemorrhagic, have been so granular, up to almost solid grumous material, that one could be certain that there must be a malignant epithelial tumor in the wall.

The diagnosis of a cancer cyst can, therefore, be made from the contents. In many of these cancer cysts one can see or feel with the knife or finger the carcinoma in the wall. In some cases the carcinoma is only a small nodule situated in one portion of the wall of the cyst, while in other cases it is found diffuse in the entire wall. As I am interested in presenting chiefly the picture which will allow a diagnosis, I shall not discuss the etiology of cancer cysts. When the wall of the malignant cyst has been moderately smooth and it has been difficult to recognize in the only moderately thickened wall any evidence of carcinoma, the contents have always been hemorrhagic.

In making the diagnosis of a cancer cyst from the frozen section the surgeon must remember that he might remove a piece from the non-cancerous area. In another possibility it might be difficult, except to one with considerable experience, to differentiate the cancer cyst from certain changes in the wall of a perfectly benign cyst which will be discussed later. There are chiefly two—an area of chronic interstitial mastitis in the wall and a small adenocystic area of senile parenchymatous hypertrophy.[1] I will discuss this more in detail under simple cysts.

The point that I wish to illustrate and to emphasize is that I believe that the diagnosis of a cancer cyst can be made with greater certainty from the gross appearance of the contents than from a rapidly frozen section of the wall.

The most recent case of cancer cyst which I have observed was that of a patient operated on before the Clinical Society of Surgery at its recent meeting in Baltimore (April, 1909). I did not feel justified in performing the cancer operation in this case. The tumor, of two weeks' duration in a woman of 43, was evidently a cyst, but the palpation of the tissue outside the wall of the cyst made me feel that I was dealing with a rare cancer cyst, because it reminded me of the first cancer cyst which I had observed with Dr. Halsted. In exploring this cyst no change whatever was found in the fat; the exposed cyst wall, before it was incised, had the smoothness, thinness and bluish color of a benign cyst. But when I opened this cyst the non-hemorrhagic contents were so granular that I was convinced of its malignant nature. On putting my finger into the cyst I could feel a little cancerous nodule in the opposite wall. In this case a frozen section of the wall through which I opened the cyst would have shown no carcinoma. To get a piece of tissue from the part of the wall that felt carcinomatous would have been difficult, and in my opinion dangerous, because in cutting through at this point one would have opened into the space between the breast and the pectoral muscle. The complete operation for carcinoma was therefore performed without obtaining a piece for frozen section.

BENIGN SIMPLE CYSTS

The cancer cyst must be differentiated from the benign simple cyst, and this differentiation (to repeat) is of great importance, because for the benign cyst in many cases excision of the cyst alone is sufficient, or, at the most, excision of the breast. It is rather interesting that among seven of the cancer cysts, clinically benign, in five the disease was not recognized at the first operation and the cyst only was removed. On the other hand, in about 100 cases of simple cyst the cancer operation has been performed in 16. Sixteen women, therefore, were unnecessarily mutilated, while in five among the cancer cysts the probabilities of a permanent cure were very much reduced by an operation in two stages. In fact, only one of these five patients was cured.

I have discussed elsewhere with considerable detail a disease of the breast which I have called senile parenchymatous hypertrophy. This lesion presents itself in two forms: with one or more cysts, as first described by Billroth as chronic cystic mastitis, and an area of hypertrophy in which large cysts do not develop; this second form has been called Schimmelbusch's or Réclus's disease. I have ventured to designate it as the adenocystic type of the aforesaid hypertrophy.

The type in which one or more cysts develop must be distinguished from the cancer cysts, while the adenocystic type must be differentiated from adenocarcinoma. This latter differentiation requires greater experience, as it is much more difficult both in the gross and frozen section.

This disease, especially the type in which cyst formations predominate, is, in my experience, a distinctly benign lesion. Among 106 cases of which I have records carcinoma has never been observed, and among about 500 carcinomas of the breast in only two instances have I observed cancer and a simple cyst present in the same breast. Among these 106 cases in two instances I have noted carcinoma in the opposite breast.

The disease, therefore, can and should be treated conservatively by those who are able, with absolute certainty, to make the differential diagnosis. If the surgeon on whom the responsibility for the operation rests has any doubt I would distinctly urge that the cancer operation be performed.

The conclusion that this hypertrophy is a benign lesion is based on the following observations:

In six cases no operation was performed. In two there was but a single palpable tumor, in three there were multiple tumors in one breast, and in one there were multiple tumors in both breasts. These six cases have been followed, and in four, in which more than three years have passed since the examination, the tumors have disappeared. In one case it is thirteen years since the first observation of the patient.

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[1] Bloodgood: Surg., Gynec. and Obst., 1906, iii, 721.

[2] Bloodgood: Surg., Gynec. and Obst., 1906, iii, 721; Am. Jour Med. Sc., 1908, cxxxiv, 157; Kelly and Noble's Gynecology and Abdominal Surgery, ii, 180.

In twenty-seven cases the cyst and a zone of breast tissue were removed. In all but three there was, clinically, but one tumor, and this single tumor was explored for diagnosis. In three cases the diagnosis was rather positive, because there were multiple tumors in both breasts, and one or more were excised because of discomfort.

In the three patients with multiple tumors I had the opportunity to observe the ultimate result. One, a patient of my own, was operated on twelve years ago; within three years the shot-like nodules disappeared, and they have not returned. In the second case it is six years since the operation, and I am informed that the patient has had no further trouble. The third is a recent case.

Among the twenty-four patients who presented, clinically, but a single tumor and from whom at operation only the cyst and a zone of breast tissue was removed, there has developed not a single example of carcinoma, and at the present time but two have developed other cysts. The first was a patient of my own, operated on now almost ten years ago, for a cyst in the upper and outer quadrant of the left breast; five years later she returned with a similar cyst in the upper and inner quadrant of the same breast; the cyst was removed. To-day both breasts are normal. The second case is a recent one, and I have just been informed that a tumor has developed in the other breast.

I am of the opinion that these observations over a period of now more than ten years in carefully studied cases justify the conclusion that conservative means can be employed without risk for benign simple cysts of the breast, provided the surgeon or pathologist is able to make the diagnosis from a cancer cyst at the exploratory incision.

In studying these twenty-seven cases in which the cyst only was removed I find that in every instance the contents of the cyst were either clear or slightly cloudy serum—never hemorrhagic, granular or grumous.

The cyst wall has always been smooth and not thick. In the breast tissue surrounding the cyst and cut through during the excision of the cyst dilated ducts filled with grumous pastille material have been found in six cases, and in these, in addition, there have been a few minute cysts of the size of the head of a white pin or a little larger.

Among the single tumors definite areas of the adenocystic type of the hypertrophy have been present in but two instances. When this has been present to any extent it has been my rule to excise the breast. Among the three cases in which one or two of the multiple tumors were removed, this adenocystic type was present in two.

The observations just discussed demonstrate that for the simple cyst situated in a breast in which the senile parenchymatous hypertrophy has not reached the adenocystic type, conservative measures are justifiable. When the adenocystic areas are present to considerable extent, I have as yet no evidence to offer that it is justifiable not to remove the breast, but I am of the opinion that further observations will allow us to select cases for conservative treatment even in this group.

In the remaining cases either the entire breast was removed or the cancer operation performed. These cases, therefore, allow one to study the opposite or remaining breast only, but can not be used as evidence for or against the conservative treatment of this disease.

In this group, however, we are brought in contact with those cases in which the diagnosis of carcinoma has been looked on as sufficiently indefinite to justify the complete operation for carcinoma.

Among 50 cases in which the breast contained a simple cyst the cancer operation has been performed 12 times, that is, in 24 per cent. of the cases, while among 15 cases of the hypertrophy without cyst formation the cancer operation has been performed 5 times; that is, in about 33 per cent.

Among the twelve cases of cyst treated as cancer, in six the operation was performed without an exploratory incision. In only one of these cases was there a definite clinical sign of cancer. This was a patient of Finney, and the nipple was retracted. In the other five cases the palpation of the tumor gave the surgeon the impression that it was carcinoma.

It requires a great deal of experience to diagnose cancer of the breast from palpation of the tumor alone. When this sign is present and no others, I am of the opinion that an exploratory incision should be made. In the six cases in which the cancer operation was performed without exploratory incision there would have been no difficulty in making the diagnosis of a benign simple cyst if the tumor had been explored.

Of the six cases which were explored, in one there was a thick-walled cyst; in another, two dilated ducts from which pastille contents could be expressed, and in a third case a small area of the adenocystic type of the hypertrophy in the wall. In these three cases the gross appearance and the frozen section would give rise to some difficulty, but I believe that after moderate experience such cases will be recognized. The mistake has never been repeated in Dr. Halsted's clinic. In the remaining three cases there was no reason for the mistaken diagnosis. The cysts were present in a rather senile, fibrous breast. These patients were operated on by surgeons who had had very little experience, and they deemed it wiser to perform the cancer operation, as they were in doubt.

I have gone over this point with considerable care and before writing the above have carefully studied each individual case, with the conclusion that the differential diagnosis between a cancer cyst and a simple cyst, now that we have the evidence presented, should not be a difficult one.

Now, when we come to differentiate the benign adenocystic type of the hypertrophy from adenocarcinoma, we have a more difficult problem. But I wish to emphasize this point: If in all such cases the treatment is for cancer, there would be relatively but a few patients on whom the cancer operation would be performed unnecessarily. But in the larger group, the cysts, the benign cysts so far outnumber the cancer cysts that it is distinctly worth while educating oneself to make the differential diagnosis.

In the senile parenchymatous hypertrophy without the large cyst formation, which is also known as Schimmelbusch's disease, and which differs from the cystic adenoma of the breast only in the fact that it is not encapsulated, the differentiation from carcinoma, clinically, in the gross, and in the frozen section, and even in the better stained section, may be very difficult, in inverse proportion to one's experience. I have examples of a mistaken diagnosis in each group. Clinically, it may simulate carcinoma, because the zone is hard and nodular; at the exploratory incision the little cysts filled with proliferating epithelial cells in a comparatively fair amount of stroma suggest adenocarcinoma. I shall have to leave to a larger contribution to be published later the details of this differential diagnosis. It can be made with certainty and safety to the patient.

PAPILLOMATOUS CYSTS

I find I have tissues and records of thirteen cases of malignant papillary cysts and twenty cases of distinctly benign cysts containing an intracystic papilloma. The diagnosis in the malignant intracystic papilloma could be made in all but three cases clinically. In many of these cases there was a long history of tumor and of discharge of blood from the nipple, but this was not present in all the cases.

The clinical diagnosis could be made from the retraction of the nipple or some involvement of the skin. For this reason an exploratory incision was not necessary. But the examination of these breasts after the operation revealed a pathologic picture entirely different from the benign cyst. There was no longer a papilloma in the wall, but a soft fungous growth, like a medullary carcinoma. One could distinguish, then, the malignant papilloma from the benign without difficulty. None of these cysts contained pure blood, but a grumous, granular material, sometimes hemorrhagic.

In three cases the cysts were clinically benign, but on account of the character of the contents of the cysts and the appearance of the tumor projecting from the wall a diagnosis of a malignant cyst could easily be made. In this group of thirteen cases there was but a single mistake made, but in this—an outside case—the breast had been removed. If the surgeon had made an exploratory incision there would have been no difficulty whatever in making the diagnosis. In this case there was a local recurrence eleven months after the removal of the breast.

Among the twenty benign cases, in six—about 30 per cent.—the tumor was treated on the diagnosis of carcinoma. In four of these cases an infection of the benign cyst produced changes in the skin so closely suggesting a malignant cyst that the operation for carcinoma was performed without an exploratory incision; one of these was a case of my own. In the remaining two cases the surgeon at the exploratory incision, in addition to a papillomatous cyst, found, in the wall of this cyst, a small area of senile parenchymatous hypertrophy, and interpreted it as carcinoma. That is, we have the same difficulty here as was experienced in the simple cysts with a similar minute cystic area in the wall.

In all of these cases of benign papillomatous cysts the contents of the cyst have been clear or hemorrhagic, never grumous or granular. The typical appearance of the benign papilloma (that of a raspberry or strawberry) was preserved; now and then the papilloma filled the entire cyst. That we were correct in our diagnoses in this group is confirmed by the study of the ultimate results. Every patient is apparently well to-day. The glands in the six cases in which the cancer operation was performed showed no metastases. In three cases only the tumor was removed; in the remaining—not treated as carcinoma—the breast. None of the cases were bilateral. The age of the onset varied from thirty to sixty-four; the duration of the tumor from three weeks to fifteen years. In over 75 per cent. of the cases there was discharge from the nipple, usually hemorrhagic. In one the cyst involved a male breast.[3]

I trust that I have shown by this summary of cysts of the breast that the correct diagnosis in the early cases must rest on the gross and microscopic pathology. If patients seek the advice of surgeons earlier, the surgeon will less frequently be able to use his art of clinical diagnosis, but must employ his own pathologic diagnostic abilities, and, if this is not at hand, he will require the services of the pathologist of his clinic.

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ABSTRACT OF DISCUSSION

Dr. William C. McCarty, Rochester, Minn: There are types of malignancy in papillary cysts of the breast, *i. e.*, malignant change in the epithelium of the papillomata and change in the breast tissue surrounding the cyst. These perversions in the cells may be best discovered and studied at the time of operation by making frozen sections and staining them with Unna's polychrome methylene blue. Such sections can be made in from fifty seconds to two minutes, and are not only as good as paraffin and celloidin sections, but are better and more accurate, and may be photographed with better results. The importance of such early diagnosis may be seen from the fact that about 80 per cent of the tumors of the breast are malignant and experience has taught us that about half of the remaining 20 per cent would become milignant if left alone. The standard usually taken by pathologists that the cells must dip beneath the basement membrane before being considered malignant is, in my opinion, too conservative. This has been especially true in papillary growths of the bladder, specimens of which removed through the cystoscope have been reported malignant purely on cell studies. These specimens were proved to be malignant after resection by the fact that the cells in the base had dipped below the basement membrane.

Dr. Henry S. Wieder, Philadelphia: I am in the habit of considering the whole condition of cystic disease of the breast as only a part of general involution. In my experience it seems that the cystic variety is not so common as the more important proliferative variety in which, according to Dr. Warren, is more frequently found carcinomatous change. In the true cystic variety one rarely finds carcinoma associated, but one does find it in a high percentage of cases of the proliferative type. I believe that a careful study of this disease is the secret of early diagnosis of carcinoma. All cases should be studied thoroughly to discover whether they have undergone adenomatous involution and whether this is associated with carcinoma.

Dr. J. C. Bloodgood, Baltimore: Most of these photomicrographs were taken from frozen sections. It is to be remembered that in the beginning my training was distinctly that of a surgeon and that I attempted to educate myself to recognize disease in the gross. The opportunities for this were first afforded by the great number of tumors which came to the clinic in which there was no difficulty in making a clinical diagnosis. In those earlier days we did not often see carcinoma and other malignant tumors of the breast and elsewhere in that period in which a clinical diagnosis could not be made; but when this did happen, it was found that the disease exposed at the exploratory incision during the operation did not differ at all from the many that had been studied carefully in the laboratory after operation. I would like to state here that I found Dr. Halsted using this method of diagnosis when I came to his clinic in 1892. Practically, we never depend on frozen sections. During the past five or six years we have been making frozen sections in order to show the students within a few minutes the relation between the gross and microscopic picture. Dr. Lambert has developed the technic of frozen sections to such a point that for practical purposes they are almost as good as more carefully prepared sections. But the frozen section made within a few minutes is never quite so clear as one made from tissues which have been hardened in formalin.

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[3] Peck: Ann. of Surg., September, 1903, xxxviii, 450.

I am aware that few surgeons or pathologists will agree with me that it is easier to make the diagnosis from the gross appearance. I will admit, however, that the two together are better than either, but if one must depend on only one of the two, with my training, I should prefer the gross. My histologic conception of malignant disease, for example, carcinoma, is based on a long observation of the combination of the clinical, gross and microscopic appearances. Up to the present, for every histologic picture that has been considered malignant I have observed at least one example of metastasis and death from cancer. And for every picture considered benign, further clinical observation has confirmed the diagnosis. Dr. Welch has often remarked to me that the surgeon who studies his cases pathologically and keeps track of the ultimate results has a much better opportunity to become conversant with the relative grades of malignancy, for the pathologist seldom has an opportunity to keep track of the ultimate results.

HEMOLYSIS IN THE DIAGNOSIS OF MALIGNANT NEOPLASMS *

O. P. JOHNSTONE, M.D., and C. H. CANNING, M.D.
PITTSBURG, PA.

The importance of the early diagnosis of malignant neoplasms and tuberculosis seems a sufficient reason for reporting the observations in the following cases.

The aim has been to study the reaction in as wide a series of various conditions and diseases as possible, and thus to throw as much light as possible on the value of the reaction from a diagnostic standpoint rather than merely to duplicate the work already done with reference to carcinoma and tuberculosis.

With reference to the reversed hemolysis in tuberculosis, the aim has been to study the reaction in early cases, and in those with small localized or latent lesions with slight or no positive clinical symptoms or signs, but giving a positive tuberculin reaction.

Table 1 is a list of the findings in such tuberculous cases studied, the hemolytic reaction being negative in the large proportion in which the lesions were latent or small in extent with no definite clinical symptoms, and reversed when the lesion was extensive or decidedly active in character.

One such case, that of a patient with apparent involvement of the mediastinal glands but with no definite symptoms other than an occasional temperature of 0.5 degrees at times, was studied both before and during tuberculin treatment. Before treatment there was a tendency toward an unstable condition of the red corpuscles with reference to normal serums, but not sufficient to produce a typical reversed reaction in any examination, a number of examinations being made both before and during the treatment. After three or four weeks' treatment with increasing doses of tuberculin, the corpuscles become more stable, and in all subsequent examinations reacted exactly as normal corpuscles. No patients giving a typical reversed reaction were treated with tuberculin and the blood examined subsequently, so this single case may or may not be significant, but the behavior of the corpuscles toward normal serums after the treatment was well under way was certainly very suggestive.

Thus only the advanced or decidedly active cases gave reversed hemolysis, the others being negative With the exception of the two pulmonary cases and the case of tuberculosis of the hand, in which the tuberculin test was not made, all gave a positive tuberculin reaction. The pulmonary case failing to give the reversed hemolysis was that of a patient 70 years of age. The clinical diagnosis was carcinoma of the stomach, and a gastro-enterostomy was performed. The case came to autopsy one week later, when duodenal ulcer was found. Old tuberculous cavities the size of a goose-egg and caseous nodules were present in the lungs.

TABLE 1.—TUBERCULOUS CASES

Character of Cases.	No. Cases.	Reversed Reaction.	Negative Reaction.
Tuberculous knee	2	1	1
Tuberculous hip	2	..	2
Tuberculous spine, advanced	1	1	..
Tuberculous lungs, advanced	2	1	1
Tuberculous peritonitis	4	4	..
Tuberculosis of bladder	1	..	1
Tuberculosis of hand	1	..	1
Tuberculosis, glandular or pulmonary, slight or no clinical symptoms	30	..	30

The degree of hemolysis occurring varied considerably in different cases, being more marked as a rule in the larger and softer tumors and those showing considerable necrosis, and less in the smaller and harder varieties. Several of the cases above classified as negative showed slight hemolysis late; i. e., after forty-eight to seventy-two hours. The two cases of carcinoma of the rectum giving a negative reaction were not examined microscopically, so the clinical diagnosis was not verified in these two.

TABLE 2.—CARCINOMA CASES

Character of Cases.	No. Cases.	Positive Reaction.	Negative Reaction.
Carcinoma of stomach	16	15	1
Carcinoma of breast	11	9	2
Carcinoma of uterus	7	6	1
Carcinoma of rectum	3	1	2
Carcinoma, others	6	6	0

The hemolysis was not as marked in the cases of sarcoma studied as in many of the carcinoma cases, but with the exception of Case 6 all were of small or moderate size. One other patient was operated on and Coley's fluid given for three months following the operation. Six months after the operation the blood was examined, the reaction being negative. There has been no recurrence, one year after operation. Patient 1 was examined several times during the use of Coley's fluid, the reaction being marked at first and becoming less pronounced with each following examination. Coley's fluid was given daily for about seven months, then twice a week, and again given daily for two weeks prior to the final examination. This final examination showed but a faint trace of hemolysis. The hemolysis in the other cases of sarcoma treated with Coley's fluid appeared to increase slightly with the use of the mixed vaccine, the examination in these cases being made in the early weeks of the vaccine treatment.

TABLE 3.—SARCOMA CASES

No. of case.	Character of Cases	Reaction.
1	Sarcoma of skin; incompletely removed	pos.
2	Osteosarcoma of knee	pos. sl.
3	Spindle-celled sarcoma; ankle; small	pos. sl.
4	Spindle-celled sarcoma; neck and axilla; half-orange size	pos.
5	Giant-celled sarcoma of knee; small	pos. sl.
6	Spindle-celled sarcoma; abdominal cavity; large mass	pos.
7	Small round-celled sarcoma; neck; small	pos.
8	Osteosarcoma; thigh; removed; metastasis in lung	pos. sl.
9	Small round-celled sarcoma; groin; small	pos.

Two cases of endothelioma were examined, hemolysis occurring in each. One was an endothelioma of the meninges, the other of the peritoneal cavity.

No benign tumors showed hemolysis.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

Extracts of the tumor tissue in normal salt solution failed to hemolyze in a few cases of carcinoma, but the hemolysis was somewhat more constant with the extracts than with the patients' serums.

The hemolytic test was not affected in any way by vaccine treatment in the few cases studied, except possibly by tuberculin and Coley's fluid, as mentioned.

Table 4 shows the results of the hemolysis test in a variety of conditions, with the number of each:

TABLE 4.—HEMOLYSIS TEST IN VARIOUS CONDITIONS

Character of Cases.	No. Cases.	Positive Reaction.	Negative Reaction.
Carcinoma	42	36	6
Carcinoma removed	2	0	2
Sarcoma	9	9	0
Sarcoma removed	1	0	1
Endothelioma	2	2	0
Benign tumors	14	0	14
Tuberculosis*	43	..	36
Septic infections	35	3	32
Typhoid fever	22	7	15
Lobar pneumonia	6	3	3
Acute articular rheumatism	1	0	1
Tonsillitis	1	0	1
Elephantiasis of leg	1	0	1
Benign stricture of rectum	1	0	1
Duodenal ulcer	1	0	1
Cholecystitis	2	0	2
Cholelithiasis	3	0	3
Actinomycosis	3	0	3
Uremia	1	0	1
Diabetes mellitus	1	0	1
Grave anemia, secondary	1	0	1
Pernicious anemia	2	0	2
Exophthalmic goiter	1	0	1
Streptococcus vaccine	5	0	5
Staphylococcus vaccine	2	0	2
Mixed vaccine (strept. and staph.)	2	0	2
Pasteur vaccine	6	0	6
Tuberculin	1	0	1
Coley's fluid	4	4	0
X-ray	1	0	1
Normal	85	4	81

* Seven reversed reactions.

The normal cases showing hemolysis were all reexamined within a day or two, and no hemolysis occurred a second time in any of the four, as was true in subsequent examinations in these cases, indicating that the positive reaction was due either to some error in technic or to a temporary condition of the serums of those individuals. In many of the malignant cases two or more examinations were made, and in every case showing hemolysis the reaction was constant. The typhoid fever cases showing hemolysis were with one exception all in the fourth or fifth week of the disease, hemolysis in the one exception occurring during the second week.

The technic has not been materially modified from that used by Dr. Crile in his work. A few minor variations have facilitated the work somewhat. Placing the tubes upright for the clotting of the blood and obtaining clear serums has given better results in our hands than slanting the tubes. Corpuscles must be thoroughly washed, otherwise in hemolytic cases enough serum may be left to cause hemolysis of those corpuscles when added to normal serums, thus giving both a direct and reversed hemolysis and tending to confusion. The greatest care must be used in the preparation of all apparatus and solutions; otherwise the results can not be relied on.

CONCLUSIONS

1. The hemolysis reaction appears to be of decided value in the diagnosis of malignant neoplasms. Negative results do not rule out malignancy, but speak strongly against it.

2. The reversed hemolysis appears to offer valuable information with regard to the extent and activity of the tuberculous lesion.

3. Several examinations should be made in doubtful cases.

4. The reaction does not appear to occur in other conditions that would lessen its value in the diagnosis of malignancy.

ABSTRACT OF DISCUSSION

Dr. W. J. Butler, Chicago: I wish to refer to the great difference in the conclusions drawn by different experiments from practically the same results. With Dr. Mefford I examined a considerable number of cases to see what there was of value in the test. This work dates back to Maragliano, who, in 1892, called attention to the fact that the blood serum of patients suffering from various diseases frequently hemolyzed the corpuscles of normal individuals, and also those of other patients. We examined a number of cases, on which we have reported, made up of carcinoma, tuberculosis, typhoid fever, malaria, etc. Among the cancer cases, mostly of the stomach, uterus and breast, of which there were 22, 13 showed an hemolytic effect on the corpuscles that were used—a reaction in 59 per cent. Some of these hemolyzed the corpuscles of other cancer patients. In the tuberculosis cases, 3 of 8 cases showed the hemolytic reaction. One hemolyzed the corpuscles in another case of tuberculosis. I have never seen this reverse hemolysis, if I understand it correctly. As I understand it, it is the hemolytic effect of normal sera on the corpuscles of a tuberculous patient. Possibly the reason I have not seen it is because a comparatively small number of cases of tuberculosis were examined. All the patients were in the advanced stages of the disease. I can not attribute the failure to see it to defects in technic. On the contrary, I would regard failure to get it the best evidence of good technic. Of 5 typhoid cases, 2 gave a strong hemolytic reaction. There were 5 cases of pneumonia examined, 2 of which gave a strong isolytic reaction. In 2 cases of gastric ulcer, 1 of pernicious anemia, 1 of salpingitis, etc., isohemolysis occurred. I noticed that in nearly all instances in which isohemolysis was observed we got isoagglutination. There seems to be some relation between these phenomena. In only 3 among the cases that we examined did we get an isohemolytic action without isoagglutination. For these reasons, the results given by investigators differ widely. If you do not happen to have corpuscles of an individual that will be agglutinated by the sera you are testing, you will usually get a negative reaction. Individuals are divided into three groups, according to the agglutinating effect of their serums on the corpuscles of others. The serum of one belonging to Group 1 will agglutinate the corpuscles of Groups 2 and 3. Group 2 will agglutinate Group 3, but not Group 1. Group 3 will agglutinate Group 2 and may agglutinate corpuscles of Group 3. If you happen to have an individual of Group 3 whose corpuscles are agglutinated by Group 1 and Group 2, you will invariably get a positive hemolytic reaction with the serum of individuals suffering from various diseases, whether tuberculosis, malaria, pneumonia, cancer, etc. I regard the reaction as absolutely valueless from a diagnostic standpoint.

Dr. Frank Smithies, Ann Arbor, Mich.: My work has not been so extensive as that of Drs. Johnstone and Canning; I have not had an opportunity to take up so large a number of cases, nor to test some of the various phases of the technic. In all, I have examined 95 cases as to the presence of hemolysis in various diseases, especially cancer and tuberculosis. Of these, 14 cases were carcinoma, they proved to be so microscopically, by section; 58 per cent. gave a positive reaction; that is, there was hemolysis. Of these, the early cases were not uniformly positive. The late-stage cases were more nearly so, but there were some cases that did not give the reaction. Of 35 patients with diseases other than cancer or tuberculosis, 65 per cent. were negative. I had positive reactions in some of the anemias—2 cases of pernicious anemia, 1 case of Bright's disease, several cases of scarlet fever, and 2 cases of pleurisy; also in 2 patients who had been receiving the Pasteur treatment for hydrophobia. Nineteen patients with tuberculosis in all stages of the disease, were examined; and in only 2 did I succeed in getting the so-called reverse hemolysis. I might say, also, that in these 2 cases I was not quite sure that more experienced men than myself would have called it reverse hemolysis. These 2 cases were late-stage patients. In both there was abundant sputum and small cavities in the lungs. Of 28 clinically normal individuals, one presented characteristically typical hemolysis. The reason for this I can not explain. It may have been due to my inexperience with the reaction. In the paper on the action of crotalus venom, read in this Section, the statement was made that citrated corpuscles are less subject to hemolysis than those which are defibrinated by means of glass beads. I found this to be so, but my observation did not extend over many cases. Heated serum, in my experience, did not give the hemolysis. I believe that while a positive reaction is of great interest, I would not wish to take the serum test in itself as constituting final evidence. I think that there are many cases of carcinoma that do give this reaction, but these could quite as well be diagnosed by other clinical means. Possibly a longer series of cases will alter my opinion.

DR. H. NOGUCHI, New York City: Has any study been made to determine if heterohemolysins are also increased in the serum of persons afflicted with malignant tumors? It would be of theoretical interest to investigate whether isohemolysin makes its appearance without being accompanied by an increase in the content of heterohemolysins. What effect will isohemolytic serum have on corpuscles of anthropoid apes?

DR. H. G. SCHLEITER, Pittsburg, Pa.: In a series of examinations for hemolysis on 50 patients, 20 of which were subject to malignant disease, I obtained positive results in 15, or 75 per cent. Two of the negative cases were epitheliomata of superficial structures; the 3 remaining negative ones were well established cases of uterine carcinoma, confirmed at operation or by microscopic section. It has been my experience also that syphilitic cases tend to show rather uniformly a reversed hemolysis. This, together with the fact that various other pathologic conditions have, in the hands of different workers, exhibited a positive reaction, would seem to indicate that with the principles hitherto employed, there are so many confusing factors as to make necessary a considerable amount of further study before allowing this reaction anything like a specific diagnostic value—despite the fact that it would seem to have a confirmatory value in instances of malignant disease in the presence of positive clinical data.

DR. O. P. JOHNSTONE, Pittsburg, Pa.: Regarding the agglutination of the corpuscles and its relation to hemolysis, I have noticed agglutination in many of these cases, but have not observed any definite relationship between it and hemolysis. Many cases showed agglutination with no trace of hemolysis; others showed decided hemolysis with no agglutination. In defibrinating the blood I have ceased using the glass beads. Quite as good results are obtained by simply shaking the tube containing the blood, without the beads, and with less tendency to break the corpuscles or test tube. I have not had the opportunity to study the reaction in many cases of syphilis. I have had a few cases of tertiary syphilis in which the reaction was negative.

Regarding irregular hemolysis in cases not malignant and in normal individuals, I would say that from my experience it seems to be due more often if not always, to some error in technic. We have a good many points for errors to creep in, in performing the test, and must keep our eyes on all of them all the time—the test tubes, syringe, pipettes, salt solution, receptacles for the salt solution, the small tubes in which the test is finally set up, etc. These afford many chances for the introduction of some factor causing hemolysis, in some of the tubes and not others, or in all the tubes. Before we condemn hemolysis as being valueless because of irregular results we should check up carefully every point in technic. With caution and good technic, I feel that the test affords much valuable information in malignant conditions and tuberculosis. I would not advocate it, however, as a final and positive single test in either condition, but as one link in the chain of evidence. We must remember that a negative test does not mean the absence of carcinoma or malignancy, but rather that it speaks against such a condition, about 15 per cent. of such cases, however, failing to give the reaction. I have not studied many cases of epithelioma of the skin. I suspect that here the percentage of negative results of the test will be larger than in the malignant cases studied in this series.

Clinical Notes

CONGENITAL ABSENCE OF ONE KIDNEY

REPORT OF A CASE *

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Patient.—Mrs. H., 40 years of age, was referred to me by Dr. Gerry Morgan on Oct. 27, 1907. Family history was negative save that a sister died from pulmonary tuberculosis.

Previous History.—Patient suffered from diarrhea for thirty years; occasionally she had from eight to twelve evacuations daily. She was the mother of two children. The first labor was instrumental; the second was normal; there were no uremic symptoms either time. She had leucorrhea intermittently. In 1901 patient had excrutiating pain extending to the groin on the left side. This was followed by the passage of fifty-three stones via urethra. There was no blood passed at this time. For the succeeding two years she was practically free from symptoms; then she began to have attacks of pain similar to those experienced at the time the calculi were passed. No calculi were passed, however, nor were any passed since those referred to. In 1904 an ovary was removed; it was reported to me for an inflammatory condition. About March 4, 1907, the attacks of renal colic began to be more frequent; following each, large quantities of pus appeared in the urine, but no calculi were passed. In June, 1907, the patient experienced the most severe attack of pain, sharp, shooting and knife-like in character; this lasted for twenty-four hours, although the patient was given three grains of morphin. The attacks increased in frequency and severity. Just prior to her visit to me she suffered also from inability to void urine and on catheterization no urine was obtained. The first urine passed after these attacks referred to was very cloudy; urination occurred at intervals of fifteen to thirty minutes, and was accompanied by marked burning, but with no sudden stoppage of the stream. Every micturition was more or less painful and the patient was up from three to eight times nightly to urinate.

Examination.—The patient was a very stout woman weighing about 225 pounds; anemic and had every appearance of illness. She was so fleshy and so nervous that nothing could be learned by abdominal palpation. The examination of the urine showed a large amount of pus, a specific gravity of 1016, an acid reaction, a slight amount of albumin and 322 grains of urea in twenty-four hours. On October 29 the patient was examined under ether at Garfield Hospital. The left kidney was palpable, appearing enlarged; it was felt with difficulty as the patient was so very stout. The right kidney was not palpable. The patient was then cystoscoped. The trigone was inflamed but the rest of the bladder was practically normal. The left ureteral orifice was seen, appearing gaping and discharging turbid fluid. It was impossible to find the right ureteral orifice. The left ureter was then catheterized and urine identical with that obtained from the bladder collected. On microscopic and chemical examination there was practically no difference in these urines. A very careful search of the bladder was made but the right ureteral orifice could not be found. I had made such a careful search that I was sure only one ureter was present. An *x*-ray was negative for stone. I though at the time that she only had one kidney.

Under large doses of urotropin and water the condition improved; at least the patient thought that she was more comfortable. About the end of April she had repeated attacks of pain as described before and I felt that possibly opening and draining the pus from the kidney might prolong her life or at least make her more comfortable. Before operating I thought it best to make one more attempt to find the other ureter, so she was cystoscoped again on May 14. The left ureter was catheterized and the collected urine showed an analysis identical to that obtained on October 29. Very careful search revealed no other ureteral opening.

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* Read before the American Association of Genitourinary Surgeons, May, 1909.

Operation.—The patient was operated on on May 19, 1908. The kidney was exposed, incised and about a pint of urine containing pus both free and inspissated escaped. No calculi were found. Drainage was maintained by fixing a tube in the pelvis of the kidney. The firm masses of purulent material passing down the ureter unquestionably had caused the severe attacks of renal colic.

Postoperative History.—After the operation practically all urine escaped into the dressings. Several bladder catheterizations obtained only a few drops of urine. The patient did very well for three days; she then began to vomit large amounts of fluid. A diagnosis of gastromesenteric ileus was made. Secretion of urine continued up to the time of patient's death, nine days after operation.

Autopsy.—On May 28: This revealed the presence of but one kidney. On the right side there was no artery or rudimentary vessel in the location of the renal artery. Careful search was made for an adrenal gland, but none could be found. The large pyonephrotic kidney was removed from the left side, together with the bladder. Careful examination of the bladder revealed but one ureteral opening, namely, the left.

Without cystoscopic examination and ureteral catheterization, I believe that this kidney would have been removed. Although the result to the patient could have been no worse than in this case, it is certainly more satisfactory to have made a correct diagnosis than to have removed a solitary kidney.

1725 N Street.

AN UNUSUAL STRANGULATED INGUINAL HERNIA

F. E. CLOUGH, M.D.
LEAD, S. DAK.

History.—J. T., aged 17, had had an undescended testicle in the lower end of the right inguinal canal since a baby without producing any symptoms. On July 13, while walking along a railroad track he stumbled and fell forward. In attempting to catch himself he felt something give way in the right inguinal region, but after resting for a few minutes, during which time he vomited once, he was able to walk to his home half a mile away. During the next two hours he vomited several times and had a great deal of pain in the region of the undescended testicle which had increased to twice its normal size. When seen three hours after the injury a diagnosis of strangulated hernia was made and an unsuccessful attempt made to reduce it under anesthesia. Immediate operation was then performed.

Operation.—On opening the canal, a hernial sac was located above and behind the tunica vaginalis, the neck of which sac was constricted. On opening the tunica vaginalis, a communication about one-fourth inch in diameter was found leading into the lower end of the hernial sac, so that the intestine which had passed into the tunica vaginalis was constricted both at that opening and at the neck of the true hernial sac. There was no other communication between the tunica vaginalis and the general peritoneal cavity. The hernial sac was separated from the tunica vaginalis and the neck ligated while the testicle, freed from adhesions and superfluous structures, was placed without any difficulty in the scrotum.

The patient made an uneventful recovery and is now doing moderately hard work six weeks after operation.

To Prevent Mosquitoes. Dr. William Tell Kudlich has brought to the notice of the health board of Hoboken, N. J., says the *Scientific American*, a plan for exterminating the mosquito, which consists in planting mosquito-ridden tracts with arzolla. The plant is a native of Africa. It in a short time covers marshy land with a layer three inches thick, thus both suffocating mosquito larvæ and preventing the living insects from depositing their eggs in the water. The plant is said to have been used with some success in the German colonies of Africa. It is not stated whether or not there is any danger that arzolla growth would also become a nuisance.

AN UNUSUAL CASE OF INTESTINAL OBSTRUCTION

GEORGE W. ELY, M.D.
PITTSBURG, PA.

History.—H. J. F., male, aged 18, stenographer, was referred by Dr. G. A. Speer, Sharpsburg, Pa. There is nothing bearing on the disease in the history previous to April, 1907, when the patient had an attack of acute appendicitis, for which I operated and found a gangrenous appendix with a large abscess. The appendix was removed through a gridiron incision, a cigarette drain and some loose gauze being used for drainage and the wound partly closed by sutures. The drainage was left in for several days and the wound allowed to close by granulations; the process was completed in about six weeks without any unusual features. From that time until the present illness the patient enjoyed excellent health, with entire freedom from pain, bowels moving normally and regularly.

Present Illness.—On April 15, 1909, the patient was awakened at about 5 in the morning by intense abdominal pains, colicky in nature and generalized over the entire abdomen; he had a good stool which alleviated his suffering and he returned to bed and went to sleep; two hours later he was again awakened with similar pains, had another stool, and, feeling better, started for work, without any breakfast. Shortly, however, he had to return home and go to bed owing to the severe pains. At this time he began to vomit greenish-looking material, the vomiting recurring at intervals throughout the day, with no change in character. Dr. Speer was then called, ordered abstinence from food and drink, applied an ice-bag to the abdomen and gave an injection of morphin and atropin. The following day the patient's condition was practically unchanged, except that the vomiting had ceased; the bowels were moved by enema in a satisfactory manner.

Examination.—The next day the patient was referred to me and sent to the hospital, where his condition was found to be as follows: Temperature, 99.8; pulse, 84; respiration, 20; facies indicative of intense suffering, although slightly flushed, patient restless, and tossing in bed, thighs flexed and respiration labored. The abdomen was slightly distended and very rigid and tympanitic over its entirety, very tender to the touch, especially about the region of the navel. Nothing definite could be learned by palpation, while percussion elicited a slight tendency toward dulness in the right lower quadrant. The blood-count showed: reds 4,600,000, whites 11,000. Differential count: polynuclears 70 per cent., eosinophiles 2 per cent., large mononuclears 8 per cent., small mononuclears 14 per cent., and transitionals 6 per cent. Urine: a trace of albumin, a few casts, red and white cells.

Course of Disease.—The patient was placed in bed, put in the Fowler position and an ice-bag applied to the abdomen. No food or drink was allowed and an enema was administered, which was satisfactorily effective. During the following week the patient's condition continued essentially the same, the temperature ranging from 98 to 99, pulse from 72 to 80. The patient had a stool every day as a result of enemas administered. His condition was thought to be one of partial obstruction due to adhesions or constricting bands and operation was not deemed urgent. On April 25, 1909, he was feeling especially well until 4 in the afternoon, when he began to vomit fecal matter, became enormously distended, and suffered intense pain. His temperature dropped to 97.6 and the pulse went to over 100. No gas or feces could be obtained from the bowels by repeated enemas. The vomiting persisted.

Operation.—At 7 p. m. the abdomen was opened to the right of the median line, a little below the umbilicus, for here dulness could now be detected. As soon as the peritoneum was opened, liquid feces poured out with a gush; probably three pints or more were evacuated. It was then evident that there was an opening into the bowel, which was sought for. In doing this a loose piece of gangrenous intestine was encountered at the bottom of the cavity. It was about ten inches long and had the mesentery attached. After this was removed the proximal end of the divided intestine was brought to the surface and anchored there; a prolonged search was not made for the distal end of the intestine, as the patient's condition would not warrant overmuch trauma. The cavity left in the abdomen was large, and was completely walled off from the general peritoneal cavity by a firm wall of plastic material, incorporating in its sides some intestine and omentum. It was packed and drained and the skin wound partly closed.

Postoperative History.—The patient reacted very nicely from the shock of the operation, and for several days progressed favorably, but on the ninth day he had a severe hemorrhage from the depths of the wound, which was repeated at intervals, and he finally succumbed on the fourteenth day following operation from exhaustion. An examination of the abdomen after death showed a large cavity, effectively walled off from the general peritoneal cavity, into which opened both the proximal and distal ends of the intestine; and there was nothing present to give a clew as to the immediate cause of the obstruction, that is, as to whether it was due to bands, adhesions or a volvulus.

The interesting and unusual feature of this case is the fact that, although strangulation had taken place in the intestine so complete as to cause a slough *en masse*, yet there had been a stool every day since the beginning of the illness, the longest period between stools having been thirty-one hours.

It would be interesting to know just at what time the strangulation and separation took place; probably during the first part of the sickness. The proximal intestine apparently emptied its contents into the cavity, and when an enema would be given it would distend the distal portions, allowing the cavity thus to empty itself. The final, fatal obstruction was probably due to an obstruction in the distal end blocking the entire intestinal canal, producing a reverse peristalsis.

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CYCLOPEAN MONSTERS

SOME GENERAL OBSERVATIONS, WITH REPORT OF A CASE

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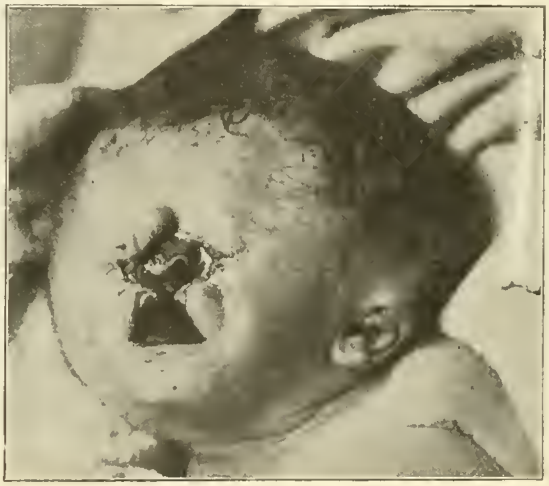
Many of us have seen cyclopia either among the lower animals, such as the pig, or in man, and not a few of us have wondered whether such monstrosities were a reversion to some early form in whom there was normally only one eye, or an anomaly due to maldevelopment of the normal two-eyed fetus. Physiologically, it has been determined that without binocular vision man can have little or no idea of depth or comparative distance. With but one eye constructed as ours is everything would appear flat. It would be interesting to examine the data at our command for any evidence of a uniocular man.

On prehistoric foundation, we have the report in the mythology of the ancient Greeks of a race of Cyclops with whom Odysseus tried conclusions. This race of giants very possibly was suggested to the imagination of the Greek by anomalies in Nature such as those we see to-day. The Greek likewise imagined many-headed monsters and beings half man and half beast.

There is no one-eyed stage in the embryologic development of man. Among the lower animals, however, this is not the case. Some of the peculiar embryologic forms called nauplius among the arthropoda have a single median eye-spot, and, singularly enough, an adult form of the same phylum, among the crustacea, retains the single median eye-spot. It is a fresh-water form, commonly found in our small lakes and ponds, and it is given the name "cyclops." Among the higher animals we find these median eye-spots associated with lateral ones in the spiders and scorpions. A median eye is not found normally among the vertebrata. In the frog there is a vestigial eye-spot on the dorsal surface of the head which is supposed to have some connection with the pineal body.

The cyclopean eye in the higher animals and man must be considered, then, as an anomaly, and many theories as to its origin have been presented. Folk-lore attributed it to bestial origin, just as the satyrs of Grecian mythology were considered half man and half beast. Maternal impressions, lack of oxygen, injury *in utero*, action of toxic substances and disease, all have been thought to play a part. Among more scientific students, two main theories have been presented. These may be briefly named the fusion and the germinal theories.

The fusion theory was the first to be advanced. As early as 1832, Geoffrey St. Hilaire[1] believed that in such monsters the more or less imperfectly developed visual organs approached the median line and eventually fused in proportion to the degree of atrophy of the olfactory organs. Later, Ahlfeld suggested that some cases were caused by intracranial pressure resulting in the rupture of the early cerebral vesicle at about the fourth week of embryonic life. He classified these monsters in successive grades, with characters ranging from a mere narrowing of the face with poor nasal development to a very imperfect single orbital cavity situated about the middle of the face, with or without rudiments of one or both eyes above a more or less rudimentary nose.



Cyclopean monster.

Those who believe in the germinal origin of cyclopia think that it is due to some defect in the germ cell occurring before the fifth week of embryonic life. Spemann and Stockard have produced cyclopean monsters at this period experimentally, both by mechanical and chemical means. Spemann[2] ligated eggs of urodele and triton in the two-celled stage and produced double-headed monsters with or without cyclopic defect. If, for example, he ligates at the two-celled stage so that the ligature coincides with the first plane of cleavage, a monster with two equal heads is produced. But if the ligature is placed obliquely to this cleavage plane, one of the component heads shows some degree of cyclopia. Stockard[3] treated artificially fertilized eggs with a solution containing a trace of magnesium chlorid and in this way he has produced cyclopean monsters repeatedly. Wilder agrees with Spemann and Stockard in their belief in the germinal theory, and in discussing the morphology of cosmobia[4] he outlines a theory in which the variations found in cyclopia are shown to be inherent in the germ and to develop along orderly lines. His classification of cosmobia, or orderly living beings, would include:

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[1] St. Hilaire: Traité de tératologie, Paris 1832-1837.
[2] Spemann: Zool. Jahrb. Suppl., 1904, vii, 429.
[3] Stockard: Jour. Exper. Zool., 1907, iv, 2.

1. Cases in which the entire individual or the part involved is less than a normal individual.
2. Normal individuals.
3. Cases in which entire individual or part involved is more than one normal individual and less than two.
4. Separate twins, both normal.
5. (a) Separate twins, one of these a diplopage; (b) cases involving a single part in value between two and three components.[5]
6. Separate triplets, and so on.

Besides the question of the origin of cyclopia, the strange-looking proboscis seems always to demand special attention. This is present in most cyclopean monsters as a long, narrow, finger-like organ projecting from the middle of the forehead just above the median eye. It sometimes shows one or two orifices at its extremity. This is interpreted by most observers to be the frontonasal process which, according to Treves, gives origin to the external nose, the ethmoid, vomer, median portion of upper lip, and the intermaxillary process. In these monsters this frontonasal process is kept from growing down into its proper location by the mechanical difficulty interposed by the median eye and it, therefore, grows outward as a proboscis-like structure. We can readily see, in the light of this explanation, the cause of the cleft condition of the upper lip and palate and the absence of the nose as shown in the illustration of the specimen here reported.

REPORT OF CASE

History.—The patient, N. C., an Irish woman, aged 39, entered the Cook County Hospital, service of Dr. Roehler, Dec. 24, 1907. The house physicians were Drs. Nilsson, Smith and myself. The patient first menstruated at 15 and had had regular menstrual periods since that time. She had given birth to three normal children who were alive and well. She had had no miscarriages and no serious illnesses. She drank beer and whisky to excess. Examination showed a middle-aged woman in the second stage of labor. Her pains were severe, occurring every one or two minutes. She stated that she had been in labor five or six hours. The abdomen was greatly enlarged and a multiplicity of small parts was palpable. Two heart tones were distinguishable, one low down on the right side, frequency 135 beats per minute, the other to left of the umbilicus, 130 beats per minute. Vaginally, the cervix was found fully dilated and a head was felt with the small fontanelle to the right and anteriorly.

Operation.—As there was no advance of the head after two hours, the patient was anesthetized and low forceps applied. A normal female child weighing 4½ pounds was easily delivered. The second child now presented by the breech and was delivered manually to the head when difficulty was experienced. Forceps were applied to the after-coming head and it was delivered. This child did not breathe well on account of malformations of the head and face, and it died after two hours. The placenta, expressed one-half hour later, was found to be double with double membranes. It weighed 2½ pounds.

Description of the Second Child.—This child was a male, weighing 7½ pounds. It was moderately hydrocephalic and in the center of its forehead was seen a more or less fused double eye. The eyelids were scarcely developed, the lower one being incomplete owing to the cleft condition of the palat and upper lip. The pupil was incompletely double, the latera diameter being three times as great as the vertical. A snout like projection measuring 3.5 cm. in length and 1 cm. in widt was seen springing from the middle of the forehead just abov the median eye. In the center of the distal end was a smal opening. A postmortem examination (Dr. E. R. Le Count revealed nothing abnormal outside the head. The singl orbital cavity, the absence of the olfactory and optic nerve and optic chiasmus make the brain specially interesting, and a more extended study of this part of the specimen will be published by one skilled in anatomic work.

Thanks are due to Drs. Smith and Nilsson for permissio to report the case.

365 East Fifty-first Street

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[4] Wilder, H. H.: Am. Jour. Anat., December, 1908; criticized editorially, THE JOURNAL A. M. A., March 16, 1909, lii, 776.

[5] The case here reported is one of separate twins in which one of them showed cyclopic defect, the other being normal

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THE MUSCLE INDICATOR *

G. C. SAVAGE, M.D.
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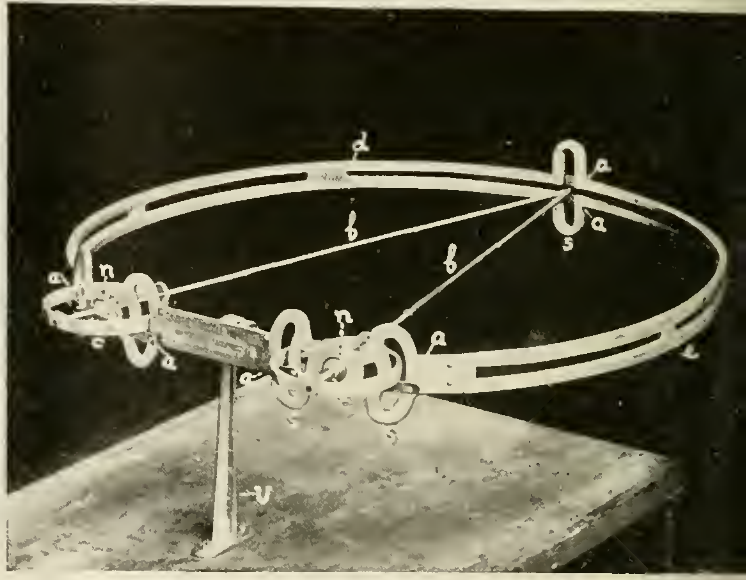
In the Section on Ophthalmology at the 1908 session of the American Medical Association I presented a rough wire model of the instrument which now appears



The circle, *d—n—c*, is the primary isogonal circle, in the plane of which should always lie the two horizontal retinal meridians, *c* and *c*, and the two visual axes *b* and *b*. The center of rotation in each eye is represented by a ball-and-socket joint, *n*, through which the visual axis, *b*, passes on its way from the center of the macula out into space. The wire representing the visual axis of each eye consists in part of a tube by means of which it can be shortened or elongated. The two wires at their distal ends can be fastened by a hook-like arrangement so that they may not come apart while lying or moving in the horizontal slot, *d—e*. The vertical slot, *s*, in front is supplied with two clips, *a* and *a*, so that, when these are in place, one visual axis can not rise higher nor fall lower than its fellow, when the point of view is straight-forward. Turn the upper clip *a*, to one side then one visual axis may rise above the other, or turning the lower clip, *a* to one side the one visual axis may fall below the other. In the first instance there would be shown hyperphoria or hypertropia, and in the last, cataphoria or catatropia. In both instances one visual axis has been allowed to leave the plane of the primary isogonal circle. When the four clips, at the slightly curved slots behind, are in place, the horizontal retinal meridians can not leave the plane of the primary isogonal circle. Turn the two outer clips to one side, leaving the two inner clips in place, the two horizontal retinal meridians can be tilted down-and-out, thus showing plus cyclophoria or plus cyclotropia. Leaving the outer clips in place and turning the inner clips to one side, the horizontal retinal meridians can be tilted down-and-in, thus showing minus cyclophoria or minus cyclotropia. In either instance the horizontal retinal meridians have been allowed to leave the plane of the primary isogonal circle.

If the second point of view lies on the primary isogonal circle, the visual axes and the horizontal retinal meridians shift in the plane of this circle while the plane itself remains stationary. If the second point of view be on some secondary isogonal circle, but directly above or below the first point of view, the primary circle is rotated to the position of the secondary circle, without any change of position of either the visual axes or the horizontal retinal meridians in its plane, the rotation being on the chord, n-n, connecting the centers of the two eyes, which is the only axis of rotation for the planes of all the isogonal circles.

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* Read in the Section on Ophthalmology of the American Medical Association, at Atlantic City, June, 1909.

in a perfected form (see illustration). I have named it the "muscle indicator" and claim for it that it will show every phase of any ocular muscle or combination of ocular muscles, normal or abnormal. It answers, I believe, every question that can be asked concerning the ocular muscles, and, moreover, concerning the brain centers that control the ocular muscles; in fact, it is, as it were, a talking machine, but it has to talk through me.

The device is of use not only in teaching, for it makes teaching of the ocular rotations perfectly easy, but also in the management of intelligent people suffering from muscle errors. There is no difficulty in showing the patient what the condition is and what ought to be done for its relief.

The circle is one of many million, all in the same plane. The primary circles, which this one circle represents, must all lie in the same plane, but only one can exist at a time. The circles formed in that plane are constructed through three points, two of them forever fixed and the other changeable. The two fixed points are the centers of rotation of the eyes, and the changeable point is the point of fixation. The next point of fixation may be inside this circle, or it may be beyond it an inch or any other distance to infinity. There are just as many circles possible as there are points in space directly ahead on the line of intersection of the vertical and the horizontal fixed planes of the head. Not only have we millions of possible primary circles, but millions of secondary circles also, all passing through the rotation centers of the two eyes and their planes intersecting in the line connecting these centers. Every object in space lies on one of these circles, and in studying the rotations of the eyes it is easy to see how they are effected and what the condition is. The law that controls the ocular muscles is simplicity itself. The superior and inferior recti must keep the visual axes in the plane of the primary circle. The lateral muscles must regulate those in this plane. The obliques must forever hold, except under abnormal conditions, the horizontal retinal meridians in the plane of this circle, as well. If one visual axis rises above that plane (hyperphoria) it is shown on the instrument. If the retinal meridian tilts it is shown. There is not a possible state of the ocular muscles but what this instrument can show, and there is not a nerve center that controls the ocular muscles that can not be demonstrated by it.

THUMB-LIKE EXCRESCENCE ON THE TONSIL

EMIL AMBERG, M.D.
DETROIT, MICH.

Mrs. C. S. H., aged 42, consulted me in June, 1909. The right tonsil showed a thumb-like excrescence at the lower posterior border. Before the tonsil was removed this excrescence annoyed the patient considerably. The patient coughed in the morning and as soon "as the air changed." On June 9 I removed both tonsils, in Harper Hospital, under local anesthesia, anesthetizing the surface, and also injecting in the usual manner into the surrounding tissues a 0.5 per cent. alypin solution in suprarenalin solution, about 1 to 10,000, which were sterilized by boiling. The tonsils were enucleated. The left tonsil does not show any excrescence. The patient seen in my office in September looks much better. She reports that the annoying local symptoms have disappeared and that her general condition is much better.

270 Woodward Avenue.

INTRACANICULAR FIBROMA OF THE FEMALE BREAST UNDERGOING SARCOMATOUS CHANGE

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Fibromata of the female breast are sometimes pure and sometimes in combination with adenomata, sarcomata, myomata and cysts in the form of fibrosarcomata, fibromyomata and fibrocystomata. Fibromata develop mainly from proliferation of the connective tissue surrounding the acini and the small excretory ducts (pericanalicular fibroma). They are most frequent in young persons from seventeen to thirty years of age and are very rare beyond the fortieth year.

Pure fibromata usually form in even, solid nodules of about the size of a walnut or a hen's egg, which, in contradistinction to carcinomata, are freely movable within the breast. In rare cases, especially when combined with cystoma, fibromata attain considerable size. Schimmelbusch classifies cystosarcoma, phylloides (J. Muller), myxoma intracanalicular (Virchow) and serocystic sarcoma (Brodie), all of which tumors may attain an enormous size among the benign fibroadenomata, and thinks they should be distinguished from the true cystic sarcomata.

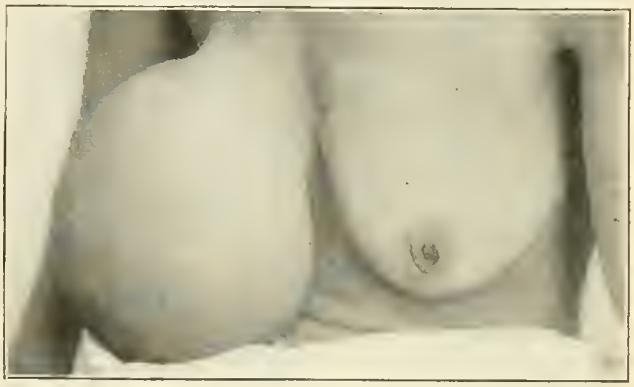

Fig. 1.—Photograph of patient showing tumor and its effect on the skin and fascia.

The tumor to which I wish to call attention I should properly include in the second and third variety of true fibromata of the breast, the first being a tuberous, localized form of connective tissue tumor about the size of a walnut, typically encapsulated, its primary origin being in the interacinous connective tissue.

The diffuse form, with general enlargement of the breast, simulates a mastitis in which the glands or ducts are separated from each other by excessive connective tissue, which predisposes to cyst formation. This cyst formation may be only the dilated gland itself or the duct or a combination of the two caused by an obstruction to its outflow. The intracanicular form grows to a considerable size and the proliferated connective tissue pushes its way into the acini of the gland, carrying the basement with its overlying cells before it.

Patient.—Mrs. B. G., aged 54, housewife, was admitted to the hospital June 17, 1908.

History.—Father died thirty years ago from an unknown cause. Ten years ago mother died, cause unknown. Has two sisters and one brother all living and well. Patient has had four children, all boys. Two dead, one one hour after birth; the other about three years after. The other two are living. The last baby was a forceps delivery, other three normal

Menopause at 52 years; previous to this time menstruation was perfectly normal in every respect. Three or four years ago she had her first attack of pleurisy affecting at that time only the right side at base of lung. Two or three times she has had repeated attacks on the right side. Last spring she had pleurisy on the left side for the first time. From childhood she has suffered from migraine.

Present Illness.—The patient stated that about ten years ago she noted a hard nodular lump about the size of a hen's egg located in the upper and inner quadrant of the right breast. It was absolutely painless and she paid very little attention to its growth. About fifteen months ago she became bed-ridden with a severe bronchitis. After she had been ill for about a week she noticed for the first time that her entire right breast was getting larger. She was unable to give any definite information as to whether or not the enlargement was due to an increased growth of the lump noted ten years ago. She thinks, however, that the enlargement was general, progressive and independent of the small nodular growth. The right breast became larger and larger until it has reached the present size. It had always been painless, and it had never given her any trouble other than its weight. The patient stated that she believed it became somewhat smaller about four weeks after it began to increase in size, but soon after she noticed that it began to again increase in size. She had lost very little weight in the last ten years.

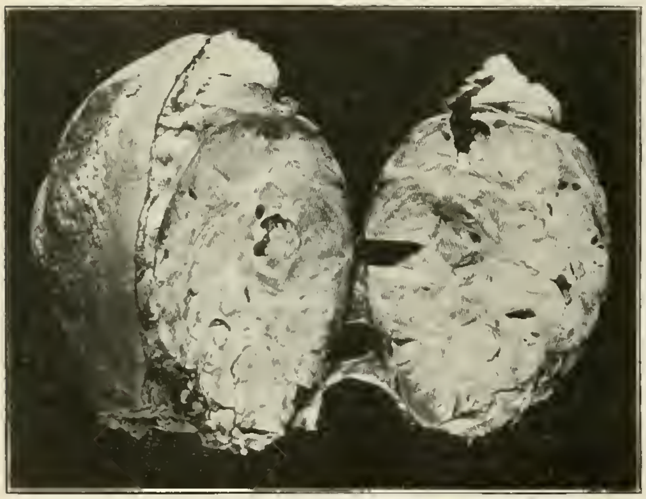

Fig. 2.—Cross-section of the gross specimen showing dense columns of connective tissue with cysts interspaced and filled with colloid material.

Examination.—General appearance was that of a frail, poorly nourished woman, past middle life, complexion dark, hair slightly gray. The left breast was small and atrophied; negative as to tumor infiltration. The right breast was symmetrically enlarged to about the size of her head; the nipple was not retracted; on the surface could be seen enlarged veins; no pulsation. The skin over the breast was slightly red in color. There was no lymphatic enlargement.

Operation.—Anesthesia, gas and ether, Dr. Morrill. On June 20, 1908, an amputation of right mamma was done under gas and ether anesthesia. The typical Halstead incision was made, extending from the axilla around the breast; skin was then undermined and breast shelled out. The axilla was then explored; no glands palpable. Tumor was cystic in places. Skin was closed with a running silk suture; rubber drainage tube inserted in axilla and at lower angle of incision. Wound was sealed with colloidion and dry dressing applied; arm bandaged to chest in flexion. Patient returned from operating room in good condition.

Histologic Report.—I am indebted to Dr. Herzog for the following report: The tumor after removal was not dissected, but was left undisturbed and fixed in Kaiserling's fluid No. 1. After having been therein for several days it was divided by a median section along the long axis and then placed again in the fixing fluid for several more days. After the return of the natural color, in 80 per cent. alcohol, it can be seen in the cut surface that the main mass of the tumor is made up of solid tissue which in arrangement and appearance looks very much like a fibromyoma or a fibrosarcoma. The solid parts however, contain a number of spherical or oval spaces, which are filled with a material which was more or less fluid before hardening, but which is now semi-solid or gelatinous.

Microscopic examination of sections shows that the most characteristic parts of the tumor contain glandular spaces lined by columnar or cuboidal epithelium. These gland spaces look exactly like those seen in the mammary tumors usually called fibroadenoma or *fibroma peri- et intra-canaliculare*. Some of the spaces formed by the epithelial cells have become very large and cystic, of a size rarely or never seen in an ordinary fibroadenoma. These cysts contain a hyaline material which does not stain as deeply as true colloid does, but moderately deeply like ordinary hyaline. Where this material is present the cystic spaces are lined by very flat epithelia, their diminished size being evidently due to pressure. The connective tissue surrounding the gland spaces generally forms powerful tracts. In fact, the great mass of the tumor is composed of connective tissue formed mostly of spindle cells and fibers. In some parts, the spindle cells have evidently proliferated rapidly and have formed a tissue decidedly embryonic in character.

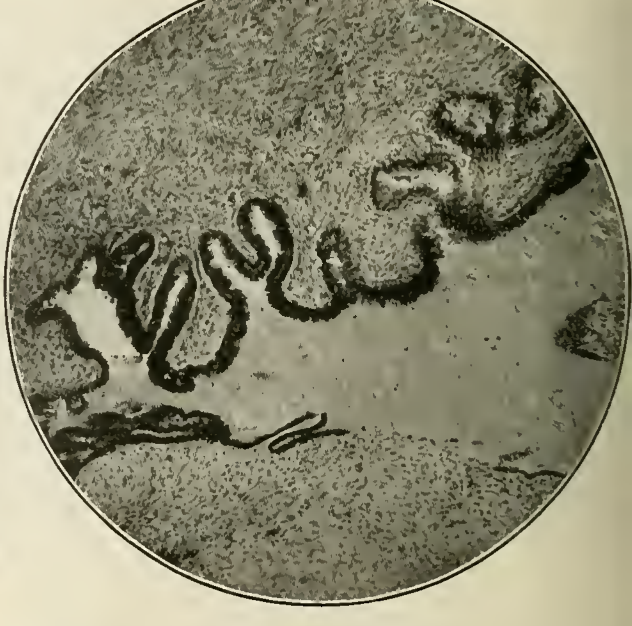

Fig. 3.—Microscopic picture (1/7 objective) of connective tissue bundles (showing the overlying acini) undergoing rapid cell multiplication.

On the whole, the tumor creates the impression that we are dealing with an original fibroadenoma which has undergone a sarcomatous metamorphosis or metaplasia. The marked destructive tendencies of a pronouncedly malignant tumor, however, are missing.

Gross has established the following facts in regard to the permanent cure of sarcoma based on 92 cases: Twelve patients remained well 4 years or longer, 12 had local recurrence, most of them (57.7 per cent.) within 6 months, on the average, at the end of 10 months and a half in some cases, after from one to four years. The tumors in young persons, and those in whom the gland is active, showed a pronounced tendency to recur and less to form metastases, while the reverse was true in sarcoma of a mamma that was undergoing involution. As compared with carcinoma of the mamma the sarcoma inclines more to metastases and less to local recurrence. The lymphatic glands are affected much more frequently (67.4 per cent.) in carcinomata than in sarcoma (0.61 per cent.). According to Horner's statistics, 76.92 per cent. of the patients operated on remained free from recurrence longer than 2 years, 61.54 per cent. remained cured. Paulsen states that 75 per cent. of his patients, and those collected, remained well after 5 years and 25 per cent. died of metastases.

AN IMPROVED EYE-BANDAGE

C. W. TALBOT, M.D.
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There are many good eye-shields on the market today, yet the one I show in the accompanying photographs I have found superior to anything I have seen.

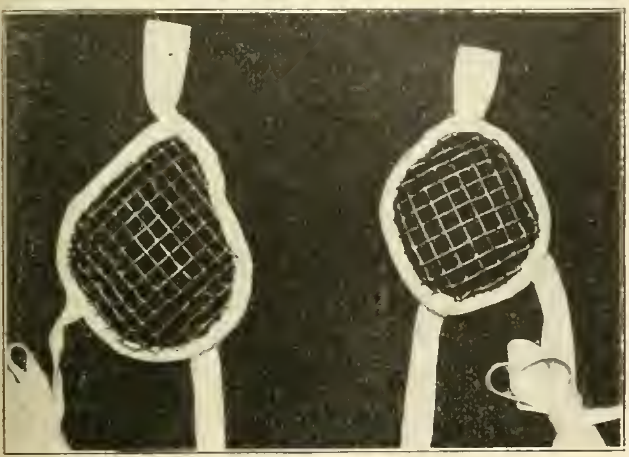

Fig. 1.—Improved eye-shield, universal form.

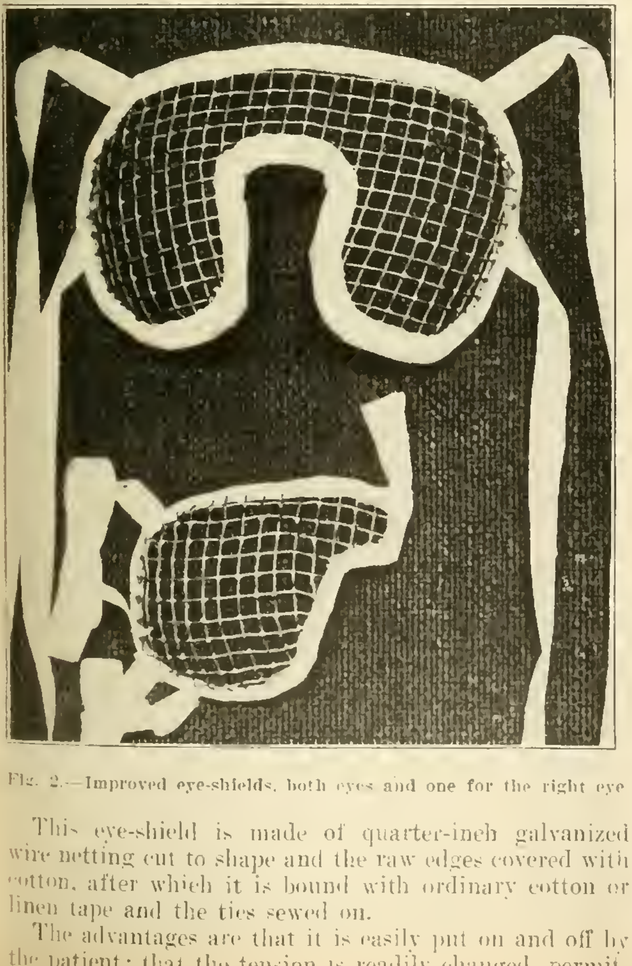

Fig. 2.—Improved eye-shields, both eyes and one for the right eye

This eye-shield is made of quarter-inch galvanized wire netting cut to shape and the raw edges covered with cotton, after which it is bound with ordinary cotton or linen tape and the ties sewed on.

The advantages are that it is easily put on and off by the patient; that the tension is readily changed, permitting compression as well as immobilization of the lids, and that fresh gauze can be put in as often as it becomes soiled, which is quite an item when the patient is not seen daily; that it can be readily cleaned by the patient with a little soap and a hand-brush and is easily sterilized, and that it does away with the hot bandages around the head and is, therefore, much cooler, more sanitary and altogether more pleasing to the patient than any form I have ever used. I have been using this form for over three years now and find it very satisfactory, indeed.

The universal form (Fig. 1) is suitable for either eye, but for purposes of compression the rights and lefts are more desirable.

Figure 2 shows a double shield above and below it one for the right eye.

Figure 3 shows the right shield (without gauze) in position, the lower tie passing under the right ear and the upper tie above, one passing through the loop and being tied on the left side of the head; the shield can readily be loosened or tightened to suit the comfort of the patient.

The shield can be bent in any shape so as to fit down snugly over the nose and cheek; it is deep enough to permit the use of a large pad of cotton gauze.

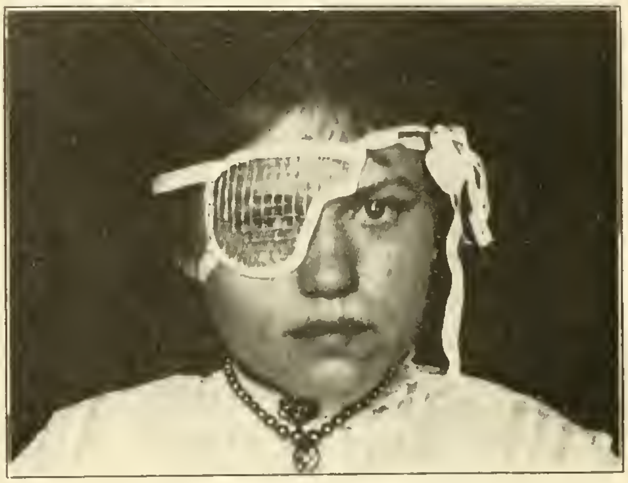

Fig. 3.—Patient wearing eye-shield.

As a postoperative bandage this shield is invaluable; in purulent conjunctivitis it can be used without gauze and yet protect the eye from being touched, thereby preventing the infection from being carried to the other eye—a very important point to consider in children.

Since the cost is trivial a shield is used only once.

211 Empire State Building.

A METHOD FOR COUNTING BACTERIA IN THE BLOOD

FRANCIS T. B. FEST, M.D.

WITH THE COLLABORATION OF

H. J. HOAG, M.D.
LAS VEGAS, N. M.

The pipette, in use for the leucocyte count with the Thoma-Zeiss hematocytometer or its modifications, is filled in the usual manner, blood being drawn to the 0.5 mark and the melangeur filled to 11. For the dilution we use a solution of 2 per cent. sodium citrate and 1 per cent. of sodium chlorid in water. Of this diluted blood, 1 milligram is measured with an accurate hematocrit scale or a specially marked, fine pipette. This milligram is distributed over a warmed slide in fine drops deposited in a row. About eight droplets usually will use up this quantity of dilution.

It is of the greatest importance to make the droplets as small as possible. The drop-films are allowed to dry well. They are next fixed with a mixture of 3 per cent. acetic acid in alcohol. No heat must be applied. When fixed thoroughly the films are stained intensively with borax-blue. Several slides are prepared in the same manner.

The number of bacteria in each film is counted separately and all added together. This counting will be easy if the films are small. The sum total of the bacteria is divided by the number of slides used and multiplied by twenty. The result is the number of microorganisms in 1 milligram of the blood.

While borax-blue is not a differential stain, differentiation must be done in each case before the count is undertaken either by suitable special stains or cultures. It is best for the differentiation of tubercle bacilli or pneumococci to apply the Gram- or the Spengler-stains. In order to obtain a large quantity of the blood-dilution, the diluting can be done in a properly graduated tuberculin syringe. This enables the beginner to prepare a large number of slides and to select those with the finest drop-films.

It stands to reason that it is well to prepare and to count a fairly large number of slides, because the average obtained thereby will give a more exact result than if only few slides are counted.

National Pythian Sanatorium.

Therapeutics

PSYCHOTHERAPY

Discussion of this broad subject is not attempted here, but it is intended simply to point out the necessity for a better general understanding of the subject by physicians. No one to-day questions, if there ever was any question, the power of the mind over the body, and its interpretation of functional disturbances, abnormal conditions, and pathologic processes. It is true that the so-called neurotic diathesis, or condition, is on the increase, this of necessity from the kind of lives that are led in civilized regions. It is also a fact that with a better understanding of disease and pathologic processes unavoidably mental conditions occur that so misinterpret functional disturbances that the physician is fooled, by the patient's description of symptoms, into the belief that pathologic processes are actually present. Such patients naturally are not benefited by specific treatments directed toward the pathologic process supposed to be present, and consequently pass from physician to physician, and are finally cured by some one of the many unscientific methods of appealing to the mind.

It should be understood in interpreting apparently wonderful cures by mental impression that, in the first place, such cures have always occurred since there has been a history of man. Also, there is no disease or condition, however conclusive the diagnosis and hopeless the prognosis may be, but that occasionally has shown miraculous recovery. Therefore, there is no unscientific treatment of patients but that has had its ordinary cures and its apparently wonderful cures, but only the celestial recorders know the hundreds and thousands of failures and the dire disaster that has been caused by such unscientific methods.

All successful physicians appeal more or less to the minds of their patients in establishing a cure, recovery or improvement of any disease or abnormal condition that may be present. Most physicians use tangible means to aid in securing mental improvement and causing mental strength in patients who need mostly mental treatment. Such methods, whether by placebos, electricity, baths, physical therapies of varying kinds, climate, travel, change in diet, or periods of rest, have all done good work for years.

It has been almost an insult to a patient to tell him or her, and generally her, that there was nothing the matter with her except as she thought it. This was not only so considered by the patient, as she "guessed she knew how she felt," but was also considered an insult by the family, and another physician would be obtained who did not so bluntly tell the truth. The development of an age in which the patient and her family must know all of the scientific and pathologic truths in regard to her condition, and the various mind curists having lauded their methods of treatment at this same time (self-drugging and "patent medicine" taking, and the strong harmful ingredients that were contained in "patent medicines," all being described to the public as vicious) have made the patient and the family more willing to be told that nothing is the matter with her except mental disquietude, or psychologic misinterpretation. Therefore, the opportunity for the growth of mental training, which has had its basis on splendid study and research by the scientists in this line, has arrived, and the necessity for such scientific treatment of neurotic, nervous, neurasthenic and hysterical patients is unquestionable.

Unfortunately, until the lay education has gone a little farther, patients and their families are more willing to be told that they need no treatment, other than mental, by unscientific, uneducated and mercenary practitioners than by the honest physician. They are also more willing to try a drugless treatment of disease prescribed by a quack than they are when such treatment is prescribed by a physician. This, however, is only a stage in educating the public to recognize the ability of the trained physician to treat, improve and to cure generally his patients, mentally and physically, more rapidly and more surely than any non-religious, pseudo-religious, half-medical, dietary, non-dietary, or sheer mercenary quack on earth.

There is danger in all mental treatments, whether exercised by those of particular kinds of faith, practicing under particular kinds of title, or whether by so called church movements in which men educated in lines other than medicine take up the treatment of medical conditions. It is perfectly absurd to consider that disturbance of a kidney is medical and disturbance of a mind religious. There is no question that religious or mental ecstacy or self-hypnosis developed in any way by church movements, or other, may prevent a patient (or even cure him) noticing disturbances that are functional, pain that is neuralgic or even symptoms of organic disease, but as the religious healer or curer, or mental trainer has not studied pathology, and the patient has not studied pathology, and neither of them can differentiate the indications of a serious, or even contagious, disease from mental crookedness causing telegraphic messages or even wireless messages to different parts of the body, such methods of treatment are dangerous to individuals and to a community.

The clergyman, who visits a home where there is sickness, in conjunction with the physician, bringing hope, mental help, good will and cheer to the patient and family, makes the treatment of the illness ideal. A physician who does not treat, aid or help the mental part of his patient's entity should not practice medicine. On the other hand, the clergyman who attempts to treat patients who claim to be ill, without an examination and diagnosis having been made by a physician, is criminally careless, and should no more be allowed to practice in this manner than is a physician allowed to write a prescription without having successfully passed a state examination. Either is dangerous to the community.

It can not be denied that some men, and they may be theologians, have more hypnotic power than many medical men. They are accustomed to control mentally, as well as more or less successfully religiously, their parishioners. They talk forcefully and lead well, and ideally they are in many instances admirably fitted to teach mental strength, but they should study pathology and thoroughly recognize the limitations of their ability to cure, should always have a patient examined by a physician before they attempt to treat him or her mentally, and should never so exalt or stimulate individuals of a family to the point of physical and medical neglect of other members of that family who may need the care of a physician or surgeon.

It is also perfectly true that while some medical men have force sufficient to control hypnotically and to give mental strength to the patients whom they are treating, others have not such forcefulness, and they, in individual instances, should call to their aid a man who is able to train the patient's mind.

The main point that it is desired to enforce is that physicians as a whole are entirely unqualified scientifically to treat a patient psychically, i. e., psychotherapeutically. Men who have devoted years to scientific investigations of mental training and to the study of the human mind and to the management of patients who are ill mentally only (and by this is not meant insanity) should be consulted when a patient needs psychotherapeutic treatment only. Physicians should prepare themselves by a careful study of the science of psychotherapeutics, beginning with its fundamentals and then work gradually up to the actual practice before they are ready to treat psychologically to the best advantage of the patients. The best medical schools, hospitals and dispensaries are beginning to instruct the students and internes on this subject. Unfortunately, the clinical material that comes to public institutions is not mentally similar to patients whom one sees in private practice.

Patients who are neurasthenic are not necessarily best treated psychotherapeutically. While the majority of them do well so treated, and all may need some of such treatment, the diagnosis of neurasthenia by no means necessarily means that there is nothing the matter with the patient but mental disturbance. Loss of weight is always an indication that the patient is below par, and it certainly should be the physical and mental object of the physician to build this patient up to normal. Mental fatigue certainly predisposes to physical ailments and an exaggerated interpretation of physical ailments. Consequently, patients in whom such mental fatigue is diagnosed should be mentally rested, and not mentally stimulated to believe that nothing ails them but as they think it.

The interpretation of the self-same injury to sensory nerves varies greatly in different individuals. Consequently, to decide that a patient does not suffer the amount of pain he claims he does, because in the physician's or in the layman's experience such injury causes only half the amount of pain that is claimed, is unfair to the patient. It may be true that the pain is grossly exaggerated, but it should be remembered that neither the physician nor the bystanders really know, and the patient should be given the benefit of the doubt. It is, however, perfectly true that a given individual may apparently suffer twice the pain at one time which he has suffered at another time from the same condition or injury. This may be due to mental tire, to mental excitation, or to loss of mental control. If acute pain is actually suffered, mental treatments, even to the attempt to produce hypnosis, are of but little avail. The mental stimulation, education and treatment should be given during the interims from actual pain.

The Weir Mitchell rest cure of neurasthenic and hysterical patients is of vast benefit in many instances, of some benefit in most instances, but occasionally signally fails. It requires the most careful discernment and discrimination to decide whether, in the individual instance, the patient should receive the "rest cure." At times patients who are introspective, who are not mentally weary, and whose nutrition is pretty good, are positively injured by such treatment. Such patients need mental training given by some one who is educated in that line of treatment. Other patients, with symptoms of physical and mental debility, and who are surrounded with worries and frets, recover only by prolonged rest, and best in a sanatorium prepared to treat such patients. Such treatment, however, is the most successful when the attending physician and the physician in charge recognize the power of physical treatments, mental stimuli and mental training more than the mere rest and medicine.

If the physician decides that the patient has no organic or serious functional disturbance and that the symptoms are produced by mental mistakes, and he decides that he has the mental forcefulness, power, understanding, and training sufficient to treat this particular patient, it is wise first to explain to the patient the nature of the condition and the reasons that certain symptoms occur, their lack of seriousness, and the absence of any pathologic excuse. Individual disagreeable symptoms should be modified by any physical or medicinal treatment that seems necessary, such medicinal treatment being stopped just as soon as possible, and the patient's mind trained to overcome the disturbing symptoms that called at first for treatment. The mind of the patient should be trained to think in lines that are not personal, and to take up lines of thought or study that will keep healthy parts of the brain so interested or satisfied that the parts that have to do only with physical sensations are less important, overlooked, or controlled. It is well also to arrange the patient's life so that the day will be busy. All this part of the treatment must be individualized to change the thoughts, habits, and interests of the individual patient. It is perfectly true that placebos and various physical treatments, such as varying kinds of electricity, must be used more by the physician than when the same patients are treated by quack methods, because the latter methods are surrounded by mystery and the mind of the patient receives the stimulus of hope and recovery because the methods are so strange and mysterious. This is only going back in mental beliefs to the dark ages, and man has not even now overcome his association of disease and cure with the Devil and magic.

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SATURDAY, OCTOBER 30, 1909

THE CONVEYANCE OF BACTERIA BY SEWER-AIR

For years after Murchison announced, in 1858, that typhoid fever was produced by emanations from decaying organic material, sewer-gas was held responsible for many infectious diseases. The cause of the large mortality from "zymotic" disease in cities by many was traced largely to sewer-gas poison. While other causes were not wholly excluded, to bad plumbing was attributed the principal part in causing "pythogenic" pneumonia, peritonitis, inflammatory rheumatism, typhoid and malarial fevers, croup, diphtheria and many kindred diseases.

According to the germ theory of disease, sewer-air can cause infectious diseases directly only by the conveyance of germs, and the question whether it actually does convey germs has received much attention. Bacteriologic examinations of the air in sewers showed it to contain only a small number of bacteria, and these were common to street air rather than to sewage. These results, coupled with the absence of any reliable indications from the study of epidemics in favor of transmission of infectious agents by sewer-air, led many sanitarians to conclude that the danger of such transmission was small enough to be disregarded. But the recent experiments of Major Horrocks of the English army gave results which served to revive the suspicion that sewer emanations may be the cause of mysterious outbreaks of disease. He introduced known bacteria, such as the *Bacillus prodigiosus* and the *Bacillus coli*, into drainage systems, in the upper parts of which he exposed dishes of culture media. He thus recovered his test bacteria in various parts of the systems, in one case even at the height of fifty feet above the traps, showing that specific bacteria present in traps and drains can get into the air above by splashing and bursting of bubbles and, in some experiments, possibly even from the surface of liquids apparently in quiet motion.

In view of the apparent difference between the results of Horrocks[1] and those of previous investigators (Miquel, Haldane, Laws and Andrewes, and others), Winslow,[2] at the instance of the Sanitary Committee of the National Association of Master Plumbers, investigated the question of bacteria in sewer-air. Winslow's early experiments gave results like those of Horrocks to the effect that bacteria may pass from sewage into the air above and be carried for considerable distances. The proportion of positive results, however, was small and it was determined to use quantitative methods. The bacteria that happen to fall on plates exposed, as in the method used by Horrocks and later by Andrewes, to the air in sewers are not related to any particular volume of air. Winslow used a new method, by which the bacteria in a measured volume of air drawn into large culture-bottles are allowed to settle on media in the bottom of the bottles. Foaming bacterial emulsions were poured rapidly into water-closets and samples of air collected at the crown of the upper trap. Here everything now was favorable for the discharge of bacteria into the air, but, of forty-four liters of air examined, forty-three did not contain any bacteria. One liter showed a group of eleven colonies, derived perhaps from a single infected droplet. The actual conditions as they exist in different plumbing systems were next studied. The pipes were tapped at various places, and in each case ten one-liter samples of air were drawn into culture bottles. In one hundred and ninety-seven satisfactory tests of this kind, forty-eight samples gave bacteria capable of development at 37 degrees C.: only four contained sewage bacteria, and in collecting these samples of air mechanical spraying of sewage took place at the point of collection. The results of Winslow's experiments consequently support Horrocks in so far as they show that bacteria may be ejected from liquids in sewers into the air above, but at the same time they show that the general air of house drainage systems is singularly free from bacterial life.

The sum and substance of the matter seems to be that bacteria may pass from sewage into sewer-air, but only in such small numbers as scarcely to affect its general composition. There is, therefore, little reason to believe that sewer-air needs to be feared as a means of conveying infectious diseases.

THE SPAN OF HUMAN LIFE

It is often asked if men do not live longer now than formerly—if the length of human life is not actually increased? It is evident that two distinct problems may be hidden in this question as it is ordinarily put. The first relates to what may be called the natural term of existence. The duration of a normal life not cut off by accident or infectious disease was placed by the Psalmist at about threescore years and ten; seventy or eighty years is, indeed, to-day commonly reckoned as the normal life.

There seems to be no reason for supposing that within historical times man's natural term of life has materially varied. Like that of the dog or the horse, it is determined by unknown biologic causes. While some statements in old documents might be taken to indicate that in antiquity men lived hundreds and even thousands of years, such assertions appear to be based on wrong interpretations of time-units or on pure fable. It has been alleged that a larger proportion of persons lived to reach the age of 100 years at certain earlier periods than at the present day, but this belief rests on an equally insecure footing. As is well known, the investigation of alleged instances of centenarianism has shown that many of these cases will not stand examination and that some even are examples of deliberate fraud supported by such devices as the substitution of birth certificates.

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[1] Recently the results of Horrocks were confirmed by Andrewes, who used the same methods

[2] Am. Jour. Pub. Hyg., 1909, xix, 640.

Unimpeachable records of the proportion of long-lived individuals to the total number of persons in the community do not exist for any considerable period. So far as the meager modern statistics go, they indicate that the proportion of 5-year-old children who live long enough to reach their eightieth year is really not greater now than it was at the beginning of the nineteenth century.

Quite different is the answer to the second question implied in the ordinary inquiry concerning an increase in longevity. A new-born child has certainly a better chance of living a long life now than he had even a few years ago. This may be shown in various ways. The remarkable decrease in mortality during the first five years of life is especially well known. In practically all civilized countries a decline in the death rate among young children has been observed and is apparently still taking place.

In Germany, for an example, 290 out of every 1,000 living new-born children died during the first five years of life in 1890, since which year the number of deaths in the same age-group has sunk to 230. It is a matter of common knowledge also that the average mean duration of life has appreciably risen in the last half century and in some countries has increased at a rate of about two years in each decade. In Norway and Sweden, where statistics show the infant mortality to be very low, the average duration of life is now as high as 52.25 years!

A particularly important measurement of improvement in the conditions of life consists in the determination of the lengthening of the working period, for example the years between 15 and 60. There seems to be taking place a steady increase in the number of persons able to live through this important span. In Sweden and Norway the average number of years lived by each 15-year-old child was 35½ (out of a possible 45 on this method of reckoning) at the beginning of the nineteenth century, while it was 38½ at the close. In Germany an almost equally great improvement is said to have occurred within two decades. It is not, therefore, alone in the earlier years of life that a genuine reduction in mortality has taken place. The average duration of human life is greater, even though the natural term of existence has not been altered. In this sense human life may be said to have been materially prolonged within historic times.

PHARMACOPEIA REVISION

We publish this week under "Correspondence" a letter calling attention to the reports on the Pharmacopeia of three committees of sections of the Association.[1] As our correspondent remarks, these reports furnish much food for thought to physicians interested in the development of sane drug therapeutics; and what physician is not interested in this subject? The recommendations contained in these reports came from men actively engaged in the practice of medicine—those, in fact, who are bearing the brunt of the battle against disease. Their opinions are worthy of careful consideration even by those who are not especially interested in the purpose for which the reports were primarily prepared. The fact that so many of the members of the Section on Ophthalmology, for example, state that they have found certain drugs of very distinct value and others of little or no use is an item which should prove of great interest to their colleagues. The primary object of these section committees is to collect material which will indicate to the Committee on Revision the desire of the medical profession concerning the scope of the Pharmacopeia.

The reports have a special significance, as they show a tendency on the part of physicians to assume again their share in the important work of revising the Pharmacopeia. That physicians have in recent years greatly neglected this is a matter of common knowledge; that the result has been unfortunate is also well known. The chemical and pharmaceutical part of the work of revision has been exceptionally well done, but the medical part (which, in the words of the founders of the Pharmacopeia, should be "to point out those articles of medicine which they (the physicians) shall ordinarily employ") has been less successful; this is sufficiently evidenced by the protests which have been made against the retaining of many of the preparations which were admitted less than five years ago.

The methods pursued concerning admissions by the last Committee on Revision are not such as to appeal to the medical profession; the committee was all too willing to yield to what was represented to be the wishes of physicians and evidently took little trouble to inquire how extensive or how well founded these wishes were. In fact, a member of the Committee on Revision expressed the view that if a large number of physicians habitually used brick-dust, believing it to be a remedial agent, then brick-dust should go into the Pharmacopeia. With the Committee on Revision holding this view (just how the representatives of the medical profession reached such a view of their functions we do not understand) it is not surprising that a number of preparations of ephemeral interest, or fads, as a member of the Committee on Revision termed them, were admitted. This passive attitude reminds one of the frequently heard argument that any demand, however pernicious it may be or however artificially it may have been created, should be supplied. Such reports as these of the section committees should stimulate discussion as to the real value of some of the new drugs and aid materially in making the Pharmacopeia more representative of the best (not the worst) in the practice of medicine.

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[1] These reports were published in The Journal, Sept. 4, 1909, liii, 791-796.

THE SCIENTIFIC MESSAGE OF THE YEAR

Probably the most important annual message delivered in the English-speaking world of science—and it is, indeed, eagerly looked for throughout all the scientific world—is the address of the president of the British Association for the Advancement of Science. The annual presidential address was delivered by Professor J. J. Thompson, the distinguished British physicist. The whole address[1] is well worth perusal by physicians who are interested in general science and by educators of all classes, whether especially interested in science or not.

Though far from pessimistic as to the future, Professor Thompson sees in modern education two tendencies which do not favor the development of investigating scientists and original discoverers—or, indeed, of broad and well-balanced men and women. One is the tendency away from the concrete and practical to mere bookishness; the other is the tendency to premature and excessive specialization.

Professor Thompson's experience has taught him that the mental activity required for the supposedly intellectual process of reading may be extremely slight, and the educational value correspondingly small. He says: "It is possible to read books, to pass examinations, without the higher qualities of the mind being called into play. Indeed, I doubt if there is any process in which the mind is more quiescent than in reading without interest. I might appeal to the widespread habit of reading in bed as a prevention of insomnia as a proof of this. But it is not possible for a boy to make a boat or for a girl to cook a dinner without using brains. With practical things, the difficulties have to be surmounted; the boat must be made water-tight; the dinner must be cooked; while in reading there is always the hope that the difficulties which have been slurred over will not be set in the examination."

In the second place, Professor Thompson feels that overspecialization, especially too early in life, can do only harm to the individual—and much more to science itself—by lessening the enthusiasm of the investigator. He says:

"Premature specialization . . . injures the student by depriving him of adequate literary culture, while when it extends, as it often does, to specialization in one or two branches of science, it retards the progress of science by tending to isolate one science from another. The boundaries between the sciences are arbitrary, and tend to disappear as science progresses. The principles of one science often find most striking and suggestive illustrations in the phenomena of another."

Successful research, Professor Thompson believes, requires not merely training, skill, patience and labor, but abounding faith and enthusiasm. His own message is the more valuable, therefore, because he feels that the present is a time of quickening—a Renaissance in science—and that we have left behind the pessimism of twenty years ago, which believed that all the interesting things had been discovered, and that all that was left for science was the dreary task of altering a decimal or two in some physical constant. "There never was any justification for this feeling," he proclaims: "there never were any signs of an approach to finality in science. . . . As we conquer peak after peak we see in front of us regions full of interest and beauty, but we do not see our goal, we do not see the horizon; in the distance tower still higher peaks which will yield to those who ascend them still wider prospects and deepen the feeling, whose truth is emphasized by every advance in science, that 'great are the works of the Lord.'"

THE SURFACE PRIVY AS A FACTOR IN SPREADING HOOKWORM DISEASE AND TYPHOID FEVER

Charles W. Stiles in a recent article[1] calls attention to the faulty disposal of excrement as the chief factor in producing the soil pollution which makes hookworm infection possible. Of 366 farm houses scattered over four southern states, it was found by actual count that only 115 houses, or 31.4 per cent., were provided with privies, while 251 houses, or 68.5 per cent., had no privy. Even when the privy is present it frequently affords little protection against soil pollution, because not properly built or not properly cleaned. The improper construction of the privy favors the spread not only of hookworm disease but of typhoid as well. While the cure of hookworm disease is of vast economic importance for the South, the reform of the insanitary conditions and habits that make this disease possible is of far greater importance, since it means a great lessening of typhoid and other infections, and such reform is applicable to a certain extent to the whole country. As Dr. Stiles says: "To do away with this soil pollution is not only in the interest of the public health, but also in the interest of the further economic development of the South, especially on the farms and in the textile industries." It is to be hoped that the economic argument may so reenforce the sanitary that a genuine reform in the habits of the agricultural population may be effected.

Medical News

CALIFORNIA

New Case of Bubonic Plague.—The second case of plague reported to have developed within two months in Alameda county, has been reported and diagnosed, and the diagnosis has been confirmed by Surgeon Rupert Blue. The patient was a boy who is said to have caught, played with, and ate ground squirrels, which are known to be carriers of the plague. The patient died. The first of the patients from Alameda county died in the County Hospital, August 19.

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[1] Science, Aug. 27, 1909, new series, xxx, 257.

[1] Public Health Reports, Oct. 1, 1909, xxiv, No. 40.

Personal.—Dr. Charles B. Pinkham has been appointed chief surgeon of the Central Emergency Hospital, San Francisco, vice Dr. Wallace I. Terry, resigned.——Dr. Louis A. Frary has been appointed second assistant physician of the Napa State Hospital, vice Dr. Leonard M. Pulsifer, resigned, and Dr. J. Rodgers, Alameda, has been appointed third assistant physician.——Dr. Frederick W. Reynolds has succeeded Dr. William A. Weldon as surgeon of the Southern Pacific Railroad Company at San Pedro.——Dr. Cullen F. Welty, San Francisco, has returned from Europe.

ILLINOIS

Banquet to Dr. Norbury.—Dr. Frank Parsons Norbury, who has been appointed superintendent of the Kankakee State Hospital, was given a banquet at Jacksonville, October 15, by the Morgan County Medical Society and the Jacksonville Medical Club. The banquet was served at the Pacific Hotel, and Dr. Carl E. Black acted as toastmaster.

State Charities Conference.—At the fourteenth annual session of the Illinois Conference on Charities and Corrections, held in Peoria, October 9-12, William C. Graves, secretary of the State Board of Charities, was elected president; Mrs. Ophelia Amigh, Geneva, vice-president; Sherman C. Kingsley, Chicago, secretary; Ray Arnold, Galesburg, assistant secretary; and F. Emery Lyon, Chicago, secretary of the executive committee. The conference adopted a resolution urging a law for adult probation; the ten-hour day for women in factories; medical inspection of public schools; a large number of parole officers under civil service; establishment of a state epileptic colony; and the observance of the last Sunday in October as Prison Sunday by all religious denominations.

Chicago

Personal.—Dr. Ralph Edward Sheldon, associate in anatomy in the University of Chicago, has been appointed assistant professor of anatomy in charge of histology, embryology and neurology in the University of Pittsburg Medical School.

Delegates to Children's Conference.—The following physicians have been named by the mayor to attend the Conference on the Prevention of Infant Mortality, to be held at Yale University, November 11 and 12, under the auspices of the American Academy of Medicine: Drs. William A. Evans, Isaac A. Abt, Thomas A. Woodruff, Casey A. Wood, Frank X. Walls, Charles R. Henderson, Frank S. Churchill, Caroline Hedger, Joseph Damiani, George C. Hunt, Joseph P. Cobb and Stephen R. Pietrowicz.

KENTUCKY

State Board Changes.—Dr. Joseph M. Mathews, Louisville, who has served eighteen years as president of the State Board of Health, resigned October 18, and the board elected Dr. William Bailey as president. Under the law governing the State Board of Health, the governor must appoint members from a list of three names suggested by the state medical association, and the House of Delegates, at its first meeting, recommended to the governor the names of Drs. Joseph E. Wells, Cynthiana; Isaac A. Shirley, Winchester; and Charles Z. Aud, Cecilian. The board took up the charges against Dr. Melvin Rohrer, Lexington, formerly first assistant superintendent of the State Insane Hospital, for alleged malpractice, and decided that Dr. Rohrer was guilty and revoked his license to practice, and decided to urge the next legislature to enact a law punishing physicians guilty of criminal operation.

State Association Meeting.—At the fifty-fourth annual meeting of the Kentucky State Medical Association, held in Louisville, October 19-21, there were 651 members who registered. The following officers were elected: Dr. Joseph E. Wells, Cynthiana, president; Drs. Philip H. Stewart, Paducah; James O. Carson, Bowling Green; and James S. Lock, Barbourville, vice-presidents; Dr. David O. Hancock, Henderson, orator in medicine; Dr. George A. Hendon, Louisville, orator in surgery; and Drs. Walter F. Boggess, Louisville, and Benjamin F. Van Meter, Lexington, delegates to the American Medical Association. The House of Delegates endorsed the good-road movement in Kentucky and passed strong resolutions against the practice of criminal abortion; endorsing the establishment of a medical department in the State University, petitioning the legislature and board of trustees of the university to provide such means and ways as will establish a new era for higher medical education. Lexington was selected as the place of meeting for 1910.

MARYLAND

Society Meeting.—At the annual meeting of the Washington (D. C.) Clinical Society, at Rockville, October 16, Dr. M. A. Custis was elected president and Dr. J. R. Sharp secretary.

Ladies Entertained. The Ladies' Auxiliary of the Medical and Chirurgical Faculty of Maryland gave a reception to the ladies of the society at Medical Hall, at which Dr. Eugene F. Cordell, on behalf of the faculty, outlined the plans of the Widow's and Orphan's Home Fund, and spoke on what had been accomplished.

Baltimore

Personal.—Dr. George M. Settle was operated on at University Hospital, October 20, for appendicitis.——Dr. J. Hall Pleasants will spend the winter in the Adirondacks.

Mayo to Lecture.—Dr. Charles H. Mayo, Rochester, Minn., will deliver two lectures on "Diseases of the Thyroid Gland," at the University of Maryland, November 9 and 10. On academic day, November 11, the degree of LL.D. will be conferred on Dr. Mayo by the university.

MASSACHUSETTS

Contagious Disease Hospital.—Both branches of the Cambridge city government gave a hearing October 19, on the question of appropriating $100,000 for a hospital for contagious diseases. The medical inspector of the health board estimated the cost of the proposed building, including two wings, at $80,000.

Elections.—The Massachusetts Society of Examining Physicians held its annual meeting in Boston, October 19, and elected the following officers: President, Dr. Francis D. Donaghue (reelected); vice-presidents, Drs. Frank E. Allard, Edward M. Greene, and Timothy Leary; secretary, Dr. A. Carlton Potter; treasurer, Dr. Henry M. Chase, Jr.; and council, Drs. Frederick M. Briggs, Benjamin Tenney, Edward B. Lane, John L. Ames, and T. J. Hanley, all of Boston.——The Brookline Medical Club has elected the following officers: President, Dr. Henry V. McLaughlin; vice-president, Dr. George W. Kaan, and secretary-treasurer, Dr. H. Hale Powers.——At the annual meeting of Holyoke Medical Society, held October 12, the following officers were elected: President, Dr. Thomas E. Cavanaugh; vice-president, Dr. George D. Henderson; secretary-treasurer, Dr George C. Robert; and executive committee, Drs. George L. Taylor, Joseph H. Potts, and John J. Carroll.

MINNESOTA

Personal.—Dr. George M. Doran, St. Paul, is critically ill in St. Joseph's Hospital, from a bullet wound of the abdomen.——Dr. Charles E. Smith, Jr., has been appointed second assistant physician of St. Paul and Ramsey county, and Dr. Elmer M. Jones has been made first assistant, vice Dr. Adolph Stierle, Jr., term expired.

State Association Meeting.—The annual meeting of the Minnesota State Medical Association was held in Winona, October 12-14. The following officers were elected: President, Dr. William A. Jones, Minneapolis; vice-presidents, Drs. Frank W. Dimmitt, Red Wing; Hugh F. McGaughey, Winona; and Charles W. Bray, Biwabik; secretary, Dr. Thomas S. McDavitt, St. Paul (reelected); treasurer, Dr. Richard J. Hill, Minneapolis; and councilors, Drs. Eugene A. Hensel, Alexandria, Frederick A. Knights, Minneapolis, and Franklin A. Dodge, LeSueur. The 1910 meeting of the association will be held in Minneapolis.

MISSOURI

Personal.—Dr. Arthur B. Freeman has been elected chairman, and Dr. Mary L. Mack, secretary of the Joplin Branch of the Jasper County Medical Society.——Dr. Harold R. Lucas, division and examining surgeon for the Frisco System at Chaffee, has resigned and entered private practice in Joplin. Dr. George A. Sample has been appointed his successor.

St. Louis

Personal.—Dr. Albert E. Taussig has taken charge as editor of the *Weekly Bulletin of the St. Louis Medical Society.*——Drs. H. Jackson Harrell, Martin C. Woodruff and George W. Flinn have been appointed vaccine physicians, and Dr. Fred Gunn has been appointed junior assistant physician at the City Hospital.——Dr. and Mrs. William W. Graves have returned from Europe.——Drs. John Mell. Dean and Louis Rassieur have been appointed surgeons-in-charge of St. Mary's Infirmary, vice Dr. William A. McCandless, resigned.

Proposed Sanitary Ordinances.—The Municipal Commission on Tuberculosis has prepared ordinances providing for the establishment of an emergency hospital for the care of persons afflicted with acute contagious and infectious diseases, and transferring the appropriation for the maintenance of the smallpox and quarantine hospital to the maintenance of this hospital; making provision for the exclusive use of building "A" of the City Hospital for the care and treatment of advanced cases of tuberculosis; providing for the conversion of the present quarantine and smallpox hospital into a tuberculosis sanatorium; providing for the establishment of two clinics at the eastern ends of the fourth and second sanitary districts for the free treatment of persons afflicted with tuberculosis; providing for the appointment of seven nurses to visit consumptives in their homes: providing for the appropriation of $10.000 for the relief of indigent consumptives; providing for the payment of part of the salaries of city employés while undergoing treatment in the hospital or sanatorium: the abolition of the common drinking cup in the city; providing for the proper ventilation of street cars; providing for the medical inspection of children for the prevention of contagious and communicable diseases, and for the correction of physical defects, and providing that persons afflicted with tuberculosis, applying to the city for treatment in hospitals or dispensaries, or for relief in their homes, shall not be considered as paupers.

NEW YORK

Branch of State Laboratory at Cornell.—A branch hygienic laboratory has been established by the State Department of Health at Cornell University, Ithaca. It is located on the ground floor of Lincoln Hall, and will be in charge of Dean Haskell, and Prof. H. N. Ogden, hydraulic expert for the health department.

District Society Meeting.—The Medical Association of Central New York, held its forty-seventh annual meeting in Auburn, October 19. Dr. Frederick W. Sears, Syracuse, was elected president and Dr. Wesley T. Mulligan, Rochester, vice-president. Dr. Robert T. Morris, New York City, discussed the surgical treatment of appendicitis.

New State Insane Hospital.—A new hospital for the insane is to be established on Lake Mohansic, seven miles from Peekskill, where a site has been purchased for $135.000. The hospital will take care of the overflow of the other New York City and state insane institutions. The buildings are to cost $1,000,000 and will accommodate 2,000 patients.

New York City

The Carpenter Lecture.—Dr. Howard T. Ricketts of the University of Chicago, delivered the Wesley M. Carpenter Lecture before the New York Academy of Medicine, Thursday, October 21, on "Spotted Fever."

Lectures on Skin Diseases.—Dr. L. Duncan Bulkley will give an eleventh course of clinical lectures on diseases of the skin at the Skin and Cancer Hospital on Wednesday afternoons at 4:15, commencing November 3. The course will be free to the medical profession.

Harvey Society Lectures.—The course of lectures of the Harvey Society for 1909-1910 will begin at the Academy of Medicine, October 30, at 8:30 p. m., when Prof. Richard M. Pearce of University and Bellevue Hospital Medical College will read a paper on "The Problems of Experimental Nephritis."

OHIO

State Board Elects.—The Ohio State Board of Health, at its meeting, October 14, elected the following officers: President, Dr. Jefferson C. Crossland, Zanesville; vice-president, Dr. William T. Miller, Cleveland; and secretary, Dr. Charles O. Probst, Columbus.

Personal.—At a meeting of the Lima Antituberculosis League, October 6, Dr. William E. Hover was elected president. —— Dr. Mason O. Wert, Poplar, has started on a trip around the world.—— Dr. Joseph A. Murphy has been appointed coroner of Columbus, during the absence of Dr. William F. Bay.——Dr. George S. Weger, Delphos, has been elected a member of the school board. —— Dr. and Mrs. Curtis Laughlin, Steubenville, have returned from Europe.

Colleges Open.—The Cleveland College of Physicians and Surgeons, Medical Department of the Ohio Wesleyan University, opened for its annual session, October 11. The following faculty changes were announced: Dr. Roland E. Skeel has been made professor of gynecology; Dr Arthur J. Skeel, professor of obstetrics; Dr. John F. Davidson, professor of anatomy; Dr. Augustus F. House, clinical professor of surgery; Dr. Harry B. Kurtz, professor of dermatology; Dr. John V. Gallagher, professor of surgery; Dr. Walter B. Laffer, professor of mental and nervous diseases; Dr. Ralph K. Updegraff, associate professor of physical diagnosis; and Dr. Willard C. Stoner, lecturer and demonstrator of microscopy —— The Medical Department of Western Reserve University opened for its annual session October 1.

Cincinnati

College Opens.—The formal opening exercises of the new Ohio-Miami Medical College were held October 2. The introductory address was given by President Dabney, and Dr. Charles A. L. Reed spoke on "The Modern Medical College."

Personal.—Drs. Woolley and Wherry have been placed in charge of the newly organized department of pathology in the Cincinnati Hospital.——Dr. E. G. Betty has been appointed dental and consulting surgeon at the City Hospital, vice Dr. W. H. Kempton.

PENNSYLVANIA

Aid to the Tuberculous.—A gift of 450 acres of land was made to the State of Pennsylvania, absolutely free of any incumbrance, for use as the site of a new sanitarium for the gratuitous treatment of tuberculosis patients, October 20, by Mr. Andrew Carnegie, through the State Commissioner of Health, Dr. Samuel G. Dixon. The land is located at Cresson, Cambria county, and is 2,400 feet above sea level. The tract possesses scenic views unsurpassed by any spot in the state. It is on the main line of the Pennsylvania Railroad and about one hundred miles east of Pittsburg, and, therefore, very acceptable. It is said that the gift will be accepted. Dr. Dixon made a careful inspection of the site October 23.——A site for the Berks County Tuberculosis Sanatorium has been secured by the purchase for $8.000, the Centennial Springs Hotel on the southern slope of the Neversink mountains, and in addition Rev. George Borneman, pastor of St. Paul's Catholic Church, has given the Neversink Hotel property adjoining. ——The grand total of receipts for Tuberculosis Day at Reading amounted to $10.613.20.

Philadelphia

Personal.—Dr. Paul R. Walters has been appointed assistant demonstrator of physical diagnosis and assistant demonstrator of pharmacy and materia medica at Jefferson Medical College.——Dr. Maude M. Rees has been appointed a member of the staff of the State Insane Hospital, Kalamazoo, Mich.

Budget for City Hospitals.—The budget of Dr. Neff for the maintenance of the Philadelphia General Hospital, the Philadelphia Hospital for the Insane, Home for the Indigent, and Philadelphia Hospital for Contagious Diseases, and for the Board of Health amounts to $1,564.831. The committee not only approves the budget, but in place of cutting down any item, added two items to the budget, amounting to $30.000.

Site for Tuberculosis Sanatorium.—The final arrangements for the establishment of a local dispensary for the prevention and cure of tuberculosis, by the recently organized Jewish Consumptive Institute Association, have just been completed by the purchase of a large building at 212 Catherine street. Alterations on the building are to be started at once to make it a modern institution for the treatment of the tuberculous poor.

VERMONT

Society Meetings.—At the ninety-sixth annual meeting of the Vermont State Medical Society, held in White River Junction, October 14 and 15, the following officers were elected: President, Dr. Walter L. Havens, Chester Depot; vice-president, Dr. Edward H. Ross, St. Johnsbury; secretary, Dr. Clarence H. Beecher, Burlington; treasurer, Dr. Bingham H. Stone, Burlington, and auditor, Dr. Anson M. Norton, Bristol. The next meeting will be held in St. Albans. The House of Delegates elected Dr. Archibald J. Valleau, Morrisville, president; Dr. William Lindsay, Montpelier, first vice-president; Dr. Mark R. Crain, Rutland, second vice-president; Dr. Arthur O. Morton, St. Albans, secretary, and Drs. Walter L. Havens, Chester Depot, Clarence H. Beecher, Burlington, and George C. Berkeley, St. Albans, executive committee.——Bennington County Medical Society, at its annual meeting elected Dr. Anseline E. Houle, Bennington, president; Dr. George V. Wager, North Bennington, vice-president; Dr. Lewis H. Hemenway, Manchester, secretary; Dr. Frank W. Goodall, Bennington, treasurer; Drs. Houle, Goodall, and Hemenway, censors; Dr. Hemenway, delegate to the Vermont State Medical Society, and Dr. Lucretius H. Ross, Bennington, alternate.

VIRGINIA

Tuberculosis League Changes Name.—The Tuberculosis League of Lynchburg has decided to change its name to the Health League, and the scope of the organization will be enlarged in keeping with the name. Dr. Ferdinand M. Perrow is president.

County Society Election.—At the annual meeting of the Norfolk County Medical Society, the following officers were elected: President, Dr. Lawrence T. Royster; vice-president, Dr. Israel Brown, and secretary-treasurer, Dr. D. Lee Hirschler (reelected).——Nansemond County Medical Society, at its annual meeting, in Suffolk, October 13, elected Dr. Japheth E. Rawls, Suffolk, president; Dr. Job G. Holland, Holland, vice-president, and Dr. Edward R. Hart, Suffolk, secretary-treasurer.

New Medical Examining Board.—The following members of the examining board of Virginia have been nominated by the Medical Society of Virginia and commissioned by the governor: At Large—Drs. Rawley W. Martin, Lynchburg, Robert B. James, Danville, and John G. Rennie, Petersburg; First District—Dr. Joseph N. Barney, Fredericksburg; Second District—Dr. Herbert Old, Norfolk; Third District—Dr. Junius E. Warinner, Brookhill; Fourth District—Dr. Otho C. Wright, Jarratt; Fifth District—Dr. Richard S. Martin, Stuart; Sixth District—Dr. Henry W. Dew, Lynchburg; Seventh District—Dr. Philip W. Boyd, Winchester; Eighth District—Dr. Robert M. Slaughter, Theological Seminary; Ninth District—Dr. Elliott T. Brady, Abingdon, and Tenth District—Dr. Robert Glasgow, Lexington.

GENERAL NEWS AND COMMENT

Ohio Valley Meeting.—The Ohio Valley Medical Association will hold its eleventh annual meeting at Evansville, Ind., November 10 and 11, under the presidency of Dr. Curran Pope, Louisville, Ky., the subject of whose address will be "The Problem of Living." The membership of the association includes Kentucky, Ohio, Indiana and Illinois.

Pellagra Conference. The preliminary program of the National Conference on Pellagra, to be held at the State Hospital for the Insane, Columbia, S. C., November 3 and 4, under the auspices of the South Carolina State Board of Health, includes the consideration of the economic problems of pellagra; the etiology, pathology, diagnosis, and treatment of the disease; the theories as to its causation; statistical reports; the spoiled corn hypothesis; whether or not it is contagious; its relation to insanity and to diseases of other organs. A number of cases will be presented, lantern slides will be shown, demonstrations will be made, and the question of a permanent national organization for the study of the disease will be brought up.

The Christmas Stamp.—According to Ernest P. Bicknell, director of the American Red Cross (*The Survey*, Oct. 16, 1909), the sale of stamps last year netted $135,000 for the campaign against tuberculosis. This season the Red Cross will provide a supply sufficient to meet all needs. A new design, the result of a competition among about 1,200 persons, has been adopted and the stamps will be ready for shipment to agent November 1. The stamp, one inch square, will be in red and dark green with lettering in white, and will be sold for one cent. The stamps are to be sold only by recognized and reliable agents and the proceeds must be devoted to anti-tuberculosis work. The stamps, posters, and printed matter intended to assist in the sale of stamps will be supplied to agents free, the agency to return to the Red Cross the unused stamps and one-third of the face value of the stamps sold. (The Red Cross may be addressed at Washington, D. C.) The privilege of selling the stamps in the corridors of the post offices has been granted this year as last.

Southwestern Physicians to Meet.—The annual meeting of the Southwestern Medical Association will be held in San Antonio, Texas, November 9, 10 and 11. At the same time the Fifth District Medical Association of Texas will hold its annual meeting. An excellent program has been prepared and the fraternity of San Antonio are making elaborate preparation for the meeting. Dr. Malcolm Lasalle Harris, Chicago, will deliver the oration on surgery, and Dr. George Dock, New Orleans, the oration on medicine.

Railway Surgeons Meet.—At the annual session of the American Association of Railway Surgeons, held in Chicago October 21 and 22, the following officers were elected: President, Dr. Henry C. Fairbrother, East St. Louis, Ill.; vice-presidents, Drs. David Y. Roberts, Louisville, Albert R. Mitchell, Lincoln, Neb., and John P. Kaster, Topeka, Kan.; secretary, Dr. Louis T. Mitchell, Chicago (re-elected), and treasurer, Dr. Henry B. Jennings, Council Bluffs, Iowa.——The Association of Seaboard Air-Line Surgeons held its eighth annual meeting in Raleigh, N. C., October 19-21, under the presidency of Dr. Joseph M. Burke, Petersburg, Va., and elected the following officers: President, Dr. James R. Rogers, Raleigh, N. C.; vice-presidents, Drs. Jarvis G. Dean, Dawson, Ga., Hillary M. Wilder, Charlotte, N. C., and Hampden A. Burke, Petersburg, Va.; secretary-treasurer, Dr. Jarrett W. Palmer, Ailey, Ga. (re-elected), and member of executive committee, Dr. Emmett H. Terrell, Richmond, Va. The next annual session will be held in Birmingham, Ala.

CANADA

Hospital Notes.—At the eighteenth annual meeting of the Montreal Foundling and Baby Hospital, the fact was brought out that the death rate in the institution had been materially lessened during the past year, chiefly by a purer milk supply. It had been necessary to refuse 300 children admittance during the year and this emphasized the urgency for a larger institution.——Ingersoll, Ont., has recently opened a new hospital.——The Toronto Western Hospital is erecting a new wing.——In 1908 there were 6,268 patients in the hospitals for the insane in the province of Ontario, an increase of 178 over the previous year.

Tuberculosis Sanatoriums.—The province of Quebec now has completed a provincial sanatorium for the treatment of cases of tuberculosis, situated on Lake Edward, about two hundred miles north of Quebec City on the Quebec and Lake St. John division of the Canadian Northern Railway. It will accommodate thirty patients and has been built at a cost of $35,000. Dr. W. E. Ainley, Lachine, late of the Montreal General Hospital staff, is in charge as medical superintendent. A considerable sum has been subscribed for maintenance by the citizens of the province. No free patients are admitted and the charge of each patient is fixed at seven dollars a week.——During the week ended October 16 the Royal Edward Institute for the Treatment of Tuberculosis was opened in Montreal.

Canadian Medical Association.—The forty-third annual meeting of the Canadian Medical Association will be held in Toronto June 1-4, 1910, under the presidency of Dr. Adam H. Wright, Toronto. Drs. D. J. Gibb Wishart, R. W. Bruce Smith, James F. W. Ross, Allen Baines, Charles J. Hastings, and George Elliott (general secretary), comprise the committee of arrangements. The meetings will be held in the Convocation Hall of the University of Toronto. The executive council met in Toronto October 11 and appointed the following special committee on dominion registration: British Columbia, Drs. Simon J. Tunstall, Vancouver, and James H. King, Cranbrook; Alberta, Drs. J. Kennedy and James D. Lafferty, Calgary; Saskatchewan, Drs. Maurice McD. Seymour, Regina, and William A. Thomson, Regina; Manitoba, Drs. Robert J. Blanchard, Winnipeg, and Robert S. Thornton, Deloraine; Ontario, Drs. Robert H. W. Powell, Ottawa, and Frederic N. G. Starr, Toronto; Quebec, Drs. Emmanuel P. Lachappelle, Montreal, and Herbert S. Birkett, Montreal; New Brunswick, Drs. Murray Maclaren, St. John, and John W. Daniel, St. John; Nova Scotia, Drs. John Stewart, Halifax, and Geo. M. Campbell, Halifax, and Prince Edward Island, Drs. Stephen R. Jenkins, Charlottetown, and James Warburton, Charlottetown. It is expected that the new journal of the association will appear about Jan. 1, 1910.

LONDON LETTER

(From Our Regular Correspondent)

London, Oct. 16, 1909.

Women's Success in Medicine

The winter session of the London School of Medicine for Women has commenced, this being the first time the school has met since the opening to women of the Colleges of Physicians and Surgeons of London. The president, Dr. Garrett Anderson, made the gratifying announcement that of the seven students sent by the school for the first medical examination of the London University (the degree of which stands highest in this country) every one had passed; in the second medical there were 12 passes; 28 had taken the M.B. and B.S. of London; 2 the M.B. of Durham, and 2 the conjoint colleges of Scotland, and 7 former students the M.D. of London. Such a list of successes would be an honor to any medical school.

Heart Overstrain in Athletes

At the opening of the winter session of the Postgraduate College of the West London Hospital, Prof. Theodor Schott of Nauheim delivered a most important address on "Overstrain of the Heart by Athletics." After alluding to the pioneer work of Peacock and to the researches of Myers, Allbutt, Da Costa, Sitz and Münzinger, he said that he reported to a medical congress in Vienna in 1890 experiments he had made to determine whether bodily overstrain could produce alterations in a healthy heart. He selected healthy young subjects at ages ranging from 14 to 32. He had them wrestle and perform other exercises until a high degree of dyspnea was produced, and he found that the heart became temporarily dilated His observations were confirmed by the *x*-rays. Chronic overstrain he regarded as due to repeated excessive muscular efforts. His views were confirmed by the enlargement of the heart found in bicyclists and ski-runners Only last year he performed further experiments which showed that a healthy heart hypertrophied from excess of work, such as occurred under excessive indulgence in athletics. Strong emotions, fright or shock also produced serious effects on the heart. Dilatation followed mountain climbing from accumulation of blood in the heart cavities. Experiments on heavily accoutered soldiers who had climbed high mountains with the result that dyspnea was produced, showed that the cardiac diameter was increased 2 or 3 centimeters.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Oct. 8, 1909.

Congress of Surgery

The opening session of the twenty-second French Surgical Congress took place October 4 under the presidency of Dr. Richelot, member of the Academy of Medicine and professor *agrégé* at the Paris medical school. It brought together in addition many Parisian and provincial surgeons, a great number of foreign surgeons, among whom were Professors Czerny of Heidelberg, Kocher of Berne, Gibson of New York, and Jonnesco of Bucharest. Dr. Richelot delivered a very instructive oration on "Simplicity in Surgery." After having reviewed the progress made by surgery since the foundation of the French Surgical Association, twenty-five years ago, the orator showed that there was still no ground for vaingloriousness. Velpeau once said, "If it were not for erysipelas and purulent infections, surgeons would be gods." "Erysipelas and purulent infection have disappeared," said Dr. Richelot, "and I am strongly inclined to believe that we are still men. Surgery, indeed, is always advancing, but there are still many obstacles in its path, especially those due to lack of simplicity—in the first place, lack of simplicity in the operative equipment." He deprecated the multiplication of varied instruments apparently responding to all the needs and facilitating each movement of the operator, down to the smallest details. He has seen surgeons bring with them enormous chests with multiple compartments, and spread astonishing arsenals around them on the tables, and the operation was done with a single little bistoury and small forceps. He has seen gynecologists brandish formidable tools as if they had had nightmares in which the pelvis looked the size of an underground tunnel. Instruments cannot give brains to surgeons. The one who succeeds the best is the one who makes the best use of his fingers and his good sense.

Richelot also criticized the type of surgeon who, away from his elaborately equipped operating-room, consents to take the bistoury in hand only after having had all the furniture and draperies removed, the pictures turned, that is, only after having raised a great deal of dust. Lister, however, affirmed and proved that asepsis was realized between the field of operation, the instruments, and the surgeon's fingers. He added that lately there have been invented various forms of more or less ingenious apparatus for regulating mathematically and invariably the dose of chloroform that the patient is to breathe in a given period and to furnish a definite mixture of air and of chloroform. No doubt such apparatus have their advantages, but the dose of chloroform should be graduated by clinical observation, each patient having his own receptivity, which only skilled and attentive observation can estimate. In regard to the technic of operations, he declared that many surgeons are too much inclined to say "Such is my practice;" "That is the way that I do." This extreme desire to have an individual surgical technic leads to useless complications, and impels leading surgeons sometimes to perpetuate imperfect procedures. This is one of the circumstances which render it so difficult to simplify surgery.

Death of Professor Heurtaux

Dr. Alfred Heurtaux, former professor of clinical surgery in the Nantes medical school, has just died, aged 78. He was one of the most active collaborators on Jaccoud's *Dictionnaire de médecine et de chirurgie pratiques*, for which he wrote the articles on cancer, inflammation, fibromas, cysts, etc. He had been a national associate of the Academy of Medicine since 1901.

Monument to Professor Tillaux

Yesterday the dedication of the monument to the memory of Prof. P. Tillaux took place in the amphitheater of anatomy of the hospitals of Paris. This monument was the last work of the late sculptor Chaplain. It is in marble and represents Tillaux standing, his right hand on a half dissected cadaver, giving his lesson in anatomy. The monument stands in the garden of the amphitheater where Tillaux was director of anatomy before being appointed professor in the medical school.

Pharmacology

CELLASIN

Report of the Council on Pharmacy and Chemistry

Cellasin, a product of Mead Johnson & Co., was the subject of a report by the Council on Pharmacy and Chemistry in The Journal, Sept. 12, 1908. In this report, the Council voted that cellasin be refused recognition on account of the exaggerated chemical and therapeutic claims made for it. The manufacturers having taken issue with these findings, the Council decided to reinvestigate the product, and the matter was referred both to the original investigator (Referee A) who conducted a new series of experiments, and to a second referee (B), not a member of the Council, who investigated the product independently. The reports containing the findings of both these men were submitted to a third referee (C). The report of Referee C was submitted to the Council, together with the reports of Referees A and B and also letters from Mr. John E. Teeple, chemist for Mead Johnson & Co., and Professor Orndorff. The Council voted that all the matter submitted by Referee C should be published in pamphlet form and Referee C's individual report should in addition be published in The Journal. After this had been decided the manufacturers requested that publication be withheld until they had submitted new evidence, a request which the Council voted to grant for a specified time. At the end of this time Referee C submitted to the Council the following recommendation which was adopted and publication of the Cellasin report authorized.

W. A. Puckner, Secretary.

RECOMMENDATION OF REFEREE C

To the Council: The accompanying letter, dated Aug. 13, 1909, from Mr. John E. Teeple, in behalf of Mead Johnson & Co., and addressed to the Secretary of the Council, has been transmitted to me:

> Mead Johnson & Co. have handed me a copy of your letter to them of July 30, stating that further consideration of Cellasin has been postponed until August 15, and have asked me to write you regarding the matter.
>
> I have worked on this subject in conjunction with bacteriologists a considerable portion of the time since I saw you in Chicago in April. I have been attempting to obtain a sterile solution by some means which would not at the same time interfere with the action of any enzyme which might be present.
>
> From my conversation with you and others in Chicago I believed that there was not at present any question regarding the presence or absence of action on sugar, but that the question was now solely whether the action was bacterial or enzyme.
>
> At the outset I assumed it would be comparatively easy to obtain a sterile solution by some means which would not interfere with the enzyme. I have not yet, however, succeeded in getting a satisfactory result. There are certain bacteria present which are evidently spore bearers and which resist any means of sterilizing so far tried, excepting means which would actually destroy enzyme.
>
> More recently, I have been trying the possibility of sterilizing by repeated filtration through Birkhardt filters, but a very large number of filtrations, through a great many filters, with intervals to allow development of spore, has not yet produced a solution which is sterile.
>
> I am at present endeavoring to isolate the bacteria and develop pure cultures and determine whether any of them have the same action on sugar and same resisting powers that the Cellasin itself seems to have.
>
> It seems certain that we have here either an enzyme or a variety of lactic-acid-producing bacteria widely different from commonly known varieties, and much more active and resistant to chemicals than they are.
>
> I expect to pursue this investigation until I can determine exactly what we have. If under these circumstances your committee cares to leave the matter open a little longer, I shall be glad to report to you at frequent intervals just what results are being obtained. My only desire is to determine the exact truth in the matter.
>
> Awaiting your advices, I remain,

Since Mead Johnson & Co. have on the market a product for which they made certain claims, which they are unable to substantiate in their letter of August 13, and as they themselves arrive at the conclusion that "it seems certain that we have either an enzyme or a variety of lactic-acid-producing bacteria widely different from commonly known varieties, and much more active and resistant to chemicals than they are." I would recommend the publication of the report on cellasin.

REPORT OF REFEREE C

Cellasin was submitted to the Council by Mead Johnson & Co., with the claim that it contained starch-converting and fat-splitting enzymes and an enzyme capable of converting sugar into lactic acid, together with small amounts of acetic and other acids. The report of the committee on chemistry showed that, so far as the action on sugar was concerned, these claims were not substantiated by the examinations made by its referee.

In view of the emphatic assertions of the manufacturer that the claims they made for the product were correct, the committee on chemistry again took up the matter, and after further investigation submitted a second report in which it is stated: "We have given an unusual amount of time to the investigation of cellasin and every opportunity has been afforded the firm to substantiate its claims. These claims could not be verified in any samples submitted, and the committee now and finally recommends the adoption and publication of the report."[1]

In the report on cellasin, as published in The Journal, it was stated that Mead Johnson & Co. claimed that "the action of cellasin on fats, carbohydrates in acid solution is most powerful." This evidently is an error, the word "acid" having been used when "alkaline" was meant. The firm having made no claim as to the activity of the product in *acid* media, this statement in The Journal should be corrected.

The consulting chemist of the firm, J. E. Teeple, presented arguments (Oct. 13, 1908) to show that the product contained or might contain an enzyme, and transmitted a report from Prof. W. R. Orndorff of Cornell University, who had examined cellasin with reference to its power to produce acid from sugar. Orndorff's experiments showed that the preparation would convert cane sugar into lactic acid when the media were apparently sterile and even in the presence of antiseptics, but apparently he made no examination of the substance itself or of the fermenting solutions for bacteria.[2]

On the receipt of this letter the matter was referred in accordance with the custom of the Council to the original referee (A) for reinvestigation. Referee A went carefully over the ground and reported in substance, that while cellasin has the power of converting sugar into lactic acid,[3] this action is due in the main to bacteria, of which cellasin contains about 500,000 per gram, and that these bacteria increase, *pari passu*, with the formation of acid. He found that when micro-organisms were removed by proper filtration the activity of the product becomes correspondingly decreased.[4]

In addition to the investigation by the referee, the product was referred to a second referee (B). His report confirmed the findings of the first referee.[5]

In accordance with the regular procedure of the Council, the reports of Referees A and B (the latter not a member of the Council) on cellasin, together with a letter, bearing date of Oct. 13, 1908, and signed by J. E. Teeple (consulting chemist, chemical engineer) in regard to the properties and claims made for the product, and accompanying this letter a report by Prof. W. R. Orndorff of Cornell University, were submitted to the third referee (C) for an additional opinion.

The report of Professor Orndorff goes to show that cellasin does possess considerable power of splitting up cane sugar into acid products, but singularly enough the report is lacking in a bacteriologic control of the results obtained. That he attempted to exclude *extraneous* bacteria is indicated by the statement: "Except in cases where antiseptics were used, all apparatus and chemicals were sterilized before cellasin was added." The possibility that *cellasin itself* might contain the responsible bacteria was seemingly excluded by a number of tests in which antiseptics were employed. The report tacitly assumes that the germicidal and antiseptic substance used either killed or held in check such bacteria as might be present, and, while it does not directly assert the presence of a "true enzyme," still it leads to such an inference. Thus, Mr. Teeple, referring in his letter of Oct. 13, 1908, to the tests made by Professor Orndorff and himself, states "that all of the experiments go to show that we have here a true enzyme whose action is roughly proportional to the amount of enzyme present." In these few words a tangible claim is made which must stand or fall with such experimental evidence as has been presented. The report of Professor Orndorff therefore requires particular attention.

In 8 out of the 12 experiments tabulated in the report of Professor Orndorff, phenol (in amounts of 0.03, 0.06 and 0.1 per cent.) was added to the cane-sugar solution clearly for the purpose of inhibiting the growth of bacteria. And yet, no control was made to ascertain whether the bacteria were actually inhibited, although it was noted that an increase in the amount of phenol retarded the reaction. The statement, made by way of comment on the results obtained, that "This retardation of *enzyme reactions* [Italics not in original] in the presence of antiseptics has been frequently observed," shows clearly that the possibility of *bacterial reactions* was entirely lost sight of.

As a matter of fact, Referee C, on repeating the phenol experiments under practically the same conditions as those which obtained in the experiments of Professor Orndorff, obtained an enormous development of bacteria, and as might be expected, a corresponding conversion of cane-sugar into acid products. The details of one experiment will be sufficient.

TEST WITH 0.1 PER CENT. PHENOL

To 392 c.c. of a sterile 2 per cent. solution of rock candy, 8 c.c. of a 5 per cent. solution of phenol was added. To this solution 2 c.c. of sterile normal sodium bicarbonate and 0.8 gm. of cellasin were added, and the whole mixture then incubated. In this, as in all other tests, made by Referee C, the solutions and containers were absolutely sterile, and special care was taken to avoid external contamination. Hence, the bacteria, if any developed, came from but one source—the cellasin.

Agar plates were poured at the times stated, and the kind and number of bacteria were noted. The clouding of the liquid soon indicated a rapid multiplication, and since the titration of a portion of the liquid showed considerable acid production, sterile normal sodium bicarbonate was added to the liquid from time to time, in order to reduce the acidity. The total acidity at the end of 120 hours calculated as lactic acid, corresponded to 5.28 gm. of lactic acid. This result, as well as the bacterial count when compared with the control test given later on, where no antiseptic was used, shows an almost total absence of a supposed antiseptic action. The following table will serve to show the rapid growth of bacteria in this test:

MIXTURE PLATED	NO. BACTERIA PER C.C.
At once.	3,800
8 hours.	8,400
24 hours.	450,000
48 hours.	58,000,000
72 hours.	70,000,000
96 hours.	90,000,000

The obvious conclusion from this experiment is that 0.1 per cent phenol does not inhibit the action of the bacteria contained in the cellasin. It naturally follows that the 0.03 per cent. and 0.06 per cent. phenol would have even less inhibitory action, if any at all.

A similar experiment made with 0.5 per cent. phenol did show a complete inhibition of the growth of bacteria, and, paralleling this, a total absence of conversion of sugar into acid products. Agar plates made daily for a period of nine days showed about 100 colonies on each of the nine days. These were obviously derived from spores present in the cellasin. The spores, though resistant to 0.5 per cent. phenol, were unable to germinate in such a solution, whereas a 0.1 per cent. solution offered no such hindrance. The failure to effect a cleavage of the sugar can mean only one thing—the absence of a "true enzyme."

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[1] The Journal A. M. A., Sept. 12, 1908, p. 931.

[2] Mr. Teeple's letter and Prof. Orndorff's report appear on pages 8 and 10 respectively of the pamphlet; this pamphlet may be had on request.

[3] The action of cellasin on a sugar solution is found to be slow at first. The examinations on which the first reports of the referee were based were made after an incubation for not more than 24 hours. The results were negative as to quantitative results. In the subsequent experiments a longer period of incubation gave considerable formation of acid. It is admitted by the manufacturers that the action of cellasin is too slow to be of use as an intestinal enzyme, but is claimed that it is an intracellular enzyme, similar to muscle enzymes, and acts after absorption into the blood. (As appears in Mr. Teeples' letter, page 8, and also report of Referee A, page 13 of the pamphlet.)

[4] Report of Referee A, page 13 of pamphlet.

[5] Report of Referee B, page 15 of pamphlet.

TEST WITH 0.5 PER CENT. SODIUM SALICYLATE

Two experiments of this kind are given by Professor Orndorff, who obtained about the same amount of conversion as with 0.1 per cent. phenol. Any one familiar with the antiseptic action of sodium salicylate would realize, as in the case of phenol, that very little, if any, inhibition of growth might be expected. Nevertheless, one test was made by Referee C under as nearly identical conditions as possible, and the result showed an even greater multiplication of bacteria than in the test with 0.1 per cent. phenol. The acid production corresponded to 3.78 per cent. lactic acid. It is therefore clear that cellasin contains bacteria which can multiply without apparent hindrance in the presence of 0.5 per cent. sodium salicylate, and hence such test can not be taken to indicate the presence of an enzyme other than that connected with the functional activity of the bacteria.

TEST WITH CHLOROFORM

Two tests were also made by Professor Orndorff using chloroform as an antiseptic, but here, as in other experiments, no controls were made. It is commonly assumed that chloroform water is an efficient antiseptic, and it is less generally known that there are bacteria which can thrive under such conditions. Cellasin, it will be seen, affords an interesting instance of this kind.

A number of tests made by Referee C, with varying amounts of chloroform and under varying conditions of agitation, showed an invariable and unhindered multiplication of the bacteria introduced into the sugar solution with the cellasin. One test will be sufficient to substantiate this point.

To 400 c.c. of a 2 per cent. solution of rock candy there was added 2 c.c. of sterile normal sodium carbonate, 40 c.c. of chloroform and 0.8 gm. of cellasin. Sterile conditions obtained as before except for the cellasin. The glass-stoppered bottle containing the liquid was placed on a mechanical shaker in an incubator and constantly agitated throughout the experiment. Sterile normal sodium bicarbonate was added from day to day to maintain an approximately neutral reaction. On titration at the close of the experiment the acidity produced corresponded to 2.88 gm. of lactic acid. The growth of bacteria can be seen from the following table:

MIXTURE PLATED	NO. BACTERIA PER C.C.
At once.	3,000
10 hours.	850,000
24 hours.	2,000,000
48 hours.	87,000,000
72 hours.	150,000,000
96 hours.	200,000,000
120 hours.	300,000,000

The constant presence of an excess of chloroform, therefore, does not materially interfere with the multiplication of the bacteria, and hence the conversion of sugar obtained under such conditions can not be ascribed to an enzyme contained with the cellasin.

TEST WITH HYDROCHLORIC ACID

The patent specifications describe an enzyme which is *indestructible* in a solution of 25 per cent. hydrochloric acid and it further specifies that the ferment has the empirical formula $C_{[illegible]}H_{112}N_{18}O_{[illegible]}S$. There are no tests, however, with 25 per cent. acid,[6] and only one is given by Professor Orndorff with a concentration one-tenth that specified, and from his results he deduces the conclusion that "cellasin resists the action of 2.5 per cent. hydrochloric acid." This is quite true, but it does not prove that cellasin is an enzyme or even a mixture containing an enzyme. The presence of resisting spores offers an adequate explanation for the subsequent conversion of sugar.

Several tests were made by Referee C by treating 0.8 gm. of cellasin with 10 c.c. of 2.5 per cent. hydrochloric acid for one hour at 24 C., then neutralizing and adding the mixture to 400 c.c. of a 2 per cent. rock-candy solution. In one instance no growth was obtained and no cleavage of sugar resulted. In three other tests multiplication of bacteria occurred, though very slowly in the beginning, and at the same time sugar was split up into acid products. It is clear, therefore, that 2.5 per cent. hydrochloric acid may destroy all of the bacterial spores present in cellasin, but more often, either because of a large number or through mechanical protection, a few survive and slowly develop when placed under suitable conditions, resulting eventually in rapid growth and the conversion of sugar. Professor Orndorff in his experiment obtained complete conversion of the sugar contents, and although he noted "the only effect observed being a retardation of the reaction at the beginning," yet he failed, apparently, to note the significance of that delay.

In another experiment made by Professor Orndorff, the cellasin was digested with 0.2 per cent. hydrochloric acid in an incubator for five days, then neutralized and added to the sugar solution after which acid production was noted though in lessened amount. This test when repeated and controlled bacteriologically by Referee C showed an almost complete destruction of the bacteria present in cellasin. During the first 24 hours following neutralization there was no evidence of bacterial growth and no cleavage of sugar; after two days, however, the few surviving organisms multiplied sufficiently so as to split up the sugar present to a slight extent. At the end of five days the acidity corresponded to 0.9 gm. lactic acid, while the bacterial content was only four million bacteria per c.c., or about the number to be expected in a control at the end of about from 24 to 30 hours. The significant feature, here as in the other case, is the *absence of all signs of acid production prior to the establishment of a rapid multiplication of the bacteria.*

CONTROLS WITH UNALTERED CELLASIN

Since in the foregoing experiments with antiseptics it is apparent that the action of cellasin goes hand in hand with the growth and multiplication of bacteria, it is hardly necessary to show that cellasin when used direct, i. e., without an antiseptic, will give an equally rich bacterial development. One control of this kind, however, may be given. The test was carried out as in the case of the other experiments; 0.8 gm. of cellasin was added to 400 c.c. of a 2 per cent. solution of rock candy, to which was added 2 c.c. of normal sodium bicarbonate, everything being sterile except the cellasin. The liquid promptly became cloudy and the plate counts showed a rapid multiplication. The amount of acid produced corresponded to 5.4 gm. lactic acid. The increase in bacterial contents will be seen from the appended table:

MIXTURE PLATED	NO. BACTERIA PER C.C.
At once.	2,800
9 hours.	23,500
24 hours.	680,000
48 hours.	12,000,000
72 hours.	62,000,000
96 hours.	60,000,000

THE BACTERIAL CONTENT OF CELLASIN

The number of bacteria contained in cellasin is significant. The standard dilution of 0.8 gm. cellasin in 400 c.c. of sugar solution gave counts which averaged about 3,000 bacteria per c.c., or a total of 1,500,000 per gm. of cellasin. At no time did the samples contain less than 150,000 bacteria per gm of product.

Of still further significance is the fact that one bacterial species predominated in all three samples of cellasin examined. Moreover, this form was present largely in the spore condition, a fact established by heating experiments, as well as by the behavior of the preparation in the presence of phenol and hydrochloric acid.

It should be stated further, that in plating out the various solutions of cellasin, referred to in the preceding tests, invariably one and the same organism was found. Isolated in pure cultures it was found to be a rapid spore producer. Control experiments made with the pure spores gave essentially the same result as with cellasin. The organism in pure culture splits up cane sugar into acid products, and there can be no question as to the part it plays in the so-called action of cellasin.

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[6] In the earlier consideration of cellasin the Council having questioned the claim that cellasin was indestructible in 25 per cent hydrochloric acid, Mead Johnson and Co. submitted, instead, the statement that cellasin is not destroyed by 2.5 per cent hydrochloric acid

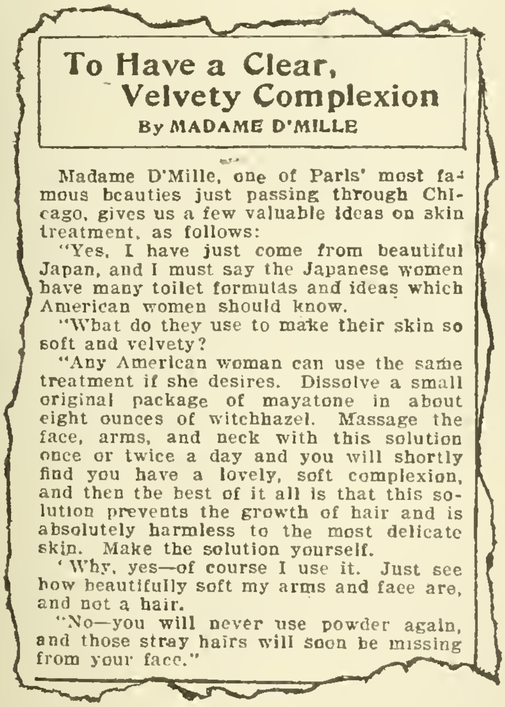
That the action of cellasin depends on the presence and growth of this organism is evident also from filtration experiments. When a solution of cellasin is filtered through a Berkefeld candle into a sterile sugar solution no change whatever results. The solution, after incubation for weeks, remains clear, no acid is produced, and no bacteria can be detected. Were a "true enzyme" present, such would hardly be the case.

The evidence on hand goes to show that cellasin is a mixture of an acid-producing organism and a protein substance, presumably casein. Referee C can, therefore, only confirm the separate findings of Referees A and B, and recommend the rejection of the preparation.

MAYATONE

A French Beauty's Japanese Prescription for American Use

The following advertisement, arranged as reading matter,, has appeared recently in the daily papers:



**To Have a Clear,
Velvety Complexion**
By MADAME D'MILLE

Madame D'Mille, one of Paris' most famous beauties just passing through Chicago, gives us a few valuable ideas on skin treatment, as follows:

"Yes, I have just come from beautiful Japan, and I must say the Japanese women have many toilet formulas and ideas which American women should know.

"What do they use to make their skin so soft and velvety?

"Any American woman can use the same treatment if she desires. Dissolve a small original package of mayatone in about eight ounces of witchhazel. Massage the face, arms, and neck with this solution once or twice a day and you will shortly find you have a lovely, soft complexion, and then the best of it all is that this solution prevents the growth of hair and is absolutely harmless to the most delicate skin. Make the solution yourself.

'Why, yes—of course I use it. Just see how beautifully soft my arms and face are, and not a hair.

"No—you will never use powder again, and those stray hairs will soon be missing from your face."

Mayatone—which is, of course, the "joker" in this "prescription"—is put on the market by the May-a-tone Company of Detroit. It comes in small cardboard packages containing about 2½ ounces of a granular powder, pink in color, and smelling like cheap hair-oil. The price of the package is seventy-five cents. The preparation was examined in the Association's laboratory with the following results:

LABORATORY REPORT

Examination of Mayatone, a product prepared by the May-a-tone Company, Detroit, indicates that the preparation is composed essentially of magnesium sulphate and sodium borate in the following proportions:

Magnesium sulphate (Epsom salts)......	90 per cent.
Sodium borate (borax)......	10 per cent.

This analysis confirms the findings of the Kansas State Board of Health, which in its *Bulletin* for June, 1909, reports that Mayatone was "found to be largely magnesium sulphate, perfumed and tinted pink."

The viciousness of such nostrums as Mayatone does not lie in their ingredients but in the dishonest method by which they are exploited. For it is dishonesty, trivial, perhaps, but none the less inherent dishonesty, to attempt by implication or otherwise to make the public believe that a colored and scented mixture of epsom salts and borax is responsible for the "soft and velvety" skin of the Japanese women, and further, that such a "formula" is given to the world through the medium of a Parisian beauty. But the greater dishonesty lies in attempting to make the public believe that the "prescription" or "formula" is given as editorial information, and further that it is composed of non-proprietary articles to be had in any drug store. This form of deception is becoming increasingly common, a fact that reflects little credit on the daily press, whose cooperation makes the humbug possible. It is but fair to say, however, that newspapers of the better type will not lend their pages to this bald attempt to deceive their readers.

Committee on Credentials and Arrangements for Pharmacopeial Convention

President Horatio C. Wood has appointed the following committee on credentials and to make arrangements for the United States Pharmacopeial Convention which will be held in Washington, D. C., beginning Tuesday, May 10, 1910. Prof. O. T. Osborne (chairman), Yale University, New Haven, Conn.; Dr. H. C. Wood, Jr., University of Pennsylvania Medical Department, Philadelphia; Mr. L. S. Hilton, Washington, D. C.; Mr. W. L. Cliffe, Philadelphia.

The following officers of the convention are ex-officio members of the committee: President Dr. H. C. Wood, Jr., University of Pennsylvania Medical Department, Philadelphia; Secretary Dr. H. M. Whelpley, Washington University Medical Department, St. Louis; and Assistant Secretary Dr. Murray Galt Motter, Hygienic Laboratory, Washington, D. C.

Correspondence

A Visit to the Pellagrosarium at Rovereto

To the Editor:—A news item in The Journal and Professor Mark's book on the "Skin Changes in Pellagra," induced me to include Rovereto in a recent tour of Europe. The visit was most profitable, and, particularly in view of the interest in pellagra in this country, I have thought it worth while to publish a short account of it.

Rovereto is a city of 11,000 inhabitants, on the *Sudbahn* (southern road) between Trent and Verona. It may easily be reached from Italy or Germany, as through trains from Berlin and Munich to Verona stop there. It is near the romantic Lake Garda and not far from the southeastern high Alps. It can also be reached in what I found a most interesting way, from the region of the Stelvio Pass, by coach and automobile from Madonna di Campiglio, going through the wild and picturesque gorges of the Sarca and rounding the snow-capped peaks of the Brenta. The city lies in the wide Val Lagarina, through which the Adige runs, the torrential Leno entering the Adige a short distance from the city. The valley is surrounded by picturesque mountains covered with vineyards, among which numerous small and characteristic villages are scattered. The city itself possesses many objects of interest, including a well-preserved medieval castle, an interesting town hall, and numerous churches and monasteries. The city once belonged to Venice, and the names of streets and squares still indicate the relationship. It is also said that the fine appearance of the inhabitants—and especially the women—and a certain genial dignity of manner, are survivals of the Venetian period. Rovereto in situation reminds one of Meran. Like the latter, Rovereto is frequented as a winter resort, and also in the fall as a "grape cure." Snow falls only a few days every year, and a freezing temperature is rarely reached.

Pellagra has long been known in the region of Rovereto; in fact, Dr. de Probizer has recently called attention to the excellent work done in 1822 by Dr. Peter Stofella, a Roveretan, and father of the well known E. Stofella, who will be remembered by many American students in Vienna. Ever since the Austrian government took up the campaign against pellagra. Southern Tyrol has been included in the work. In 1895 a pellagrosarium was arranged in an old building, which in 1903 was replaced by a new one built especially for the purpose. On presenting myself I was most kindly received by Dr. Bresadola, city physician, and Dr. de Probizer, director of the pellagrosarium; and I was given every facility for seeing patients and other matters of interest.

The hospital is a large two-story building, on a hill overlooking the city, though only a few minutes' walk from the center of the town. It is well-planned and all the details are modern and complete. The large plot of ground around the hospital is being graded and covered with landscape gardening and plantations of vegetables and fruits.

As it was the off season, there were only twenty-five patients in the hospital. The yearly attendance is about 150. On account of the season, also, there were no very severe cases, but the patients were clinically all the more interesting for that reason. Only two or three had any skin changes at all and these were very slight, though in two the process had been more severe in the spring; but I was told that the skin changes were by no means always present and that in fact, since Dr. Merk did his work, there had been no such interesting material as he described. Many of the patients had gastro-intestinal disturbances of rather a mild type; some had evidences of mild stomatitis; several had a peculiar tongue which the doctors told me was quite characteristic, though of course not uniform. In these cases the tongue was not enlarged, the epithelium slightly thin but not stripped, the surface of the tongue wrinkled and the epithelium having a rather unusual, pale violet color. The Italian doctors call this a "raspberry tongue," which of course is not to be confused with what is called a "raspberry tongue" in America. Some of the patients were constipated. Most of them had distinct nervous symptoms, although in many cases these symptoms were so slight that I think the anomaly would be impossible to recognize by one incapable of questioning the patients in their own dialect. Many had the appearance of mild neurasthenics, such as are commonly seen, especially in the middle west, among farmers, and often associated with gastric or sexual symptoms. When I mentioned this to Dr. de Probizer, he said it was quite true, but that his patients did not present the other features of neurasthenia, and especially did not have the characteristic history. Most of these patients were improving.

The treatment is chiefly general, with diet, baths, fresh air and medication only for particular symptoms, as iron or arsenic for anemia. When I mentioned the severe cases, such as have been so noticeable of recent years in the south, and the apparent contradictions of some members of the family having severe pellagra and others exposed to the same causes escaping, the doctors told me that that was exactly what was to be expected when pellagra occurred in a new vicinity. The predisposition, they say, varies extremely, so that one member of the family might acquire the disease and the others, though living in the same way, escape. As the disease becomes more common, and especially when it is present long enough for a predisposition to be acquired by heredity, members of the family are more generally affected, though the disease is likely not to be so severe.

The Rovereto doctors are thoroughly convinced that the cause of pellagra lies in maize. They do not venture to say what the material is, and are not at present making investigations in that direction. When I mentioned typical cases, such as I saw with Dr. Bass, in which the patients made apparently a perfectly credible denial of maize-eating, they said there was no reason why that should not be so, but in their own observation such cases did not occur. Their patients all eat corn, but not, as among the maize-eaters in the south, in the form of corn bread. They told me that corn-bread should not be capable of producing pellagra. As they find it, it occurs in people who eat "polenta," which corresponds to our corn-meal mush. Properly prepared, this should be cooked for a half-hour, but as a matter of fact it is often imperfectly cooked. The corn concerned in these cases is not raised in the district. Very little maize is raised in southern Tyrol, and the maize in the neighboring Piedmont does not get into the markets. The maize comes chiefly from Roumania and La Plata, and from both of these places often comes obviously moldy. Besides having fed on the diseased maize, the pellagra sufferers are often underfed: sometimes they eat only polenta, and not enough of that. They have also often gone without salt in their food. Other causes considered of importance are alcoholism and syphilis; in fact, in many of the cases, the symptoms of alcoholism were difficult to distinguish from those of pellagrous nervous symptoms.

The treatment of patients in the pellagrosarium is only a small part of the movement against pellagra. The institution serves as a center of statistical, prophylactic and therapeutic effort. Lectures are given, illustrations of the disease are shown, the raising and preparation of maize for food are described, the characteristics of healthy and diseased maize shown by a large collection of specimens. There is maize inspection all over the district. The patients in the institution are taught the advantage of mixed diet, and part of the hospital grounds is used to teach the methods of raising various fruits and other food materials, in order to encourage peasants to introduce these on their own farms. They are even permitted to work on the plantations, provided their conditions permit. The free distribution of salt to those who need it is one of the numerous details carried out. Every doctor in the district assists in keeping up a pellagra census. Every patient discovered is investigated and his data written out on a history sheet printed for the purpose. The finding of one patient is followed by an investigation of all the relatives, and all the findings are written out and the histories sent to the pellagrosarium, where they are filed according to district. Every year a report is made on each case, so that the outcome is constantly known. Although the Rovereto pellagrosarium is not arranged for extensive scientific investigations, a great deal of most excellent work is done there every year. Unfortunately for most of us the publications are almost inaccessible, inasmuch as they are printed in Italian, the language of the district. The yearly "Reports" of the work of the pellagrosarium are very well done. Other clinical and general articles are published as official documents, and still others are published in the *Atti d. i. r. Accad. di Scienze, Lett. ed Arti degli Agiati in Rovereto*, a most creditable publication, reflecting the general high standard of scientific interest in the community.

George Dock, New Orleans.

The Sections and the U. S. Pharmacopeia

To the Editor:—In The Journal, September 4, pp. 791, 793, 796,, there were published reports of three committees on the revision of the U. S. Pharmacopeia, namely those of the committees of the Sections on Practice of Medicine, on Ophthalmology and on Stomatology.

There are certain features in these reports well worthy of careful consideration and as they appeared at a time when many physicians had not returned from their vacation I am taking the liberty of calling attention to a few points. These committees were appointed to the sections at the request of the Committee on the U. S. Pharmacopeia of the American Medical Association. The latter committee was appointed by the Board of Trustees at the direction of the House of Delegates in compliance with a recommendation of the Section on Pharmacology and Therapeutics. This committee felt that it could best fulfil the purpose for which it was appointed by ascertaining the attitude of physicians toward the admission to and omission of articles from the Pharmacopeia, and it believed that this could best be accomplished by appealing to the various sections of the Association.

The reports of the committees should be read in their entirety, but it may be worth while to call attention in this place to a few points:

1. Committee of the Section on Practice of Medicine.—It should be noted that this committee believes that the present attitude of the U. S. Pharmacopeia toward permanently controlled substances (i. e., proprietaries) should be maintained, namely, that they should not be admitted.

Admissions: The following articles are recommended for admission:

Calcium lactate
Phenolphthalein
Arsenic preparations suitable for hypodermic injection; perhaps sodium cacodylate and sodium arsanilate
Theobromin and theobromin-sodio-salicylate
Bile salts
Diacetyl-morphin

Omissions: Fifty-one drugs and their preparations are recommended to be omitted (THE JOURNAL, Sept. 4, p. 792).

2. *Committee of the Section on Ophthalmology.*—This committee states that it considered the admissions and omissions from the purely ophthalmic standpoint. The committee selected fourteen drugs which they thought might profitably be considered for inclusion in the Pharmacopeia. These were submitted to the members of the Section with the request that each indicate the six which he considered the most important. The six receiving the largest number of votes were:

Adrenalin hydrochlorid
Dionin
Argyrol
Fluorescein
Protargol
Holocain hydrochlorid

A point of special interest in this report is that nearly all of the drugs on which a favorable report is made are proprietary. Whatever may be the attitude of the next Revision Committee toward proprietary medicines, such a report as this shows the serious consideration which they must receive.

Omissions:

Argenti nitras mitigatus
Oleate of cocain
Oleate of atropin
Salicylate of physostigmin
Extractum scopolæ
Extractum stramonii

3. *Committee of the Section on Stomatology.*—This Section makes the following recommendations:

Admissions:

Liquid nitrous oxid
Liquid oxygen
Novocain
Suprarenal alkaloid
Protein silver compound
Magnesium dioxid
Sodium perborate
Perhydrol
Trioxymethylen
Veroform (or a similar solution of formaldehyd)
Cotarnin hydrochlorid
Cotarnin phthalate
Acetylsalicylic acid
Validol

The list of drugs recommended for admission by this committee is larger than that of the other committees, but any one reading this splendid scientific report must feel that it is written by men who know whereof they speak and that these drugs (or their equivalents) represent real needs. A very significant feature of this report is a brief resolution which the committee requested the Section to adopt. This resolution points out that the present constitution of the Pharmacopeial Convention makes no provision for representation of the dental profession and requests that provision be made whereby the Section on Stomatology of the American Medical Association shall be entitled to representation on the Committee of Revision.

The more carefully these reports are studied the more food for thought they are found to contain. It is not possible or desirable to discuss them at present. One point should, however, be mentioned: There is nothing in these reports to indicate that representative medical men feel a need for the complex proprietary mixtures with which the American market is flooded, a supposed need which the last Committee of Revision endeavored to meet by the inclusion of a number of formulas for similar mixtures. Another point worthy of consideration is the number of preparations recommended by these committees for omission from the Pharmacopeia which were admitted only in the last revision (which appeared in 1905). The most reasonable explanation of this is that the last Committee on Revision was not sufficiently well informed as to the wishes of the medical profession as to the scope of the Pharmacopeia. Finally, the resolution suggested by the Section on Stomatology (that the dental profession be entitled to representation on the Committee of Revision) brings up the large question whether the basis of representation in Pharmacopeia matters is not very far from just. Every incorporated college of medicine and of pharmacy, the incorporated state medical and pharmaceutical societies and certain other bodies are entitled to representation, but the great American dental profession—the profession which gave the world the first general anesthetic, for example—is not given any representation whatever. (In this connection it may also be pointed out that veterinary medicine also receives no recognition by the U. S. Pharmacopeia, although its needs are recognized by the Food and Drugs Act and by most foreign pharmacopeias).

REID HUNT, Washington, D. C.

A Protest Against the Arrogant Surgeon Specialist

To the Editor:—I wish to express my views in regard to the present agitation which is being voiced by some of our older practitioners with reference to a special course in surgery for younger men. I at least have the courage of my opinions and in justice to myself and many others engaged in general practice who are called on to do surgery when occasion arises to call a halt on the so-called specialists in surgery, who wish to claim the field entirely for themselves, and on one plea and another enter a protest of incompetency against their competitors.

What right may I ask has any one engaged in the practice of medicine or surgery to say how much the other man shall do, or not do? Are we not all licensed under the same state laws and are not our qualifications equally as valid as the men who wish to dictate how a man should be specially qualified to do an abdominal section. As a matter of fact, with the exception of the mechanical dexterity acquired by practice, the balance is in favor of the younger man. He has the advantage of a higher education and a better and longer training.

Most of the men who value their opinions to-day as something very superior to that of the younger men, lack the saving grace of even a good high school education and I venture to say that if these men were called on to take a state board examination such as are now being held in several states, would make a sad failure of it.

I have no doubt that at the present day there is much more competition and younger men do as much of their surgery as they can without calling in the old timers, or seek the advice of men of their own class or years, and hence the outcry, but "Time and tide waits for no man."

Every one has the same opportunity and it depends largely on the personal equation as to what advantage is taken of it. The mere fact that a man has had an extra year as an interne in a large hospital does not make him a surgeon any more than the man after graduation who is on his own hook for the same length of time in a general practice; of the two the latter has at least self reliance—and has learned to think and act for himself, he is practically that much ahead of the other fellow.

C. VAUGHAN, Detroit.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

PHYSIOLOGIC ACTION OF CALCIUM LACTATE

To the Editor:—A case of epilepsy treated by calcium lactate is reported in THE JOURNAL, Aug. 14, 1909, p. 527 I have not been able to find any literature on the physiologic action of this salt. I would be thankful to have you describe its action in Queries and Minor Notes.

HUBERT H. JOHNSON, Salinas, Mex.

ANSWER.—The calcium salts appear to increase the energy of the heart's action; the presence of calcium in the nourishing liquid is absolutely essential for the continuance of cardiac action, not only in cold but also in warm blooded animals. Calcium in small doses stimulates both voluntary and involuntary muscles. In small doses calcium chlorid increases the functional activity of the motor nerve trunks, but in large doses it paralyzes the cerebral cortex, the motor centers of the spinal cord and the motor nerve trunks Calcium salts are essential to the process of coagulation of the blood It is claimed that calcium chlorid and calcium lactate increase the coagulability of the blood for which reason they have been used to prevent hemorrhage. Recent investigations seem to prove that it is not possible to shorten coagulation time by the calcium salts. The question as to their employment for this purpose is therefore *sub judice* (see editorial in THE JOURNAL, March 6, 1909, p. 788, also Addis, T.: *Quart. Jour. Med.*, January, 1909, also *Quart. Jour. Exper. Physiol.*, 1908, i, 305, Abstr. in THE JOURNAL, April 17, 1909, p. 1283).

According to J. D. Zoethout (*Amer. Jour. Physiol.*, February, 1909, abstr. in THE JOURNAL, March 27, 1909, p. 1060), calcium favors the relaxation of potassium contraction. MacCallum and Voegtlin (*Jour. Exper. Med.*, 1909, xi, 118) have found that the nerve manifestation of tetany can be held in check by the administration of calcium salts.

In animals after parathyroidectomy there occurs an increased elimination of calcium in the urine and feces which results in a marked reduction of calcium content of the blood and brain and the consequent development of hyperexcitability of the nerve cells. The lack of calcium may therefore be one of the causes of epilepsy and suggests the reason for the use of these salts in that disease. It is believed that disturbances in the calcium metabolism are closely connected with abnormalities of the ductless glands, thyroid, pituitary, etc. (W. B. Bell and P. Hick, *Brit. Med. Jour.*, Feb. 27, 1909).

The action of the lactate of calcium is similar to that of the chlorid but it is less irritating and therefore it may be used hypodermatically.

WANTED: OUTDOOR WORK-CURE SANITARIUM FOR ALCOHOLISM

A correspondent in the middle west asks us where there is a sanitarium—perhaps on a large farm—where a man of 40, who has a cultured mind and a vigorous physique, would receive scientific treatment for alcoholism, together with physical work and mental diversion. Perhaps some of our readers can make suggestions.

ALCOHOL STRENGTH FOR CLEANING HANDS

To the Editor:—In scrubbing the hands preparatory to doing an operation, after the use of soap and water for ten minutes, what strength alcohol should be used, 70 per cent. or 95 per cent.?

E. L. C., New York.

ANSWER.—Alcohol of 70 per cent. strength should be used because the 95 per cent. alcohol coagulates albumins to such an extent as to nullify the purpose for which it is used—to free the skin of fats in which germs may be encased.

The Public Service

Medical Department of the Army

Changes for the week ended Oct. 23, 1909:

Blanchard, R. M., capt., granted sick leave of absence for 1 month.

Davidson, W. F., capt., granted leave of absence for 1 month.

Wison, J. S., major, ordered to Alcatraz Island, Cal., for duty at the Pacific Branch, U. S. Military Prison.

Thornburgh, R. M., capt., relieved from duty at the Pacific Branch, U. S. Military Prison, Alcatraz Island, Cal., and ordered to the A. G. Hospital, San Francisco, for duty.

Winter, F. A., major, relieved from duty at Fort Myer, Va., and ordered to duty in the office of the Surgeon-General.

Hoff, J. Van R., col., relieved from duty as chief surgeon, Dept. of the Lakes, to take effect on the relief of Col. Charles B. Bryne, M. C., from duty as chief surgeon, Dept. of the East; will then proceed to Governor's Island, N. Y., for duty as chief surgeon, Dept. of the East.

Fuller, L. A., major, granted leave of absence for 14 days.

Raymond, T. U., major, granted leave of absence for 1 month and 15 days.

Heysinger, J. D., capt., granted leave of absence for 1 month.

Marvin, M. F., M. R. C., honorably discharged from the Service of the United States, his services being no longer required.

Adams, P. A., M. R. C., ordered to active duty; will proceed to Schofield Barracks, H. T., for duty.

Holmes, T. G., M. R. C., granted leave of absence to December 15, and honorably discharged from the Service on that date.

Cole, Blase, M. R. C., ordered to active duty; will proceed to Fort Crook, Neb., for duty.

Flynn, T. J., M. R. C., ordered to active duty; will proceed to Fort Ethan Allan, Vt., for duty.

Pinquard, Jos., M. R. C., granted sick leave of absence for 4 months.

Pargon, J. A., M. R. C., honorably discharged from the Service of the United States, his services being no longer required.

Drake, P. G., M. R. C., granted leave of absence for 1 month.

Bailey, Edward, M. R. C., order for Philippine Service revoked

Freeland, H. L., M. R. C., relieved from duty at Fort Leavenworth, Kan.; will proceed to San Francisco, and sail December 6th for Philippine Service.

Medical Corps of the Navy

Changes for the week ended Oct. 23, 1909:

Shippen, L. P., asst.-surgeon, on reporting at the Navy Department ordered to the Navy Yard, Portsmouth, N. H., for duty at the Naval Prison.

Camerer, C. B., acting asst.-surgeon, appointed acting assistant-surgeon, ordered to instruction at the Naval Medical School, Washington, D. C.

Pryor, J. C., surgeon, detached from command of the Naval Hospital, Yokohama, Japan, and ordered home in the United States, via Europe, with permission to delay 3 months en route.

Bogert, E. S., Jr., surgeon, detached from the Navy Yard, New York, N. Y., and ordered to command the Naval Hospital, Yokohama, Japan.

Foster, T. G., asst.-surgeon, detached from duty at the Naval Prison, Navy Yard, Portsmouth, N. H., granted leave until November 15, on completion thereof ordered to Washington, D. C., for examination and then to wait orders.

Leach, P., medical inspector, detached from command of the Naval Hospital, Newport, R. I., granted leave for 1 month, and on expiration thereof ordered to command the Naval Hospital, Las Animas, Colo.

Hibbett, C. T., medical inspector, detached from command of the Naval Hospital, Las Animas, Colo., and ordered home to wait orders.

McCormick, A. M. D., surgeon, ordered to duty at the works of the General Electric Company, Schenectady, N. Y.

Hathaway, G. S., P. A. surgeon, detached from the *Cheyenne* and ordered to duty in connection with the fitting out of the *New Orleans* and to duty on board that vessel when commissioned.

Public Health and Marine-Hospital Service

Changes for the seven days ended Oct. 20, 1909:

Kerr, J. W., asst. surgeon-general, and Lavinder, C. H., P. A. surgeon, detailed to represent the Service in a National Conference on Pellagra, to be held in Columbia, S. C., Nov. 3-4, 1909.

Woodward, R. M., surgeon, granted 14 days' leave of absence from Oct. 16, 1909, on account of sickness.

Robertson, H. M., P. A. surgeon, leave granted for 2 months from Oct. 1, 1909, amended to read 2 months from Oct. 4, 1909.

Roberts, Norman, P. A. surgeon, granted 2 days' leave of absence from Oct. 13, 1909, under Paragraph 191, Service Regulations.

Sweet, E. A., P. A. surgeon, Bureau order of Oct. 12, 1909 suspended.

Sweet, E. A., P. A. surgeon, directed to accompany a deported alien leper sailing from New York, Oct. 20, 1909.

Frost, W. H., P. A. surgeon, granted 9 days' leave of absence from Oct. 23, 1909.

Ashford, F. A., P. A. surgeon, Bureau order of Oct. 12, 1909 suspended.

Wollenberg, R. A. C., asst.-surgeon, leave granted for 2 months from Sept. 10, 1909, amended to read 2 months from October 6, 1909.

Kolb, L., asst.-surgeon, relieved from duty at Baltimore, and directed to proceed to the Reedy Island Quarantine Station and report to the Medical Officer in Command for duty and assignment to quarters.

Barnes, W., acting asst.-surgeon, granted 30 days' leave of absence from Nov. 1, 1909.

Bean, L. C., acting asst.-surgeon, granted 5 days' leave of absence from Oct. 23, 1909.

Curley, C. P., acting asst.-surgeon, leave granted for 21 days from Sept. 25, 1909, amended to read 16 days from Sept. 21, 1909.

Delgado, J. M., acting asst.-surgeon, granted 22 days' leave of absence from November 5, 1909.

Fisher, C. E., acting asst.-surgeon, granted 16 days' leave of absence from Oct. 15, 1909.

Gustetter, A. L., acting asst.-surgeon, leave granted for 5 days from Oct. 13, 1909, amended to read 5 days from Oct. 16, 1909.

Kimmet, W. A., acting asst.-surgeon, granted 30 days' leave of absence from Oct. 15, 1909.

Onuf, B., acting asst.-surgeon, granted 4 days' extension of annual leave from Oct. 5, 1909, on account of sickness.

Onuf, B., acting asst.-surgeon, granted 23 days' leave of absence from Oct. 21, 1909.

Wise, A. H., acting asst.-surgeon, granted 15 days' leave of absence from October 16, 1909.

APPOINTMENT

Dr. Clifton R. Wallace, appointed an Acting Assistant Surgeon for duty at Norfolk, Va

RESIGNATION

Acting Assistant Surgeon A. H. Wise, resigned, to take effec Oct. 31, 1909.

BOARD CONVENED

Board of medical officers convened to meet at Seattle, Wash Oct. 16, 1909, for the purpose of examining an alien. Detail fo the board: Passed Assistant Surgeon M. W. Glover, chairman Assistant Surgeon C. W. Chapin; Acting Assistant Surgeon F. B Underwood, recorder.

Health Reports

The following have been reported to the Marine-Hospital Servic during the week ended Oct. 22, 1909:

SMALLPOX—UNITED STATES

District of Columbia: Washington, Oct. 2-9, 3 cases.
Indiana: Fort Wayne, Sept. 18-Oct. 2, 15 cases.
New York: Buffalo, Oct. 2-9, 1 case.
North Carolina: Charlotte, Oct. 1-8, 3 cases.
Ohio: Cincinnati, Oct. 2-9, 1 case; Dayton, 1 case.
Oklahoma, general, Aug. 1-31, 18 cases.
Wisconsin: La Crosse, Oct. 2-9, 1 case.

SMALLPOX—FOREIGN

Canada: Hamilton, Sept. 1-30, 2 cases.
Gibraltar, Sept. 19-26, 2 cases.
India: Calcutta, Aug. 21-Sept. 4, 2 deaths; Madras, Sept. 4-1
  1 death; Rangoon, Aug. 28-Sept. 4, 1 death.
Italy: Genoa, Sept. 1-30, 7 cases; Naples, Sept. 26-Oct. 2, 17 case
  4 deaths.
Java: Batavia, Aug. 21-28, 4 cases, 1 death.
Malta, Sept. 4-11, 2 cases.
Mexico: Veracruz, Sept. 26-Oct. 3, 1 case, 1 death, imported.
Portugal: Lisbon, Sept. 11-25, 13 cases.
Russia: Moscow, Sept. 11-25, 7 cases, 2 deaths; Odessa, Sept.
  25, 2 cases, 1 death; Riga, 2 cases; Warsaw, Aug. 14-28, 2 deat
Spain: Valencia, Sept. 18-25, 1 case; Vigo, 1 death.
Turkey: Smyrna, Aug. 5-Sept. 17, 79 deaths.

YELLOW FEVER

Brazil: Para, Sept. 11-25, 4 cases, 2 deaths.
Ecuador: Guayaquil, Sept. 11-18, 3 deaths.

CHOLERA—INSULAR

Philippine Islands: Manila, Aug. 28-Sept. 4, 8 cases, 6 deaths; Provinces, 201 cases, 114 deaths.

CHOLERA—FOREIGN

China: Hankow, Aug. 21-28, 1 case.
India: Bombay, Sept. 7-14, 22 deaths; Calcutta, Aug. 21-Sept. 4, 10 deaths; Rangoon, Aug. 28-Sept. 4, 3 deaths.
Japan: Kobe, Sept. 6, 3 cases, 1 death.
Korea: Seoul, Sept. 23, present.
Netherlands: Hansweert, Sept. 27-29, 2 cases; Lobik, 1 case.
Russia, general, Sept. 18-Oct. 1, 1,365 cases, 587 deaths; St. Petersburg, 510 cases, 201 deaths.

PLAGUE—INSULAR

Hawaii: Hilo, Sept. 19, 1 case, vicinity.

PLAGUE—FOREIGN

Chile: Iquique, Sept. 8, 2 cases in lazaretto.
Ecuador: Guayaquil, Sept. 11-18, 11 deaths.
India, general, Aug. 21-28, 2,297 cases, 1,811 deaths, Aug. 28-Sept. 4, 2,837 cases, 1,852 deaths; Bombay, Sept. 7-14, 9 deaths; Calcutta, Aug. 21-28, 16 deaths; Rangoon, Aug. 28-Sept. 4, 7 deaths.
Indo-China: Saigon, Aug. 21-Sept. 4, 15 cases, 14 deaths.
Japan: Kobe, Sept. 4-11, 7 cases, 6 deaths.
Peru, general, Aug. 20-27, 16 cases, 12 deaths.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Third Month: "The Exanthemata"—First Weekly Meeting

Anatomy of the Skin

Epidermis, stratum corneum, stratum lucidum, stratum granulosum, stratum mucosum. Corium. Pars papillaris, pars reticularis. Subcutaneous layer. Blood vessels, lymph vessels, muscles, glands, appendages.

Physiology of the Skin

Protective function, heat-regulation, tactile and pain sensations, respiratory and secretory functions, elimination.

Measles (Rubeola)

Period of incubation, mode of infection, duration of infection. Symptoms, period of invasion, prodromal rashes. Eruptive period, character of eruption, varieties of eruption, desquamation. Complications. Throat, larynx, lungs, digestive system, nervous system, ears and eyes.

Prognosis. Age and condition of patient, season, character of epidemic, complications.

Rubella (German Measles)

Symptoms. Period of incubation. Invasion. Eruption, character and variations, desquamation. Diagnosis and differentiation from measles and scarlet fever.

REFERENCE BOOKS FOR THE THIRD MONTH

Welch and Schamberg: Acute Contagious Diseases.
Schamberg: Skin and Infectious Diseases.
Abbott: Hygiene of Transmissible Diseases.
Fox: Smallpox.
Text-books on Pediatrics and on Practice of Medicine.

Treatment of Pellagra.—Acting Assistant Surgeon Moorer (*Public Health Reports*, Oct. 15, 1909) states that he has had during the past five years six cases of pellagra under his observation at the Georgetown, S. C., infirmary. The majority of the cases were in negroes between the ages of 20 and 40. Five patients have completely recovered, the fate of the sixth, who was sent to the state insane asylum being unknown to him. The treatment employed in these cases was strychnin, arsenic and tincture of iron in large and increasing doses, and a strict dietary of two or three quarts of milk with from eight to ten raw eggs a day.

Marriages

David Henry, M.D., to Miss Anna K. Lechell, both of Philadelphia, October 27.

J. D. Leonard, M.D., to Miss Margaret Smith, both of Bristol, Tenn., October 4.

Asbury Hull, M.D., Augusta, Ga., to Miss Martha Miller, of Macon, Ga., October 26.

William B. Shick, M.D., to Miss Mable D. Tully, both of Philadelphia, September 21.

George Connor Trawick, M.D., to Miss Alice Rodes, both of Nashville, Tenn., October 10.

Thomas W. Penrose, M.D., to Miss Esther M. Eastburn, both of Philadelphia, October 9.

Ray Rhinaldo Harris, M.D., Dubuque, Iowa, to Miss Ethel Alice Larkin, of Chicago, October 20.

Al. Edgar Billings, M.D., Topeka, Kan., to Miss Clara A. Jaeger, of Rich Hill, Mo., September 29.

Fletcher J. Wright, M.D., Fork Union, Va., to Miss Anne Davis Seay, at Blackstone, Va., October 14.

A. Gazab, M.D., Cairo, Egypt, to Nellie Christine Hameister, M.D., of Kirkwood, Mo., October 25.

Smith Hamill Horne, M.D., Philadelphia, Pa., to Mrs. Caroline S. Reed, of Wayne, Pa., October 14.

William Melvin Ruckle, M.D., Grand Rapids, Wis., to Miss Olive Bemis, of Neenah, Wis., October 12.

Roy Ernest Seitz, M.D., Musselshell, Mont., to Miss Rosa Waters Ridgely, of Washington, D. C., October 7.

Archibald Eastwood Chace, M.D., Tarrytown, N. Y., to Miss Ruth Lombard, of Nyack, N. Y., October 16.

Leo L. C. Lemoine, M.D., St. Louis, Mo., to Miss Kate Zimmer, of Waterloo, Ill., at Clayton, Mo., October 3.

W. L. DuBois, M.D., Towner, N. D., to Miss Mayme L. Dougherty, of Rockwell City, Iowa, September 30.

Charles Wallace Edmunds, M.D., Ann Arbor, Mich., to Miss Lillian Virginia Kaminski, of Richmond, Ind., September 15.

Deaths

Randal R. Hunter, M.D. Jefferson Medical College, Philadelphia, 1876; of Fulton, Kan.; a member of the American Medical Association; gold medalist of the Howard Association of Memphis, Tenn., 1878; a member of the Association of Military Surgeons of the United States; acting assistant surgeon U. S. Army, and major and brigade surgeon U. S. V., during the Spanish-American War, with service in Cuba; city chemist and a member of the Board of Health of Kansas City, Mo., from 1887 to 1894; emeritus professor of chemistry in the University Medical College of Kansas City; died in Hot Springs, Ark., October 13, from paralysis, aged 54.

Lewis Albert McFadden, M.D. Kentucky School of Medicine, Louisville, 1881; a member of the American Medical Association, and vice-president of the Peoria (Ill.) Medical Society; a member of the staff of St. Francis Hospital, Peoria; formerly physician of Peoria county and a member of the city board of health; chairman of the local board of U. S. pension examining surgeons; in 1896 elected alderman, and in 1901, appointed health commissioner; in 1886, alderman of Aurora, Texas, and afterward postmaster of Virginia, Mo.; died at his home October 16, from cancer of the intestine, aged 61.

Leonard Pearson, B.S.; V.M.D.; M.D. (Hon.) University of Pennsylvania, Philadelphia, 1907; of Philadelphia; dean of the Department of Veterinary Medicine in his alma mater; formerly state veterinarian of Pennsylvania; and a member of the Pennsylvania Live Stock Sanitary Board; a member of the department of the health of the State of Pennsylvania and the board of health of Philadelphia; one of the foremost exponents of preventive veterinary medicine; died suddenly in Spruce Creek, New Foundland, September 20, aged 41.

William Hudson Pitt, M.D. University of Buffalo, N. Y., 1879; for eighteen years professor of physics in the Buffalo High School; in 1881 and 1882, state analyst of foods and drugs; and in 1884 appointed professor of chemistry and physics in Niagara University; a biologist and chemist occupying a commanding position among the scientists of the country; died at his home in Friendship, N. Y., July 11, aged 78.

William A. Gordon, M.D. Rush Medical College, Chicago, 1869; of Winnebago, Wis.; a member of the State Medical Society of Wisconsin; a veteran of the Civil War; for fifteen years superintendent of the Northern Hospital for the Insane, Oshkosh; an eminent physician, distinguished alienist, and brilliant scholar; died in the Chicago Hospital, October 12, from hemorrhage, due to a carcinoma of the bladder, aged 62.

James L. Mounts, M.D. Starling Medical College, Columbus, Ohio, 1856; a member of the American Medical Association; surgeon of the Thirty-first and One Hundred and Forty-fourth Ohio Volunteer Infantry during the Civil War; state senator in 1879; surgeon to the Panhandle and Columbus and Hocking Valley railroads; died at his home in Morrow, Ohio, October 21, aged 78.

Joseph Lewis Snively, M.D. Jefferson Medical College, Philadelphia, 1877; a member of the American Medical Association and Cumberland Valley Medical Association; president of the Medical Society of Franklin County, Pa., in 1901; and afterward district censor for Franklin county; died at his home in Shady Grove, Pa., October 14, from typhoid fever, aged 58.

George Clark McNett, M.D. New York University, New York City, 1881; a member of the American Medical Association; local surgeon for the Delaware, Lackawanna and Western Railroad; for several years chief surgeon of the State Soldiers' Home, Bath, N. Y.; died in that place, October 15, from disease of the kidney, aged 52.

Lafayette Shoemaker, M.D. Kentucky School of Medicine, Louisville, 1893; a Confederate veteran; a member of the State Medical Association of Texas; and formerly vice-president of the Choctaw County (Ala.) Medical Society; a practitioner for more than thirty-five years; died at his home in Axtell, September 23, aged 68.

Lewis Henry Bodman, M.D. College of Physicians and Surgeons, New York City, 1863; a member of the American Medical Association; consulting physician to St. Vincent's and the Toledo Hospital, Toledo, Ohio; a medical cadet in the Federal service during the Civil War; died at his home, October 18, aged 69.

Alexander Macnab, M.D. University of Aberdeen, Scotland, 1861; a member of the Iowa State Medical Society; assistant surgeon of the Twelfth Missouri Volunteer Infantry during the Civil War; died at the home of his son in Rock Rapids, Iowa, July 28, from cerebral hemorrhage, aged 74.

Maurice John Stack, M.D. University of Georgetown, Washington, D. C., 1876; for thirty-three years assistant superintendent of St. Elizabeth's Hospital, the Government Hospital for the Insane, Washington; died in that institution, October 17, from cancer of the throat, aged 55.

Thomas Keefe, M.D. Cooper Medical College, San Francisco, 1882; for many years a practitioner of Snohomish, Wash.; and a member of the Snohomish County Medical Society; died suddenly at his home in Georgetown, Wash., January 3, from heart disease, aged 71.

Henrietta Payne Westbrook, M.D. Woman's Medical College of Pennsylvania, 1880; of Philadelphia; president of the Health Protective Society and the Woman's Press Club of Philadelphia; died at her summer home in Burrillville, R. I., October 16, aged 74.

Rebecca Cooper Hallowell, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1878; formerly a medical missionary to the Indians in Southern California; died at her home in Haddonfield, N. J., October 12, from heart disease, aged 77.

Josiah M. Thompson, M.D. Jefferson Medical College, Philadelphia, 1875;; a veteran of the Civil War; and once president of the federal board of pensions of Kansas; died at his home in Kansas City, Kan., October 11, from bronchitis, aged 66.

Nova William Wingo, M.D. University Medical College of Kansas City, Mo., 1892; formerly of Harris, Mo.; died in his office in Chillicothe, Mo., October 11, from the effects of carbolic acid, self-administered, it is believed with suicidal intent, aged 45.

Ralph A. Polly, M.D. Memphis (Tenn.) Hospital Medical College, 1902; of Rogers, Texas; a member of the State Medical Association of Texas; died in a hospital in Temple, Texas, August 21, after an operation for the removal of gall-stone, aged 36.

John Williams (license, Ind., 1897); for more than sixty-five years an Eclectic practitioner of Clay county, Ind.; a veteran of the Civil War; died at the home of his daughter, near Bowling Green, October 4, from senile debility, aged 97.

William Joseph Dodd, M.D. Bellevue Hospital Medical College., New York City, 1865; surgeon on the U. S. Army Hospital Steamer *Deford*, during the Civil War; died at his home in Jersey City, N. J., October 20, from senile debility, aged 79.

Edmund B. Mosher, M.D. Louisville (Ky.) Medical College, 1871; surgeon of the One Hundred and Seventy-Second Ohio Volunteer Infantry during the Civil War; died at his home in Columbus, Ohio, October 11, from disease of the liver, aged 71.

Solomon Apfel, M.D. University of Lemberg, Austria, 1871; once a member of the Austrian Chamber of Deputies; and mayor of Kolboszzawa, Austria; died at his home in Brooklyn, N. Y., October 16, from paralysis, aged 65.

Milton Homer Collins, M.D. University of Tennessee, Nashville, 1884; a member of the Medical Society of the State of Alabama; died at his home in North Birmingham, October 16, from cerebral hemorrhage, aged 51.

Hammond Hampton Garner, M.D. University of Maryland, Baltimore, 1902; of Lake Toxaway, N. C.; surgeon of the steamer *Dextero*; died in the City Hospital, Santos, Brazil, South America, in July, aged 31.

William Levi Fleming, M.D. Missouri Medical College, St. Louis, 1868; a member of the Shelby County (Ill.) Medical Society; died at his home in Shelbyville, October 10, from disease of the lungs, aged 74.

Abram Canfield (license, Minn., exemption certificate, 1883); for forty-three years a practitioner of Sauk Center, Minn.; died at the home of his son in that city, October 7, from senile debility, aged 87.

Joseph Saunders, M.D. Indiana Medical College, Indianapolis, 1874; for twenty years president of the Madison County, Ind., Farmers' Insurance Company; died at his home near Anderson, recently, aged 60.

James McGuire, M.D. New York University, New York City, 1857; formerly a member of the Medical Society of the State of North Carolina; died at his home in Mocksville, August 21, aged 80.

Frederick B. Williamson, M.D. Starling Medical College, Columbus, Ohio, 1888; a member of the Ohio State Medical Association; died at his home in Massillon, October 14, from pneumonia, aged 44.

Frank R. Calhoun, M.D. Medical College of the State of South Carolina, Charleston, 1867; for four years a surgeon in the Confederate service; died at his home in Cartersville, Ga., October 15, aged 74.

Alfred Swift Houghton, M.D. College of Physicians and Surgeons, New York City, 1880; for several years connected with the New York civil service; died at his home in St. Albans, Vt., July 29.

Charles Willard Pierce, M.D. Harvard Medical School, Boston, 1900; a member of the American Medical Association; died at his home in Allston, Boston, October 9, from typhoid fever, aged 37.

William Newton Rand, M.D. University of Vermont, Burlington, 1883; examiner in lunacy; died at his home in Binghamton, N. Y., September 25, from cerebral hemorrhage, aged 50.

Roger Button Smith, M.D. Hospital College of Medicine, Louisville, 1897; of Orchardville, Ill.; is said to have committed suicide, by gunshot wound, at his home, October 16, on account of domestic troubles, aged 37.

Jacob Goldstein, M.D. Bellevue Hospital Medical College, 1895; of New York City; died in Mount Sinai Hospital, October 13, from acute yellow atrophy of the liver.

Joseph W. Davenport., M.D. Medical College of the State of South Carolina, Charleston, 1848; of Tyler, Texas; died at the home of his daughter in that place, October 14, aged 84.

John W. Alford, M.D. Eclectic Medical Institute, Cincinnati, 1875; a veteran of the Civil War; of Mullinville, Kan.; died in a hospital in Hutchinson, Kan., October 11, aged 67.

George T. Snode, M.D. Starling Medical College, Columbus, Ohio, 1888; a member of the Ohio State Medical Association; died at his home in Sarahsville, October 13, aged 51.

Villanovia Mason Burdick, M.D. University of Vermont, Burlington, 1887; died at his home in Dexter, Maine, August 23, from cancer of the stomach, aged 57.

Oliver Henry Reiley, M.D. St. Louis University, School of Medicine, 1906; died at his home in Red Oak, Iowa, September 12, from acute gastritis, aged 27.

James B. Statler (years of practice, Pa.); for thirty-five years a practitioner of New Paris, Pa.; died at his home, September 27, from dysentery, aged 65.

William H. Mann, M.D. Atlanta (Ga.) Medical College. 1892; of Glennville, Ga.; died in Savannah, October 17, from septicemia, due to a carbuncle, aged 43.

William Ramsey, (license, years of practice, Ohio); for fifty-seven years a practitioner of Delta; died at his home in that place, October 10, aged 82.

M. H. Christian (license, Ill.); for many years a practitioner of Camargo, Ill.: died at his home in Summit township, near Effingham, October 8.

Abram Duane Salisbury, M.D. University of Michigan, Ann Arbor, 1865: died at his home in Midland, Mich., October 16, from septicemia.

Oswald Edward Jacob Kauffman, M.D. Tulane University, New Orleans, La., 1905: died at his home in Plaisance, La., October 8, aged 26.

David Hamilton, M.D. Queen's University, Kingston, Ont., 1862; of Batavia, N. Y.; died in the Batavia Hospital, October 8, aged 70.

William Rhea Douthit, M.D. Vanderbilt University, Nashville, 1892; died at his home in Louisville, Tenn., October 16, aged 48.

Harry B. Pleasants, M.D. Medical College of Virginia, Richmond, 1879; died at his home in Hollins, Va., October 15, aged 54.

Barbara Albrecht, (license, Ohio, ten years practice, 1896); died at her home in Cincinnati, March 28, from diabetes, aged 74.

Sara Jane Williams (license, Mass., 1894); died in Boston, Mass., Sept. 27, 1908, from general paresis, aged 67.

W. J. Trent, (license, N. C.); died at his home near Earl, August 1, aged 76.

Society Proceedings

COMING MEETINGS

Hawaiian Territorial Medical Society, Honolulu, November 19.
Medical Association of the Southwest, San Antonio, Tex., Nov. 9-11.
Ohio Valley Medical Association, Evansville, Ind., November 10-11.
Southern Medical Association, New Orleans, November 9-11.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Thirty-Fifth Annual Meeting, Held at St. Louis, Oct. 12-14, 1909

(Continued from page 1419)

Tuberculous Toxemia in Surgery

DR. ALEXANDER C. WIENER, Chicago: In this paper I present the following therapeutic conclusions: 1. Obstruction of the respiratory organs which curtail the intake of air are to be removed by the nose and throat surgeon. Too much stress cannot be laid on the removal of enlarged tonsils and adenoids by the skilled operator. Other anomalies, such as phimosis, should be remedied. 2. Mechanical treatment should be undertaken to correct all deformities of the skeleton, particularly he spine and chest. Children and adults who begin to develop round shoulders, with the subsequent hollows below and above he clavicles, need urgent treatment. It is harmful to advise the wearing of apparatus for support during the growing period. Braces should be discarded as therapeutic agents in he treatment of deformities of the spine due to rickets. nstead, the treatment should consist of: (a) Complete mobilization of all the intervertebral and vertebro-costal joints. (b) Correction of deformities of the vertebra and ribs. (c) active and passive exercise of the respiratory muscles, including the diaphragm.

DISCUSSION

DR. F. M. POTTENGER, Monrovia, Cal.: The more we study he infection in tuberculosis the more we come to the conclusion that infection takes place in a great number of people early in life, and that most of us go through life with at least quiescent foci of tuberculosis within our bodies. These quiescent foci are not always negative and they do produce symptoms which have not been generally recognized. Toxemia in young neurasthenic school girls in my opinion is undoubtedly due to latent foci of tuberculosis and I have seen a number of such patients recover after treatment for tuberculosis.

Elements of Success in Surgical Work

DR. A. H. CORDIER, Kansas City, Mo.: 1. The field of surgery is a vast one and is best covered by the specialist in some of its departments, the eye and the ear especially. 2. Surgery and medicine should go hand in hand in the treatment of border-line cases, but should be divorced in the strictly surgical or strictly medical cases. 3. The selection of a surgeon for a given case should be from no other standpoint than that of his recognized ability. 4. A surgical operation should be performed as quickly as possible, consistent with good and completed technic. 5. All unnecessary and rough handling of important tissues and organs should be avoided. 6. Careful short anesthesia will help to keep the death-rate low. 7. Careful hemostasis with proper ligature material is an important element in successful surgery. 8. Thorough aseptic technic should be carried out and may be obtained either with or without rubber gloves and mask. 9. Lawn-tennis suits and gloves are only too often the avenues leading to wound infection. 10. Short postgraduate courses instill false surgical confidence and lead to many surgical disasters. 11. Honesty and sincerity should ever be the keynote in deciding as to the advisability of performing any surgical operation. 12. Mental tranquillity of the patient is of much importance preceding the performance of some surgical operations.

DISCUSSION

DR. H. HENRY CARSTENS, Detroit: No one has a right to practice surgery, and especially abdominal surgery, unless he has been an assistant for at least one year with some first-class surgeon, in a hospital where he has seen hundreds of operations and has witnessed the troubles, trials and complications that are encountered. Educated people know and find out who are the good surgeons. The general practitioner ought to know who is a good surgeon and ought not to trust everyone to perform operations which are attended with great danger to life.

DR. M. C. MCGANNON, Nashville: I am not willing to admit that surgical work of the pioneer was as good as that which is being done to-day. The enthusiasm of youth leads many a recent graduate to rush into the field of large surgery where he had better keep out until better trained. But how are we to stop that? It is the duty of this and other societies to adopt such measures as will prevent enthusiastic young men from rushing into a field of work that they cannot fill. Many of us have seen disasters following the surgical work of inexperienced men.

DR. CHANNING W. BARRETT, Chicago: Surgery has come to occupy a large place in the world, and it is our business as members of the medical profession to see that our surgical work is made just as successful as possible. The time has gone by when a man can plunge into surgical work and kill patients in order to learn how to do surgery. The opportunities for learning surgery now are too great and too cheap to permit of inexperienced men operating, and surgeons are only too willing to train those who wish to become surgeons.

Conditions Simulating Surgical Diseases

DR. M. C. MCGANNON, Nashville: It is not often that a surgeon is called on to reverse a diagnosis of chronic peritonitis in favor of spinal neurosis of traumatic origin, and yet such was my experience a few months ago. Cases of appendicitis have been on many occasions confounded with pleurisy and pneumonia. Many authors have called attention to the fact that pain associated with pneumonia and pleurisy, especially in children, may, if referred to the abdomen, and, if right-sided, occasion a diagnosis of appendicitis. Two such cases have been referred to me for operation, in which appendicitis was so closely simulated as to deceive good practitioners.

DISCUSSION

DR. EDWIN WALKER, Evansville: I am reminded of a case in which a man had locomotor ataxia, and the proposition was made to operate on him for gall-stones. The patient afterward fell into the hands of a surgeon who operated for gall-stones, but no stones were found. This man subsequently died of acute pneumonia and from an extension of the ataxia.

Dr. J. Henry Carstens, Detroit: Two years ago a woman was brought to me with large fibroid tumors. She had been vomiting for three weeks off and on and could not sleep. I ran my finger over the clavicle and over the tibiæ, gave her one-quarter of a grain of bichlorid of mercury hypodermically every day, and in four or five days she was able to sleep well, the vomiting ceased and the fibroids had nothing to do with those symptoms. I saw a man who was supposed to have had gall-stones. I looked at his tongue, saw a blue line along the edge of it, and said to him: "You are a painter, are you not?" And he replied, "Yes, sir." I told him he was not suffering from gall-stones, but from lead poisoning.

Dr. J. R. Eastman, Indianapolis: The general practitioner and internal medicine man ought to be educated along these lines. I went with two competent physicians in the summer in the country to examine a little girl whose case was diagnosticated as appendicitis. A mass had been described as present in the right groin. The little girl was 11 years of age, and these physicians considered it a clear case of appendicitis. While I sat at the bedside she took her handkerchief, expectorated profusely, and it proved to be tuberculosis.

Dr. Richard A. Barr, Nashville: I was called to the country a year ago to operate for appendicitis, the operation having been delayed for a number of days. On examination, I decided that this patient did not have appendicitis, but typhoid, and was able to persuade the attending physician that I was correct, and no operation was done. I took some of the patient's blood with me, had it examined; a Widal reaction was made, which proved to be negative.

Dr. William B. Burns, Memphis: I have seen some cases presenting symptoms of appendicitis which were as positive as we usually see them, but examination of the blood showed the presence of malarial parasites and hypodermic injections of quinin in four hours removed all the symptoms.

Various Operative Technics for Dislocated Kidney and Indications for Their Application

Dr. E. Harlan, Cincinnati, reviewed the work and opinions of various surgeons on dislocated kidney and said that operative cases of dislocated kidney may be summed up as follows:

1. Cases presenting periodical crises: (a) chronic recurent headaches and other nervous surcharges; (b) gastrointestinal; (c) renal; (d) hepatic; (e) appendiceal; (f) various bladder and pelvic symptoms.
2. Pathologic kidney: (a) albuminuria (postural); (b) hydronephrosis (recurrent).
3. Insanity (Suckling).
4. Persistent lumbar dragging or colonic backache which is unrelieved by medicinal treatment or by the use of an abdominal elastic.
5. Dependent pathology: (a) appendiceal irritation, congestion or inflammation; (b) stricture or partial occlusion of the bowel or bile tract; (c) adhesions, (e) ptosis or ulcer of the stomach.

He tabulated the operative steps and measures which have been employed in fixation of the kidney from the time of the first operation by Dowell, of Galveston, Texas, in 1874, to the present, including a description of the technic as used by the most prominent authorities in this work at the present time, with a discussion of the merits of the several methods and their application. He ascribed the operation of posterior nephropexy to Hahn and presented the evolution of its many modifications with the probable cause or suggestion which give rise to each. Lateral nephropexy he said belongs to M. L. Harris of Chicago. He described anterior nephropexy as first exploited by himself as well as the modification of the latter by Bishop, of Manchester, England. He also gave a summary of the methods of operating for dislocated kidney.

He predicted that in the near future all posterior operative procedures and all operations intended to "fix" the kidney would become obsolete, and only those methods applied which relieve and replace an obstructed ureter, eliminate the pocket and support the kidney at its lower pole while making sufficient correction of a disabled peritoneum to prevent either the upper or lower pole of the kidney from protruding into the peritoneum or bowel.

(To be continued)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANI

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(Continued from page 1425)

SYMPOSIUM ON PULMONARY TUBERCULOSIS

The Early Diagnosis of Pulmonary Tuberculosis

Dr. Charles H. Miner, Wilkes-Barre, Pa.: Of 272 members of 157 families of tuberculous patients attending th state tuberculosis dispensary No. 1, in Wilkes-Barre, 180 o 66 per cent. were found to be tuberculous. Of those examine for signs of obstructed respiration, 50 cases of adenoids an enlarged tonsils were found, and 35 of these patients hav been operated on at the dispensary. To diagnose tuberculosi in its real incipience we must look for it during infancy an childhood, localized in the lungs and bronchial glands. Th time for making an early diagnosis in adults is when renewe activity first takes place or there has been a reinfection fron without.

The Roentgen-Ray Diagnosis of Pulmonary Tuberculosis

Dr. Charles Lester Leonard, Philadelphia: This metho of diagnosis is of distinct value in adding to and confirmin the findings made by other methods of physical diagnosis an in obtaining mechanically a permanent record of the conditio present. To obtain the necessary detail and to eliminat motion in the lungs, due to respiratory movements and th heart's pulsation, exposures of one-quarter of a second ar essential. The method is valubale in the early stages of pulmonary tuberculosis in adding data by which the diagnosis i rendered certain. Localized empyemata can be differentiate from dilated and occluded bronchi and pyothorax and pneumothorax of slight extent can be found, while periodical thickenings and effusions, whether of tuberculous or other origin, ar clearly seen. The relative height of the diaphragm is a unreliable index of the capacity of the lungs, since variation in the positions of the mediastinal viscera affect their relative capacity. This method has also shown that calcificatio of the sternocostal cartilages is a comparatively frequen accompaniment of pulmonary tuberculosis and may involv all the cartilages.

Tuberculosis of the Lungs Without Cough or Expectoratio

Dr. Joseph P. Walsh, Philadelphia: The paper is a repor of 13 new cases and 442 cases from the literature of tuberculosis of the lungs without cough or expectoration, and genera statistics on the frequency of this occurrence. Since tuberculosis of the lungs can be readily diagnosed, according t German and American statistics in at least 5 per cent. o cases before cough and expectoration begin, it is importan not only not to wait for the discovery of tubercle bacilli i the expectoration, but also not even for cough or the expectoration itself.

The General Practitioner and the Incipient Case of Pulmonar Tuberculosis

Dr. Arthur A. Watkins, St. Benedict: A distressingl large number of physicians either hesitate to make a diagnosi of an early case or are unable to recognize it. In rural districts the number of tuberculous patients receiving moder treatment is incredibly small. The average family physicia does not make a diagnosis until the physical signs are wel advanced (Trudeau). Thus in incipient cases the patients ar neglected and inadvertently imposed on. It is probable tha the average family physician has from 25 to 100 cases of pulmonary tuberculosis among his patients.

The Prognosis in Advanced Pulmonary Tuberculosis

Dr. William B. Stanton, Philadelphia: The majority o patients who apply for treatment to the general practitione are in advanced stages. Believing that good results ar obtained only in incipient cases, the treatment is not pursue with the optimism and enthusiasm that should characterize i Large left-sided lesions often admit of a guardedly favorabl prognosis, while large right-sided lesions do not.

Discussion on Pulmonary Tuberculosis

Dr. Edgar M. Green, Easton: I believe that the fault in diagnosticating tuberculosis lies not so much in the lack of ability as in the lack of thorough examination. One thing of considerable help in the diagnosis of early cases is the knowledge that at times the bacilli are present in the urine when there is no expectoration. In one case there was occasional rise of temperature and a careful examination showed a very small focus in the upper portion of the left lung. There was absolutely no cough and there was no other symptom. I believe these cases in which there is no cough are much more frequent than we think.

Dr. Arthur A. Watkins, St. Benedict: I do not agree with Dr. Green that the fault is due to negligence of the profession. In a recent tuberculosis exhibit in our town, of eleven patients with tuberculosis the physicians who were present would admit that only one had the disease, and in this one the condition was far advanced and a cavity was present.

SYMPOSIUM ON THE CIRCULATION

Importance of Considering the Arterial and Venous Systems in Cardiac Diseases

Dr. Hobart Amory Hare, Philadelphia: Changes in the blood-vessels can be roughly divided for clinical purposes into three great classes, namely, far advanced atheromatous change with calcareous deposits and associated destructive disease of the intima; fibroid change in which the most important lesion is an arteriocapillary fibrosis; vascular spasm whereby the elasticity of the vascular walls is impaired almost as much as when an actual organic lesion is present. While I am aware of the fact that the morbid anatomist may criticise this classification, I hold the opinion that the class of cases characterized by calcareous change with breaking down of the intima is quite a different type of disease from that characterized primarily by spasm and later by spasm and arteriocapillary fibrosis. It is exceedingly rare, in my experience, to meet with marked calcareous change or brittleness in the arterial system of the well-to-do or upper class, and comparatively rare to find high tension due to spasm and fibrosis in the working classes. Hard manual labor does not cause the same arterial changes that are caused by hard mental labor and nervous stress. This is all the more interesting because of the abuse alcohol and syphilitic infection, the two great causes of arterial disease, may be considered to exert an equal or nearly equal influence in both classes. The deduction from these facts, so far as treatment is concerned, is that when calcareous change is well developed little can be done for the relief of the patient; whereas, in the latter type, a good deal can be done, the degree of good depending, of course, on the severity of the lesions in each instance. The recognition of the underlying vascular state, altered by actual illness, is of the utmost importance in prognosis, and of even greater value from the standpoint of therapeutics. Nor is it safe to be content with the examination of one vessel in determining the general arterial state. Aside from the chronic and persistent manifestations the importance of studying vascular changes in acute illnesses is of overwhelming importance. How futile it is to stimulate a heart which is pumping against a high pressure in narrowed and tortuous vessels unless we simultaneously relieve it of some of its labor by reducing that pressure by the nitrites. To give digitalis under these circumstances, in the face of high tension, is equivalent to giving a horse an extra meal and then doubling his load.

Blood-Pressure Past Middle Life in Diagnosis, Prognosis and Treatment

Dr. Joseph H. Barach, Pittsburg: This paper is based on blood-pressure studies with the Erlanger sphygmomanometer, in a series of over seventy males, and includes observations and deductions as to the value of the study of the blood-pressure past middle life in diagnosis, prognosis and treatment. A chart of blood-pressure readings in normal individuals from the age of 10 to 90 years showed that with the advance of life the blood-pressure seems to rise steadily. At the age of 40 the blood-pressure was 115, at 60 it was 135 and at 80 it was 150. With these figures as a medium normal, 20 mm. above or below represents the limit of the normal range under any circumstances; figures beyond that were always associated with something pathological. In treatment the greatest effect comes with the regulating of the patient's mode of living. As accessory measures the various depressor drugs are to be used cautiously.

Analysis of Sixty-two Cases Exhibiting the Xiphisternal Crunching Sound

Dr. Myer Solis Cohen, Philadelphia: An analysis of 62 cases is presented showing this sound, which I described in 1903. While usually heard over the ensiform cartilage and the lower end of the gladiolus, the limits at which the sound was sometimes heard was the third rib, above the anterior axillary line and one and a half inches to the right of the sternum. The sound usually was increased when the patient leaned forward and diminished when he lay. In some cases it was loudest during inspiration; in others at the end of this act; in still others at the end of expiration. In many instances it was not affected by the breathing. The great majority of the cases were males, white, and between the ages of 20 and 70. All occupations were represented. In absence of autopsies, the nature of the sound is a matter merely of speculation. Apparently it has little significance. It is consequently important not to mistake the sound for a murmur or a pericardial friction.

Discussion on Circulatory Diseases

Dr. James M. Anders, Philadelphia: In these cases it is important to detect the degree of loss of elasticity of the arterial walls, the degree of sclerosis, and to carefully differentiate that for the sake of treatment from rise of blood-pressure. It is also important to estimate the loss of vasomotor tonus of the arterial walls. These arterial changes are commonly associated with cardiac affections, and it must be remembered that they may predominate in certain portions of the body. The indications for treatment must necessarily vary according to the particular changes. The great difficulty I find is that students and physicians are apt to overlook the fact that these changes are not necessarily disseminated throughout the body, but confined principally to certain portions of the economy. It is also important to detect the lack of elasticity in the veins and the degree of vasomotor tonus of the venous walls. As in the case of the arteries, so with the veins the impediment to the centripetal flow of the blood may be general, or it may be localized to certain portions of the body. The aspirating forces within the thorax must be carefully estimated in the given case. I refer especially to the inspiratory effort in breathing. I agree with Dr. Barach that a rise of blood-pressure is important for diagnosis and that it enables us to make a better prognosis. In arterial sclerosis affecting principally the smaller arteries a rise of blood-pressure is a most important early symptom.

Dr. Edgar M. Green: Dr. Hare spoke of the large element of nervousness in many of the cases of arteriosclerosis. I have been surprised to find that it might be said to be a temperamental condition. I have found that patients who do not relax are more subject to this disease than others. I have seen more patients with arteriosclerosis who did not have syphilis, or who were not alcoholics, than those with these conditions, and yet in almost all this certain neurotic condition was present in a marked degree.

Dr. H. A. Hare: We must recognize that the term sclerosis is rather objectionable to modern pathologists; it is not sufficiently definite. It is true that in a large number of cases there is sclerosis in the sense that there is thickening of the vessels, either because of fibroid change or calcareous deposit. It is also true that in a large number of cases it is not so much actual fibrosis or sclerosis or atheromatous change as it is spasm. It is important to recognize the degree of spasm because in direct proportion to its recognition can we employ therapeutic measures with success and in direct proportion to the degree of sclerosis or actual fibrosis or atheroma can we employ remedies with failure. If there is one important point which we have learned from our studies of pathology in recent years it is that there is a limit to therapeutic usefulness.

(To be continued)

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, November 9. Sec., Dr. F. T. Murphy, Brinkley.
CONNECTICUT: Homeopathic, New Haven, November 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.
CONNECTICUT: Regular, City Hall, New Haven, November 9-10. Sec., Dr. Charles A. Tuttle, 196 York St.
FLORIDA: Jacksonville, November 10-11. Sec., Dr. J. D. Fernandez.
LOUISIANA: Homeopathic, New Orleans, November 1. Sec., Dr. Gayle Aiken, 1102 St. Charles Ave.
MAINE: Portland, November 9-10. Sec., Dr. Frank W. Searle, 806 Congress St.
MASSACHUSETTS: State House, Boston, November 9-11. Sec., Dr. E. B. Harvey, Room 159, State House.
NEBRASKA: Senate Chamber, State House, Lincoln, November 10-11. Sec., Dr. E. Arthur Carr, 141 South Twelfth St.
NEVADA: Carson City, November 1. Sec., Dr. S. L. Lee.
TEXAS: Levy Bldg., Greenville, November 9-11. Sec., Dr. M. E. Daniel, Honey Grove.
WEST VIRGINIA: Chancellor Hotel, Parkersburg, November 9-11. Sec., Dr. H. A. Barbee, Point Pleasant.

Texas Reciprocity Report

Dr. M. E. Daniel, secretary of the Texas State Board of Medical Examiners, sends us a report of those licensed by that board through reciprocity since Jan. 1, 1909. The following colleges were represented:

College	Year Grad.	Reciprocity with
LICENSED THROUGH RECIPROCITY		
University of Southern California	(1908)	Illinois
Chicago Homeopathic Medical College	(1898)	Illinois
Illinois Medical College..(1901) Indiana, (1903)	(1907)	Illinois
Chicago College of Medicine and Surgery	(1908)	Illinois
American College of Medicine and Surgery*	(1905)	Illinois
Northwestern University Med. School, (1904)	(2, 1908)	Illinois
College of Physicians and Surgeons, Chicago .....(1897) West Virginia; (1903) (2, 1902)	(1907)	Illinois
Rush Medical College......(1881) Minnesota;	(1906)	Illinois
Medical College of Indiana	(——)**	Illinois
University of Iowa, College of Medicine	(1902)	Iowa
Keokuk Medical College, College of Physicians and Surgeons........(1901) (1902) Illinois;	(1905)	Indiana
Physio-Medical College of Indiana	(1890)	Michigan
Kentucky School of Med...(1896) W. Virginia;	(1908)	Kentucky
University of Louisville..(1889) Kentucky; ....(1908)	(1893)	W. Virginia
Hosp. Coll. of Med., Louisville..(1897) Illinois;	(1904)	Kentucky
Baltimore Medical College..(1897) W. Virginia;	(1903)	Maryland
Johns Hopkins University	(1898)	Missouri
University of Maryland	(1906)	Maryland
College of Physicians and Surgeons, Baltimore ....(1893) Virginia;	(1901)	New Jersey
University of Michigan	(1903)	Indiana
University of Minnesota	(1899)	Minnesota
Barnes Medical College..(1898) (1904) (1905)	(1907)	Missouri
Homeopathic Med. College of Missouri..(1883)	(1907)	Missouri
University of Missouri	(1908)	Missouri
St. Louis College of Physicians and Surgeons	(1897)	Missouri
American Medical College, St. Louis	(1907)	Missouri
Kansas City Medical College	(1899)	Missouri
Eclectic Medical College of New York	(1900)	New Jersey
University of Nebraska	(1903)	Nebraska
Omaha Medical College	(1902)	Nebraska
Dartmouth Medical School	(1900)	New Hamp.
Eclectic Medical Institute, Cincinnati	(1906)	Ohio
Medical College of Ohio	(1885)	Nebraska
University of Pennsylvania.(1899) W. Virginia;	(1908)	Maryland
Jefferson Medical College	(1907)	Maryland
Meharry Medical College	(1890)	Illinois
University of Tennessee	(1901)	Missouri
University of the South	(1905)	Maine
Vanderbilt University	(1900)	Missouri
University of Virginia	(1899)	Dist. Colum.
Milwaukee Medical College	(1905)	Wisconsin
University of Palermo, Italy	(1886)	Illinois

* Name changed to Chicago College of Medicine and Surgery in 1907.

** Year of graduation not given.

Nebraska August Report

Dr. E. Arthur Carr, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, Aug. 10-11, 1909. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 7, of whom 6 passed and 1 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Northwestern Univ. Medical School..(1875) 75;	(1909)	92
University of Maryland	(1909)	87.1
Woman's Medical College of Pennsylvania	(1908)	84.7
Jefferson Medical College..........(1906) 79.5;	(1909)	80
FAILED		
Barnes Medical College	(1909)	68.1

Missouri May and June Reports

Dr. J. A. B. Adcock, secretary of the Missouri State Board of Health, reports the written examinations held at Kansas City, May 17-19, and at St. Louis, June 7-9, 1909. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75.

At the examination held at Kansas City, May 17-19, the total number of candidates examined was 78, of whom 51 passed and 27 failed. The following colleges were represented:

College	Year Grad.	Total No. Exam'd.
PASSED		
Northwestern University Medical School	(1903)	1
College of Physicians and Surgeons, Chicago	(1908)	1
Drake University	(1889)	1
University of Kansas..............(1908)	(6, 1909)	7
University of Michigan	(1907)	1
University of Missouri	(1909)	2
St. Louis University	(1906)	1
Ensworth Medical College	(1909)	6
Univ. Med. Coll., Kansas City....(2, 1908)	(17, 1909)	19
Barnes Medical College	(1909)	4
Washington University	(1908)	1
St. Louis College of Physicians and Surgeons	(1909)	3
Creighton Medical College	(1908)	1
Jefferson Medical College	(1908)	1
Vanderbilt University	(1909)	1
Meharry Medical College	(1909)	1
FAILED		
University of Kansas.................(1906)	(1908)	2
Maryland Medical College	(1902)	1
Detroit College of Medicine	(1908)	1
St. Louis College of P. & S.....(1901) (1908)	(1909)	3
University Med. Coll. Kansas City..(3, 1908)	(9, 1909)	12
Ensworth Medical College...........(1908)	(2, 1909)	3
Barnes Medical College	(1909)	1
Meharry Medical College.....(1907) (2, 1908)	(1909)	4

At the examination held at St. Louis, June 7-9, 1909, the total number of candidates examined was 144, of whom 111 passed and 33 failed. The following colleges were represented:

College	Year Grad.	Total No. Exam'd.
PASSED		
Georgia College of Electic Medicine and Surgery	(1904)	1
Rush Medical College...............(1874)	(2, 1908)	3
Tulane University of Louisiana	(1909)	1
St. Louis University........(1905) (1908)	(32, 1909)	34
Washington University, St. Louis....(1908)	(39, 1909)	40
University of Missouri	(1909)	1
Barnes Medical College..............(1908)	(1909)	20
St. Louis College of Physicians and Surgeons	(1909)	7
American Medical College	(1909)	2
Homeopathic Medical College of Missouri	(1909)	1
Missouri Medical College	(1890)	1
FAILED		
Howard University	(1907)	1
St. Louis College of Physicians and Surgeons.. ....(1906) (1907) (2, 1908)	(6, 1909)	10
Washington University ....(1908)	(2, 1909)	3
St. Louis University	(1908)	1
Barnes University ....(2, 1908)	(9, 1909)	11
Homeopathic Medical College of Missouri	(1909)	1
Lincoln Medical College	(1907)	1
Meharry Medical College ......(1904) (1908)	(1909)	3
University of Nashville	(1909)	1
Memphis Hospital Medical College	(1909)	1

New Hampshire July Report

Mr. H. C. Morrison, Regent of the New Hampshire State Board of Medical Examiners, reports the written examination held at Concord, July 2-3, 1909. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 30, of whom 19 passed and 11 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Medical School of Maine	(1909)	77.5
Baltimore Medical College..........(1906) 77.8;	(1908)	75
Harvard Medical School	(1908)	78
Tufts College Medical School (1902) 88.3; (1905) 81.9;	(1909)	75, 82.1.
Boston University ....(1899) 86;	(1904)	82
Dartmouth Medical College (1907) 75.6; (1908) 83.3;	(1909)	78.8, 87.3, 80.9.
University and Bellevue Hospital Medical College	(1905)	87.6
University of the South	(1901)	77.8
University of Vermont	(1880)	83.4
McGill University, Canada	(1909)	85.8
FAILED		
Kentucky University	(1904)	50.6
Baltimore Medical College	(1908)	61.5
Maryland Medical College..........(1905) 68.9;	(1908)	63.9
Boston University	(1906)	73
Dartmouth Medical College........(1887) 59.3;	(1908)	73
University of Vermont........(1908) 66.4, 66.8;	(1909)	72.5
University of Marseilles, France	(1906)	68.4

West Virginia Report

Dr. H. A. Barbee, secretary of the West Virginia State Board of Health, reports the written examination held at Charleston, July 13-15, 1909. The number of subjects examined in was 9; total number of questions asked, 120; percentage required to pass, 80. The total number of candidates examined was 68, of whom 60 passed and 8 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
George Washington University	(1907)	88
Chicago College of Medicine and Surgery	(1909)	84
Louisville and Hospital Medical College	(1908)	81
University of Louisville (1907) 84; (1909) 81, 82, 82, 83, 83, 83, 85, 85, 85, 86, 88, 88, 90, 92.		
College of Physicians and Surgeons, Baltimore (1902) 90; (1907) 91; (1908) 91; (1909) 83, 84, 85, 85, 85, 87, 89, 91, 92.		
Maryland Medical College (1905) 88;	(1909)	81, 84
University of Maryland	(1909)	86, 87, 90
Baltimore Medical College	(1909)	87, 89, 92
Johns Hopkins University	(1908)	90
Starling-Ohio Medical College	(1909)	93
Eclectic Medical Institute, Cincinnati	(1909)	80, 82, 83
Jefferson Medical College	(1909)	87, 91, 93
Western Pennsylvania Medical College*	(1908)	83, 83
University of Pittsburg	(1909)	87, 89
Medico-Chirurgical College, Philadelphia	(1909)	81, 85
Tennessee Medical College	(1909)	81
University College of Medicine, Richmond	(1909)	90
University of Virginia	(1909)	86, 94
Medical College of Virginia, Richmond	(1909)	88, 89, 90
FAILED		
University of Louisville (1908) 74;	(1909)	74, 74
Louisville and Hospital Medical College	(1908)	76
Maryland Medical College	(1909)	76
Eclectic Medical Institute, Cincinnati	(1909)	76
Chattanooga Medical College	(1909)	73, 73

* Now the University of Pittsburg, Medical Department.

South Dakota July Report

Dr. H. E. McNutt, secretary of the South Dakota State Board of Medical Examiners, reports the written examination held at Watertown, July 14-15, 1909. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 49, of whom 34 passed and 15 failed. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Exam'd.
Columbian University, Washington, D. C.	(1904)	1
Rush Medical College	(1906) (1908) (1909)	3
Chicago College of Medicine and Surgery	(1909)	2
Northwestern University Medical School	(1903) (1907) (1908) (1909)	4
College of Physicians and Surgeons, Chicago	(1900) (1902) (1904) (1905) (1909)	5
University of Iowa	(1898) (1903) (5, 1909)	7
Sioux City College of Medicine	(1909)	1
Keokuk Medical College	(1900)	1
Tulane University of Louisiana	(1887)	1
University of Michigan	(1900)	1
University of Minnesota	(1905) (1907) (2, 1909)	4
Creighton Medical College	(1908)	1
University of Pennsylvania	(1906)	1
McGill University, Montreal	(1903)	1
University of Toronto, Ontario	(1907)	1
FAILED		
Rush Medical College	(1897)	1
Northwestern University Medical School	(1907)	1
Hahnemann Medical Coll. and Hosp., Chicago	(1901)	1
College of P. & S., Chicago	(1908)	1*
University of Iowa	(1908)	1
Sioux City College of Medicine	(1906) (1909)	2
Keokuk Med. Coll. of P. & S.	(1908)* (1908)	2
Washington University, St. Louis	(1909)	1
Barnes Medical College	(1905)** (1908)	2
St. Louis College of Physicians and Surgeons	(1906)	1*
Hahnemann Med. Coll. and Hosp., Philadelphia	(1907)	1
Queen's University, Canada	(1903)	1

* Second examination in 1909.

** Sixth examination.

Georgia August Report

Dr. E. R. Anthony, secretary of the Regular Board of Medical Examiners of Georgia, reports the written examination held at Atlanta, August 3-4, 1909. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 80. The total number of candidates examined was 22, of whom 19 passed and 3 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Atlanta School of Medicine	(1909)	80, 86
Atlanta College of Physicians and Surgeons	(1909)	90
University of Maryland (1908) 83;	(1909)	84, 84
Columbia University, College of P. & S.	(1909)	95
Leonard School of Medicine (1906) 82; (1908) 80;	(1909)	82, 88
Jefferson Medical College	(1909)	83
Meharry Medical College (1908) 80;	(1909)	80, 80, 81
Vanderbilt University	(1909)	90
Chattanooga Medical College	(1909)	83
Memphis Hospital Medical College	(1906)	80
FAILED		
Meharry Medical College (1895) 77;	(1908)	78
University of West Tennessee	(1909)	78

California August Report

Dr. Charles L. Tisdale, secretary of the Board of Medical Examiners, reports the written examination held at San Francisco, August 3-6, 1909. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 139, of whom 80 passed and 42 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Cooper Medical College (1908) 75; (1909) 75.8, 76.4, 76.9, 77.4, 79.2, 79.3, 79.5, 80.1, 81.2, 84.3, 84.4, 84.8, 85.1, 85.2, 85.8, 87.2, 89.1.		
University of Southern California (1905) 75.3; (1908) 80, 80.5, 86.5; (1909) 78.4, 79.6, 81.3, 81.4, 81.5, 83.2, 83.6, 85.5.		
University of California	(1909)	79.7, 83.2, 83.4, 84, 86.3
Oakland Coll. of Med. and Surgery	(1909)	80.2, 82, 87.6
College of Physicians and Surgeons, San Francisco (1904) 76.5; (1907) 83.6; (1908) 78.2; (1909) 75.7, 83.2.		
Hahnemann Medical College of the Pacific (1908) 77, 77.7; (1909) 76.3, 81.		
College of Physicians and Surgeons, Los Angeles	(1908)	77.2
University of Colorado	(1908)	81.3
Denver and Gross College of Medicine (1908) 84;	(1909)	79.7
Rush Medical College (1906) 83.5;	(1909)	86.6
Northwestern University Medical School (1900) 83.8; (1908) 85.6; (1909) 83.		
Harvey Medical School	(1904)	75.4
Coll. of P. & S., Chicago (1898) 81.7;	(1908)	82.2
University of Iowa, College of Medicine	(1901)	83.1
American Medical Missionary College	(1902)	78.7
Johns Hopkins University	(1907)	81.5
Baltimore Medical College	(1907)	77.5
Harvard Medical School (1894) 83.1;	(1908)	82.5
Washington University, St. Louis	(1901)	82.1
University Medical College, Kansas City	(1909)	77
Barnes Medical College	(1909)	77
Creighton Medical College	(1904)	79.8
Dartmouth Medical School	(1899)	88
Cornell University Medical College	(1906)	83.1
University of Buffalo	(1896)	80.9
University of Pennsylvania (1902) 82.4; (1907) 85.6; (1908) 79.1.		
Jefferson Medical College (1901) 75.7;	(1909)	81.3
McGill University, Montreal, Quebec (1905) 84.9;	(1908)	75.9
University of Bonn, Prussia, Germany	(1909)	80.3
FAILED		
College of Physicians and Surgeons, San Francisco (1902) 58.1, 73; (1906) 63.8, 72.8; (1907) 62.5, 69.2.		
Hahnemann Medical College of the Pacific (1908) 70.9, 71.8; (1909) 56.5, 62.8, 72.2.		
California Eclectic Medical College	(1909)	72.3
Cooper Medical College (1903) 68.1;	(1908)	69.2
University of Southern California (1905) 60.6, 72.8; (1909) 70.8, 73.6.		
Medical College of Georgia	(1883)	65.4
Rush Medical College (1885) 64.5;	(1889)	*77.3
Northwestern University Medical School	(1898)	*76.4
College of Physicians and Surgeons, Chicago	(1909)	71.8
Hahnemann Medical Coll. and Hospital, Chicago	(1890)	60.5
University of Iowa, Coll. of Medicine (1885) 82.1;*	(1890)	68.8
Tufts College Medical School	(1907)	61.5
Harvard Medical School	(1898)	70.7
University of Maryland	(1903)	69.6
University of Michigan, Coll. of Med. (1891) 63.1;	(1908)	72.7
University of Minnesota	(1908)	68.3
New York Homeopathic Med. Coll. and Hospital	(1905)	53
Jefferson Medical College (1893) 67.9;	(1895) 49.8	72.4
Hahnemann Medical Coll. and Hosp., Philadelphia	(1909)	67.5
Medico-Chirurgical College, Philadelphia	(1901)	71.1
Vanderbilt University	(1909)	69
University of Vermont	(1908)	71.3
Trinity College, Dublin, Ireland	(1863)	*91.2
Tokyo Medical College, Japan	(1907)	56.3

* Five per cent. allowed for each ten years of practice.

National Conservation of Health as an Economic Measure.—Professor Irving Fisher, president of the American Health League, arguing for a national department of health, says in the New York *Christian Advocate:* The present interest in school hygiene augurs well for the future interest in and realization of public health. Perhaps an even greater good omen is found in the growing willingness of commercial establishments to conserve the vital machinery entrusted to their care as well as they conserve the machinery of iron and steel. A railway which works its engineers and signal men beyond the fatigue point reaps its just reward in its losses from collision. Incidentally the public loses life and limb. When insurance companies shall have introduced sanatoria, disseminated educational leaflets, and otherwise tried to promote public health from financial motives, we shall, from a practical point of view, have taken the greatest step forward yet achieved.

Medicolegal

Life Tables Cannot Be Used in Estimating Future Suffering—Largest Verdict

The Supreme Court of Iowa says, in the personal injury case of Canfield vs. C. R. I. & P. Railway Co. (121 N. W. R. 186), that counsel stated that plaintiff's expectancy of life was nearly 43 years, and based their argument in support of the verdict rendered in his favor for $49,000 on that proposition. As to the pecuniary injury to his estate by his injury, that was doubtless permissible, but in estimating his future suffering and the expenses he would be to, and all other matters which had to do with prospective damages, it was perfectly manifest that life tables could not be accepted as a basis. The statistics from which these were compiled were not based on the experience of men crippled as the plaintiff was, but on men in health, or, at least, on men who were not injured as the plaintiff was, and they afforded no criterion whatever as to his expectancy of life. If he was injured as badly as his surgeons said he was; was suffering as they claimed; was as nervous as they would have the court believe; had the exposed bone and running sores on his leg; and the liability to infection as they described, he was not likely to live many years. Indeed, his time, if he was injured as claimed, must of necessity be short. Of course, an operation might prolong his life, but if so, he would be relieved of his bodily suffering, although not his mental, due to his deformed condition. The court wishes to point out this fundamental fallacy underlying the argument made by counsel.

Going to the verdict of $49,000, the court says that this was undoubtedly one of the largest ever returned in a personal injury case. Indeed, it is the largest one of which the court has any knowledge, considering the position in life and earning powers of the party injured, who was an unskilled section hand 18 years of age, with an income of $435 a year, when injured. In the accident in which he was injured he was thrown something like 25 feet by a train, and struck on his head. His right knee was mashed, and the bone broken just above the knee. His left hip was broken, and left leg about the middle. His right arm was broken in three places, and the right shoulder hurt. His nose was cut, and there were cuts over the eye, over the eyebrow, and on the chin, and his scalp was torn off. He was entitled to compensation for present, past, and future pain and suffering, and to an amount sufficient to meet his past, present and future expenses caused by the injury. But, as already stated, he was not entitled to compensation for these on the theory that he would live to his full expectancy. This theory was plausibly argued before the court, but such an argument is without foundation, in that it proceeds on an entirely wrong basis. Again, in justification of the verdict, the members of the court of jury were asked to say what amount would induce them to voluntarily put themselves in a position to receive such injuries. Of course, the answer would be: No sum could be named which would be sufficient. This was another fallacy, but one which undoubtedly appealed to the trial jury. Twenty-five thousand dollars is the largest amount that the court would not deem an excessive award in this case.

Summary Power Necessary for Health Officers

The Supreme Court of Wisconsin, in State ex rel. Nowotny vs City of Milwaukee (121 N. W. R. 658), says that a health officer who is expected to accomplish results must possess large powers and be endowed with the right to take summary action, which at times must trench closely on despotic rule. The public health cannot wait on the slow processes of a legislative body, or the leisurely deliberation of a court. Executive boards or officers, who can deal at once with the emergency under general principles laid down by the lawmaking body, must exist if the public health is to be preserved in cities.

There is nothing of greater importance relating to the food supply of a great city than that the milk sold should be pure and wholesome, and the common council of Milwaukee, realizing this fact, and realizing also that it was imperative that action should be quick and decisive if it is to be efficient, passed ordinances requiring, under penalties, that all milk sold must be unadulterated, must meet certain standards, and be obtained from healthy cows fed on wholesome feed, and further requiring that every milk vendor must obtain a license from the health commissioner, "which license may at any time be revoked by the commissioner of health for violation of the provisions hereof, or for any good or sufficient cause." The court is convinced that the council had power to pass the ordinance and vest the power of issuing and revoking licenses in the health commissioner by virtue of the power to "tax, regulate, and restrain" the "vendors of milk," and to "regulate and restrain the sale of milk," given to it by the city charter.

The requiring of licenses and the reserving of the power to revoke such licenses, in case of misconduct or violation of law, is well recognized as one of the most effective means of regulating and restraining a business that has yet been discovered, but the power of revocation would amount to little if it could not be vested in an executive officer or board with power to act quickly. The sale of infected milk for a single hour might produce an epidemic of typhoid fever which would sweep hundreds to the grave. The importance of reserving in some executive official the power to revoke can hardly be overestimated. Prosecutions to recover fines and penalties may drag their weary lengths along for weeks and months, and even then prove ineffective; but the revocation of the license remedies the evil and avoids the danger of the spreading of disease at once. It is regulation in the most effective sense. The court has no hesitation in holding that, when the city was given the power to license, restrain, and regulate the sale of milk, it also took power to revoke licenses, and that it might vest such power in the health commissioner, with the right to exercise the same summarily and even without notice.

Denial of Physical Examination on Affidavit of Attending Physician

The Supreme Court of Michigan says that the plaintiff in the personal injury case of Logan vs. Agricultural Society of Lenawee County (121 N. W. R. 485) claimed an injury to her spine and sexual organs. A notice was given to take her deposition at her home, on the ground that she was unable to attend the trial. After that notice was served, the defendant filed a petition asking an order that two physicians named be permitted to examine the plaintiff. In reply her physician certified that she was confined to bed as a result of the injury, that she was weak and extremely nervous, and that in his judgment the physical examination prayed for in the petition would be disastrous, and would have a tendency to greatly increase her nervous disorder and prevent her recovery. The trial court filed an opinion denying the application on the strength of the affidavit of her physician. The Supreme Court does not think that in this case the trial court abused its discretion, especially in view of the fact that a physician on behalf of the defendant was present when the plaintiff's deposition was taken, and testified on the trial, and that the defendant's other physician had examined the plaintiff at the time of her injury. All of the circumstances connected with the refusal were in evidence, and the trial court on this point instructed the jury that if they found that the defendant's physicians "were not given a fair and reasonable opportunity, both or one of them, to examine or see the plaintiff, and to make a modest and reasonable investigation for the purpose—and in good faith—of making an examination for the purpose of ascertaining her condition of health and the character and extent of her injuries, if any, then you should take this as against the plaintiff, and have the right to infer that such investigation would not be favorable to her claim in this case. Furthermore, you should consider carefully all the testimony in the case on that subject, and say whether she has refused at all times or not, and whether those refusals have been reasonable or not. And if not, you have a right to consider it as a circumstance against her to that extent; but if her reasons seem to be good and adequate in your judgment for doing as she has done under the circumstances, then, of course, it would not be considered by you as of any force or effect against her. You may consider all the evidence on that subject in determining what the real situation is." The Supreme Court sees no reason to disturb the ruling of the trial court.

Current Medical Literature

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

October 16

1 *Construction of an Efficient and Economic Diet in Tuberculosis. H. M. King, Liberty, N. Y.
2 Early Diagnosis of Malignant Disease of the Larynx. W. F. Chappell, New York
3 *Precocious Tertiary Syphilis: Case with Manifold Manifestations. H. F. L. Ziegel, New York.
4 *The Care of the Nursing Breasts—Their Development During Neurasthenic Puberty. G. E. Abbott, Pasadena, Cal.
5 Great Improvement in Advanced Cases of Pulmonary Tuberculosis Under Sanatorium Care. H. Greeley, Brooklyn.
6 Mastoiditis, Complicated by Purulent Leptomeningitis, Epidural Abscess, and Sinus Thrombosis. A. Braun, New York.

1. **Diet in Tuberculosis.**—According to King, the following standards are applicable to ambulant cases of comparatively quiescent tuberculosis under sanatorium treatment:

1 For young adult men of the working class on very light exercise from 2800 to 3200 calories, of which from 110 grams to 125 grams shall be protein.

2. For the same class on 5 or 6 hours vigorous exercise (sawing or chopping wood, working with shovels, pickaxes, barrows, etc.), from 3100 to 3600 calories, of which 125 grams to 140 grams shall be protein.

3. For women of this class 200 calories and approximately 10 grams protein may be deducted in each case.

4. Four young adult men, whose occupation has been more sedentary—*e. g.* clerks, bookkeepers, tailors, students, etc., on moderate exercise (walking from one to three hours daily), 2600 to 3000 calories, of which not over 115 grams need be protein.

5. For women of this class not to exceed 2500 calories and 100 grams protein.

6. For older patients, a slight reduction in calorific value and a considerably lower protein constituent are desirable in each case.

7. For the country dweller a somewhat larger bulk without increase in protein value is usually desirable, all other conditions being similar, than is the case with the patient from the city.

Diets constructed on these standards in two divisions of the Loomis Sanatorium during the past year have proved more satisfactory than any which have been previously employed. During the autumn and winter of 1905 and 1906 the standard was protein, 166 grams; fat, 214 grams; carbohydrates, 323 grams; calories, 3955. Patients seemed to do very well on this diet. Weight gains were satisfactory, but digestive disturbances were not uncommon.

3. **Precocious Tertiary Syphilis.**—A patient with syphilis which had not been systematically treated, fifteen months after infection began to exhibit tertiary manifestations which appeared in the following order: (1) Ulcer of the right leg; (2) papular syphilide of the scalp;: (3) deep ulcerations of tonsils and posterior pharyngeal wall; (4) stricture of the left nasal duct; (5) ulcers on forehead; (6) periostitis of nasal bones; (7) gumma of nasal septum, suppuration and perforation; (8) bursitis and synovitis; (9) periostitis of heads of tibiæ; (10) gummata of right testicle; (11) synarthrosis. The two noteworthy features of this case are the early appearance of the tertiary manifestations and their superficiality.

4. **Care of Nursing Breasts.**—Abbott shows how the breast is prevented from attaining normal development and thus secreting the normal amount of milk by the pressure of the ribs against the branches of the mammary artery as it passes out between the ribs. If the breasts are supported the circulation is normal and much more milk will be secreted. By lying on the nursing side while nursing the infant, the greatest amount of blood passes to the breast during lactation, and both the breasts should be nursed at each feeding, instead of alternately. Thus the breasts never hang flabby and will be firmer and of better shape, he asserts, after nursing is over.

New York Medical Journal

October 16

7 *Epilepsy in Its Relation to Menstrual Periods. A. Gordon, Philadelphia.
8 *Treatment of Acute Pneumonia in Infancy and Childhood. W. L. Carr, New York.
9 Prevalence of Venereal Disease Among Recently Arrived Immigrants. A. L. Wolbarst, New York.
10 Conditions Which Interfere with the Ventilation of the Nasal Chambers in Children. R. B. Scarlett, Philadelphia.
11 Criminal Simulation. F. A. McGuire and G. M. Parker, New York.
12 The Personal Side in the Treatment of Tuberculosis. H. D. King, New Orleans.
13 Infancy of the Practice of Medicine and Surgery. H. Pomeranz, New York.
14 Cases of Intestinal Obstruction. L. G. Hanley, Buffalo, N. Y.

7. **Epilepsy in Relation to Menstruation.**—A study of twenty-three cases has convinced Gordon of the undeniable relation of epileptic seizures to menstruation; absolute freedom from attacks in the intervals between menstrual periods; apparently perfect integrity of the ovaries and still occurrence of epileptic fits immediately before or during menstruation; inability to control the fits with the usual bromid treatment; good, and even excellent effect of thyroid extract. The thyroid extract was given between the menstrual periods and bromids without thyroid only a few days before menstruation.

8. **Lobar Pneumonia in Children.**—Carr claims that inasmuch as lobar pneumonia is a self-limited disease of short duration, it seldom demands more than nursing and care. Medicinal treatment is needed when symptoms indicative of weakness or complications arise, and to relieve pain or restlessness. Bronchopneumonia in its acute manifestation may require no more treatment than is mentioned for lobar pneumonia, but as it is a disease that is usually, even in acute cases, associated with depressed vitality or infection, stimulation by alcohol and other agents will be required. In all cases of bronchopneumonia careful nursing and attention to diet will save many lives and lessen the extent and severity of the disease.

Boston Medical and Surgical Journal

October 14

15 *Postoperative Acute Dilation of the Stomach. H. B. Smith, Boston.
16 Neoplasms of the Penis, Scrotum, Testicle and Cord. O. C. Smith, Hartford, Conn.
17 New Growths of the Prostate and Bladder. R. H. Greene, New York.
18 *Neoplasms of the Kidney and Ureter. J. B. Squier, New York.
19 Cystoscopy in New Growths of the Urinary System. L. Davis, Boston.

15. Abstracted in The Journal, July 17, 1909, p. 226.

18. **Neoplasms of the Kidney and Ureter.**—At St. Luke's Hospital, New York, for the past twelve years, there were, among 33,700 admissions, 325 cases of kidney disease (excluding nephritis), of which 24 were tumors, or 0.07 per cent. These 24 cases form the basis of Squier's article. In 13 of the tumor cases histologic diagnoses were made or confirmed. In 3 cases of cystic kidney and 1 of secondary carcinoma, the operative or bedside diagnosis could not be questioned. The other 7 are grouped as "tumors," irrespective of the clinical diagnosis. Pain was the first symptom in 7 patients; hematuria in 4, weakness in 5; tumor in 2; vomiting in 1, and pain and hematuria in 2. Thirteen patients died with recurrence: 10 at periods of one to twelve years; 1 patient had recurrence, but was living when reported; 1 died without recurrence five years after operation; 4 are living without recurrence (2 carcinomata, 2 hypernephromata). One reason of the high operative mortality is the rarity of early diagnosis. The tumor does not become palpable until it is very large. Radical removal at present offers the only chance for cure, the size of the tumor indicating the route for removal. The transperitoneal route permits better exploration of the opposite kidney and a more complete extirpation of the lymph nodes and other surrounding structures which may be involved in the growth.

Lancet-Clinic, Cincinnati

October 9

20 History of Human Anatomy. W. E. Lewis, Cincinnati.
21 Defective Children. L. M. Doll, Cincinnati.

Medical Fortnightly, St. Louis

September 25

22 Early Diagnosis and Surgical Treatment of Cancer of the Stomach. C. R. Dudley, Hannibal, Mo.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

October

23 Postoperative Separation of Laparotomy Wounds (Postoperative Prolapse of Intestines.) E. Ries, Chicago.
24 *Cervical Cesarean Section. H. F. Lewis, Chicago.
25 Vaginal Cesarean Section. W. M. Sprigg, Washington, D. C.
26 Use of Morphin and Scopolamin in Labor. J. Halpenny and C. H. Vrooman, Winnipeg, Canada.
27 Pancreatitis. T. Abbe, Washington, D. C.
28 Postpartum Hemorrhage. O. Hofmann, Kansas City.
29 *Epithelioma of the Vulva. E. A. Balloch, Washington, D. C.
30 The Toxemia of Pregnancy. F. H. Jackson, Houlton, Me.
31 Acute Inflammation of the Nasopharynx in Infants and Young Children. O. M. Schloss, New York.

24. **Cervical Cesarean Section.**—Cervical Cesarean section, according to Lewis, is a more difficult and longer operation than the older form: it requires deep dissection into extensive connective tissue spaces and admittedly in the probable presence of infection, it often involves considerable difficulty in extraction of the child and leaves the uterus in an abnormally fixed position. For clean cases, he says, it cannot replace the ordinary method; for cases of possible previous infection it offers no better chances than the classical operation with careful damming of the peritoneal cavity against the contents of the uterus and tight suturing of the uterine walls, while for cases of certain infection it cannot, he declares, replace craniotomy.

29. **Epithelioma of Vulva.**—Balloch reports two cases which show that irritating discharges from the uterus or vagina should not be neglected. Any chronic irritation is liable to cause cancer. Pruritus vulvæ calls for a careful search for its cause and its removal when found. The irritation incident to this disease may cause cancer of the vulva. The earlier the operation the better the chance of cure, and the more thorough the operation, the better the prognosis as to complete eradication of the disease. Even if the disease involves only one side, the glands on both sides should be removed and an effort made to determine the condition of the pelvic glands. Any involvement of the meatus urinarius or the urethra calls for careful examination of the urethra, supplemented by a cystoscopic examination.

Journal Indiana State Medical Association, Fort Wayne

September

32 The Physician as a Factor for Good or Evil. A. F. Knoefel, Linton.
33 Appendicitis. J. C. Fleming, Elkhart.
34 The Rôle the Gonococcus Plays in Childless Marriages. C. E. Barnett, Fort Wayne.
35 Medical History of Indiana (continued). G. W. H. Kemper, Muncie.

Annals of Surgery, Philadelphia

October

36 *Analytic and Statistic Review of 1,000 Cases of Head Injury (concluded). C. Phelps, New York.
37 Injuries of the Kidneys. A. B. Johnson, New York.
38 *Surgical Conception of Pancreatitis. C. N. Smith, Toledo, O.
39 Advantage of Simplicity in Operations for Appendicitis. C. N. Dowd, New York.
40 An Irrigating Sound of the Standard and Beniqué Type. V. C. Pedersen, New York.
41 Intravenous Local Anesthesia. J. M. Hitzrot, New York.
42 Modification of the Crile Transfusion Cannula. B. M. Bernheim, Baltimore.
43 *The Open-Seat Pelvic Binder. S. E. Newman, St. Louis.
44 *Silver Foil in Surgery. J. S. Lewis, New York.

36. **Head Injury.**—The analysis of 1000 cases of head injury observed by Phelps under similar conditions, could hardly fail to disclose some new facts in pathology and symptomatology, and to accentuate some others which were perhaps already known. The independence of the symptoms of cranial fracture and of intracranial lesions, the intervention of the sympathetic system in the production of symptoms of intracranial injury, and the relations of temperature to consciousness and in general to prognosis and diagnosis, are some of the more important of its disclosures; but the one fact of paramount importance which it demonstrates is that the essential lesion is the same in every class of intracranial injuries, and that it is a structural change in the cellular elements; that lacerations and hemorrhages are accidental, and not essential; that whatever influence these lesions may have in determining the more intimate pathologic condition they are but a part of a general contusion which may equally occur in their absence. This is the conclusion arrived at by Phelps, from the examination of every symptom in detail, focal as well as general, since in each instance many cases were found with no other gross lesion than a more or less well-pronounced circulatory derangement or even with no evident change at all.

38. **Surgical Conception of Pancreatitis.**—According to Smith, pancreatitis is of far more frequent occurrence than has been believed in the past. It is a disease progressive in its nature and tending to a fatal termination. With present methods it can be diagnosed without difficulty. It is, in the great majority of instances, secondary to and dependent on cholelithiasis or infection of the biliary tracts. It can be cured, or its progress stayed, by the early removal of its causes and the prevention of their recurrence. Its presence having been demonstrated, the immediate removal of its cause is imperative. Sodium phosphate, olive oil, neglect, delay, and optimistic indifference in the treatment of gallstones must give way to prompt, radical and efficient surgery.

43. **The Open-Seat Pelvic Binder.**—Newman describes pictorially a practical bandage for operations on the scrotum and testes and ilioinguinal region, which is said to possess the following advantages: The patient is not lifted; turning on the side is all that is required in applying the bandage. It is held in place by the spines of the iliac bones and does not tend to slip. The scrotum is not merely supported between the thighs but rests on the pubes. Urination is not interfered with; easy access to the rectum: defecation does not necessitate a change of the bandage. The bandage does not become stringy and see-saw the skin of the entire region. Inspection of the wound is easy and requires little more than the removal of a few safety-pins. After dressing the wound the same bandage may be reapplied; if the binder is soiled, it is laundered and re-used.

44. **Silver Foil in Surgery.**—Lewis says that on clean skin grafts the silver foil dressing is at its best and has replaced the older methods of wet dressings and gutta-percha, or the dry gauze dressings which present mechanical drawbacks. Under the foil the grafted skin remains fairly dry, as is the condition of normal skin. In plastic surgery, where cosmetic results are desirable, the slight secretion along the linear wounds passes through the crevices in the foil to be absorbed by the superimposed gauze, minimizing scab formation. In the usual clean wounds the possibility of infection from without is made more remote, especially in the groin, where the dressing may become wet with urine or slip and so expose the wound. In clean wounds, near a discharging wound, as in some secondary operations, the clean one may be protected against the other until union is established. The foil may be recommended on theoretical grounds to prevent subdural adhesions. In clean, rapidly granulating open wounds, the foil protects the delicate advancing margin of epithelium. Chronic ulcers, such as the varicose type, are not benefited. In the acute or painful stage of burns it is useless.

Journal of the Kansas Medical Society, Kansas City

September

45 Sporotrichal Infection. W. K. Trimble, Rosedale, and F. W. Shaw, Kansas City.
46 The Diagnostic Significance of Variations in the Hydrochloric Acidity of the Gastric Contents. F. A. Carmichael, Goodland.
47 Intussusception. A. Moberg, Kansas City.
48 Early Diagnosis of Pulmonary Tuberculosis. C. S. Kenney, Norcatur, Kan.

Texas State Journal of Medicine, Fort Worth

October

49 Compulsory Notifications in Tuberculosis: The Necessity and Feasibility. T. Y. Hull, San Antonio.
50 Tumors, Especially Fibroid Tumors. C. H. Harris, Fort Worth.
51 Case of Fibroma Molluscum. F. S. Littlejohn, Marshall.
52 Pathology of an Appendix and Ovary Removed 4 Hours After an Accident. M. A. Wood, Galveston.
53 Hernia, with Special Reference to its Traumatic Origin. B. Saunders, Fort Worth.
54 *Modified Halsted and Bassini Operation for Inguinal Hernia. W. A. Duringer, Fort Worth.
55 Cocain Anesthesia in 109 Cases of Hernia. W. W. Samuell, Dallas.
56 *The Angiotribe Method of Treating Hemorrhoids. S. P. Delaup, New Orleans, La.
57 Germicidal Effects of Biniodid of Mercury and Violet Rays. E. F. Cooke, Houston.
58 Development and Anatomy of the Lower End of the Rectum. J. E. Thompson, Galveston.
59 The One Universally Applicable Diagnostic Test for Tuberculosis and the Three Fundamental Factors of Treatment. B. Cornick, San Angelo.
60 Useful Anatomy in Surgery of the Pylorus. O. L. Norsworthy, Houston.
61 Tonsillectomy, A Hospital Operation. H. B. Decherd, Dallas.
62 Serious Troubles the Appendix May Cause. C. E. Cantrell and W. Cantrell, Greenville.

54. **Operation for Inguinal Hernia.**—The method devised by Duringer is really a modified Halsted and Bassini operation. The skin and superficial fascia are divided over the line of the inguinal canal. The external oblique aponeurosis is retracted and divided about one and one-half inches above and parallel with Poupart's ligament. The external oblique aponeurosis is dissected backward and upward. The lower segment is

dissected downward to expose the internal abdominal ring and the inguinal canal. The sac is liberated from the cord and opened. Excessive omentum is ligated and removed. and the stump and knuckle of bowel are returned into the abdominal cavity. The neck of the sac is liberated at the internal abdominal ring and ligated. The head of the threaded needle, with the same catgut. is passed through the upper angle of the wound. through the internal oblique and transversalis fascia and the stump of the sac drawn above the internal ring and anchored. making a so-called "bumper." This has the advantage of bringing healthy peritoneum in contact with the internal abdominal ring. giving it. necessarily. more strength. The cord is treated as the case demands. Duringer is not in the habit of removing veins.

In closing the abdominal anatomic layers. first. the cord is elevated by a gauze strip passed beneath it. and it is held out of the way. The curved fibers of the internal oblique and transversalis are stitched to the lower segment of the external oblique aponeurosis under the elevated cord. To prevent constriction and strangulation. Duringer seldom resorts to the outer stitch above and below the cord. Second. the superior segment of the external oblique aponeurosis is brought down over the cord. and over the line of union of the lower segment of the external oblique aponeurosis with the external oblique and transversalis. as low as possible. and attached by a mattress suture like the Mayo method of overlapping the aponeurosis for ventral hernia. Duringer then closes the superficial wound by a subcuticular catgut stitch. The advantage of this operation is said to be the maintenance of the exact anatomic relations of the abdominal wall.

56. **Angiotribe Method of Treating Hemorrhoids.**—The patient, having been previously prepared and the spinal injection made. is placed in Sims' position. The sphincter is gradually and thoroughly divulsed by making pressure with the thumb or fingers first in one direction and then in another, or with the Cook's speculum. The hemorrhoids are then exposed by everting the anus. and their number, size and location noted. The next step is also common to all methods. determining how many of the hemorrhoidal masses and what ones should be removed. This is best effected by firmly grasping each tumor with hemorrhoidal forceps and making traction so as to put the parts at its base well on the stretch. The angiotribe—Thumim—is now adjusted: it will not only enclose the whole of the pile, but will reach up to the normal mucous membrane above. so that the vascular supply is wholly controlled. The portion of the pile that protrudes beyond the angiotribe is now cut off flush with the angiotribe by knife or scissors. just as in the cautery operation. The angiotribe is allowed to remain for 4 or 5 minutes. according to the size and condition of the pile. Pending the compression. the excised tumor. flush with the angiotribe. may be touched with a pledget of cotton saturated with pure carbolic acid. The angiotribe is then removed and reapplied as often as necessary; the most aggravated case never requiring more than four applications.

When the procedure has been completed there results a well and satisfactorily secured wound; the wound surfaces are in apposition. The perianal skin redundances have been in great part removed. and the traces of the operation then present to inspection two. three or more small compressed wound lines radiating from the anus. as the compressed stumps. when released. retain their linear form and return to the rectum in axial folds. These are gently returned within the sphincter and held in by a firm wedge-shaped gauze compress applied over the anus and firmly secured in place by a well-adjusted T-bandage. The patient is then placed in bed. The rectum should not be irrigated. nor any instrument introduced after the operation has been completed. from fear of tearing open the compressed wound. If the compression has been thorough. and if no dressing, packing or tubing of any kind is placed in the rectum, there will be little. if any, after-pain. The subsequent treatment does not differ from that commonly employed in any method of dealing with hemorrhoids.

Ohio State Medical Journal, Columbus

September

63 Bismuth and Other Paste Treatments in Suppurative Diseases of the Nose and Ear. J. C. Beck, Chicago.
64 Some Aspects of Angina Pectoris. F. Winders, Columbus.
65 Problems of the Obstetrician in Hydrocephalus. W. Gillespie, Cincinnati.
66 Indications for Cesarean Section. W. D. Porter, Cincinnati.
67 Psychotherapy. C. D. Mills, Marysville.
68 Method of Removing the Faucial Tonsil. with New Instruments. M. D. Stevenson, Akron.

American Journal of Medical Science, Philadelphia

October

69 *Exophthalmos and Other Eye Signs in Chronic Nephritis. L. F. Barker and F. M. Hanes, Baltimore.
70 *Nature of the Arteriosclerotic Process. J. G. Adami. Montreal.
71 *Conditions Affecting the Discharge of Food from the Stomach C. A. Hedblom and W. B. Cannon. Boston.
72 *Relation of the Food-Stuffs to Alimentary Functions. L. B Mendel. New Haven.
73 *Diet and Care of the Bowels in Typhoid M. H Fussell, Philadelphia.
74 Etiology of Loose Bowel Movements. A. D. Blackader, Montreal.
75 *Chronic Constipation Clinically Considered. L. M. Gompertz, New Haven
76 *Location of the Cardiac Apex Beat. H. Dayton. New York.
77 *Orthodiagraphy in Study of Heart and Great Blood-vessels. T. A. Claytor and W. H. Merrill. Washington. D. C.
78 *Acute Leukemia with Special Reference to Auer's Bodies. R. Ottenberg. New York.
79 Volkmann's Contracture. N. Ginsburg. Philadelphia.
80 Appendicitis in Which Oxyuris Vermicularis was Found in the Appendix. A. P. C. Ashhurst. Philadelphia.

69. **Eye Signs in Chronic Nephritis.**—The authors direct attention to the frequent occurrence of exophthalmos in chronic nephritis. and advance the view that the exophthalmos of chronic nephritis is analogous to that of exophthalmic goiter, being but one of a number of evidences of a chronic systemic intoxication. Among 33 cases of chronic nephritis seen during the first four months of 1909. 16 (48.4 per cent.) showed exophthalmos. The exophthalmos varied greatly in degree. as did the gravity of the nephritic process in the various individuals. Those cases presenting evidences of serious intoxication (suburemic or uremic symptoms) most frequently showed exophthalmos and one or more of the allied ocular signs—anisocoria. von Graefe's. Moebius'. or Stellwag's sign. Exophthalmos has been an obvious sign in all of the patients with chronic nephritis which have died in the Johns Hopkins Hospital since Jan. 1, 1909, seven in number.

The authors also observed that the cases of chronic nephritis showing albuminuric retinitis during this period have invariably shown exophthalmos, with one or more other ocular signs. Exophthalmos is but one of several ocular signs which are frequently present in chronic nephritis. Widening of the lid slits (Stellwag's sign), dissociation of the movements of the ball and lids (von Graefe's sign). and the break of convergence of the eyes (Moebius' sign), may be present in a maximum degree in chronic nephritis without the thyroid showing any apparent involvement. The authors believe that the conclusion lies very near. that in both diseases a chronic systemic intoxication affecting the autonomic system is the causative factor in the production of the ocular manifestations. In their series of 16 cases von Graefe's sign was positive in 11 (68.7 per cent.). Stellwag's was positive in 13 (81.3 per cent.), and Moebius' sign was positive in 7 (43.7 per cent.). The pupils were noted as unequal in 5 cases (31 per cent.), and albuminuric retinitis was observed in 8 cases (50 per cent.). Exophthalmos was associated with arterial hypertension (pressure above 160 mm.) in 12 of the 16 cases and in 2 cases a maximum degree of exophthalmos was associated with the maximum arterial tension shown by the patient; as the blood-pressure fell the eyes became less prominent. The authors are not of the opinion. however. that the exophthalmos is due to chronic hypertension. It may exist independently and certainly only a small percentage of cases having arterial hypertension show exophthalmos. It is far more reasonable to assume that the arterial hypertension and the eye signs mentioned are but evidences of poisoning by perhaps separate toxins. It is well known that uremia may develop in a patient whose blood-pressure is not increased, and it seems probable that in chronic renal insufficiency several toxins are present in the blood manifesting themselves in various ways.

70. **Nature of Arteriosclerotic Process.** According to Adami, the dominant primary event in the arteriosclerotic process—syphilitic. senile or functional—is a localized or it may be a diffuse weakening of the arterial wall and especially of the

media. This induces increased strain on the remaining coats; and if this be not excessive, that strain leads more especially to connective tissue overgrowth and the development of the characteristic lesions of arteriosclerosis.

71. **Discharge of Food from the Stomach.**—The purpose of this investigation was to determine as accurately as possible under otherwise normal conditions, the influence of some of the commoner physical, chemical, and biologic factors on the movements of the stomach and on the rate at which it discharges food into the intestine. The method employed was that used by Cannon in studying the passage of different foodstuffs from the stomach. The food used, except when otherwise specified, was 25 c.c. of mashed potato, with which was mixed 5 grams of subnitrate of bismuth. The consistency, which depends on the amount of water added, was always as nearly uniform as could be judged by the eye and by manipulation. Full-grown normal cats, deprived of food for twenty-four hours previous to the experiment, served for observation. In all the experiments, except those with fluid food, the animals were placed on the holder and fed from a spoon with no special difficulty. At regular intervals after feeding, observations were made by means of a fluorescent screen illuminated by the *x*-rays; and the dark shadows made by the food were traced in outline on transparent paper laid over the screen. The aggregate length of these shadows measured the relative amount of food in the intestine at the different times of observation.

Hedblom and Cannon found that if carbohydrate food is thinned by adding water, there is, within limits, very little change in the rate of exit from the stomach; but adding water to protein food tends to make the discharge more rapid. When hard particles are present in the food the rate of outgo from the stomach is notably retarded. Coarse, branny food leaves the stomach slightly faster than similar foods of finer texture. The presence of gas in the stomach delays gastric discharge, an effect due to the gas preventing the walls of the stomach from exerting the normal mixing and propelling action on the food. No considerable variation from the normal rate of exit from the stomach is observed when the food is fed very hot or very cold. Food with approximately normal acidity leaves the stomach much faster than food which is hyperacid (1 per cent.), a result in harmony with other observations on the acid control of the pylorus. Feeding acid food is followed by deep and rapid peristalsis. Massage of the stomach, even when extensive, has very slight influence on the passage of food through the pylorus. Irritation of the colon (with croton oil) notably retards gastric discharge and delays the movements of food through the small intestine.

72, 73, 75. Abstracted in The Journal, June 5, 1909, pp. 1865, 1866.

76. **Location of Cardiac Apex Beat.**—Dayton claims that the point of maximum impulse frequently does not define the site of the cardiac apex. The point of maximum impulse, either visible or palpable, may be produced by a portion of the heart wall at some distance from the apex. Except in cases in which the visible and palpable impulses coincide, as they usually do with a normal heart, it is better to state simply that pulsation is visible in certain interspaces at a given distance from the median line. It is frequently impossible to determine the left border of the heart by percussion, on account of the changes in the resonance of the adjoining area due to large breasts or intrathoracic conditions, or when the apex is carried so far toward the left by hypertrophy or by displacement of the heart, as a whole, that percussion, unless extremely light, tends to bring out dulness of the lateral surface of the heart. Auscultation, as a means of locating the apex, is at best a makeshift in the event of the failure of the other methods. The most valuable clinical method of locating the cardiac apex is the palpation of its impulse when this can be detected in an interspace. The apex beat should be considered as the point farthest downward and to the left at which a distinct forward thrust of the heart can be felt. The clinical apex so located, being close to the anatomic apex, is of real value in estimating the size or relative position of the heart. Because of the influence of posture on the area of relative cardiac dulness, and the situation of the apex beat, it is advisable, for comparison with subsequent observations, to record whether the patient was examined in the erect or in the dorsal recumbent position.

77. **Orthodiagraphy of the Heart and Great Vessels.**—While orthodiagraphy should not be looked on in any way as a substitute for the other well-known methods of examination of the heart and great vessels, Claytor and Merrill say that it is at the same time a valuable aid. It can be used to make fairly accurate outlines and measurements of the heart and great vessels, thus enabling one to make comparisons with the normal or with subsequent diagrams of the same case. The use of the orthodiagraph may also serve to prove whether or not the size of the heart is influenced to any appreciable degree by a single effort of exertion or by a single therapeutic or gymnastic treatment.

78. **Acute Leukemia.**—Ottenberg observed that the rods described by Auer can be found in many cases of acute leukemia. They have never been found in any other disease, and there is no evidence that they are parasites.

Journal of South Carolina Medical Association, Florence

September

81 Influence of a Model Physician in Prevention and Cure of Tuberculosis. W. B. Young, Rock Hill.
82 Dermoid Cyst Successfully Removed by Ovariotomy. B. W. Tayor, Columbia.
83 Chloroform or Ether. W. Cheyne, Sumter.
84 Alkaline Treatment of Typhoid. W. T. Lander, Greenwood.
85 Treatment of Eclampsia by Cesarean Section. D. L. Maguire, Charleston.
86 Nephritis. W. L. Kneese, Lexington, S. C.
87 Prognosis and Treatment of Pellagra. C. H. Lavinder, U. S. P. H. and M.-H. S.
88 Functional Neuroses: Report of Case of Hysterical Amaurosis. L. C. Shecut, Orangeburg.

St. Paul Medical Journal

October

89 The Dismemberment of Traditional Hysteria (Pithiatism). J. Babinski, Paris, and C. E. Riggs, St. Paul.
90 *Tumors of the Breast with Special Reference to Obtaining Better Results in Malignant Cases. E. S. Judd, Rochester, Minn.
91 Eclampsia. L. W. Armstrong, Breckenridge, Minn.

90. **Tumors of the Breast.**—The point emphasized by Judd is that the surgeon can promise a definite cure in the majority of cases in which the patients present themselves for treatment on the appearance of first symptoms. As the technic develops, and physicians have a better knowledge of the extension of the growth of the tumor, they will be able to cure a larger percentage of the advanced cases. Therefore, an early operation, even though badly done, will effect more cures than will a perfect operation which is performed late. Furthermore, in order to get malignant cases early, it is necessary to remove all tumors as soon as they are discovered, as many of the doubtful and some of the supposedly benign cases will eventually prove to be malignant.

Long Island Medical Journal, Brooklyn

September

92 Pathology and Etiology of Arteriosclerosis. A. Murray, Brooklyn.
93 Symptoms and Physical Signs of Arteriosclerosis. R. Clark, Brooklyn.
94 Medical Treatment of Arteriosclerosis. G. R. Butler, Brooklyn.
95 Surgical Treatment of Lesions Due to Arteriosclerosis. P. M. Pilcher, Brooklyn.
96 Calorimetry in Infant-Feeding. W. D. Ludlum, Brooklyn.

Illinois Medical Journal, Springfield

October

97 Diagnostic Aids in Diseases of the Lung and Pleura. E. G. Beck, Chicago.
98 *Poisoning from Bismuth Subnitrate Vaselin Paste. V. C. David and J. R. Kauffman, Chicago.
99 *Surgical Treatment of Appendicitis. C. U. Collins, Peoria.
100 *The Pus Appendix. G. W. Green, Chicago.
101 *Subserous Appendectomy. E. M. Sala, Rock Island.
102 *When Shall We Advise Operation for Fibromata and Myomata of Uterus. J. C. Stremmel, Macomb.
103 *Treatment of Acute Insanity. S. Brown, Chicago.
104 Pyloric Stenosis in Infancy. F. X. Walls, Chicago.
105 The Needs of Crippled Children. J. Ridlon, Chicago.
106 *Rhythmic Inflation of Lungs in Resuscitation. J. A. Capps and D. D. Lewis, Chicago.
107 *Contemporary Workman's Compensation. W. H. Allport, Chicago.
108 Education of Children Affected with Ringworm and Favus of Scalp. J. N. Hyde, Chicago.
109 Surgery of the Brain and Its Coverings. C. C. Rogers, Chicago.

98. Abstracted in The Journal, June 12, 1909, pp. 1952, 1953. A similar article by these authors appeared in The Journal, March 27, 1909, p. 1035.

99. Abstracted in The Journal, June 5, 1909, p. 1879.

100. **The Pus Appendix.**—Green says that the definition of pus appendix is: Any pus inside or outside the appendix caused by the appendix. This will include most of the really acute and some of the chronic cases of appendicitis. The disease occurs at all ages, but is most common from 12 to 30. The three cardinal symptoms are pain, localized tenderness and resistance. The only treatment is removal of the cause, and the sooner this is done the better the patient's chance for a speedy recovery.

101. Abstracted in The Journal, Jan. 9, 1909, p. 159.

102. Abstracted in The Journal, June 12, 1909, p. 1953

103. Published in the *Kentucky Medical Journal*, Oct. 1, 1909.

106. **Inflation of Lungs.**—In a series of eighteen experiments the following routine was carried out by Capps and Lewis: A dog was chloroformed until both respirations and heart beat ceased from one to three minutes. Then a hard rubber tube was slipped through the larynx into the trachea, and by means of a pump air was forced 15 to 20 times a minute into the lungs. A T-tube in the rubber connection provided for the escape of air between inflations and also controlled the pressure of air during inflation. No precaution was taken to filter the air. In addition to this artificial respiration rhythmical pressure over the heart was often practiced. In unresponsive cases 15 minims of a 1 to 1,000 solution of adrenalin were injected directly into the heart itself to provoke the muscular contractions. These efforts at resuscitation were successful in thirteen of the sixteen cases. One to three weeks later these animals, with one exception, were in good health. Postmortem examinations were then made and the lungs examined in gross and microscopically. Capillary hemorrhages were present in two cases. Half the cases showed a marginal emphysema of moderate degree. This seemed to cause no inconvenience to the animals. Pneumothorax was never present. Infection of the lungs or pleura did not occur in any case.

107. Published in *Chicago Medical Recorder*, August, 1909.

American Journal of Surgery, New York

October

110 Fibroid Degeneration of the Appendix. R. T. Morris, New York.
111 Where is the Appendix? G. I. Miller, Brooklyn.
112 *Inflamed Undescended Testicle Causing or Simulating Appendicitis. F. V. Cantwell, Trenton, N. J.
113 *Résumé of the Various Operative Technics for Dislocated Kidney, and the Application of Each. E. Harlan, Cincinnati.
114 *Surgical Treatment of Chronic Nephritis. J. F. Connors, New York.
115 New Methods of Testing the Internal Ear, Specially the Functionating Condition of the Semicircular Canal System; Differential Diagnostic Signs of Cerebellar Abscess and Tumor. J. McCoy, New York.
116 Urogenital Tuberculosis. G. M. Muren, New York.
117 Dilatation of the Female Urethra. T. B. Spence, Brooklyn.

112. **Undescended Testicle and Appendicitis.**—Cantwell reports four cases to show that one cause of undescended testicle is appendicitis in the fetus. The right testicle is more often retained than the left. In every one of these cases the left testicle was normal. The mildest inflammation might cause a cobweb adhesion, enough to stop the descent of this organ. Adhesions are frequently found in the peritoneum of the fetus. In the first three cases the position of the testicle just beneath the appendix was suggestive of the cause of the ailment.

113. An abstract of this article appears in the report of the Mississippi Valley Medical Association.

114. **Chronic Nephritis.**—Connors does think that any surgical treatment can do good in chronic Bright's disease, but in cases of uremia, anuria, or any other acute attack of poisoning consequent to arrest of kidney function, we can help by surgical interference, to be used only after medical aid has failed. If surgery is to be employed, nephrotomy is the operation of choice. It is his belief that decapsulation of the kidney in chronic nephritis is not a logical procedure.

Journal of Ophthalmology and Oto-Laryngology, Chicago

September

118 Diseases and Disturbances of the Eye Induced by Diseases of the Nose and Its Accessory Sinuses. D. W. Detwiler, El Paso, Tex.
119 Report of a Cilium in the Anterior Chamber. W. A Barr, Chicago.
120 Recent Views Concerning the Tonsils. S. G. Higgins, Milwaukee.

California State Journal of Medicine. San Francisco

October

121 Predisposing Cause of Chronic Suppurative Otitis Media. G. P. Wintermute, Oakland.
122 Cerebral Complications of Middle-Ear Suppuration. L. C Deane, San Francisco.
123 Eye Symptoms in Intracranial Complications Following Middle-Ear Suppuration. V. H. Hulen, San Francisco.
124 Treatment of Chronic Suppuration of the Middle-Ear. M W Fredrick, San Francisco.
125 Indications for Operation in Chronic Purulent Otitis Media. E. C. Sewall, San Francisco.
126 Different Operations for Chronic Suppuration of the Middle-Ear. H. Ellis, Los Angeles.
127 Momberg's Tubing Applied as a Tourniquet for Bloodless Surgery of the Pelvis. G. K. Herzog, San Francisco.
128 *Bone Transference. T. W. Huntington, San Francisco.
129 Combined Typhoid and Malarial Infection. H. Spiro, San Francisco.
130 Vaccines. P. Musbaumer, Oakland.
131 Mixed Infections in Pulmonary Tuberculosis: Their Vaccine Therapy. G. Martyn, Los Angeles.

128. **Bone Transference.**—In May, 1902, the patient, then 6 years of age, was treated for acute infection—osteomyelitis of the tibia. The middle portion of the shaft of the tibia was completely destroyed. The tibial defect was supplied by carrying the divided end of the middle portion of the fibula across to the tibia, countersinking it in the upper remaining fragment of the tibia, thereby securing union. The result of the first operation was highly satisfactory and the patient was allowed to walk, bearing his weight on the lower end of the fibula in its normal position. At this time there was manifest hypertrophy of the shaft of the fibula. Very soon, however, it was noted that there was a decided lateral bowing of the foot on the fibula, causing a deformity. Accordingly, six months after the first operation, the fibula was again divided at a point opposite the upper end of the lower segment of the tibia. With little difficulty the transference was completed. Again the wound healed kindly and rapid union was obtained. In six weeks, the child began to walk with little, if any limp, and in this respect the condition has improved, until, at the present time, he walks with a limp; runs as other boys do, plays baseball, football, and, in fact, is walking on a leg which is comparatively as useful as the other. The radiogram demonstrates that the fibula has assumed the dimensions of the normal tibia. Joint function at both knee and ankle remain perfect and there is but slight, if any, limitation of leg rotation.

Vermont Medical Monthly, Burlington

September 15

132 Mental Therapeutics. W. H. Pierce, Greenfield, Mass.
133 Traumatic Lumbago. C. A. Pease, Burlinton.
134 Report of the Surgical Service at the Mary Fletcher Hospital, Burlington, for Three Months. H. C. Tinkham, Burlington.
135 Non-Operative Sarcoma: A Treatment. F. L. Tosier, Washburn, Me.

Maryland Medical Journal, Baltimore

October

136 Surgery of the Thyroid Gland. R. Winslow, Braddock Heights.
137 Paracelsus. H. M. Cohen, Baltimore.

Journal Oklahoma State Medical Association, Muskogee

October

138 Diffuse Suppurative Peritonitis. A. L. Blesh, C. E. Lee and H. Reed, Oklahoma City.
139 Preventive Puerperal Septicemia J. W. Scarborough, Russel.

Interstate Medical Journal, St. Louis

September

140 Toxemia of Pregnancy. H. M. Stowe, Chicago.
141 The Art of Refraction. J. Green, St. Louis.
142 Cerebellar Tumor, with Statistics of 30 Operations. H. Cushing, Baltimore.
143 Acute Prostatitis. H. Jacobson, St. Louis.

Journal of Nervous and Mental Disease, Lancaster, Pa.

October

144 *Juvenile General Paralysis. W. H. Hough, Washington, D. C.
145 *Hereditary Spastic Paraplegia; Report of Seven Cases. J. Punton, Kansas City, Mo.
146 *Thrombosis of the Cervical Anterior Median Spinal Artery: Syphilitic Acute Anterior Poliomyelitis. W. G. Spiller, Philadelphia.

144. **Juvenile General Paralysis.**—The case reported by Hough is considered one of interest not solely on account of its being a typical one both clinically and pathologically, but also because of the presence of the double nucleated Purkinje cells and the calcification of the cerebellar arteries in a girl 14 years of age.

145, 146. Abstracted in The Journal, July 31, 1909, pp. 405-406.

Archives of Ophthalmology, New York

September

147 Analyses of the Ash of the Normal and the Cataractous Lens. W. E. Burge, Baltimore.
148 Alterations in the Color Fields in Cases of Brain Tumor. J. Bordley and H. Cushing, Baltimore.
149 A Form of Retinal Disease, with Extensive Exudation. G. E. de Schweinitz, Philadelphia.
150 Neuroretinitis in Chlorosis. W. C. Posey, Philadelphia.
151 Metastatic Carcinoma of the Orbit. E. A. Shumway, Philadelphia.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

September

152 The Milk Question from the Standpoint of the Pediatrician. J. H. McKee, Philadelphia.
153 The Therapeutic Action of Iodin and Mercury in Diseases Other Than Syphilis. H. A. Robbins, Washington, D. C.
154 Seasonal Influence on Suicide. W. F. R. Phillips, Washington, D. C.
155 Preventive Medicine in a Neglected Direction. B. C. Downing, Lexington, Mass.
156 Gastric Ulcer. J. V. Shoemaker, Philadelphia.
157 Headaches and Their Treatment. G. Rankin, London, Eng.

Kansas City Medical Index-Lancet

October

158 Surgical Treatment of Malignant Disease of the Rectum. J. M. Frankenburger, Kansas City, Mo.
159 Fractures of the Patella: Should They be Operated on? Why? When? How? A. P. Heineck, Chicago.
160 Use of Thyroid Extract in Treatment of Cretinism. J. E. Shaw, Mill Valley, Cal.
161 Requisites for the Treatment of Psychoneuroses. T. A. Williams, Washington, D. C.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

October 2

1 The Medical Library in Postgraduate Work. W. Osler.
2 Plea for a More Living Pathology. H. Sainsbury.
3 Case of Double Cervical Rib. R. Donaldson.
4 *Formalin-Iodin Catgut. F. J. Steward.
5 *Chronic Edema of the Face and Mucous Membranes. J. Adam.
6 Suppuration Treated by Vaccines. S. Mallanah.
7 Uncured Rice as a Cause of Beriberi. W. G. Ellis.
8 Operative Treatment of Obstructive Jaundice and Proper Selection of Cases. B. G. A. Moynihan.
9 Resection of Intestine. G. P. Newbolt.
10 Perforative Duodenal Ulcer. A. B. Mitchell.
11 Modern Methods in Treatment of Tuberculous Joints. W. Macewen.
12 *Unusual Case of Echinococcus (Hydatid) Cyst; Diagnosis and Treatment. G. A Syme.
13 Operations for Liver and Lung Hydatids. F. D. Bird.
14 Four Cases of Removal of the Gasserian Ganglion. A Blayney.
15 Scopolamin-Morphin Narcosis. C. Leedham-Green.
16 *Series of 212 Cases of Total Enucleation of Prostate. P. J. Freyer.
17 *Diagnosis of Cancer by Examination of the Blood. E. C. Hort.
18 Intestinal Anastomosis. G. H. Edington.
19 Diseases of the Lymphoid Tissue of the Conjunctiva. E. T. Collins.
20 Sarcoma of the Chorioid. J. Hinshelwood.
21 The Visual Acuity of School Children. W. B. I. Pollock.
22 Ophthalmia Neonatorum. S. Stephenson.
23 Malformed Cornea in Inherited Syphilis. E. Fuchs.
24 Treatment of Glaucoma by Trephining. F. Fergus.
25 Serodiagnosis of Syphilis. A. Fleming.
26 Diaphragm Test for Binocular Vision and Its Disorders. N. B. Harman.
27 A Sectomagraph with Binocular Fixation. J. H. Tomlinson.

4. **Formalin-Iodin Catgut.**—For about two and one-half years Steward has used formalin-iodin catgut. This is ordinary commercial formalin catgut, made up into short skeins (each skein containing about the right quantity for one operation), and steeped in a 1 per cent. solution of iodin in water for ten days. It is usually sterile in five days, but Steward steeps it for ten to be certain. At the commencement of the operation, skeins of the sizes required are picked out of the stock jars with sterile forceps, and placed in carbolic acid (1 in 20) till needed. This dissolves out the excess of iodin, which might possibly cause irritation. This gut is very strong, although after it has been kept for several months the very fine sizes become brittle. It is very resistant, and consequently there is no fear of too rapid absorption. It is beautifully smooth, uniform in diameter, inelastic and delightful to handle.

5. **Edema of the Face and Mucous Membranes.**—Adam reports 2 cases. In the first case the swelling began at the inner canthus of the left eye, and slowly increased, involving the cheek and the side of the nose; finally solid edema extended from eye to mouth, and from the nose over the whole cheek; it caused the patient much mental misery, owing to the disfigurement. There was no pain or tenderness, but occasionally a feeling of heat and a red flush; the edges of the nostrils, especially the left, were covered with thick hard crusts; the mucous membrane of both inferior turbinals was much thickened, that on the right showing a growth, like a small cherry, occluding the nostril. The tissue of the soft palate and uvula was much thickened; adenoids were still present. The treatment adopted was the removal of crusts in the nostrils with hydrogen peroxid, followed by application of silver nitrate dissolved in sweet spirits of niter, and by an ointment; reduction of turbinal hypertrophy, removal of adenoids and tip of uvula; application of mercurial ointment to cheek, overlaid with absorbent cotton and a firm elastic bandage; iodids and a thyroid preparation internally. After two months the edema disappeared and remained cured; there is still slight thickening of the soft palate and inferior turbinals.

The other patient had had chronic edema of the left cheek, upper lip and the left lobule of the nose for four years; had attended several hospitals and seen nine physicians. The edema, especially that of the upper lip, was very disfiguring. Crusts were found inside the left nostril, and an ulcerated groove down the center of the mucous surface of the upper lip due to the sharp and carious edges of the everted central incisors The treatment adopted was similar to that in the first case, with a similar result. Adam points out (1) that the disease is a local and not a constitutional one; (2) that, so far as the face is concerned, the primary lesion is probably always one of a mucous membrane, or more usually of a mucous orifice; (3) that the edema may affect the mucous membrane as well as the skin; (4) that the condition is curable.

12. **Unusual Cases of Echinococcus Cysts.**—Syme reports a number of rather unusual cases, in some of which the symptoms closely simulated those of gall-stones. Rupture of the cyst eventually led to the making of a correct diagnosis. In one case the cysts were located in the ilium; in another the cyst was in the muscles of the back, to one side of the spine, which communicated with a second cyst in the chest. In a third case, cysts were present among the spinal muscles, the vertebræ were eroded, and cysts had also formed between the laminæ and dura mater. Treatment consisted of enucleation of the cysts.

16. **Enucleation of the Prostate.**—In Freyer's series of 644 operations of enucleation of the prostate to date, there have been 48 octogenarians, ranging from 80 to 89 years, and 9 bordering on this period, aged 79, with 6 deaths. The average age of all his patients is 69 years, the prostates weighing from one-half ounce to 17 ounces, with an average of 2½ ounces. In connection with these 644 operations, there have been 39 deaths, in periods varying from six hours to thirty-seven days after operation, or a mortality of 6.05 per cent. The mortality has been gradually diminishing from 10 per cent. in the first 100 cases to 4.24 per cent. in the last 200. The causes of death were: Uremic symptoms due to chronic kidney disease, 16; heart failure, 6; septicemia, 2; shock, 4; exhaustion (kidneys much diseased), 1; mania (hereditary in one), 2; malignant disease of the liver, 2; heat stroke, 1; pneumonia, 1; acute bronchitis, 2; pulmonary embolism, 1; and cerebral hemorrhage with paralysis, 1. In 114 cases vesical calculi were removed at the same time; but all the deaths in these cases are accepted in connection with the prostatectomy, none being put down to the suprapubic lithotomy involved.

17. **Diagnosis of Cancer by Blood Examination.**—The finding of a normal antitryptic content in any cases in which the

question of malignancy has arisen appears to be of the greatest value in excluding a diagnosis of cancer. Unfortunately, the positive value of a negative diagnosis is not absolute, since the test was of no value in 6 cases out of 100 examined by Hort. The finding of a raised antitryptic content in any case in which the question of malignancy has arisen does not justify a positive diagnosis of the presence of cancer, since Hort found constantly a raised content in measles, scarlatina, intestinal tuberculosis, acute septicemia, some cases of leprosy and syphilis, and a similar rise will also almost certainly be found in many other infections, as well as in certain autoinfections, such as nephritis. In spite of this, however, a raised antitryptic content often appears to be of great value in deciding a doubtful opinion as to the presence of malignant disease, since the greatest incidence of cancer is at the period when the infective incidence (hetero-infection) is at the lowest.

In the absence of obvious infection, the possibility that a raised antitryptic content may sometimes be due to autoinfection from non-malignant cell aberration must constantly be borne in mind. A raised antitryptic content appears to be of the greatest value in distinguishing between an innocent neoplasm and a malignant one.

The Lancet, London

October 2

28 Medical Education. G. R. Murray.
29 St. George's Hospital and the Progress of Physic. H. D. Rolleston.
30 Theory of Vision. F. W. Edridge-Green.
31 *Pathology of Lead Poisoning. K. W. Goadby, and F. W. Goodbody.
32 Spinal Anesthesia in Children and Infants. H. T. Gray.

31. **Pathology of Lead Poisoning.**—Goadby and Goodbody are of the opinion that the essential and primary action of lead intoxication is the production of minute and microscopic hemorrhages in various portions of the body, including the nervous system: and that the clinical symptoms of lead palsy, and its good prognosis when treated early, are explainable by the presence of minute hemorrhages in the peripheral nerves. The presence of these minute hemorrhages in the nervous system also gives an explanation of the varied pathologic findings of many previous workers.

Medical Press and Circular, London

September 15

33 Diagnosis of Pelvic Tumors. A. Giles.
34 Congenital Heart Affections. G. Carpenter.
35 Psychic Treatment of Alcoholic Intemperance. J. D. Quackenbos.
36 *Hereditary Sudden Death. A. Gilbert and A. Baudouin.

36. **Hereditary Sudden Death.**—Gilbert and Baudouin discuss instances of sudden death in persons who may or may not have presented premonitory attacks of syncope, and which is due to an hereditary disposition. In these cases there is a sort of diathesis, the diathesis of sudden death. Sex appears to possess a certain influence. The authors' inquiry bore on fourteen persons who had died suddenly, and of this number eleven were men and three were women. The age at which the fatal syncope took place oscillated between 20 and 62 years. Speaking generally, the incidence of sudden death is earlier in the descendant than in the ancestor by whom the diathesis was transmitted. The underlying cause of the diathesis is heredity. In most of their cases this can only be traced 1 degree, from father to son. In 2 cases it was traced back 2 degrees. Independently of heredity, Gilbert and Baudouin's investigations brought to light many and various predisposing causes. Some of them, supervening only a short time before the final syncope, played the part of accidental causes. These, indeed, are anything but constant, for in several instances nothing whatever could be discovered. In one, a person free, so far as known, from disease and previously in excellent health, fell dead while out walking; similarly in the case of a man, who all at once felt queer, went to bed, asked for something hot, and expires forthwith.

In all are found traces of the same diathesis, and the authors suggest that this may help to explain many cases of death under chloroform. Patients suffering from very mild attacks of typhoid fever sometimes die unexpectedly, and here, again, it would be well to inquire into the family history. One of the most interesting points, possibly the most important of all, is the supervention of periodic attacks of syncope before the fatal one. In other cases the syncopal tendency was less marked, and in some it is distinctly stated that none had ever occurred. In these cases, apart from the morbid heredity and the habitual pallor of the patient, sometimes noted, there is little to note. Death may not be preceded by any premonitory signs. One patient fell dead in the street, another when out walking, and the body of a third was found in bed with the bedclothes undisturbed and a calm look on his face. Sometimes, however, the patient experiences a vague malaise, he groans, asks for something to drink, turns and twists himself about, but in all death is sudden, not the death that follows cerebral hemorrhage, but death due to arrest of the heart.

Journal of Tropical Medicine and Hygiene, London

September 1

37 *A Possible Natural Enemy to the Mosquito. J. M Atkinson.
38 Filaria Philippinensis. G. C. Low.
39 Influence of Certain Biologic Factors on Migration of Mosquitoes. E. H. Ross.
40 Eruption Following Vaccination, From Its Clinical Aspect. G. A. P. Ross.
41 Recent Trypanosome Transmission Experiments. J. L. Todd.
42 Blackwater Fever. H. Hearsey.
43 Blackwater Fever in Cyprus. G. A. Williamson.
44 Sleeping Sickness H Hearsey.

37. Published in the *Lancet*, Sept. 4, 1909.

Journal of Obstetrics and Gynecology of British Empire, London

September

45 *Treatment of Puerperal Convulsions. H. M. Little.
46 Complications and Difficulties in a Series of 250 Ovariotomies. J. M. M. Kerr.
47 Chorioepithelioma Developing in Connection with Birth of a Living Child. H. T. Hicks.
48 Torsion of the Internal Genitalia in the Presence of a Large Fibromyoma of the Uterus. A. Connell.
49 Ligature of the Ovarian Vessels as a Substitute for Oöphorectomy. J. W. Ballantyne.

45. **Puerperal Convulsions.**—Little says: Minimize the use of narcotics and anesthetics. Chloroform is rarely indicated for the control of convulsions, but should be used when general anesthesia is required for examination or delivery. 2. Immediate delivery is advisable, particularly when the child is viable. 3. In the majority of cases the onset of labor is more or less intimately associated with the onset of convulsions; *accouchement forcé*—preferably Harris' method followed by version—has given the best results. 4. Immediately after delivery, if not before, the stomach should be washed out, and several ounces of magnesium sulphate, well diluted with warm water, should be introduced through the tube. The patient should then be sweated by means of a hot-air bath or hot pack. 5. If convulsions recur after delivery, and particularly in postpartum eclampsia, the best results are obtained by withdrawing from 700 to 900 c.c. of blood from one of the veins of the forearm. 6. A large quantity of fluid (forced fluids) should be given for several days, and the amount so given should be tabulated carefully for comparison with the amount of fluid eliminated in the urine and stools. If the excretion is inadequate, repeat the sweating and purgation. Do not allow the patient to become waterlogged. 7. Careful records of ingestion and excretion should be kept for at least ten days, as the involution of the uterus has a marked effect on the general metabolism, particularly between the sixth and ninth days.

Australasian Medical Gazette, Sydney

August

50 Fibroid Tumor of the Uterus. J A. G. Hamilton.
51 Uterine Prolapse. E. T. Thring.
52 Some Difficult Cases of Urinary Fistula in Woman; Prophylaxis and Treatment. R. Worrall
53 Congenital Pyloric Stenosis. R. B. Wade.
54 Syphilis as a Cause of Insanity. S. H Montgomery.
55 Chronic Gonorrhea in the Male. H. S Stacy.
56 *Treatment of Innominate Aneurisms by Distal Ligature—A Brasdorwardrop Operation. E. J. A. Haynes.
57 Ascites Complicating Hepatic Enlargement, Relieved by Intraperitoneal Injections of Adrenalin T Ambrose and N. J Gerrard
58 *Abnormality of the Gall-Bladder. H. C. Hinder.

56. **Treatment of Innominate Aneurisms.**—Haynes tied, simultaneously, the right common carotid artery and third part of the subclavian artery in a man, aged 42. The patient made an uninterrupted recovery, the wounds healing by first

intention. The radial pulse was fairly established at the wrist, the congestion and edema had gone from the arm, pain, thrill and pulsation had ceased in the tumor, the aneurismal bruit had gone, and the patient's cough was much improved. He expectorated blood-tinged mucus for a while, and the râles in the right chest were very few. Three months afterward there was no pain or difficulty in breathing, the tumor was decreasing in size, and there was no pulsation, thrill or bruit. The man had good use of his arm, and wanted permission to go to work, felling trees with an axe. He resumed his former hard work and suffered no inconvenience.

58. **Abnormality of Gall-Bladder.**—In one case Hinder found a septum which divided the gall-bladder into two unequal parts. This septum was thin and extended about half way up the fundus. It was placed transversely parallel to the under surface of the liver. There were stones in the main portion, which held direct communication with the cystic duct, and there was one small flat stone in the smaller division. In the second case no gall-bladder was to be found at first, but careful search disclosed a tiny gall-bladder about an inch long and as large as the terminal joint of the little finger. The wall was much thinner than that of an ordinary gall-bladder, and it contained several very small calculi. In the third case there was absolutely no sign of gall-bladder or gall-bladder fissure, merely a little dimple at the edge of the liver. There were no adhesions, but a falciform band of tissue about 1¼ inches in length, stretching from the liver to the peritoneum covering the bile duct, hepatic artery and portal vein. The common duct was clear. The pancreas was enlarged and somewhat hard. Both of these two men claimed to have rather poor digestion.

Annales de Gynécologie et d'Obstétrique, Paris

September, XXXVI, No. 9, pp. 513-576

59 Human Milk Drawn and Fed to Infants. (La tétée artificielle.) V. Wallich.
60 *Vomiting of Pregnancy. (Des vomissements de la gestation.) A. Pinard. Commenced in No. 7.

60. **Vomiting of Pregnancy.**—Pinard presents a historical sketch of the subject from Hippocrates to date. In his experience with 843 cases the primiparæ predominated; in 72 per cent. the vomiting commenced early and lasted for about three months, finishing before the end of the fourth month; in 28 per cent. the vomiting continued for five months and more, and in 5 per cent. throughout the entire pregnancy. In 19 out of 127 cases of hydatid mole vomiting occurred and always of exceptional severity. He never observed fever with the vomiting, but the pulse was frequently modified, and sometimes within wide limits in the same woman at different hours. When the pulse is over 100 the organism is suffering from loss of water, the urine becomes scanty and respiration is rapid and shallow. Constipation is the rule and there is extreme thirst. The tongue is very red, as if varnished, and, with or without hallucinations or tendency to syncope, coma ensues and the woman dies without ever having presented a higher temperature except during the last hours. In some cases the vomiting ceased two days before death. The uterus is generally rather smaller in these toxic vomiting cases, probably from the excessive loss of fluids, and the walls are flabby, sometimes leading to rejection of the idea of a pregnancy. Even when the uterus has been artificially evacuated and the organism resupplied with fluids, the acceleration of the pulse may persist for some time after cessation of the vomiting, sometimes as long as for three weeks after the uterus has been emptied. He has noticed that these women lose weight as pregnancy progresses; this was noticeable in 42 per cent. of his cases. All these facts observed have convinced him that the vomiting is a sign of intoxication, and that, as a rule, the organism conquers this intoxication, but it may be so severe as to lead to a fatal outcome; the most constant, the most easily supervised and at the same time the most serious reaction is the acceleration of the pulse. He is inclined to assume that the pregnant organism generates some poison during the first half of the pregnancy, which has a special action on the vomiting center and causes, first, hypotension and then acceleration of the heart. Another poison seems to be generated during the last half of the pregnancy which acts also on the vomiting center, but induces hypertension and a tendency to convulsions. The liver is probably concerned in the production of these toxins, but the principal part, he believes, is played by the corpus luteum, which during pregnancy is larger than the hypophysis. In some cases the vomiting persists even after subsidence of the cause, from what he calls the *aptitude vomitive individuelle*, and in these cases suggestion may arrest the tendency to vomit. But when the intoxication still persists, suggestion alone is impotent, and treatment must be directed to eliminate the toxins, relieve the liver and kidney functioning, and prevent further autointoxication by restricting the patient to a milk-vegetable diet. So long as the pulse is under 100, the toxemia is not so excessive as to require interruption of the pregnancy, but he advises this at once when the pulse goes over 100. Delay may be fatal, or, at least, may expose the patient to the danger of paralysis. In 5 of his cases neuritis with atrophic paralysis developed later. Saline transfusion before, during and after the evacuation of the uterus is a useful adjuvant, and no food should be allowed until the woman can take considerable quantities of water by the mouth without vomiting. Water and milk should be all that is allowed until the pulse is permanently normal once more. He has witnessed serious symptoms develop after ingestion of an egg before the pulse rate was normal. In conclusion, he gives the details of 16 cases of uncontrollable vomiting in his experience since 1902, in which treatment was on these principles, the results justifying his assertions.

Annales de l'Institut Pasteur, Paris

August, XXIII, No. 8, pp. 585-663

61 *Immunization of Cattle Against Tuberculosis. (Recherches sur l'immunisation antituberculeuse.) H. Vallée.
62 Mechanism of Action of Arsenic Derivatives in Trypanosome Infection. (Mécanisme d'action des dérivés arsénicaux dans les trypanosomiases.) C. Levaditi.
63 *Rabies at Constantinople. (La rage et le traitement antirabique à Constantinople.) P. Remlinger.

61. **Immunization of Cattle Against Tuberculosis.**—Vallée here presents the conclusions of six years of extensive research in this line at the state veterinary college at Alfort. About 166 grown cattle and 500 calves were utilized in the experiments; the best results were obtained with intravenous inoculation of living tubercle bacilli of a much attenuated strain derived from a horse. The slight virulence of this strain and its complete absorption after inoculation are important factors in the results obtained. Inoculation with killed bacilli never produced satisfactory results. Ingestion of the cultures by the mouth conferred temporary immunity, the more complete the younger the animal. Vaccination by the mouth, as he calls this method, permitted the young cattle to resist for a year close contact with other cattle with open lung tuberculous lesions, and even after two years of this intimate intercourse with infected animals, they presented only insignificant or hidden lesions, while the control animals showed signs of severe and advanced tuberculosis. This vaccination by the mouth of the young cattle, he affirms, supplemented by the search for and elimination of all cattle with open tuberculosis, opens a prospect for a simple, safe and certain method of eradication of tuberculosis from cattle. The full details of his research will be published in the transactions of the recent International Veterinary Congress which was held at The Hague in September.

63. **Comparative Rarity of Rabies at Constantinople.**—Remlinger estimates the number of vagrant dogs in Constantinople as between 60,000 and 80,000, and yet, he states, rabies is comparatively rare. Only 49 dogs were brought to the public pound on account of rabies, in 1908, and of the 978 persons applying for treatment at the Ottoman Pasteur Institute in 1908 all but 157 of the patients came from regions outside of Constantinople and its suburbs. The rabies virus at Constantinople, however, seems to display unusual virulence when infection does occur. The dogs possess no natural immunity, but are distinguished by the fact that they keep strictly to their own territory, the dogs of one section of the city never venturing into another section, or, if they do, they are torn to pieces by the dogs of the section into which they intrude, while all live in peace when certain arbitrary boundaries are respected. On this account, when rabies does develop in one

section it never spreads to another. A further prophylactic factor is the instinctive avoidance by the dogs of one of their number who is sick with rabies. He is avoided and forced back into his lair if he attempts to come out. This instinctive prophylaxis among dogs is observed everywhere and explains why rabies does not spread more, but remains limited to the section where it first develops. At Constantinople the sections to which the dogs confine themselves are sometimes not more than 150 feet long, and generations succeed each other without ever passing beyond its boundaries. Remlinger estimates that fully 100 dogs die every day at Constantinople, but the birth-rate keeps pace with the mortality or exceeds it.

Presse Médicale, Paris

September 22, XVII, No. 76, pp. 665-672

64 *Urine Reaction for Diagnosis of Incipient Tuberculosis. (L'uroréaction, diagnostic précoce de la tuberculose.) F. Malmejac.
65 Apparatus for General Anesthesia with Ethyl Chlorid. P. Rosenthal and A. Berthelot.

September 25, No. 77, pp. 673-680

66 *Intoxication from Cheese. (Intoxications par le fromage.) A. Fonteyne.

64. **Reaction in Urine in Incipient Tuberculosis.**—Malmejac has been making a special study for ten years of the acidity of the urine in tuberculosis, having found that it differs from normal urine in respect to the persistence of the acidity. Urine from a healthy individual not taking medicine retains its acidity on standing not longer than from three to ten days, while urine from the tuberculous, under the same conditions, retains its acidity for twelve days at least and up to three months or more. Comparison with other affections that might be confused with tuberculosis confirms this practically exclusive persistence of the acid reaction in tuberculosis for an unusually long period. The reaction persists longer, also, the more advanced the tuberculous process, averaging seventeen days for tuberculosis of the first degree, twenty-six for the second, and forty for the third. The acidity may be determined by adding 3 drops of a 1 per cent. solution of phenolphthalein to 10 c.c. of urine diluted with 50 c.c. of distilled water, strictly neutral, in a dish with a flat bottom. The titration is done with decinormal solution of sodium hydrate; the findings represent the proportion of sulphuric acid to the liter. An increase in the acidity of the urine, on standing, is frequently observed in diabetes, but a prompt decrease in the acidity of normal urine is the rule, and the durable level plateau of the curve in tuberculosis is a characteristic phenomenon observed in 97 per cent. of all the tuberculous individuals he has examined, often even before clinical signs of the disease became apparent.

66. **Intoxication from Cheese.**—Fonteyne reports an epidemic of gastrointestinal disturbances affecting forty persons who had partaken of a certain cheese, and bacteriologic and experimental research disclosed a special cocco-bacillus, not resembling the paratyphoid group.

Semaine Médicale, Paris

September 29, XXIX, No. 39, pp. 457-468

67 *Determination of Primary Focus in Generalized Cancer. (Détermination du foyer primitif dans les tumeurs malignes généralisées.) B. Huguenin.

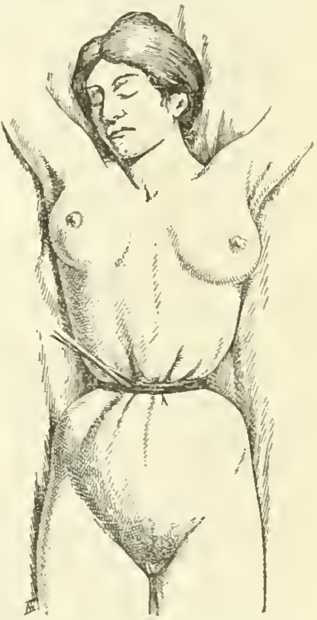
67. **Determination of Primary Focus with Generalized Malignant Disease.**—Huguenin has witnessed a number of cases in which the metastatic tumors rapidly grew to large proportions while the primary growth was small. In one case the primary tumor on the back of the hand was no larger than a nut, while the metastatic tumor in the axilla rapidly grew to the size of an orange. The discovery of an embolus in the center of a tumor confirms its secondary nature; it is frequently possible to locate the primary growth by the structure of the cells in the embolus. In a recent case of this kind he declared that the carcinoma in the bone must be secondary to a primary tumor in the liver or suprarenals, and autopsy later revealed it in the liver. When a carcinoma develops in an organ not containing epithelium, it is wisest to assume that it is a secondary growth. The same applies to a cancer in which the epithelial cells do not correspond to the cells of this kind normally in the region. A crater-like depression is characteristic of primary cancer in the stomach, but cancer of the liver never presents this form, he says, unless it is secondary. A primary liver cancer is knobby; there is no depression in the center and the nodule may have a diameter of 10 or 20 cm., while the secondary carcinoma rarely exceeds 4 cm. in diameter. Carcinoma in other organs, especially the esophagus, is primary when it presents the crater form; the secondary growth generally develops underneath the mucosa and merely lifts it up without forming part of it.

Archiv für Gynaekologie, Berlin

LXXXIX, No. 1, pp. 1-243. Last Indexed September 11, p 901

68 Metastatic Appendicitis and Involvement of the Adnexa. (Secundäre Skolekoiditis bei Angina; Mitbetheiligung der Adnexe.) H. Offergeld.
69 *The Momburg Belt Constriction to Arrest Hemorrhage. (Weitere Erfahrungen mit der "Momburg'schen Blutleere" in Geburtshülfe und Gynäkologie.) W. Sigwart.
70 Eclampsia Not Dependent on the Parathyroids. L. Seitz.
71 Colloid Adenocarcinoma of Cervix. (Schleimkrebs des Collum uteri.) J. W. Miller.
72 An Endochorial Amniotic Cyst. E. v. Graff.
73 True Melena in New-Born Infant. (Melaena vera neonatorum.) v. Rundstedt.
74 *Puerperal Autogenic Infection. (Zur Frage der Selbstinfection.) A. Schmidt.
75 *Influence of Spinal Anesthesia on Contractions of Uterus in Labor. (Untersuchungen über den Einfluss der lumbalen Stovain-Anästhesie auf die Wehenthätigkeit des menschlichen Uterus bei der physiologischen Geburt.) F. Westermark.
76 *Physiology of the Amniotic Fluid. (Weitere experimentelle Beiträge zur Physiologie des Fruchtwassers.) R. Wolff.
77 *Operative Treatment of Puerperal Peritonitis and Thrombophlebitis. G. Leopold.

69. **Hemostasis with Constricting Belt in Obstetrics.**—Sigwart writes from Bumm's clinic at Berlin to report some new cases, bringing the total to 24, in which the Momburg technic was applied to arrest threatening postpartum hemorrhage. The experiences were extremely favorable, and there were no serious by-effects of any kind; in several cases the women bore the constriction without general anesthesia. The rubber tube is wound two or three times around the waist and drawn tighter until the hemorrhage stops. The simplicity of the procedure and its immediate effect commend it, he asserts, for general adoption in obstetrics, for which it is better adapted than for gynecology. He declares that clinical observation and post-mortem findings have confirmed the harmlessness of the procedure, and as no special skill is required for it, he advocates its use in urgent cases while awaiting the arrival of the physician. As the only failure consists in not drawing the belt tight enough, he gives a picture to counteract the natural dread of this procedure, showing a woman with the belt applied arresting postpartum hemorrhage. (The technic was mentioned in The Journal, Nov. 14, 1908, page 1742.)



74. **Autogenic Puerperal Infection.**—In Schmidt's bacteriologic examination of 100 cases before and after childbirth, virulent streptococci were not found in any instance before delivery, and yet of the patients 20 had a febrile puerperium.

75. **Spinal Anesthesia and Its Influence on Labor.**—Westermark has been continuing his research on the influence of anesthetics on labor, and here reports 19 cases in which 0.08 gm. stovain was injected for spinal anesthesia during labor. The effect revealed some interesting physiologic facts, but did not suggest that the technic was as suitable for obstetric purposes as chloroform, which is much simpler to use and less dangerous.

76. **Physiology of the Amniotic Fluid.**—Wolff gives the details of a long series of experiments which have established beyond question, he thinks, that the amniotic fluid is not a product of the mother. The fetus is the exclusive and direct source of the amniotic fluid.

77. **Operative Treatment of Puerperal Peritonitis and Phlebitis.**—Leopold has previously reported 16 cases of acute puerperal peritonitis in which prompt operation saved twelve of the women, and 2 cases of thrombophlebitis in which one of the patients was saved by ligation of the ovarian veins, the third day after the first chills. He here reports another case of acute peritonitis in which the patient was saved by suturing a ruptured point in the small intestine, the day before delivery. The case confirms the advantages of laparotomy for peritonitis if not more than 2 days old, while the resistance is still good and before the intoxication is too severe. In 2 other cases, purulent thrombophlebitis after delivery was treated by ligation of the ovarian veins, but in both the intervention came too late. In one the source of the pyemia was evidently the suppurated site of the placenta, and early panhysterectomy might possibly have saved the patient. In the second case gonococci had evidently penetrated from the vagina into the veins of the paravaginal tissue, with inflammation of the veins in the right groin and secondary thrombosis of the iliac veins and vena cava. The mistake was made that the vein in the groin was not incised and evacuated when its swollen condition first attracted attention, the fifth or sixth day. The reliance on expectant treatment proved vain. When puerperal thrombosis is accompanied by a rising temperature or a pulse curve which slowly subsides again, the prognosis is favorable, but not when there are remittent high fever and chills. This indicates always some localized pus focus. If the pus cannot escape outward, or if it is in an ovarian or iliac vein, it empties into the vein above, and this must be prevented at all hazards; this is possible only by early search for and evacuation of the pus focus. The thrombi may pass into the vena cava early and the germs penetrate the vessel wall, the resulting inflammatory edema soldering veins and arteries together. In the last case this was responsible for his mistaking the hypogastric artery for the thrombosed vein. The attempt to ligate the iliac vein proved impossible, as it could not be separated from the artery. The lesson from his 21 cases, he says, is to operate and operate early, but never too late.

Berliner klinische Wochenschrift

September 20, XLVI, No. 38, pp. 1717-1756

78 *Tuberculin Treatment of Pulmonary Tuberculosis. P. K. Pel.
79 Combination of Iron and Tuberculin. (Klinische Erfahrungen mit Eisentuberkulin.) W. Schultz.
80 Complement-Binding Reaction in Serum and Effusions of the Tuberculous. (Studien über das Blutserum der Tuberkulösen und die Exsudate der serösen Höhlen mittelst Komplementbindung.) C. Frugoni.
81 Saucepan Sliver in Appendix. (Abgesprungenes Kasserollestuck im Wurmfortsatz einer Bruchgeschwulst.) F. Zorn.
82 Nature of Pancreatic Diabetes. (Wesen des Pankreasdiabetes.) H. Hinselmann.
83 *Arteriosclerotic Variations in Blood-Pressure in Single Individual. (Ueber arteriosclerotische Blutdruckunterschiede beim einzelnen Menschen.) H. Engel.
84 History of Ether Anesthesia. (Die Geschichte der Aethernarkose.) M. Bohm.
85 Seasickness. (Seekrankheit.) G. Thoma.
86 Injuries of Posterior Vagina. (Isolierte Kohabitationsverletzungen des hinteren Scheidengewölbes.) G. Bamber.

78. **Tuberculin Treatment of Pulmonary Tuberculosis.**—Pel read this article at the recent international medical congress, concluding his remarks with the statement that tuberculin is still in the period of trial. He has been unable to acquire much enthusiasm for it. There are so many unaccountable by-effects, such as headache, fever, insomnia, rheumatoid pains, loss of appetite and weight, acceleration of the pulse and general depression, while acute exacerbations or complications of the tuberculous process may be encountered, as also an individual hypersusceptibility to tuberculin. The course of treatment is so long, so complicated, the indications are so restricted and there are so many contraindications, that he declares that failure to institute tuberculin treatment is not a sin of omission, for the present. The clinics, hospitals and sanatoriums should make a point of comparative and critical study of tuberculin treatment to place it on a solid basis.

83. **Early Sign of Arteriosclerosis.** Engel calls attention to the differential importance of variations in the blood pressure in different vascular areas. The systolic blood pressure is the expression of the effort of the heart plus the elasticity of the vessels. If there is mechanical obstruction in the vessels, the blood pressure in the area will be proportionately reduced. A circumscribed arteriosclerotic process causes the blood pressure in the region to become much lower than in the area on the other side. The variation is slight, not more than from 5 to 15 mm. mercury, and it may not be evident to the finger, but it can be readily measured with the tonometer. The difference has diagnostic importance only when it is found constant on repeated examination. Consequently, if a constant difference of 5 mm. is found in the pressure in the right and left arm, for instance, this is an essential aid for the diagnosis of arteriosclerosis. This finding is also important for differentiating primary nephritis from arteriosclerosis. In nephritis the cause of the increased blood pressure acts uniformly throughout the body, and local disturbances do not occur in single vascular areas, as in case of arteriosclerotic lesions in the walls of the vessels.

Deutsche medizinische Wochenschrift, Berlin

September 23, XXXV, No. 38, pp. 1641-1680

87 *Revised Conception of Scrofula. (Der gegenwärtige Stand der Lehre von der Skrofulose.) T. Escherich.
88 *Puncture of the Corpus Callosum for Hydrocephalus. (Behandlung des Hydrocephalus durch den Balkenstich.) F. v Bramann.
89 *Localization of Motor Aphasia. (Allgemeine Betrachtungen über die Lokalisation der motorischen Aphasie.) C. v. Monakow. Commenced in No. 37.
90 Importance of Special Sanatorium for Industrial Accidents. (In welchen Heilanstalten wird die Behandlung von Unfallverletzten am zweckmässigsten durchgeführt?) O. Vulpius.
91 *Negative Experiences to Date with Cultivated Spirochetes. (Bisherige Erfahrungen mit der gezüchteten Spirochaete pallida.) J. Schereschewsky.
92 *Faradization of Bladder in Treatment of Tabetic Ataxia. Herzog.
93 Study of Invagination of the Bowel. (Darminvagination.) C. Riedel.
94 Biology of Colostrum. J. Bauer.
95 Case for Tests of Sense of Smell. (Kompendiöser quantitativer Olfaktometer zu klinischen Zwecken.) W. Sternberg.

87. **Scrofula.**—Escherich remarks that the cutaneous Pirquet tuberculin reaction and scrofulous skin lesions—scrofulides—are influenced alike by injections of tuberculin. This cutaneous test has shown the connection between the non-bacillary manifestations of scrofula and tuberculosis. The true cause of scrofulous changes in the skin is the hypersensitiveness of the skin and mucosa resulting from the presence of the antibody, that is, the tuberculous "allergy." The difference between the toxic and the bacillary symptoms of tuberculosis has long been recognized, and is a reason for maintaining the term "scrofula" or "scrofulide" to express the tuberculo-toxic changes in the skin. The term "scrofula" he would retain for those cases of tuberculosis in which the focus is latent and there are merely the lesions known as "scrofulides." If signs of a manifest bacillary focus are present also, he would call this "scrofulo-tuberculosis." Pure scrofula is the most harmless form of tuberculosis in children. A complete cure is the rule, and it confers relative protection against later infection. This also applies to some extent to scrofulo-tuberculosis. It may be obstinate, but it is generally benign. The discovery of the typical scrofulides is thus important for both prognosis and treatment. He discusses the connection between the status lymphaticus and scrofula, accepting some congenital constitutional anomaly, manifested by the former, as the basis for the development of the scrofulous symptoms in the course of tuberculosis. The article, which was presented as an address at the recent international medical congress, emphasized the importance of tuberculin in treatment of scrofula, to supplement the usual measures.

88. **Treatment of Hydrocephalus by Puncture of the Corpus Callosum.**—Bramann has applied this method of treatment in 22 cases, including 8 of hydrocephalus. He aims to relieve the pressure on the brain by perforation of the corpus callosum to establish a broad communication between the fluid in the ventricle and the subdural space of the brain and spinal cord. He assumes that the active flow of the fluid between the ventricle and subdural space will prevent the opening from growing up. For children it is unnecessary to trephine, as a curved cannula can be inserted through a small incision in the dura, close to the sinus, after incising the skin about the middle of the anterior fontanelle, 1 cm. to the right of the median line. The cannula is then pushed in between the wall of the sinus

and the surface of the brain toward the median line until the tip of the cannula reaches the falx and glides along this to the corpus callosum, through which it is pushed. After allowing escape of fluid, which is generally under high pressure, the cannula is worked to and fro until the hole is sufficiently enlarged to ensure its remaining open; then the cannula is removed. In his 8 cases of hydrocephalus the improvement was marked, the fontanelle no longer protuding, but sinking in after the intervention, showing the reduction in pressure. All the children were improved in general health and became less apathetic. Among the cases reported in detail was that of a boy of 10, whose head measured 65 cm.; improvement has been progressive during the year since the operation. The results attained to date confirm the advantage of this continuous drainage by puncture of the corpus callosum in every case of hydrocephalus, even in infants, rebellious to internal measures and not benefited by puncture of the ventricle and lumbar puncture.

89. **Localization of Motor Aphasia.**—Monakow concludes this long review of recent research on this subject and clinical experience with the statement that our present means of research are unable to determine the exact connection between the Broca localization, and the remainder of the cortex. There is evidently a comprehensive and complicated center for speech, or rather an area of excitation, both synchronous and successive excitation, of the foci aggregate.

91. See Berlin Letter, Oct. 2, 1909, p. 1112.

92. **Faradization of the Bladder in Treatment of Ataxia in Tabes.**—Herzog applied the induced current directly to the urethra by introducing an electrode about 1 cm. deep into the urethra, with a large electrode on the lumbar region of the spinal cord, passing the current for about three minutes. The measure was applied for cystitis with recurring pyelitis in a patient with tabetic ataxia. From the first sitting the patient noticed that not only the bladder trouble, but his gait was improved, and after twenty applications he was able to return to military service. The ataxia is now so slight that it does not attract lay attention. In 3 other cases similar faradization was equally successful in 2, and with satisfactory results in the other. There was no possibility of influence from suggestion in 2 of the cases. He ascribes the effect to the powerful stimulus from the periphery by way of the intact sensory tracts from the bladder, so he calls the method "faradization of the bladder." He cites Hamilton's recently published success from irrigation of the bladder in tabes, the effect of which is probably by the same mechanism as from the electric treatment.

Deutsche Zeitschrift für Chirurgie, Leipsic

September, CI, Nos. 1-2, pp. 1-204

96 *Operative Treatment in 30 Cases of Tuberculosis of the Kidney. (Zur Nierenchirurgie.) H. Doering.
97 *Separation of Both Upper Jaws from Base of Skull and Their Reduction. (Abbruch beider Oberkiefer von der Schädelbasis und ihre Reponierung.) Thöle.
98 Stomach Surgery. (Operationen am Magen.) K. Mizokuchi.
99 Pseudoperitonitis from Addison's Disease. (Pseudoperitonitis bedingt durch Morbus addisonii.) M. Landow.
100 *Mechanism of Anal Sphincter. (Experimentell-chirurgischer Beitrag zur Lehre vom Mechanismus der Analsphinkteren.) H. Matti.
101 Rupture of Biceps. (Zur Frage der Ruptur des Biceps brachii.) G. Ledderhose.
102 *Trephining for Fracture of Base of Skull. (Zur Frage der Trepanation bei Schädelbasisbrüchen.) H. Luxembourg.
103 Subcutaneous Prolapse of the Bowel. (Zur Lehre vom subkutanen Intestinalprolaps.) Esau.

96. **Tuberculosis of the Kidney.**—Doering reports the experiences at Braun's clinic at Göttingen with 30 cases of tuberculosis of the kidneys, all but 10 in women. In 19 cases the kidneys were the only site of the tuberculosis. Heredity seemed evident in 9 cases. Pain was the first sign of trouble in all but 2 cases, in which no pain was experienced at any time; fever was observed in the majority, but the kidney was enlarged in only 6 cases. In 25 cases an operation was performed, and 19 of the 20 patients who survived the operation have been recently examined; 4 succumbed to tuberculosis in other organs, but 16, 80 per cent., are in good health from one to eleven years since. He compares his primary mortality with that of others in a compilation of 642 cases. Only 4 of his patients with combined tuberculosis were permanently cured; besides the kidney process, one had a tuberculous bone lesion, the others an apical or cutaneous lesion. He summarizes the details of the entire series.

97. **Dislocation of the Entire Upper Jaw.**—In a horseback accident the upper jaw was separated from the base of the skull, but Thöle succeeded in restoring it to place by means of an appliance exerting pressure by a band passing around an upright rod at the back of the neck, worn for three weeks, and followed by a dental appliance. By the end of six weeks articulation was apparently normal once more.

100. **The Mechanism of the Anal Sphincters.**—Matti's attention was called to this subject by partial incontinence in 3 cases of destruction of some of the muscles, interrupting the continuity of the external sphincter, without disturbance in the innervation. The patients all complained of diarrhea; it was due solely to mechanical insufficiency, although ascribed erroneously to recurring intestinal catarrh and long treated as such in vain. The anus seemed to be intact. The partial defect was in the internal sphincter. Fifty pages are devoted to the description and discussion of his experimental research on the subject, all confirming the functional dependence between the internal and external sphincters and the importance of respecting the sphincters in operating on the rectum. The internal sphincter shares in the peristalsis, and its function in closing the orifice is dependent on mechanical stimulation from the external sphincter muscle.

102. **Trephining in Fracture of the Base of the Skull.**—Luxembourg reports the details of 5 cases in which trephining was done for symptoms of pressure on the brain after fracture of the base of the skull. Clots were found in each case between the dura and the skull, fully explaining the symptoms. The improvement at once or some time after was striking; consciousness returned, the headache subsided partially or entirely and the paralysis was much improved.

Fortschritte der Medizin, Leipsic

September 10, XXVII, No. 25, pp. 929-976

104 Treatment of Psoriasis. (Behandlung der Schuppenflechte.) Hübner.
105 Unilateral Movements of the Eyes. (Einseitige Augenbewegungen.) A. Bielschowsky. Commenced in No. 24.

Medizinische Klinik

September 19, V, No. 38, pp. 1411-1464

106 *Serodiagnosis from Clinical Standpoint. F. Kraus.
107 *Operative Treatment of Epilepsy. F. Krause.
108 Pyothorax and Pyopneumothorax. N. Ortner.
109 *Differentiation of Tricuspid Insufficiency. (Kann man klinisch die Trikuspidalinsuffizienz diagnostizieren?) H. E. Hering.
110 Prevention of Infection in Operating on the Eyeball. (Die Infektionsverhütung bei Bulbusoperationen.) A. Elschnig.
111 Tuberculous Chlorioiditis. (Ueber chronische Aderhautentzündung auf tuberkulöser Grundlage.) St. Bernheimer.
112 *Report of 450 Goiter Operations. (Ueber Kropfoperationen.) H. Schloffer.
113 Secondary Cutaneous Scirrhus. (Ueber sekundären Szirrhus der Haut.) C. Kreibich.
114 *Determination of Acidity of Gastric Juice. (Zur Methodik der Aziditätsbestimmung im Magensafte.) A. Müller..
115 Sporotrichosis. B. Bloch.

106. **Serodiagnosis from Clinical Standpoint.**—Kraus remarks that serodiagnosis not only reveals the identity of the disease-germ, but is an index of the reacting powers of the organism. The defensive reactions are both cellular and humoral, and they are by no means restricted to infections, but have a much broader field. Only part of the antitoxins produced serves for the defense of the organism; a certain proportion evidently becomes the source of further disturbances. He adds that there are probably still other kinds of immunity of which we are ignorant, and it is also probable that cellular immunization plays a far more comprehensive part in clinical pathology than our experimental immunity research has yet revealed. He declares that there is not a single absolutely specific reaction; each biologic reaction is only relatively specific, dependent on the reacting organism, its reaction products and the quantity of antigen available or used for the reaction. He presents the subject classified under various headings and the problems it is opening up before us. In syphilis, for example, it is important to determine whether the Wassermann test is constantly positive in every case of unmistakable syphilis and every return after a quiescent period, whether mercurial treatment constantly transforms a positive into a negative

response; whether women apparently healthy but giving a positive response bear syphilitic children; whether persons giving a positive reaction are able to infect others, have relapses and develop tabes, paralysis or aortitis, and, finally, whether new primary infection is possible in persons giving a positive response. At the same time the investigator must bear in mind the analogy to other infectious diseases; the survival of the antibodies after recovery from the disease; the occurrence of positive reaction many years after the last manifestations; the fact that men giving a positive reaction are yet able to marry and rear healthy children and the wife remain healthy; fluctuations in the reaction; the possible development of paralysis notwithstanding apparently effectual mercurial treatment, and the occurrence of a positive response even in the stage of paralysis, although the latter cannot be cured by mercury. It is possible, he continues, that the Wassermann test may prove a guide for an individualizing biologic mercurial treatment and aid in the prognosis, as positive findings indicate that recovery is not complete. He regards it as established that progress will be realized by occasional repetition of the test and institution of renewed treatment in case of positive findings, hoping that in this way it may be possible to ward off paralysis and tabes. He has not found the cutaneous tuberculin reaction of much value for adults, but considers it extremely important for children. The tuberculin reactions depend on the force of the stimulus, the excitability and capacity for reacting of the cells—all of which are variable factors, and all should be borne in mind in estimating the response to the test. In conclusion, he remarks that the internists and the general practitioners pay altogether too little heed to the possibilities of serodiagnosis at present. There is grave danger that by leaving to special institutions the exercise of the different diagnostic and therapeutic measures, they may lose their own birthright, and that diseases, and not the diseased individuals, will get the treatment. There is also danger for the general practitioner striving to learn the technic of some special diagnostic method, such as the Wassermann test, and taking a special "lightning course" in the technic. While specializing in this single reaction he leaves out of account altogether the other achievements of immunity research, and thus gets a one-sided view of the subject.

107. **Operative Treatment of Epilepsy.**—Krause has operated in 12 cases of general epilepsy since 1906, and one of his patients, a man of 31, was so improved that he has been able to manage his large factory for three and a half years. Before the operation he had up to three seizures a day, but since they recur only every fourth or sixth week. Another patient, a man of 21, has had no seizures during the year and a half since the operation. No appreciable benefit was observed in the other cases. Cooperation between neurologists and surgeons will certainly lead to progress in the operative treatment of epilepsy, such as has already been realized in other operative affections of the spinal cord and brain.

109. **Differentiation of Tricuspid Insufficiency.**—Hering remarks that increased knowledge has robbed us of what was supposed to be a certain sign of tricuspid insufficiency, namely, the jugular-ventricle pulse (*Kammervenenpuls*). This is as much as to say that we have at present no means of diagnosing tricuspid insufficiency. At the same time, in a certain number of cases, we are in a position to exclude tricuspid insufficiency, notwithstanding the existence of the jugular-ventricle pulse. These are the cases in which the jugular pulse is so weak that it is scarcely recognized as such, but the pulse is of the permanently irregular type, there are no signs of stasis and there may be absolutely no heart murmur. These features of the case exclude tricuspid insufficiency. Only when the jugular-ventricle pulse is pronounced should it be suspected.

112. **Operations for Goiter.**—Schloffer has been able to learn the late results in 235 of 450 patients on whom he has operated for goiter during the last six years, and expects to hear from others. In 199 cases the patients report most gratifying results from the operative treatment, but in 28 the tumor has recurred, causing some disturbance, and in 32 without disturbances. Eight patients say the operation gave no relief. The operative mortality in the cases without suffocation was 1.6 per cent., but 5 of the 130 patients who had typical attacks of suffocation succumbed.

114. **Simplified Technic for Determination of the Gastric Acidity.**—Müller gives a colored chart to serve as the color scale for the test, the eight separate tints ranging from clear yellow, in the cases with total absence of acidity, through intermediate orange tints to a reddish violet in the cases with high acidity. He never found more than 1 per thousand acidity in his tests. The stain is a cold saturated alcoholic solution of the stain tropæolin-00, and 0.1 c.c. of the solution is added to 5 c.c. of gastric juice, when at once the mixture is ready for comparison with the color scale given on a fly-leaf for ready reference. He adds the tabulated details of 24 cases in which the findings with this simple test were compared with the more complicated usual tests, the agreement between them being almost complete. This test reveals the proportion of hydrogen ions present, and thus is a more exact index of the actual acidity than the titration methods. The tint is always the same, he says, for fluids containing the same number of these ions.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

September, XXX, No. 3, pp. 261-316

116 *Appendicitis and Affections of the Adnexa. (Appendicitis und Erkrankungen der Adnexa uteri.) A. v. Rosthorn.
117 Rare Case of Double Uterus. (Uterus duplex bicornis.) H. Schiller.
118 Congenital Dislocation of the Humerus. (Luxatio humeri congenita.) H. Luft.
119 *The Levator Ani in Respect to Recurrence After Operations for Prolapse. (Bedeutung des Levatorspaltes für die Rezidivprognose der Prolapsoperation.) Adolph.

116. **Appendicitis and Affections of the Adnexa.**—This last communication from the pen of v. Rosthorn discusses the connection between disturbances in the appendix and adnexa and the differentiating points. He gives a number of ilustrative examples: and appeals for further study of: 1. The frequency of appendicitis in women. 2. The causal relation between affections of the appendix and of the female genitalia. 3. Differentiation. Disturbances in menstruation and painful menstruation should not always be referred to pathologic changes in the genital sphere, especially in virgins; pelvic symptoms and suppuration may be traceable to the appendix. 4. Adhesions connecting the appendix and the pathologic internal genital organs are comparatively rare. When they do occur pronounced symptoms may be absent, but they favor the spread of infectious processes from one to the other. 5. The development of appendicitis, chronic from the start, must be accepted. Efforts to define this vague clinical picture are in order to differentiate it from the numerous similar conditions from other causes. 6. The appendix should be examined whenever the abdomen is opened for any cause, but its prophylactic removal requires further research on the physiologic value of the appendix and of the disturbances from lack of its functioning; of the histologic changes to determine whether they are of pathologic nature or not; of the proportion of cases of appendicitis in persons who have been operated on for other pelvic affections; the proportion of permanent cures of the genital affections after appendicectomy and the causes of the numerous failures. 7. The slightest suspicion of appendicitis of course turns the scale in favor of the abdominal route for operating on the pelvic organs. The acceptance of the principle of always removing the appendix brings with it the constant choice of the abdominal route for all operations on the adnexa. 8. There are no sufficient data at present to form any judgment in regard to the frequency of acute appendicitis as a cause of abortion and of postappendicitic changes as a cause of habitual abortion, and the importance of appendicitis as a factor in sterility.

112. **Operations for Goiter.**—Schloffer has been able to learn **Ani Muscles.**--Adolph has been able to examine recently 152 women of the 186 operated on for prolapse between 1904 and 1907, seeking to determine the influence of the gap between the levator ani muscles as a factor in the prolapse. Childbirth stretches these muscles so far apart that the solidity of the floor of the pelvis is much impaired, and his research has shown that this insufficiency of the genital hiatus is frequently overlooked or neglected. It is sometimes impossible to remedy

it, and he asks whether tubal sterilization ought not to be proposed for women with total insufficiency corrected by an operation but sure to return under the stress of another delivery. In his experience the cleft was found nearly normal in 66 cases, moderately enlarged in 23, and extremely enlarged in all the others. Classification of the prolapses shows that the size and severity parallel the width of the cleft of the levator ani muscles, and the end results of the operation for the prolapse show this parallel course still more pronounced. The size of the uterus is also important, as total prolapse more readily occurs with a small hiatus when the uterus is small. Sometimes large prolapse of the vagina with a much enlarged cervix simulates total prolapse, but in reality this is not the case unless the uterus is small. When it is large it does not descend so readily, but when the hiatus is very wide the size of the uterus is not of much moment for the amount of prolapse. It is therefore evident that by determining the width of the gap between the levator ani muscles it is possible to foretell the outcome of an operation for prolapse. Even hysterectomy does not ensure against recurrence of the prolapse if the hiatus is left unduly gaping. If it cannot be closed, the aim should be to hold up the uterus in some way and to strengthen the levator muscles by exercise. The recent anatomic research in this line explains the success realized by T. Brandt in the cure of prolapse by his gymnastic exercises, which was at first regarded so skeptically. All this applies especially to primiparæ, as the conditions preparing the way for prolapse are created almost invariably at the first child-birth. Forcible delivery is especially liable to enlarge this hiatus and thus deprive the genital organs of the necessary support from the juxtaposition of the levator ani muscles. In about half of the cases of the widest hiatus the child had been delivered with forceps. In 80 per cent. of his cases the women had remained in bed until the eighth day after delivery.

Münchener medizinische Wochenschrift

September 21, LVI, No. 38, pp. 1929-1984

120 *Hereditary Transmission of Syphilis. (Vererbung der Syphilis auf Grund serologischer und bakteriologischer Untersuchungen.) L. Baisch.
121 Cholera a Nitrous-Acid Intoxication. (Der Nachweis des Choleragiftes.) R. Emmerich.
122 Electrocardiograms of the Auricles with Mitral Stenosis. (Ueber die Vorhoferhebung des Elektrokardiogramms bei Mitralstenose.) A Samolloff and M. Steshinsky.
123 *Febrile Reaction to Salt in Infants and Elimination of Chlorin. (Das sogenannte Salzfieber und die Chlorausscheidung beim Säuglinge.) R. Friberger.
124 Miliary Tuberculosis in the Puerperium. (Miliartuberculose im Wochenbett.) Rose.
125 The Trachoma Corpuscles. (Ueber die von Prowazek bei Trachom gefundenen Körperchen und ihren diagnostischen Wert.) W. Grüter.
126 Determination of Coagulating Time of Blood. (Neue Methode zur Bestimmung der Gerinnungszeit des Blutes.) W. Riebes.

120. **Inheritance of Syphilis.**—Baisch reports from Döderlein's clinic for women at Munich the results of his research seeking to define the serologic and bacteriologic laws governing the transmission of syphilis to the offspring. In about 80 per cent. of the cases of maceration of the fetus, syphilis must be incriminated, but in the remainder nephritis in the mother or possibly tuberculosis, malformation of the fetus or entanglement in the umbilical cord is responsible for the premature death of the fetus. Typical habitual abortion in the first four months of pregnancy does not belong to the symptomatology of syphilis. The mothers of syphilitic children are probably all infected with syphilis, but fully 75 per cent. of such mothers in his experience presented no certain signs of syphilis and the Wassermann test is frequently negative. Colle's and Profeta's laws are explained by the fact that new infection is impossible, as infection is already installed. The best prospects for therapeutic success are in energetic treatment of the mothers before and during the pregnancy.

123. **Fever After Injection of Salt in Infants.**—Friberger reports experiences with 74 infants, averaging three months old, injected subcutaneously with 10, 30 or 60 c.c. of physiologic salt solution. A rise of temperature was observed in only 28, and although the curve was typical, yet there did not seem to be any regularity in the febrile response. As a rule, the response was most regular in the infants with intestinal disturbances.

Virchows Archiv, Berlin

September, CXCVII, No. 3, pp. 385-566

127 Complications and Spread of Pulmonary Tuberculosis. (Studien über Komplicationen der Lungentuberkulose und über die Verbreitung der Tuberkelbazillen in den Organen und im Blut der Phthisiker.) G. Liebermeister.
128 Nodules Resembling Tubercles, Caused by Eggs of *Schistosomum japonicum*. (Ueber tuberkelähnliche Knötchenbildung verursacht durch Eier von Schistosomum japonicum.) T. Tsunoda.
129 Influence on the Heart Musculature of Disturbances in the Coronary Arteries. (Einfluss der Erkrankungen der Koronararterien auf die Herzmuskulatur mit besonderer Berücksichtigung der chronischen Aortitis.) E. v. Redwitz.
130 Mixed Tumors of Parotid Region and Endotheliomas. (Zur Kenntnis der sog. Mischgeschwülste der Parotisgegend und Zur Endotheliomfrage.) J. Fick.
131 Total Obliteration of the Portal Vein Trunk. (Ueber totale Hämangiomatöse Obliteration des Pfortaderstammes und über hepatopetale Kollateralbahnen.) L. Pick.
132 Retrogression of Sebaceous Glands. (Ueber Rückbildung an Talgdrüsen.) J. Misumi.
133 Elements of Diseased Kidney Taking Blue Stain. Ueber durch die Weigertsche Fibrinfärbungsmethode blaufärbbare Anteile der kranken Niere.) V. Babes.
134 *Origin of Appendicitis. (Ueber die Aetiologie und Pathogenese der Epityphlitis mit besonderer Berücksichtigung der hämatogenen Infektion.) Y. Oguro

134. **Origin of Appendicitis.**—Oguro was unable to discover anything suggesting the probability of blood-borne infection in the 20 cases of appendicitis of which the minute details are reported. On the other hand, the findings all confirm the importance of stagnation in the bowel content as the chief factor in appendicitis.

Wiener klinische Wochenschrift, Vienna

September 23, XXII, No. 38, pp. 1289-1322

135 Treatment of Progressive General Paralysis with Injection of Nuclein. J. Donath.
136 *Hemolytic Reaction in Blood with Cancer. (Weitere Untersuchungen über hämolytische Reaktionen und über Komplementbindung im Blute von Krebskranken.) G. Kelling.
137 Signs of Insufficiency of the Muscles in Congenital Dislocation of the Hip Joint. (Ueber das Trendelenburgsche Phänomen bei der angeborenen Hüftverrenkung.) A. Saxl.
138 Femoral Hernia (Radikal-Operationen von Schenkelhernien.) J. Fabricius.
139 *Diseases of the Esophagus. (Erkrankungen der Speiseröhre.) R. Kaufmann and R. Kienböck. Commenced in No. 36.

136. **Hemolytic Reaction in the Serum with Cancer.**—Kelling's statements in regard to the specific reaction in the serum of patients with cancer have been summarized in The Journal. He here tabulates the findings in a series of 100 patients tested for the hemolytic reaction to both human and fowl blood corpuscles. Also in a series of 50 tested with less concentrated suspensions. The results confirm the differential importance of the isolysin tests for the diagnosis of cancer. His experience includes also a series of 600 cases in which the test was applied similarly to the first series of 600 reported in 1907 and with similar findings. In conclusion he tabulates the parallel findings with the hemolytic and the complement-binding tests in 200 cases. No reaction was apparent in 96 cases of ulcer, neurosis, gastritis, gall-stones, gastrointestinal catarrh or anemia, while one or the other or both were positive in all but 4 of the 78 cases of carcinoma, all but 2 in the digestive tract.

139. **Affections of the Esophagus.**—In this communication from Kienböck's radiologic institute at Vienna, 13 cases of an affection of the esophagus are reported with the autopsy findings in some and the lessons learned therefrom. In some cases a primary diverticulum induced secondarily spastic closure of the cardia. In others a large diverticulum existed but the periodical recurrence of the disturbances in swallowing showed that the diverticulum was not directly responsible for them. It is evident that the decomposition of the food lodged in the diverticulum irritated the mucosa and thus was the indirect cause of closure of the cardia. In some cases of idiopathic dilatation of the esophagus, the rinsing out of the esophagus did not banish all the disturbances, especially the spasm, until it was supplemented by administration of atropin. When the rinsing out the esophagus cures in such cases, the vagus is manifestly not responsible for the disturbances; a local pathologic condition of the mucosa of the esophagus is inducing the spasm. On the other hand, when there are signs of a neuritis or neurosis of the vagus, or compression or atrophy of this nerve, this alone suffices to explain the spasm, contraction or paralysis interfering with the act of swallowing, and atropin will benefit and possibly cure.

Zentralblatt für Chirurgie, Leipsic

September 25, XXXVI, No. 39, pp. 1345-1376

140 *Femoral Hernia. (Zur Radikaloperation des Schenkelbruches.) H. Hans.
141 Technic for Gastroenterostomy. R. Lenzmann.
142 *Resection of Middle Duodenum. W. Kausch.

140. **Radical Operation of Large Femoral Hernia.**—Hans gives an illustrated description of a method of wire fixation which has proved extremely useful for very large femoral hernias. Poupart's ligament is changed from a flat to a vertical plane and Gimbernat's ligament is strengthened and spread by two stout silver wires, forming a triangle, which embraces the bone and forms a solid support, the ends being sunk in the bone. This technic has the advantages of the Roux method of nailing the ligament to the pubis with a silver double pointed nail, while it does not have the drawback of this, namely, that the nail works loose in time.

142. **Resection of Middle Duodenum.**—Kausch has been much pleased with the results of operating on the duodenum in two sittings, as in a case of cancer of the papilla reported. The first step is merely an anterior cholecystotomy with entero-anastomosis; this relieves the patient and frees him from jaundice. Two months later the radical operation follows, mobilization of the duodenum, posterior gastroenterostomy and resection of the duodenum, first closing the pylorus, then ligating the common bile duct, then cutting the pancreas, including its duct, but without ligation of the latter, then severing the duodenum. The oral stump of the duodenum is then drawn over the cut surface of the pancreas like a cap and sutured there. The ligated end of the bile duct is also drawn into the lumen. By this means the pancreas secretion and discharge from the cut surface all flow into the intestine, and the method permits extensive resection of duodenum, pancreas and bile duct. In the case reported, the patient stood the four-hour operation well and made a smooth recovery, although stomach content, bile and pancreatic juice escaped from the drain for about seventeen days.

Zentralblatt für Gynäkologie, Leipsic

September 25, XXXIII, No. 39, pp. 1353-1384

143 Protecting Action of Normal Serum Against Effect of Human Placenta Juice in Rabbits. (Schutzeffekte normaler Sera gegen die Wirkung menschlichen Placentasaftes beim Kaninchen.) F. Schenk.
144 Snare for Intrauterine Exploratory Excision. (Zur intrauterinen Probeexzision.) V. Frommer.
145 Gauge for Internal Measurement of the Pelvis. (Ein technischer Versuch zur inneren Beckenmessung.) O. Orth.

Gazzetta degli Ospedali, Milan

September 21, XXX, No. 113, pp. 1193-1200

146 *Suprarenal Treatment of Uncontrollable Vomiting of Pregnancy. (Iperemesis gravidarum e terapia adrenalinica.) S. Rebaudi.

September 23, No. 114, pp. 1201-1208

147 Bile Enrichment of Typhoid Bacilli from the Blood. (Sulla coltivazione del bacilio del tifo dal sangue per mezzo dell' arricchimento in bile.) A. Ori.

September 26, No. 115, pp. 1209-1224

148 Displacement of Apex Beat with Mitral Defect. (Impulso da cardiaco invertito in un caso di doppio vizio mitralico.) U. Deganello.

146. **Vomiting of Pregnancy and Suprarenal Treatment.**—Rebaudi writes from Bossi's clinic at Genoa to call attention to the remarkable effect of a few cubic centimeters of a solution of the juice from the capsule of the suprarenals in promptly arresting previously uncontrollable vomiting. The patient was a young woman at the third month of her second pregnancy dangerously debilitated from the almost incessant vomiting. All other treatment was suspended except the nutrient enemas, and 10 drops of 1 to 1,000 adrenalin solution were given morning and night, at first in an enema of 150 gm. water with 20 drops of laudanum, after three days in ice water by the mouth. The vomiting ceased by the second day and by the third the patient was able to retain a little food. On the eleventh day the dose was reduced to 10 drops a day, and this was kept up for nine more days. Toward the end of the pregnancy there was a recurrence of tendency to nausea and 10 drops of the adrenalin solution were given for five days, during which the tendency subsided and a well-developed child was delivered at term and is now growing normally.

Policlinico, Rome

September 26, XVI, No. 39, pp. 1221-1252

149 *Tuberculin Treatment of Pulmonary Tuberculosis. (Tubercolino-terapia.) G Basile.
150 *Acute Poliomyelitis and Measles. (Poliomielite acuta anteriore e morbillo.) V. Barbieri.

149. **Tuberculin Treatment of Pulmonary Tuberculosis.**—Basile was obliged to discontinue the tuberculin treatment in the three cases reported, as it seemed to be doing harm instead of good, after a thorough trial according to the most approved technic.

150. **Poliomyelitis Following Measles.**—Barbieri's patient was a boy of 7, who ten days after recovery from an apparently ordinary attack of measles developed signs of atrophic infantile paralysis or acute anterior poliómyelitis. All the limbs were simultaneously affected, and the paralysis reached its height by the end of a few months. It has persisted practically unmodified during the two years since. No cause can be assigned except the preceding measles.

Riforma Medica, Naples

September 27, XXV, No. 39, pp. 1065-1092

151 *Malta Fever. (Febbri e febbricole setticemiche da micrococco di Bruce. VIII.) G. Rummo.
152 *Reaction to Differentiate Exudation from Transudate. (Nuova reazione per differenziare gli essudati dai transudati.) S. Gangi.

151. **Malta Fever.**—Rummo describes the characteristics of this disease, mentioning that the incubation may vary from three to fifteen days or more, while the disease may last for a few weeks to several months or even years, though early complete recovery is the rule. There is no special type of fever, and the disease can be differentiated from paratyphoid or an atypical typhoid, he asserts, only by the seroreaction. The micrococcus has been found in the blood in 80 per cent. of the cases.

152. **Differentiation Between Exudates and Transudates.**—Gangi describes a test which he has found simple and reliable for this purpose. It is based on Heller's test for albumin in the urine: In a test tube containing 2 or 3 c.c. of hydrochloric acid, 3 or 4 c.c. of the fluid to be examined is allowed to flow down the side. In the presence of an exudate a white cloud appears and forms a ring at the zone of contact between the two liquids. From the upper surface of this ring white clouds gather and rise, similar to the puff of smoke that rises when a lighted cigarette is struck lightly. These clouds gather to form a zone at first at the surface but then gradually sinking somewhat below the surface of the fluid in the test-tube, with a zone of limpid fluid above and below them down to the white ring. The ring gradually increases in width and density and finally clings to the walls of the test-tube and bubbles of gas are observed. With a transudate, on the other hand, the ring at the zone of contact is small and narrow and the fluid above persists limpid throughout, or there may be no ring; after a period of turbidity the fluid mixes with the acid below and forms a homogeneous turbid brownish fluid. He discusses the mechanism of this reaction, suggesting that the presence of proteids does not explain it entirely and that certain products of bacterial metabolism may also be involved.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

MEDICAL COMMUNICATIONS OF THE MASSACHUSETTS MEDICAL SOCIETY. Vol. XXI, No. 11, 1909. Paper. Pp. 66.

THE MEDICAL DIRECTORY OF NEW YORK, NEW JERSEY AND CONNECTICUT. Volume XI. Cloth. Pp. 855. Price, $2.50 Published by The Medical Society of the State of New York, 1909.

STUDIES IN IMMUNITY. By Prof. Jules Bordet, Professor of Bacteriology at the University of Brussels, and his Collaborators Collected and Translated by Frederick P. Gay, A.B., M.D., Instructor in Pathology, Harvard Medical School. First Edition. Cloth Pp. 529. Price, $6. New York: John Wiley & Sons, 1909.

RADIATION, LIGHT AND ILLUMINATION. A Series of Engineering Lectures Delivered at Union College. By Charles Proteus Steinmetz, A.M., Ph.D Compiled and Edited by Joseph LeRoy Hayden Cloth. Pp. 288, with illustrations. Price, $3. New York: McGraw Hill Book Co., 1909.

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Original Articles

BACTERIAL EXAMINATION OF THE STOOLS IN SUSPECTED CANCER OF THE STOMACH *

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SAN FRANCISCO

It is surprising that the facts presented by Rudolf Schmidt from Neusser's clinic in 1906 regarding the presence of the Boas-Oppler bacilli in the stools in cancer of the stomach has attracted so little attention in view both of Schmidt's well-known standing and the expressed conviction of Neusser as to the significance of the finding. Schmidt showed the following fact: The bacterial examination of the stools by Gram's stain under normal conditions gave a picture of very few organisms, the Gram-negative colon group vastly outnumbering any Gram-positive organisms. The normal stool Schmidt called Gram-negative. A stool that with Gram's method showed uniform-sized bacilli far outnumbering all other organisms he regarded as Gram-positive. Occasionally a stool was found in which Gram-staining organisms in great varieties outnumbered other organisms; these organisms were chiefly cocci and non-uniform bacilli which he differentiated in a manner to be referred to later. They are not Gram-positive in the sense that the predominating organism is a well-staining uniform bacillus. Schmidt takes the ground that Boas-Oppler bacilli are vastly more easily found in the stools than in the gastric contents, which is quite true, and he believes that if the morphologic characteristics of the Boas-Oppler bacilli are determined in differentiating them, their relation to cancer becomes of greater significance. He has stated, as have a great many other observers who have followed the matter carefully, that many organisms have been mistaken for the Boas-Oppler bacilli. This has served to put the relation of the Boas-Oppler organism to cancer in considerable doubt. While not contending that the occurrence of the organism is characteristic of cancer, Schmidt points out how easily the organism is mistaken for certain other bacilli. Every one who has studied this question at all will admit at once that our diagnosis of Boas-Oppler bacilli is made on very insufficient grounds, when one considers the care that Schmidt has exercised in differentiating them. Certainly hereafter all the deductions about the relation of the organism to cancer must be made on an absolute determination of what is the Boas-Oppler bacillus.

In a study of a large series of cases from Neusser's clinic and from the subsequent reports by a few other observers, the following deductions may be made:

1. A typical Gram-positive stool may occur in:
   Primary cancer of stomach.
   Ulcer of stomach (Elliott. Not confirmed at operation or autopsy).
   Typhoid (Neusser).
   Cancer of the uterus with emaciation and cachexia (Neusser).
2. "Gram-negative stools exclude cancer of the stomach" (Neusser).

Elliott, however, found a secondary cancer of the splenic region with a Gram-negative stool, and one other gastric cancer with uremia and excessive vomiting, also with a Gram-negative stool.

My own findings thus far in a series of cases of cancer of the stomach in which the diagnosis was confirmed at operation or autopsy have failed to show any cases in which the stool was other than Gram-positive, and in no case of acute or chronic ulcer has the stool been other than Gram-negative, on repeated examinations.

The most interest, however, centers about four cases in which a diagnosis of gastric ulcer was made on account of the clinical history, pain, lack of cachexia and the presence of free hydrochloric acid in the stomach. Although the bacteriologic examination of the stool had been made in each case, its importance was not held to be sufficient to warrant its being weighed in the evidence. In each case an operation was performed and the diagnosis made clinically as follows:

CASE 1.—Clinical diagnosis, ulcer of stomach at pylorus. Operation, extirpation of pylorus. Microscopic examination: diagnosis, malignant degeneration of ulcer in the pyloric opening.

CASE 2.—Clinical diagnosis, ulcer of stomach. Operation, gastroenterostomy. Death from hemorrhage. Diagnosis at autopsy, malignant degeneration of ulcer of the lesser curvature near pylorus.

CASE 3.—Clinical diagnosis of multiple ulcer with uncontrollable hemorrhage. Operation, gastroenterostomy; revealed extensive secondary cancer, a primary tumor in the gall-bladder, stomach wall involved in several places. Diagnosis confirmed at autopsy.

CASE 4.—Clinical diagnosis of ulcer of the pylorus. Operation, pylorectomy. Several areas of cancerous degeneration in large ulcer at pylorus.

I have not entered into detail in these cases as to the ground for clinical diagnosis of ulcer of the stomach. I believe in each case that such a diagnosis was entirely justifiable in the light of the symptoms. The significant point of it is the great importance that was apparently attached to the one symptom that was not weighed with the others. Personally, I should continue the bacteriologic examination of the stools in doubtful cases with very much more interest than before, for not only is the early diagnosis of cancer a matter of the utmost importance, but one can not fail to be impressed with the extraordinary reports of the Mayos as to the frequency with which cancerous degeneration of ulcer occurs.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Schmidt's technic is as follows:

Make thin smears.

Dry and fix five minutes in methyl alcohol (thus dissolving also fat).

Stain five minutes in anilin-oil-gentian-violet; wash.

Iodin-potassium-iodid solution till deep purple; wash.

Decolorize in 95 per cent. alcohol till nearly colorless; wash.

Stain in weak aqueous solution of fuchsin; wash; dry; mount.

In considering the difficulties in recognizing the Boas-Oppler bacilli, Schmidt calls attention to the following types:

1. Lactic acid bacillus type; these organisms are thinner than the colon group, vary greatly in length, show no spore formation, are non-motile, show areas of Gram-negative stain, stain yellow with Lugol solution and show granules in the protoplasm. All characteristics are identical with the bacilli found in the coffee-ground vomitus of cancer of the stomach.

2. Pseudo-colon group; these have the same morphology as the Gram-negative colon group, except that they are Gram-positive and non-cultivable. They occur in catarrh of the bowel, especially with acid stools.

3. Gram-positive bacilli, thicker than the Boas-Oppler and occurring in long chains, staining blue with Lugol solution, non-cultivable; occurring in chronic catarrh of the lower bowel, especially when atony and flatulence are present.

4. Emerson says that "some passing under this name (i. e., Boas-Oppler), are surely the gas bacillus."

5. It seems probable that the common *bacillus subtilis* is often mistaken for the Boas-Oppler, especially in stained specimens of stomach contents.

350 Post Street.

ABSTRACT OF DISCUSSION

Dr. Herman B. Allyn, Philadelphia: Do the bacilli which are Gram-positive appear early in the stools in cancer of the stomach?

Dr. Allen A. Jones, Buffalo: Has Dr. Brown found the Oppler-Boas bacilli in the gastric contents in those cases in which the bacilli were Gram-positive in the stools? If so, did the cases prove later to be gastric cancer?

Dr. Anthony Bassler, New York: I have also observed the Boas-Oppler bacilli in the stools in some instances of gastric carcinoma. Recently I have been interested in making slides from the back of the tongue and throat in stomach cases. While in vomiting they are often found in the mouth, lately I saw a case in which there was no vomiting, but the organisms were found in large numbers, probably having been carried up by the eructations that were present.

Dr. Philip King Brown, San Francisco: I found these bacilli in the stools early in cases of cancer. In four cases in particular in which diagnosis of ulcer was considered the most probable one, they were evident. If these bacilli are Gram-positive, they should make one suspicious of cancer of the stomach. I did not look for them in the gastric contents. In the four cases attended with Gram-positive findings, the diagnosis was confirmed finally at autopsy or at operation.

Bacteria in Pasteurized Milk.—M. J. Rosenau, in *Annals of Medical Practice*, states that pasteurized milk must be handled with the same care as raw milk, if not with greater. Pathogenic bacteria grow more readily in milk which has been heated than in raw milk. The germicidal properties of the milk are destroyed by high heating, and finally the surviving bacteria do not have so hard a struggle for existence in the heated milk. It must not be forgotten that pasteurization kills only the major portion of the non-spore-bearing bacteria, and that a large number of micro-organisms remain, and, if permitted to grow and multiply, they may occasionally produce undesirable qualities or perhaps poisonous properties in the milk

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AMEBIC DYSENTERY *

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Dysentery has been known as an independent malady of widespread and almost universal distribution since the most remote period of time. In the very earliest writings on medicine references may be found to the disease, and the part it has played through the ages, especially in connection with the fatalities of army life, has left an impress on the historical records of nearly every nation. It is only within what might be called modern times, however, that a step has been made toward the closer analysis and classification of the disease. The differentiation of the old-time bloody flux, with its confused clinical picture, into the two clearly defined types identified to-day under the names of amebic and bacillary dysentery, has been the result of investigations entered upon only within the past half-century.

HISTORY

Lambl, in 1859, was in fact the first to offer the suggestion of a possible specific cause for dysentery. In the course of a routine examination of the intestinal mucus of a child who had died of enteritis he ran across an ameboid body, probably a flagellate, which impressed him as a possible factor in the inflammatory process. This observation did not, however, seem to create much comment at the time and no further investigation was made in this direction until 1875, when Loesch was able to identify probably the first true amebæ in the dejecta of a characteristic case of dysentery, originating in St. Petersburg. Eleven years later Kartulis, working in Egypt, always a hotbed of dysentery, reported 150 cases from that country, in all of which he found the ameba. Subsequently he noted the same organism in liver abscesses. Koch had, however, three years before, demonstrated amebæ in sections from an ulcerated bowel, showing a direct causal relationship between the parasite and the intestinal lesion.

In this country the first amebæ discovered were by Osler, in 1890. Shortly afterward, confirmation came from various sources. Within one year Stengel found 3 cases of true amebic dysentery in Philadelphia and Musser 4 from the same city, while Dock was able to report 12 cases of the acute and chronic types from Galveston, the first to be recorded from the far South. The disease has subsequently been found to exist, scattered over many other sections of this country, and, in fact, in nearly all parts of the world sporadic cases crop out occasionally, apparently of purely indigenous origin. Even in such northern latitudes as Germany, England, Japan, or even Russia, there come reports at times of its occurrence; but the disease is essentially a tropical or semitropical one and prevails more extensively in warm climates, in connection usually with a low-lying or poorly drained soil.

In certain regions of the South, including a comparatively large area of our country, conditions are almost ideal for the prevalence of an amebic infection. It is only within very recent years, however, that its occurrence in the South, in wide-spread endemic form, has come to be suspected, and even to-day the question is scarcely regarded by the profession in a light at all befitting its high importance. In spite of the frequent case-reports from Southern observers, the impression has nevertheless seemed to persist in part that the disease is of rare occurrence in the United States and that the relatively few instances which find their way into print might be traced to a previous residence in the tropics. This impression should no longer be allowed to go unchallenged. As far at least as the South is concerned nothing could be falser. The disease, it should be insisted on with the greatest possible emphasis, does find a home ideal for its existence and dissemination in the semitropical environment of the South, is and has been for years widely prevalent there, though unfortunately masked all too frequently under the vague and generalized term of simple chronic diarrhea, or some such indefinite diagnosis.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Of the truth of these facts there can be found testimony sufficiently suggestive in the various scattered case reports of Southern observers, such as Harris from Atlanta, Jelks from Memphis, Wilson from Birmingham, Wasdin from Charleston, Dock from Galveston, Slaughter from Virginia, and many others. As a further contribution to this array of evidence I wish to offer an additional group of 50 cases from New Orleans, which I have been able to collect during the past two years, partly from my own records and partly from those of my colleagues with whom I am associated in the hospitals. These few cases, I need only remark, serve merely an an index to the prevalence of the amebic dysentery in our particular section and do not in any way begin to cover the field. On the contrary, I am convinced that, were the full facts known, as they should be, the number of cases at present unrecognized and overlooked in all parts of the South would be found to foot into the many hundreds. In fact, the tardy recognition accorded this wide-spread amebic infection bears a faint resemblance to the history of the hookworm disease in the South. Before Stiles' epoch-making discovery, thousands of hookworm sufferers, as we now know, dragged out a miserable existence, weighted down in most instances under a false diagnosis.

In part extenuation of this hesitancy and failure in recognition, the extremely variable and capricious symptom picture of amebic dysentery, it is true, makes a purely bedside diagnosis uncertain, and may even tend to disarm an ordinary suspicion of its existence. The term "dysentery" has come to be associated in our minds with such classical symptoms as an outspoken tenesmus, small, frequent and liquid evacuation, containing blood and mucus, all running a more or less rapid and acute course. This clinical picture, however, could scarcely be used as a descriptive one for the so-called dysentery of amebic origin. In the first place, this condition is practically always chronic, in the sense of a protracted infection, and the acute types occasionally met may be looked on as mere exacerbations. The number of years the infection might exist in latent form, or, if established, remain unrecognized, is very variable and depends largely on the ability of the physician in making the diagnosis.

Among my series of 50 cases, in one the disease could be traced back twelve years, in another eight years, in 2 instances six years, and in 5 cases the condition had been present two years at the time of the first consultation. The average duration of the cases was about nine months.

The symptoms of amebic dysentery, as I have said, are not always clearly defined and constant. During its course there are quiescent periods, when apparently all trace of the trouble has vanished. The bowels might even become obstinately constipated. The amebæ remain, however, constantly under cover during this time, the infection suddenly flaring out again under conditions favoring renewed activity. These occasional attacks of diarrhea, alternating with periods of normal evacuations or constipation, make up a very suggestive picture of an amebiasis, and when present should lead to an immediate examination of the stools for the amebæ.

When attacks of diarrhea do occur, the number and character of the evacuations do not follow any set rule. A great deal depends on the location of the ulcers. If low down, and especially if in the rectum, the evacuations are usually frequent and a marked tenesmus, with soreness of the lower bowel, is noted. If the main lesions are above the sigmoid, as they most frequently are, the number of stools may never average above two to three per day. Mucus may or may not be present, but commonly is. Pure blood, or a blood-streaked mucus, I have found to be fairly constant, though at times in only small amounts. In one of my fatal cases, with liver abscess as a complication, the patient suffered severe hemorrhages, a symptom which, according to Strong, is always suggestive of abscess.

As far as the influence of age is concerned, the average in my cases was 37 years. This is in line with the usual figures given. The oldest of my patients was 60 and the youngest 22. The disease is rare among children, the dysenteric infections in early life being mostly of the bacillary type.

The colored race does not figure largely in my series, in which there were 42 whites and only 8 negroes. This, from a Southern city, in a non-selected field, is suggestive, as showing the relative infrequency of the disease among the blacks. Again, only 6 of the 50 patients were females, thus exhibiting a large preponderance of males affected. Occupation and the greater exposure of males to infection in general would, I believe, sufficiently explain this difference. Among my cases 25 were common laborers, 3 were farmers, 4 merchants, 2 bakers and 1 was a rabbi.

In the determination of the prevalence and endemicity of the disease in a particular locality, the nativity and immediate residence of the patients become of importance. Fifty per cent. of the patients I observed were born in Louisiana and had never lived in any other state or country, while an additional 14 per cent. had resided in Louisiana five years prior to the onset of the disease. In only two instances could the infection be traced definitely to the tropics. The remainder all came from neighboring Southern states. These figures, I believe, require no further comment in refutation of the views sometimes held that amebic dysentery rarely originates in this country and—more especially to the point—in the South.

The prognosis and, in a sense, the curability of this, as of other diseases, is largely determined by the period of its recognition. In a general way it may be said that the longer the infection has continued the greater probability there is of serious complication. Seventeen, or 28 per cent., of the fifty patients whose cases I have tabulated died. In 15 of these the cause of death was determined accurately by post-mortem. Extensive ulceration of the large bowel was found in practically all, but in nine instances this was found to be the sole cause of the fatal termination. Perforation was observed in but one case.

Six cases of abscess of the liver were recorded in these autopsy records, 5 solitary and 1 multiple. This complication is always an important and serious one. Figures differ, however, as to its frequency. In Futcher's cases, liver abscess was diagnosed in 22 per cent., in Craig's 33 per cent., and in Harris' only 15 per cent. All agree as to the infrequency of this condition in the female sex. All my patients were males. There is one point in connection with amebic liver abscess which I believe should be emphasized. The condition is looked for in the amebic infected districts all too rarely. The diagnostic puncture of the liver is always a simple procedure and is attended with practically no danger. Since the symptoms of an abscess are often so uncertain, the use of the aspirator is indicated when the merest grounds for suspicion are present. Only thus may a serious and often irretrievable oversight be avoided.

When we step now from the discussion of the purely clinical aspect of the amebic infections to a consideration of the organism itself, another chapter of almost equal importance spreads itself before us. The studies of recent years into the biologic and morphologic properties of the ameba have had, in fact, a highly important bearing on the solution of many of the hitherto vexed problems of the disease. Of these problems the principal have hinged on the question of the actual pathogenicity of the ameba to man, as well as on the separation, if such were possible, of a harmless from a disease-producing variety. It has been the lack of just such a differentiation in the past which has occasioned the degree of confusion in diagnosis and brought about the frequent false and contradictory reports in regard to the treatment. The earlier investigators recognized but one type of parasite, which, because of its connection with colonic infection, accidental or otherwise, they termed *Amœba coli* (Loesch). In 1891 Councilman and Lafleur, in their splendid studies, proposed that this name be dropped and that of *Amœba dysenteriæ* be substituted, since they believed that they had established a definite causal relationship between the ameba and the dysenteric lesions. They also hinted at the possibility of a non-pathogenic organism, for which the old term *Amœba coli*, they thought, might hold. Subsequently, several other forms of nomenclature were suggested, but it remained for Schaudinn, in 1903, following closely upon Jurgen's work, to announce the first definite and scientific classification of the amebæ. He retained the term *Entamœba,* previously suggested by Casigrandi, as the proper designation for the particular genus invading the intestine, but drew a sharp line of distinction between a type found pathogenic to man and cats, which he named *Entamœba histolytica* and a non-pathogenic, which he termed *Entamœba coli.*

Schaudinn's classification and conclusions have now been fully confirmed by the majority of competent observers, with the notable exception of Musgrave and Clegg, who still maintain that there is insufficient grounds for such a differentiation. The more recent, exhaustive studies of Craig, Viereck, Flexner and others leave little justification, however, for further doubt.

The two forms have many points of difference, both structural and bionomic, which allows of an easy differentiation between them.

This holds for native as well as stained preparations. I have found the Wright stain, as recommended by Craig, satisfactory.

Now that pure cultures of the *Entamœba histolytica* in guinea-pig serum has been found possible without symbiosis, a further insight into the life-history of this organism and its behavior under various conditions might be hoped for

The question of the distribution of the *Entamœba coli* over the various regions of the world, as well as the proportion of healthy individuals infected with this apparently harmless parasite, are points which in part still remain open for further investigation and study. According to Craig, 71 per cent. of healthy individuals in the Philippines are found to harbor this organism, while the stools of 65 per cent. of the active soldiers stationed in San Francisco were likewise found infected. Schaudinn's figures, along the same line, average 50 per cent. for West Prussia, 20 per cent. for Berlin and 66 per cent. for those examined in the neighborhood of the Adriatic Sea. Dock, however, examined 200 normal subjects in Michigan and found the *Entamœba coli* in but two, or 1 per cent., of the whole. My own experiences in New Orleans, while not as yet based on a large or systematic scale in this field have indicated at least the relative infrequency of the *Entamœba coli* in Louisiana. The association of the harmless with the pathogenic type seems to be the rule in the Philippines; but I am yet to see an instance of this in our section.

In a large proportion of the stools I examined, however, *Cercomonas hominis* were found and in five of my cases I noted the *Strongyloides stercoralis* in connection with the *Entamœba histolytica.* Noc has recently called attention to this point and asserts that the so-called Cochin-China diarrhea, which was formerly thought to be solely due to a strongyloides infection, is in reality amebic dysentery, which in China is frequently complicated by the presence of the strongyloides worm.

TREATMENT

While substantial progress has been made, as we have seen, during the past half-century in almost every department of the subject of amebic dysentery, the matter of treatment still remains in almost as unsettled and undetermined state as before. There appears to be little chance, even to-day, with our advanced conceptions of the many phases of the disease and its problems for any unity of opinion as to the proper methods of its control. In the past, empiricism has been the sole guide and unfortunately holds sway to a great extent down to the present time. Every clinician would seem to hold individual ideas of the proper methods of treatment and those, too, largely irrespective of the experiences of others.

For hundreds of years ipecacuanha has been held in the highest esteem, above all other remedies, in East India and neighboring Oriental countries. This drug thus has at least the authority of longest usage and even to-day is regarded in Indian practice as almost a *sine qua non* in the treatment of amebic dysentery. Contrasted with this experience, however, there is a mass of contradictory testimony from other sources in which ipecac has seemingly been found totally inadequate. The experience of our army officers in the Philippines, for example, has always appeared particularly unfavorable to the use of ipecac. Strong, in his recent article in "Modern Medicine," discusses the ipecac treatment with a bare word, stating that the drug is "in no sense curative." Jackson is even more outspoken in his opposition. He says, in regard to this remedy, that he "has seen it thoroughly tried and is convinced of its utter uselessness and also of its harmfulness." From other countries, equally unfavorable experiences are recorded from time to time in the literature. Manson, however, always a great enthusiast in regard to the ipecac treatment, in his latest utterances on the subject, again puts forth a plea with his brethren in other lands, for another trial of this drug. Impressed with the weight of such high authority, and especially when born of so large an experience, I have ventured to employ ipecac in my cases during the past two years and am ready to acknowledge now my thorough conversion to the sanguine views of Manson and other English authorities in the tropics.

The detailed method of its administration is, I believe, of the greatest importance, the lack of which stands as explanation in part for the failures reported in some quarters. First of all, the drug should be administered only in pill form, coated to the extent of about an eighth of an inch with phenyl salicylate (salol). The patient must be put to bed for the first two weeks' treatment and his diet restricted to liquids or, at most, light solids. This absolute rest in bed, with restricted diet, is particularly essential to the details of the plan. Castor-oil may be given as an initial purgative and then each evening, after a three hours' fast, the pills coated with phenyl salicylate are administered. A start may be made with 40 or 60 grains, depending on the length or severity of the infection, but each subsequent evening the dose is reduced 5 grains, until the limit of 10 grains is reached. Following this, I have been in the habit of continuing with 10 grains each day for the next two weeks.

The use of the drug in this way has appeared to me almost in the light of a specific. Under its influence the stools become diarrheic, soft and pultaceous and the amebas seem to vanish almost at once, even though careful search be made for them. Opium is no longer required to prevent nausea or vomiting, if ordinary care be taken to have the pills well coated with phenyl salicylate.

The *modus operandi* of ipecac, which might account for the success following its administration, has never been satisfactorily explained. There is certainly nothing in the known physiologic effects of the drug which would suggest an explanation of its efficiency in this particular field. It seems plausible to infer, however, that ipecacuanha principles, through some intestinal changes, become inimical to the life of the amebas.

Bowel flushes, on which almost exclusive reliance is placed in some quarters, may or may not be employed in connection with the ipecac treatment. I prefer to make use of irrigations, however, principally as a means of washing away débris from the ulcerated bowel and begin with this procedure usually after the ipecac has been brought down to the limit of 10 grains per day. The character of the solution is not of great importance, so long as a sufficient quantity of water for thorough cleansing of the bowel is employed. Before my success with ipecac I had found all forms of solutions unsatisfactory. I believe simple saline solution fulfills the full requirements as a bland non-irritant bowel wash. As an after-treatment, nitrate of silver solutions may be indicated as a curative agent for the still remaining ulcerations.

What shall be said, finally, in regard to surgical intervention in intractable forms of the disease? The comparatively simple operation of appendicostomy, which, if properly performed, it is asserted, will permit a more satisfactory flushing of the large bowel, has found many advocates in this country in recent years. Its rationale, however, is not quite as clear as some enthusiasts of the plan would have us believe, and it is wise that the whole question be allowed to remain open for more extended trial and investigation.

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ABSTRACT OF DISCUSSION

Dr. Thomas B. Futcher, Baltimore: In 1903, at the New Orleans Session of the American Medical Association, I analyzed our experience at the Johns Hopkins Hospital with cases of this disease during fourteen years, since the hospital was opened. At that time, there had been 119 cases of amebic dysentery in the wards. It was interesting to note that being not far north of the Mason and Dixon line, 95 of the 119 patients had never been out of the state of Maryland, and that the infection, therefore, must have been contracted there. The most important complication of the disease, of course, is amebic abscess of the liver. Among the 119 cases there were 27, or 22.6 per cent., amebic abscesses; 9 of these abscesses ruptured into the lung causing pulmonary abscess. One of these subsequently ruptured into the pleural sac, producing a pyopneumothorax; 3 of them had empyema. In 3 of the liver abscess cases the inferior vena cava was invaded. One case had a remarkable result; the abscess ruptured into the vena cava and there occurred a thrombus extending into the right auricle. This case has already been reported by Dr. Flexner. It is surprising, when we consider the extent and depth of the ulcers in this disease, that there are not more intestinal hemorrhages than do occur. There were but three instances of severe hemorrhage in our series of cases; all these had a fatal termination. There were 3 cases of perforation of the bowel, with a resulting peritonitis. One was recognized early and the patient was operated on, but died. There was one case in the wards in which an abscess was found in the floor of the mouth. The pus from the abscess contained ameba. This case has also been reported by Dr. Flexner. I wish to emphasize Dr. Simon's statement regarding the prevalence of the disease; I believe that it is of more frequent occurrence than is supposed. This disease can only be recognized by a most careful and systematic examination of the stools. There was one patient who came into the wards at Johns Hopkins four years ago suffering from diarrhea, in whom examinations of the stools gave negative results. Recently he again returned to the hospital and amebas were found in the stools. I have no doubt but that four years ago he had amebic dysentery. A careful and systematic examination of the stools should always be made, not once, but repeatedly. With reference to the operation of appendicostomy, that is, suturing the amputated appendix in the abdominal wound and irrigating the colon through this fistula, I would say that the results with us, so far, have been unsatisfactory, although our experience is limited. One man had appendicostomy performed Sept. 9, 1907; until April 14 of the following year, 1908, he had had daily irrigations of quinin solution, 1 to 500, and occasionally of nitrate of silver solutions, and of peroxid of hydrogen, etc. Only one month before he left the hospital did the amebas disappear from the stools. I have not been able to follow him since. This was certainly not a satisfactory result. There have been two other cases in the hospital in which appendicostomy has been performed without having given what we consider satisfactory results. Since Dr. Dock reported at this year's meeting of the Association of Tropical Medicine in Washington the results of the use of ipecac, Dr. Barker has employed it in two cases in his wards. Dr. Boggs told me yesterday that after the first dose a most thorough examination of the stools failed to reveal amebas. This is a remarkable result. I feel that the ipecac treatment ought to be given a thorough trial, so that we can see whether the results obtained are more satisfactory than are gotten by other methods. The ipecac is given in salol-covered pills, 20 grains to the dose, three times a day. Dr. Dock states that it may be given in smaller doses at shorter intervals, aggregating from 60 to 80 grains in twenty-four hours.

Dr. George Dock, New Orleans: The importance of the subject that Dr. Simon has brought up is realized by everybody who comes in contact with cases of chronic diarrhea. The geographical distribution of dysentery is certainly great; south of the latitude of Louisville, Ky., it is a very common disease. I reported a case occurring in the lower portion of Michigan in 1902. After that I discovered another case in northern Michigan; this patient had never been out of the county in which he lived. So the disease should be looked for wherever there is any chronic disturbance of the intestines. It is important for us to remember that a patient with chronic dysentery, true amebic dysentery, does not have the classical symptoms of dysentery all the time. The stools may appear normal for long periods of time. I should like to speak of some of the practical details in examining the stools of these patients. Ordinarily, it is easy to have a patient pass a stool at command. An examination of a stool with the naked eye is often unsatisfactory. Even an examination by the microscope may be negative. Therefore, in a negative case we should never be satisfied with a single examination or even with repeated examinations of ordinary stools. The next thing to do is to examine by rectum with a tube or speculum. t is better to pass the tube or speculum into the rectum; o use no grease on it, because it interferes with the examination. By working the instrument around, it will enter and sometimes we can get very positive information. If this examination should be negative, I think it is essential to give the patient a dose of salts, say Carlsbad salts, in order to produce watery stools. It is easy to understand by an examination of the intestine how a stool can be passed without amebas with it. The amebas lie in the abscesses or in the ulcers along the wall of the intestines and the stool passes by without mixing them in. I recall an interesting and instructive experience I had with a case that was diagnosed as amebic dysentery from the symptoms, yet was unable to find the amebas when the patient had a natural stool. A rectal tube was passed, but the patient complained so that it had to be removed. I then passed my finger into the rectum and got a lot of stuff which was filled with amebas. Why they were not forced out before I could only surmise. In the examination of the material it is not necessary to use a warm stage. Even in fairly cool weather the amebas keep up their activity for sometimes three or four hours. It is better, however, to examine them fresh; it is easier to detect them when they are lively. There is another point which I think should be mentioned. Beginners are easily led astray by the presence of large cells which they think are amebas. Red cells may be included in them. I have found people who had great difficulty in differentiating them.

I am glad that the success with the ipecac treatment has been confirmed by the results obtained in Dr. Barker's two cases. When we speak of results I must admit that many of the patients could not be followed up; so we could not be certain that they were entirely cured. Some patients have come back with the disease after weeks or months, four or five months, and we have not been able to find amebas, either with the aid of the rectal tube or speculum, or with the use of the Carlsbad salts. I recall the case of a man with the disease; he came from the Philippines and had been under treatment for two years; he had been given quinin, salicylic acid, etc. This patient was readily cured by the use of ipecac according to the method of Roberts. He was given 7 grams, or 105 grains, of ipecac in pills covered with salol. The amebas immediately disappeared from his stools. When he left the hospital I thought he might have a recurrence. He wrote me four years later and stated that he had "consumption." I supposed the amebic dysentery had returned with abscess of the liver, and I asked him to come back for examination. He returned and I found that he had tuberculosis. A very thorough examination of the stools failed to reveal any amebas. There were no signs of liver abscess. The failure of the operation of appendicostomy is what we should expect in some cases. The attempt to irrigate the colon through the cecum, washing downward, must fail in washing out the tube thoroughly. At all events, it would be well to try ipecac before resorting to an operation.

Dr. Hobart A. Hare, Philadelphia: I think that much interest in this discussion lies in the fact that thirty years ago Stillé taught his students to use ipecac at a time when they had no conception that amebas produced the disease. In May, I received a paper from Dr. Rogers of the Indian Medical Service practically repeating the facts already published in regard to the value of ipecac not only for the cure of dysentery but as a prophylactic against amebic abscess of the liver. The claims he makes for the prevention of hepatic complications by the employment of ipecac are so strong that, if his results are proved to be correct, the use of this agent should be resorted to in every case of amebic dysentery. The instances in which appendicostomy has proved of value constitute a class by themselves, a class in which the appendix acts as a focus of infection for the bowel. The cure does not follow from the irrigation used in the colon, but because it removes the focus of infection in the appendix. In a number of cases of so-called mucomembranous enteritis or colitis which seemed to be associated with neurasthenic conditions, I have seen the removal of the appendix result in a cure, simply because when the appendix was opened it was found to contain one or two drops of pus, and I have seen the physician in attendance disappointed because he thought the operation was going to be a failure so far as an ultimate cure was concerned, when in reality the removal of the infecting focus was exactly what was needed. And so in amebic cases, the appendix oozes out infection day by day. I am glad Dr. Dock spoke of the difficulty of irrigating the colon through the appendix; I am inclined to believe that this is no safe procedure. Some may remember that about twenty years ago experiments were made to determine just how much pressure the intestine could stand. It was proved that a pressure greater than that exercised by a fountain syringe placed twenty inches above the table was dangerous. This is the pressure we ordinarily get. This is more dangerous in a diseased gut, particularly when the lesions are ulcers the result of amebic infection. I agree that it is necessary to have proper technic in the use of ipecac. If not given properly it fails. Three or four surgeons returning to the United States from tropical countries have told me that this treatment only failed when the method of administration was erroneous. A very interesting point concerns the geographical distribution of the disease. Jefferson College Hospital is one of the largest in the country, more than 5,400 patients being admitted to the wards annually. There is a correspondingly large outdoor service. I have charge of these wards six months out of every year. I think I can remember but three cases of amebic dysentery occurring in the eighteen years that I have had charge of this service. We have a different service from that at the Johns Hopkins Hospital not only as regards dysentery, but as regards malaria, and yet we are only distant about one hundred miles. This difference is extraordinary. I am sure that the same conditions exist in other Philadelphia hospitals.

Dr. Hugo A. Freund, Detroit, Mich.: I can bear witness to Dr. Simon's statement about the widespread prevalence of dysentery. The cases are not necessarily endemic for it seems to me that they are coming from different portions of the globe. Last year I treated two cases of amebic dysentery that in some ways were of great interest. At the suggestion of Dr. Dock the first patient was treated with the salol-covered ipecac pills, 5 grains being given at a dose, and repeated every hour. But my method of administration differed somewhat from his. I first prepared the patient for medication. The first time the ipecac was given, 65 grains altogether, there was considerable diarrhea, tenesmus and pain. An examination of the stools the next morning, to my astonishment, revealed no amebas, nor could any forms resembling dead ones be found. For the next two weeks I gave the patient nothing but colonic irrigations; in addition the patient had rest, a soft diet, etc. In two weeks he was put through another course of ipecac, receiving a little more this time. All through there were no amebas in the stools, the patient experienced very little pain. In another week he was given 80 grains more of salol-covered ipecac pills. That was last November. Seven months have elapsed and the patient has gained in weight and feels very different since his infection. To all intent and purposes he is absolutely well. In this case the interesting feature was the degree of ulceration in the lower bowel which could easily be seen with the sigmoidoscope. These ulcers are entirely healed. His stools are normal in gross appearance and in the course of repeated examinations I have never found a sign of an ameba. The other patient was a young soldier from the Philippines. He received a typical course of treatment, being given large doses of salol-covered ipecac pills. This patient was also irrigated because I felt that some benefit would result from flushing the large bowel. He, too, is well. I am sure that there are other cases like this in different parts of the country as far north as Michigan, but we fail not only to recognize these cases, but also to treat the patients by what I believe to be the only satisfactory method, namely, administration of large doses of ipecac.

Dr. James P. Tuttle, New York: It is well to hear both sides of a subject such as this—the surgical as well as the medical. We who have had more experience in the local treatment of these conditions than those who have participated in the discussion thus far know that the results of local measures and of appendicostomy have been maligned here this afternoon; all our patients come to us for local measures and appendicostomies after failure to cure by medical measures alone. I have seen true amebic dysentery develop in people who had never been outside of a fifty-mile radius of New York City, and there is no longer any doubt that the disease is frequent high up in the temperate zones. A patient was sent to me for diagnosis who had been treated by physicians in Philadelphia, Baltimore, Richmond and New York. All these men had amebic dysentery in view, but they had failed to discover the amebas. I took the patient and made a very careful local examination and could only find some small scars in the rectum, apparently such scars as are seen after dysentery. I sent this patient to the hospital and placed him in the laboratory. He was given large doses of salts and was told to stay there until his bowels moved. He remained there five hours and yet there occurred no movement of the bowel. The next day this was repeated and we got a stool in which was a mass said to be about the size of the thumb nail, which was alive with motile amebas. The stools must be examined in a fresh state and warm; also every stool should be strained in order to get the little mucus flakes in which the amebas are found. The patient, mentioned by Dr. Fletcher, who was operated on at Johns Hopkins Hospital, and in whom the appendicostomy failed to cure, turned up afterward in my office. I followed this patient carefully. In the appendix I found a rubber tube which had become almost vulcanized from being left in too long, and which stuck down five inches into the cecum. There were ulcers around the end of the tube where it was pressing. I also found in the lower end of the rectum a number of ulcers, not amebic at all, but the result of mixed infections, which did not require amebic treatment. They required simply local treatment for the subsequent infection which had followed the amebic infection. This was a traumatic ulcer and cure resulted from simple local treatment. I disavow any desire to perform an appendicostomy on an individual with amebic dysentery until there has been tried Epsom salts, ipecac, local washings with quinin solutions, etc. I do not think it makes much difference what solution is used so long as the temperature is below 70 F. I am using a different method. I do not advise operation until I have tried local treatment. But when I fail with the use of the local treatment and the patient comes back again in four or five months and shows that I have not reached the seat of the amebic infection, then I may propose operation. Washing out the colon through the appendix is effectual; it gives no mortality, while the reader of the paper confesses to a mortality of 17 per cent. under medical treatment. Over 125 of these patients have been treated in New York City, with but one death. This patient died from acute miliary tuberculosis after an appendicostomy. Not less than twenty officers of the United States Army, treated with ipecac and other medicines, were not cured; they then said, if these agents fail, let us try appendicostomy and see if we cannot be cured. The trouble with so many appendicostomy operations is that the operation is not done as it should be; an infection occurs around the end of the appendix which, as a result, slips back into the abdomen. Another thing is that the opening is closed too quickly. In the United States Army men the openings are usually closed inside of three months. I never close them inside of six months, and in the majority of cases I leave them open permanently. The opening is a safety valve. It is easy to get a stool by running warm saline solution through the fistula. I only advise operation as a last resort. Recently I have had three patients with amebic dysentery. I treated them by administering a formalin solution, one dram to a quart of water; along with full doses of tannopin by mouth. After the administration of the medicines and washing out the bowel I have not been able to see any amebas after forty-eight hours' treatment in any one of these three cases. These patients have been under treatment four months, two months and one month respectively. So far there have been no recurrences. I am inclined to believe, however, that it would be well to use local irrigations and at the same time use ipecac.

Dr. Samuel G. Gant, New York: I wish to confirm Dr. Tuttle's statements regarding the usefulness of appendicostomy in the treatment of both the amebic and bacillary types of dysentery. This operation, however, would not be necessary except in rare instances in this class of cases if thorough colonic irrigations could be obtained otherwise. There is but a small number of medical practitioners, hospital internes and nurses who could effectively introduce the colon tube and wash out the bowel. Lack of training renders many unable to pass the tube beyond the obstructions offered by the sphincter muscle, rectal valves, and the angulation at the rectosigmoidal juncture. When the colon tube cannot be made to enter the upper part of the large intestine in the ordinary way, the sigmoidoscope should be introduced and the tube passed through it. Low irrigations diminish the number of stools but high washing of the bowel is imperative when a cure is anticipated. One must go even a step farther than this and place the patient in the Trendelenburg posture and then change him from one position to another to make the irrigation complete, because if this is not done the fluid will flow along one side of the gut and leave the lesions on the other untouched. In my opinion, the temperature of the solution has nothing to do with the healing quality of the irrigation and I prefer it at the bodily temperature because it is more comfortable; I have discontinued ice cold solutions because of the shock and great suffering which their employment frequently induces. I have successfully treated patients suffering from dysentery with solutions containing salt, quinin, ichthyol, kramaria, hydrastis, boric acid, permanganate of potash, formalin, silver nitrate and other medicaments in varying strengths, and I believe that the greatest benefit derived from any irrigating fluid is due to its mechanical effect in cleansing the ulcers and removing toxins from the bowel. When the discharge is profuse and contains considerable pus and blood, in the beginning I prefer to wash the bowel out daily with a solution containing from 20 to 30 grains of silver nitrate to the quart, to be followed by flushing the bowel with a normal salt solution to lessen the tenesmus when necessary; when the movements have a very offensive odor, I correct this and encourage the ulcers to heal rapidly by employing a 2 per cent. solution of ichthyol. I hold that the dysenteric lesions in a few cases involve the lower ileum and that in others the dysentery has become grafted on an enterocolitis, and that under such circumstances it is imperative that the irigating fluid be made to reach the few lesions in the small bowel as well as the many ulcers in the colon. In such instances, and in cases in which, for any reason, the appendix is found unfitted for through and through irrigation, I recommend cecostomy, which provides a simple means of irrigating both the small and the large intestine, a procedure which has proved universally successful in my hands. So far as my experience goes, appendicostomy and cecostomy are far superior to diet, rest and all forms of medication, not only in dysentery, but in other types of colitis; and these surgical procedures should not be discarded in favor of the special treatment as many of the previous speakers would have us believe.

Dr. Sidney K. Simon, New Orleans: Our surgical friends have certainly added much of timely interest and value to the discussion of this important subject. At first it appeared we were going to have merely a love feast with ipecac as almost the sole article of diet. I believe that ipecac is best administered in one large dose, given in the evening, after a three-hours' fast. The plan of giving 5 grains, or 10 or 20 grains, three times a day, is not so good in my opinion as the one large dose. Formerly we also used opiates, but the employment of the salol-covered pill makes this in most instances unnecessary. I agree with Dr. Tuttle about finding the amebas in the warmed stools only. Neither do we find it necessary to strain the feces or to pick out the mucous flakes. On the contrary, all parts of the stool should be examined, as the mucous flakes do not always contain the largest number of amebas. I was not correctly understood regarding the mortality figures. Fifty cases were reported, mostly from hospital records, and not all my own, so that the treatment varied. In every patient not moribund treated by me with ipecac, the mortality has been nil. There is a certain tendency to recurrence in this as in all bowel infections. This should be explained to the patient with the understanding that perhaps a second course of treatment will be necessary. In one of my cases with a clear amebic history of eight years' standing, there has been no recurrence for one year following the second ipecac treatment. After the patients have once been freed of amebas it is important to instruct them to boil the water they use to obviate the dangers of reinfection. After these patients are cured in the hospitals they might return to their former residence only to become reinfected with the original contaminated water supply. I trust that I have made clear the two points I wished especially to emphasize: the prevalence of the ameba over the entire country, and especially in the south, and the proved value of the ipecac treatment, rendering surgery in most instances unnecessary.

A RATIONAL AND SIMPLE SYSTEM OF SERO-DIAGNOSIS OF SYPHILIS *

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In a rationally constructed complement fixation test the quantity of each reagent should be known and definite. The relative quantities of the different factors used should also be definite and suitable. The reasons why these principles should be respected will be apparent.

First, let us study the properties of hemolytic amboceptor and complement. When present together amboceptor and complement dissolve the blood corpuscles for which the amboceptor used possesses a specific affinity. The process of hemolysis is, however, a quantitative one. To dissolve a given bulk of corpuscles requires a definite amount of amboceptor and complement; and the quantity of these two reagents just sufficient to cause complete hemolysis within a time limit represents the unit of these hemolytic components relatively to each other. Expressed graphically:

1 unit corpuscles + 1 unit amboceptor + 1 unit complement = complete hemolysis.

There exists, however, a peculiar relationship between the requisite amounts of amboceptor and complement necessary to produce complete hemolysis of one unit of corpuscles. If we use more than one unit of amboceptor, less than one unit of complement will be sufficient to cause complete dissolution of the corpuscle mass. So that if, for instance, ten units of amboceptor be added, one-fifth or even less of the unit of complement will be sufficient; or, in other words, the requisite amount of complement can be gradually reduced if the amboceptor quantity is at the same time increased, until finally we reach the minimal amount of complement, to the addition of which no quantity of amboceptor will cause complete hemolysis. With this fundamental fact of the quantitative relationship between complement and amboceptor[1] in mind, it will be evident that the degree of hemolysis does not indicate the *absolute* quantity of complement operative in the hemolytic process. It indicates merely a *relative* quantity which varies with the quantity of amboceptor used in each instance. There-

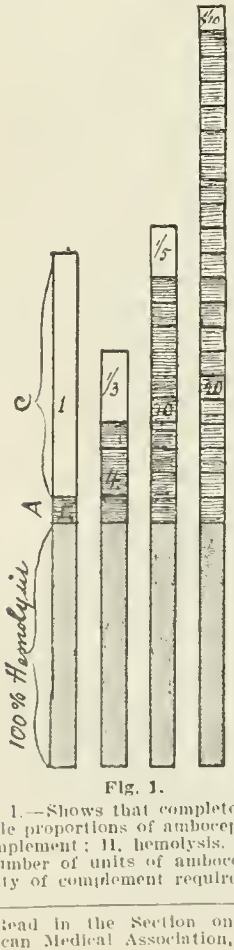

Fig. 1.

Fig. 1.—Shows that complete hemolysis can be produced by using variable proportions of amboceptor and complement. A, amboceptor; C, complement; H, hemolysis. The figures in lined zones indicate the number of units of amboceptor, and those in blank zones, the quantity of complement required in each combination.

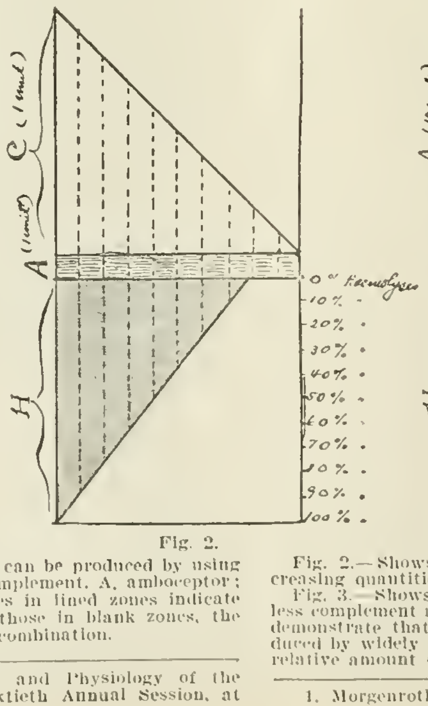

Fig. 2.

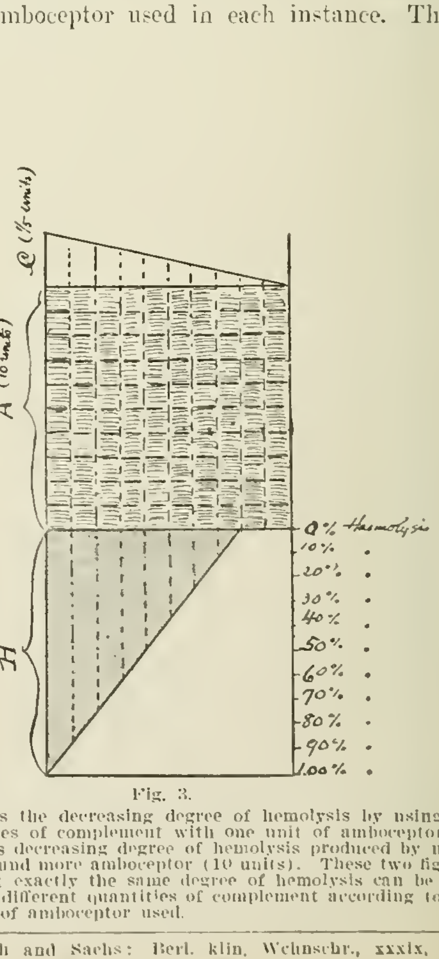

Fig. 3.

Fig. 2.—Shows the decreasing degree of hemolysis by using decreasing quantities of complement with one unit of amboceptor.

Fig. 3.—Shows decreasing degree of hemolysis produced by using less complement and more amboceptor (10 units). These two figures demonstrate that exactly the same degree of hemolysis can be produced by widely different quantities of complement according to the relative amount of amboceptor used.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

[1] Morgenroth and Sachs: Berl. klin. Wchnschr., xxxix, 817. Noguchi: Jour. Exper. Med., 1906, viii, 87.

fore, no one can measure even approximately the quantity of complement in action, unless he knows the amount of amboceptor present. Without this factor an estimation of the amount of complement by the degree of hemolysis is out of the question (Figs. 1, 2 and 3).

In the complement fixation test the deviation of complement is estimated by the phenomenon of hemolysis. If complement is fixed or deviated there will be no hemolysis, but the absence of hemolysis may be due either to partial or to total fixation of complement. In case of partial fixation the remaining fraction of complement may become sufficiently active to produce complete hemolysis if an excess of amboceptor is present. Thus we can obtain a negative result with a positive syphilitic serum in the presence of such an excess. That such a fallacious reaction is not merely a theoretical possibility but is frequently encountered in practice can be demonstrated experimentally. It is, therefore, absolutely necessary that a definite and appropriate quantity of complement and amboceptor be used in the test. The strength of corpuscle emulsion should also be approximately uniform.

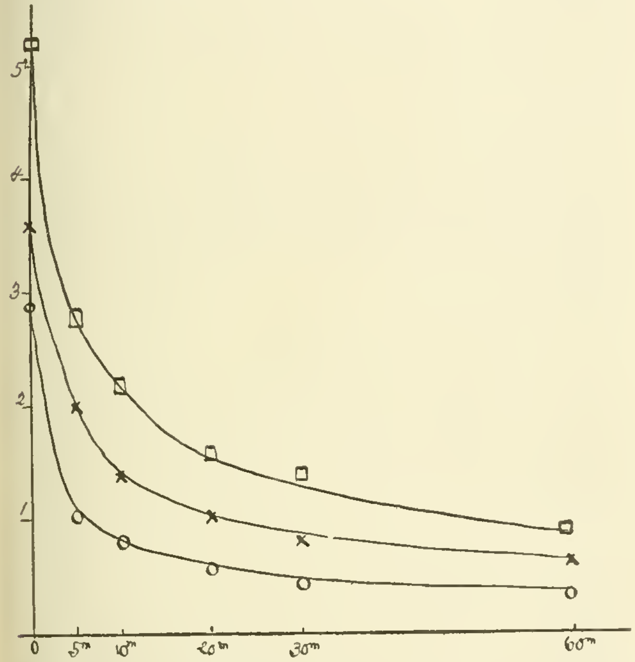

Fig. 4.—Curves indicating destructive influence of inactivation (55° C.) on the syphilitic "antibody." The small squares indicate serum from an untreated secondary syphilis; the crosses indicate serum from a case of chancre; the circles indicate serum from a manifest case of tertiary syphilis. The base line shows the length of time in minutes of exposure of the serums to that temperature. The side line shows the quantity of "the antibody" originally contained in each specimen. The curves show the rapidity of destruction of the antibody.

In regard to antigen, it should be borne in mind that all preparations of this substance possess not only an antigenic property, but also an anticomplementary one, and if the anticomplementary action be present in excess in any given preparation it renders the material unfit for use, because it may cause complete fixation even without the presence of any syphilitic antibody. Therefore, we should select by trial a preparation in which this anticomplementary action is reduced to a minimum and use that dose which does not by itself bind complement, but which will cause complete fixation with the serum of an untreated subject of secondary or tertiary syphilis.

Aqueous extracts of the liver of a congenitally syphilitic fetus contain an excess of antigen over anticomplementary property, as do alcoholic extracts, but in the former the anticomplementary action exceeds that of the latter.

The antigenic property of any tissue is due to certain lipoids present in it, lecithin being but one of a large number of such bodies. The aqueous extract contains, in addition to these lipoids, bodies of a protein and fatty nature, which render it very unstable and subject to rapid disappearance of the antigenic property. The alcoholic extracts, on the other hand, while they contain considerably less anticomplement and are much more stable, rarely deteriorating, may contain hemolytic substances, such as soaps, fatty acids, etc. Fortunately, according to my experience, the antigenic substances can be separated from both the anticomplementary and hemolytic by fractioning the dried alcoholic residue with acetone, the disturbing factors going over in the soluble portion. The insoluble fraction, containing the antigenic property, can be preserved indefinitely as a resinous mass or in alcoholic solution. The latter can then be used as an emulsion in salt solution as required, when, however, it is subject to the same rapid deterioration as the watery extract or the alcoholic extract after the latter has been emulsified for use in doing the test.

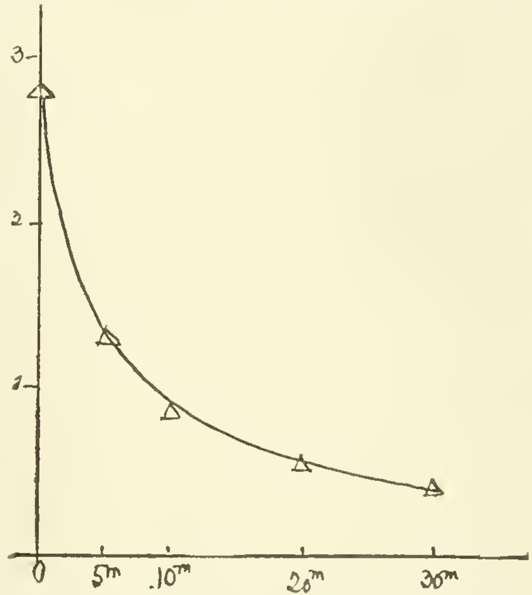

Fig. 5.—Curve showing influence of inactivation (55° C.) on the reacting substance of leprosy serum.

Paper may be impregnated with acetone insoluble fraction of the alcoholic extract, and this paper will retain its antigenic property indefinitely.

It may be said that the irregular and unsatisfactory results from the use of alcoholic extracts can be attributed, at least in part, to the disturbing factors pointed out above and the uncertainty of the concentration of any given preparation. The acetone insoluble fraction, however, as pointed out above, can be dried and definite quantities used. It contains antigenic properties in comparatively pure condition. This acetone insoluble fraction as derived from various organs differs only in quantity, the quality of the preparations being practically the same.

Concerning the quantity of the serum to be tested, it is necessary to distinguish between unheated and heated serum, because inactivation at 56° C. for thirty minutes reduces the antibody content to 20 or 25 per cent. of that originally present in the fresh state. Hence, to obtain comparable results, it is necessary to use four or five times as much inactivated serum as unheated serum.

In certain systems in order to utilize the patient's own complement the serum is used in considerable quantity in the unheated state (practically as much as is used in the Wassermann system, 0.1 or 0.2 c.c.), and these systems frequently are oversensitive. This source of error can be eliminated by carefully adjusting the dose of serum to be used. Hence the criticism of certain investigators in relation to this point is valid only if an excess of unheated serum is used. I present in Figures 4, 5 and 6 some of the curves of the rate of destruction of the so-called syphilitic antibody by exposure to different temperatures for variable lengths of time. The curves were taken by examining each serum for the antibody content before and after heating by means of complement fixation.

From what has been said above it will be seen that it is essential to analyze each individual factor concerned in the test, to be able to determine, if necessary, its quality as well as its strength. Complement, amboceptor, corpuscular emulsion and antigen should be of known strength. Each of these substances must be separable from the rest, titrable and a proper combination of all should be used.

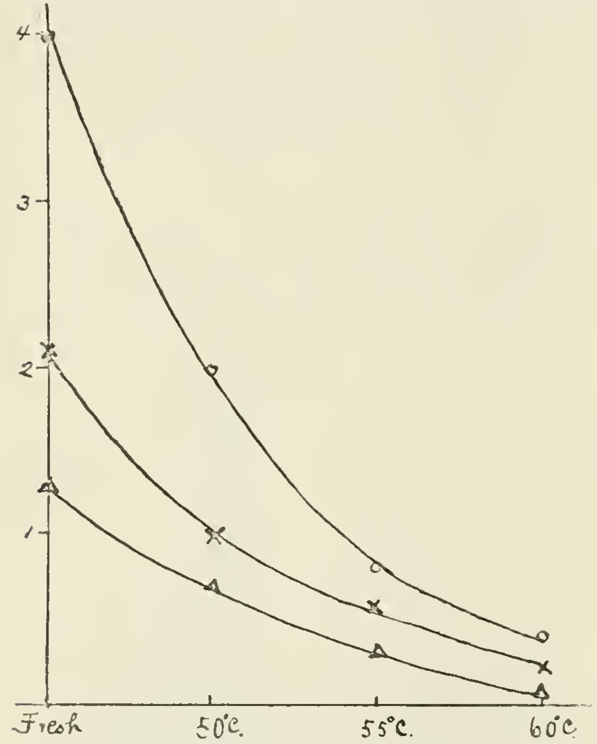

Fig 6.—Curves showing influence of different temperatures on the syphilitic "antibody." Time of exposure thirty minutes at each temperature. Circles indicate serum from a case of secondary syphilis; crosses indicate serum from a case of primary syphilis; triangles indicate serum from a case of tertiary syphilis.

In the methods introduced to the profession by the various investigators certain defects are inherent and irremovable, as will be pointed out further on, rendering the tests more or less open to objection.

It will be apparent to all that in the complement fixation test we are dealing with variable factors and with reagents subject to deterioration in the hands of the most experienced workers, which will, in a measure at least, account for the discrepancies of the results of different investigators. Hence the value of any system rendering the use of stable reagents possible is evident.

It is my purpose now to consider the various forms of this test as applied to the diagnosis of syphilis.

1. GROUP OF SYSTEMS IN WHICH FOREIGN CORPUSCLES ARE USED

A. Wassermann-Neisser-Bruck System.—Guinea-pig complement titrable and definite. Amboceptor of unknown and variable quantity. From two sources: one irremovably present in the patient's serum and varying from 0 to 20 units, the other added, from rabbits immunized to sheep's corpuscles, two units. Corpuscle suspension (sheep's) definite. Serum to be tested must be inactivated within twenty-four hours before use. Antigen may deteriorate rapidly. Only one fault: the use of an unknown quantity of amboceptor, which, if sufficiently excessive, may render a positive case negative.

B. Bauer's System.—Same as the previous except that it relies on the natural anti-sheep amboceptor of human serum. Occasional absence of this factor adds a further defect.

C. Hecht's System.—Relies on complement and amboceptor present in patient's serum; hence both factors unknown, untitrable, inseparably mixed. In a syphilitic serum no direct way to estimate accurately the anticomplementary strength of antigen alone because of presence of syphilitic antibody. Test must be made within twenty-four hours, because complement gradually diminishes. Washed sheep's corpuscles used. The amount of patient's serum comparatively too large, but can not be reduced, as it would also reduce the amount of complement at the same time. All defects of the foregoing systems as well.

D. Stern's System.—Same as C, except that immune anti-sheep amboceptor is added. Similar defects.

E. Detre's System.—Rabbit complement. Immune anti-horse amboceptor in definite quantity. Washed horse corpuscles. Inferior sensitiveness of rabbit's complement to fixation, and occasional presence of the natural amboceptor in the serum to be tested.

2. GROUP OF SYSTEMS IN WHICH HUMAN CORPUSCLES ARE USED

A.—Tschernogubow's System.—Patient's blood directly dropped into saline solution. Complement, corpuscles and antibody, if present, all in same medium. None of these three factors titrable because inseparable. Specimen must be examined within twenty-four hours. Quantity of various factors inadjustable. System discarded by its author.

B. Noguchi's System.—Each factor is separable, titrable, definite. The proportional quantity of each factor adjustable. Complement from guinea-pig.[2] Can be used in fresh as well as dried state. Latter more stable; former preferable if obtainable. Amboceptor from rabbit immunized to human corpuscles and can be used in liquid state as well as dried on paper; latter more stable. Corpuscle suspension can be made from the blood of patient or any normal individual. Removal of serum by washing corpuscles preferable but not necessary unless fibrin ferment present. Patient's serum can be used in fresh, old or inactivated state and if necessary serum can be dried on filter-paper and examined after an indefinite length of time. Antigen prepared from normal or syphilitic tissues by alcoholic extraction and subsequent acetone fractionation. Can be made more stable by impregnating filter-paper. No danger of introducing excess of amboceptor or complement. Quantity of serum to be tested is very small and so adjusted as to avoid oversensitiveness. *When inactivated, four to five times the amount used.* Test, like all the others, requires a trained man, but not a fully equipped laboratory as is necessary with all the other systems. For details consult my previous publications.[3]

In a paper read before the Section on Nervous and Mental Diseases of this Association at this session.[4] I reported the results of about 1,800 cases analyzed by my system and 600 cases by the original Wassermann method, together with a comparative study of 244 cases examined by both these methods.

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[2] The complement contained in human serum is so weak that it does not interfere with the test.

[3] Jour. Exper. Med., 1909, xl, 392; München med. Wchnschr., 1909, lvi, 494.

[4] THE JOURNAL A. M. A., Sept. 18, 1909.

The Wassermann method is cumbersome and requires elaborate facilities and considerable experience for its proper execution and is utilizable in practice only to a limited extent.

The method which I have worked out is simple, requires a small and inexpensive equipment, can be applied after a little instruction, and, above all, gives a result more uniform and reliable.

SOME STUDIES OF THE PRECIPITIN TESTS FOR SYPHILIS *

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AND
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Since the epoch-making discovery of the *Treponema pallidum* by Schaudinn interest in the scientific diagnosis of syphilis, as opposed to the clinical diagnosis, has received a remarkable impetus, so that to-day almost all the more important laboratories of the world have some of their workers devoting their attention to this subject.

Probably the first and most successful result of these numerous investigations was the test described by Wassermann and since confirmed by numerous other investigators, using his test or some modification of the same. The results obtained by Wassermann and those using his test have been remarkably good, from 78 to 88 per cent. of syphilitic and parasyphilitic cases giving a positive reaction, whereas the non-syphilitic cases are negative in practically all, except some advanced cases of tuberculosis, carcinoma and sepsis.[1]

While these tests are extremely valuable from the scientific point of view, they are absolutely useless to the general practitioner and to the average laboratory worker owing to the complicated technic. The practical applicability of this test has probably been obtained recently by Noguchi with his simplified tests by the means of saturated papers, the complicated portion of the technic being performed in well-equipped commercial laboratories and the results of this work handed to the practitioner in condensed form.

Before Noguchi had elaborated this modification of the Wassermann test other investigators had been trying to simplify it by eliminating one or more factors in the experiment. The first and only modification which has any bearing on our work was when it was found that an alcoholic extract of syphilitic liver of a fetus would answer the purpose of an antigen as well as fresh extract of syphilitic fetal liver and could be preserved indefinitely. This discovery led to the investigation as to what could be the active factor in this alcoholic extract; it was found to contain merely bile salts.

Utilizing these bile salts, an effort was made still further to simplify the test by eliminating the necessity of demonstrating the deviation of the complement and endeavoring to obtain some direct specific action between the serum of syphilitic patients and solutions of the various bile salts. The reaction that was found to occur was the formation of precipitates which, according to some, were found to form earlier in syphilitic cases than in normal cases, and also to differ slightly in character. Preeminently among those claiming specificity for this reaction, especially with a bile salt called taurin, is Varney of Detroit. By his method he believes it possible to determine the presence of syphilis in about 87 per cent. of cases and believes that it is possible to determine if patients that have positively had syphilis and have been treated, have been cured.

Klausner, antedating Varney, found that he could obtain a precipitate early in 100 per cent. of syphilitics by the addition of 0.7 c.c. of distilled water to 0.2 c.c. of serum. He found, however, that a certain proportion of cases not syphilitic gave a similar reaction. These cases were mostly acute febrile conditions, so that they would not be liable to lead to confusion, therefore making the test of considerable value from his point of view. He considers the precipitate to be composed of globulins, which are present in excess in syphilis, and therefore thrown down early.

It is for the purpose of confirming, if possible, the above experiments that the studies were undertaken on which this article was based. Five different sets of experiments have been performed in which the following aqueous solutions have been used: 1 per cent. taurocholate of sodium, 1 per cent. glycocholate of sodium, 1 per cent. lecithin, 1 per cent. taurin and distilled water. In all, 54 cases were studied: 11 secondary syphilitics, 5 tertiary syphilitics, 18 parasyphilitics (17 paretics and 1 tabetic) and 20 non-syphilitics, including 2 cases with jaundice, 1 tuberculous peritonitis, 1 puerperal case, 1 suppurative appendicitis, 3 neurasthenics, 1 case of sciatica, 1 case of chancroid with adenitis, 1 case of gonorrhea, and 10 practically normal. These cases were obtained through the kindness of the chiefs at the Philadelphia General Hospital and Insane Department; also at the Medico-Chirurgical Hospital and the Genitourinary Department of the Polyclinic Hospital, and we wish to express our gratitude to all of these for permission to study the cases.

Altogether, 253 observations were made, including all experiments. The experiments consisted in adding one drop of serum to seven drops of the reagent. Observations were made from five to seven and one-half hours later and then at the end of eighteen hours. In our conclusions, we have found that the observations made at the end of eighteen hours are of no value, as practically all cases give identical results in that time, so these observations have been ignored.

In the majority of cases, the experiments were set up by one of us and the observations made by the other alternately, the one observing having no knowledge of the cases studied.

EXPERIMENTS IN DETAIL

In the taurocholate, glycocholate, taurin and water experiments, the final result usually obtained was a precipitate, almost invariably flocculent in character; at times, light and diffused through the liquid; at other times, heavy and settled at the bottom of the tube. Sometimes both characters of precipitates were present.

The precipitates varied in amount from abundant to moderate or very slight in amount. In most cases the precipitates were tenacious, resisting ready diffusion throughout the liquid, but rising by a spiral movement and showing a marked tendency to remain in the center of the tube. No amount of agitation would cause these precipitates to dissolve. Other experiments showed a much finer precipitate which did not show the same tenacity and frequently would disappear on agitation.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

* From the Laboratories of Pathology and Surgical Pathology of the Medico-Chirurgical College of Philadelphia

[1] Marchildon, J. W.: A Comparison of Alcoholic and Watery Extracts in the Serum Diagnosis of Syphilis, The Journal A. M. A., 1908, ii, 2149.

Owing to the character of the lecithin solution, which formed a cloudy emulsion, the observations had to be varied somewhat. The most characteristic change noted was a tendency to separation of the emulsion and central accumulation of the solid particles, while the fluid becomes clear. All stages could be noted from a perfect emulsion with uniform cloudiness to the formation of a dense, compact sediment and perfectly clear supernatant fluid.

TABLE 1.—TAUROCHOLATE EXPERIMENTS

Secondary Syphilis (14 Cases)

	Per cent.
Tinged	14.2
Cases showing flocculent precipitates	85.7
Precipitates:	
Tenacious	76.9
Non-tenacious	23.1
Slight or moderate in amount	100
Light in character	100

Tertiary Syphilis (5 Cases)

	Per cent.
Tinged	0
Cases showing flocculent precipitates	60
Precipitates:	
Tenacious	66
Non-tenacious	33
Slight or moderate in amount	100
Light in character	100

Parasyphilitic Cases (18)

	Per cent.
Tinged	27.7
Cases showing flocculent precipitates	100
Precipitates:	
Tenacious	88.8
Non-tenacious	11.2
Slight or moderate in amount	77.8
Abundant	22.2
Light in character	100

Suspected Syphilis

One case showed light, moderate, tenacious precipitates.

Non-Syphilitic Cases (14)

	Per cent.
Tinged	7.6
Cases showing flocculent precipitates	95.7
Precipitates:	
Tenacious	84.6
Non-tenacious	15.4
Slight or moderate in amount	84.6
Abundant	15.4

TABLE 2.—GLYCOCHOLATE EXPERIMENTS

Secondary Syphilis (13 Cases)

	Per cent.
Tinged	14.4
Cases showing flocculent precipitates	46.1
Precipitates:	
Cloudy	46.1
Tenacious	100
Abundant	16.6
Slight or moderate in amount	83.4
Heavy	16.6
Light in character	83.4

Tertiary Syphilis (5 Cases)

	Per cent.
Tinged	0
Cases showing flocculent precipitates	80
Precipitates:	
Cloudy	40
Tenacious	75
Non-tenacious	25
Slight or moderate in amount	100
Heavy	25
Light in character	75

Parasyphilitic Cases (14)

	Per cent.
Tinged	8
Cases showing flocculent precipitates	85.7
Precipitates:	
Tenacious	100
Slight or moderate in amount	92
Abundant	8
Light in character	100

Suspected Syphilis

One case showed slight, tenacious, light, flocculent precipitate.

Non-Syphilitic Cases (15)

	Per cent.
Tinged	21.4
Cases showing flocculent precipitates	93.3
Precipitates:	
Tenacious	71.7
Non-tenacious	28.3
Slight or moderate in amount	78.6
Abundant	21.4
Heavy in character	21.4
Light in character	78.6

TABLE 3.—LECITHIN EXPERIMENTS

Secondary Syphilis (13 Cases)

	Per cent.
Tinged	7.7
Cases showing clumping	30.7
Cases showing no clumping	69.3
Cases with clumping, showing clear supernatant fluid	75
Cases with clumping, showing cloudy supernatant fluid	25

Tertiary Syphilis (5 Cases)

	Per cent.
Tinged	0
Cases showing no clumping	100

Parasyphilitic Cases (16)

	Per cent.
Tinged	0
Cases showing clumping	68.7
Cases showing no clumping	31.3
Cases with clumping, showing clear supernatant fluid	54.5
Cases with clumping, showing cloudy supernatant fluid	45.5

Non-Syphilitic Cases (14)

	Per cent.
Cases showing clumping	21.4
Cases showing no clumping	78.6
Cases with clumping, showing clear supernatant fluid	33.3
Cases with clumping, showing cloudy supernatant fluid	66.7

TABLE 4.—TAURIN EXPERIMENTS

Secondary Syphilis (16 Cases)

	Per cent.
Tinged	18.7
Cases showing flocculent precipitates	93.7
Precipitates:	
Tenacious	86.6
Non-tenacious	13.4
Abundant	6.6
Slight or moderate in amount	93.4
Heavy in character	12.5
Light in character	87.5

Tertiary Syphilis (5 Cases)

	Per cent.
Tinged	0.
Cases showing flocculent precipitates	80
Precipitates:	
Tenacious	100
Slight or moderate in amount	100
Heavy in character	50
Light in character	50

Parasyphilitic Cases (17)

	Per cent.
Tinged	31.2
Cases showing flocculent precipitates	94.1
Precipitates.	
Tenacious	100
Abundant	18.7
Slight or moderate in amount	81.3
Heavy in character	50
Light in character	50
Both heavy and light in character	18.7

Non-Syphilitic Cases (18)

	Per cent.
Tinged	0
Cases showing flocculent precipitates	88.8
Precipitates:	
Tenacious	37.5
Non-tenacious	62.5
Abundant	31.2
Slight or moderate in amount	68.8

TABLE 5.—WATER EXPERIMENTS

Secondary Syphilis (14 Cases)

	Per cent.
Tinged	14.3
Cases showing flocculent precipitates	35
Precipitates:	
Tenacious	60
Non-tenacious	40
Abundant	40
Slight or moderate in amount	60
Light in character	100
Heavy in character	0

Tertiary Syphilis (5 Cases)

In only 1 case was 2 drops of serum used, and this showed an abundant tenacious precipitate. The remaining 4 cases were negative, only 1 drop of serum having been used.

Parasyphilitic Cases (17)

	Per cent.
Tinged	7.6
Cases showing flocculent precipitates	76.4
Precipitates:	
Tenacious	100
Slight or moderate in amount	100
Heavy in character	84.7
Light in character	83.7
Both heavy and light in character	15.3

Non-Syphilitic Cases (14)

	Per cent.
Tinged	7.1
Cases showing flocculent precipitates	50
Precipitates:	
Tenacious	29.5
Non-tenacious	71.5
Slight or moderate in amount	100
Light in character	100

From our observations we have come to the conclusion that with the taurocholate, glycocholate, taurin solution and the distilled water, a positive reaction consists of a light or heavy flocculent tenacious precipitate which does not dissolve on agitation; whereas we consider as positive a lecithin experiment in which the emulsion separates with the formation of dense central clumps and clear or almost clear supernatant fluid. A study of the cases in detail on this basis shows the following facts:

In the taurocholate tests, we found that the parasyphilitics gave the highest proportion of positive reactions, then the non-syphilitics, those with secondary syphilis and finally those with tertiary syphilis. It is possible that the proportion is highest in the parasyphilities, because there was a slightly larger portion of these cases in which the serum showed some hemolysis or blood-tinging. We believe, however, that this is improbable, as all cases showing much tinging of the serum were rejected.

In the glycocholate experiments, again the parasyphilitics gave the highest proportion of positive reactions, then the non-syphilitics, the tertiary syphilitics, and finally the secondary syphilitic cases.

In the lecithin experiments, the parasyphilitics show more than twice as great a proportion of positive reactions as any other series of cases; then come the cases of secondary syphilis; the non-syphilitics and finally the tertiary syphilitic cases gave no positive reactions. One of the non-syphilitic cases giving a typical reaction was a case of hypertrophic cirrhosis, in which the blood evidently contained bile salts. The patient was deeply jaundiced.

In this series, the number of positive reactions were too few to be of great value.

The results with taurin are somewhat better than with the other bile salts. Again, the parasyphilitic cases gave the highest proportion of positive results. The secondary syphilitic cases showed a slightly smaller proportion, then the tertiary syphilitic cases, and finally the non-syphilitic cases with about one-third as many positive reactions distributed equally between normal and other cases.

In the water experiments, we regret to state that, owing to inability to obtain the original of Klausner's article, we were not aware of his exact technic, but followed the same technic as in the other experiments, except in about a dozen cases in which we doubled the proportions of serum, making it correspond with the proportions used by Klausner. In the series in which this was done, the proportionate final results were practically identical, so that we feel that our methods will give the same results as the Klausner technic.

The results are as follows: The parasyphilitics again gave a very much higher proportion of positive tests. The secondary and tertiary syphilitics and the non-syphilitics gave an almost equal proportion of positive results, though in all the proportion was but about one-third of that in the parasyphilitic cases.

CONCLUSIONS

As a result of the foregoing observations, we are led to believe that none of these tests gives the practitioner a short road to the diagnosis of syphilis. They may be of some scientific interest, especially on account of the high proportion of positive results in parasyphilitics in each set of experiments, but the proportion of positive results in non-syphilitics is too high to make the test of value. Of the solutions used, taurin seems the best.

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SERODIAGNOSIS OF SYPHILIS *

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The scientific medical world is ever ready to herald any advancement in the refinement in diagnosis of this world disease, especially in view of the fact that there is probably no infection which at times offers greater difficulties in diagnosis than syphilis. It is true that the therapeutic test is valuable, but it falls far short of being a practical and scientific diagnostic measure. The confirmation from many workers as to the utility of the serum test seems now to have reached a stage where it can be used as an actual laboratory aid in diagnosis. In 1906 Wassermann, Neisser and Bruck[1] published a series of experiments demonstrating *in vitro* syphilitic antibodies in blood serum and specific material in syphilitic tissues. Later, Wassermann and Plaut[2] found syphilitic antibodies in the spinal fluid of 78 per cent. of 41 cases of progressive dementia.

This was the first application in clinical medicine and has ever since been known as the "Wassermann syphilitic reaction." Wassermann and others showed that in the serum of syphilitic apes a substance was produced which was not present in normal serum, and later they discovered that when the blood serum of syphilitic individuals was added to liver extracts of a luetic still-born the complement was anchored.

The researches of Bordet and Gengou in 1901 paved the way for this reaction, since the principle consists in the binding of the complement, a phenomenon first observed by these investigators on emulsions of bacteria.

It is a well-established fact that if the blood of an animal (A) should be injected every seven or eight days, for several inoculations into another of a different species (B), the serum of the latter will disintegrate the red blood corpuscles of the former, producing what is known as hemolysis. The dissolution of the red blood cells is dependent on two substances; neither can act without the other. One of these is always present in any blood serum, and is called the complement. It is thermolabile, i. e., its destruction occurs when heated to 58 C. for one-half hour. By heating, said serum is rendered "inactive"; hence the term "inactivated" is used when the complement is destroyed. The other substance necessary for hemolysis, known as an antibody or hemolytic amboceptor, results from the reaction of the injected animal against the injected blood cells. It is thermostable, i. e., it withstands heating to 58 C. There are vast numbers of antibodies. No two are identical. They are specific and are the reaction product formed in the blood of an animal when a given substance, toxic or otherwise, is injected into it. So all substances, which, when injected into animals, are capable of producing antibodies, are, in general, called "antigens." If typhoid bacilli were injected into a guinea-pig every seven or eight days for several weeks, there will appear in the guinea-pig's serum a substance that will dissolve typhoid bacilli. This substance contains two bodies: (1) complement and (2) bacteriolytic amboceptor or antibody, which is analogous to the substance produced by the injection of red corpuscles into an animal of another species, but differing materially in their antibodies. These substances contain identical complements which are always present in any animal. The antibodies are manufactured as the result of an introduction of an antigen (typhoid bacilli or red corpuscles); hence are specific. The serum from the typhoid guinea-pig will not dissolve the erythrocytes nor will the serum from the immunized animal with red cells disintegrate the *Bacillus typhosus.* Bordet and Gengou took advantage of the above facts to determine the nature of an infection by mixing the inactivated serum obtained from an animal suffering from some bacterial disease with the bacteria (antigen) producing the affection and then added complement (guinea-pig serum). The above mixture was allowed to stand for about three-quarters of an hour and then red blood corpuscles plus its hemolytic amboceptor or antibody were added. If no hemolysis occurred it was due to the fact that there had already been a binding of the complement, the antigen and bacterial amboceptor being homologous. Hemolysis would take place in case the serum contained no amboceptor against the bacterial emulsion, thus rendering the complement available for the hemolytic amboceptor. It is evident from the above reactions that it is possible to demonstrate not only antibodies in the serum containing them, but also the substance (antigen) that gives rise to their formation.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

[1] Wassermann, Neisser and Bruck: Deutsch. med. Wchnschr., 1906, No. 19.

[2] Wassermann and Plaut: Deutsch. med. Wchnschr., 1906, No. 44.

Wassermann, Neisser and Bruck[3] applied the above principle to the demonstration of antibodies in the serum of persons suffering from syphilis. They employed for their antigen an alcoholic extract of syphilitic organs obtained from a luetic still-born. Marie and Levaditi found that a similar reaction, though a weaker one, could be produced with extracts from normal liver. Later, Michaelis, Fleischmann, Weil, Plaut, Volk and others showed that antigens for syphilitic serums were found in non-luetic organs. Landsteiner, Müller and Potzl[4] used extracts of guinea-pig heart as antigen, and found that their positive results coincided with the congenital luetic liver extract. This discovery is of great practical importance, as it will prove of inestimable advantage in promoting the availability of the Wassermann reaction, because the guinea-pig's heart can be secured with great readiness, while the congenital luetic organs are, at times, quite difficult to procure. Wassermann conceived the idea that these substances must be very similar to the lipoid bodies because of the solubility in alcohol of the active constituent from various organs. He directed Porges and Meier[5] to experiment with lecithin, and, in fact, found that the complement was anchored with syphilitic serums. Landsteiner and Müller discovered independently that lipoid substances, especially lecithin, produced this reaction. Potzl, Sachs and Altmann found that sodium oleate solution also acted similarly. Other substances, such as cholesterin, glycogen, sodium glycocholate and taurocholate, etc., were likewise found to react. Though Wassermann regarded this reaction at first as denoting the presence of antibodies in syphilitics and of antigens in luetic organ-extract, neither he nor his pupils in their later communications regard it in the sense of a recuperative reaction. Michaelis is of the opinion that "the Wassermann reaction does not reveal the presence of antibody against the cause of syphilis or its poisons, but some other substances which have no direct connection with the cause of syphilis, but which are found more abundantly in, or more easily extracted from, syphilitic organs than from normal ones." It is readily apparent that the lipoid element in this reaction does not depreciate its value; on the contrary, it may explain the lipoid degeneration in parasyphilitic diseases. The diagnostic value of the reaction in several thousand cases examined by the best authorities surely establishes it of distinct value, despite laboratory criticisms concerning its actual scientific foundation. In performing my tests I have employed only a few times the lipoid bodies, as lecithin, cholesterin, etc., preferring to use guinea-pig heart extract in the reaction with luetic serums.

The substances employed in the Wassermann reaction briefly[6] stated are as follows: (1) blood serum of suspected luetic (inactivated); (2) organ extract (luetic liver or guinea-pig heart macerated, extracted with alcohol and inactivated); (3) complement (guinea-pig serum, not inactivated); (4) washed sheep's blood corpuscles—sheep's blood defibrinated and washed with normal salt solution about three times, and, finally, put up in 5 per cent. and 50 per cent. strength with normal salt solution, used for dilution; (5) hemolytic serum obtained by injecting a 5 per cent. sheep's blood corpuscles into a rabbit every eight or ten days, for about four or five times; about ten days after the last injection blood is removed from heart and serum collected and inactivated.

It is absolutely imperative that, before the actual performance of the reaction, all material to be used should be tested (1) to standardize the amboceptor, (2) to see that extract does not alone anchor the complement or hemolyze the sheep's corpuscles, (3) to see that the complement is active.

In every test it is necessary to employ a few known syphilitic and as many normal serums to serve as controls for the suspecter sera. Sometimes uncertainties arise in determining the result of the reaction, but in practically every instance it is traceable to failures of sufficient controls and the proper use of materials. In doubtful reactions, a second or third test should be estimated with careful controls and using different antigens. It is not necessary to explain in detail the entire reaction, especially since there have been so many excellent articles of late written on the subject. The carrying out of this reaction, as it should be conducted, unfortunately is attended with difficulties which may discourage many who undertake it. There is no question but that a modification of the method that will furnish us an easy and accurate diagnosis is very much to be sought for. Many investigators have attempted to simplify the method, but thus far no great step has been successfully accomplished toward this end until quite recently.

Noguchi[7] describes a simplification of this test so sweeping that it practically eliminates all the technical difficulties and places it within the reach of any well-trained laboratory man. His new method is based on the same principle as Wassermann's and utilizes the Bordet-Gengou phenomenon of complement-fixation to determine the presence of syphilitic antibody in a given specimen of blood serum or cerebrospinal fluid. It is quite different from the Wassermann method, in that an anti-human hemolytic system instead of antisheep hemolytic system is used. The original Wassermann method is subject to an error arising from a varying amount of natural amboceptor found in human serum, which is capable of being reactivated by guinea-pig's complement. The Noguchi modification eliminates this source of error, since it enables one to detect the presence of even a fractional part of one unit of syphilitic antibody in a given specimen. There are two different ways of applying the test: "In one, the reagents are employed in liquid form, and in the other they are used in a dried state on filter-paper." This latter way is accomplished by saturating filter-paper, when in solution, with (1) antihuman hemolytic amboceptor; (2) the guinea-pig complement; (3) antigen (organ extract). The papers are dried and standardized.

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[3] Wassermann, Neisser and Bruck: Deutsch. med. Wchnschr., 1906, No. 32.

[4] Landsteiner, Müller and Potzl: Wien. klin. Wchnschr., 1907, No 20.

[5] Porges and Meier: Berl klin W human, 1907 No 44.

[6] A more detailed account of the technic of the reaction will be found in a most excellent article by Butler: The Journal A. M. A., Sept. 6, 1908, li, 824

[7] Noguchi: Jour. Exper. Med., March 1, 1909.

For further details Noguchi's original article[7] may be consulted. I have employed this method about fifteen times, using the reagents in liquid form.

There were a few minor points that Noguchi did not make entirely clear, but, on the whole, I had no difficulty in following it. From the little experience that I have had with the test, I can in the main confirm Noguchi's contentions with reference to the simplicity as well as to the delicacy of the test as compared with the original Wassermann. There were seven cases (of male negroes) in which doubtful reactions were obtained by the original Wassermann reaction. The modified method showed that these seven gave very positive reactions. In two cases very positive reactions were obtained, in which no history of syphilis, either acquired or congenital, could be obtained; the subjects were perfectly healthy, and their physical examination resulted negatively. The original method was negative in both cases. It is barely possible that such a test is too delicate; many more tests are necessary, however, in order to decide such a question. I have used the much simpler precipitate tests with lecithin, sodium glycocholate, taurine and other bile salts and shall discuss them in detail in another article. The precipitate tests are not considered as reliable as the Wassermann reaction. They are based on entirely different principles. The bulk of my work in the last twelve months has been with the original Wassermann reaction. They are as follows:

REPORT OF REACTIONS

Forty-six presumably healthy white men, giving no history of syphilis, were examined by the original Wassermann method. All the reactions were negative, save two which were recorded as doubtful; subsequent tests, using different antigens, still showed doubtful reaction.

1. The first case showing this doubtful test was that of a man aged 24, height 5 feet 10 inches, weight 160 pounds. He had all of the diseases incident to childhood; contracted typhoid fever at the age of 15, and smallpox at 19; he was otherwise healthy all of his life. He denied all venereal diseases. No glandular involvement or scars on genitalia or elsewhere could be discerned. He had never had sore throat. Hereditary syphilis could not be absolutely excluded.

2. The second patient, in whom a doubtful reaction was recorded, was a man, aged 20, height 5 feet 8 inches, weight 145 pounds. He had all of the diseases of childhood save pertussis; at 18 years contracted lobar pneumonia, from which he was several months in recovering. Since then he had been in excellent health. He had gonorrhea twice, but denied lues. There was no glandular involvement in any part of the body; no discernible scars on genitalia; no history of sore throat or eruptions on body. His father contracted syphilis when 19 and married at 21, only taking six months of antiluetic treatment.

Of the forty-six apparently healthy, colored male adults giving no history of syphilis, and having no scars on their genitalia or elsewhere, five gave a positive Wassermann reaction and ten gave doubtful reactions. There were two groups of the forty-six cases that were examined. The first group consisted of twenty-five negroes who lived in the country. The second group, numbering twenty-one, represented the city negro. Of the country negroes only one showed the positive Wassermann, and three the doubtful reactions. In the three cases which were doubtful by the original Wassermann, the Noguchi modification proved distinctly positive. All of these cases showed glandular involvement. In these cases I was unable to exclude hereditary syphilis. In the city negroes, numbering 21, 4 showed the positive Wassermann, while 7 gave doubtful results. The Noguchi modification proved to be positive in all seven of the doubtful cases. All of these negroes claimed to be perfectly healthy and denied any syphilitic trouble. No scars on their genitalia could be discerned. There was no history of sore throat or body eruptions. In the 4 positive cases and in 5 out of the 7 doubtful ones there was slight enlargement of the lymph nodes. The remaining two subjects were perfectly normal. Congenital syphilis could not be excluded in any of these cases.

It is evident from the above that a good percentage of the city negroes have syphilis, either acquired or congenital, and do not know it, or else their statements could not be depended on concerning this affection. In the country negro, this disease is comparatively rare as compared to the city negro.

Out of 58 non-luetic cases of various diseases, I obtained a positive reaction in two cases of advanced carcinoma, one of advanced sarcoma and one of hydrophobia, and one of profound malaria (estivoautumnal). The following is a detailed report showing the various diseases in which the reaction was tried:

3 cases scarlet fever	negative reaction
8 cases lobar pneumonia	negative reaction
5 cases typhoid fever	negative reaction
3 cases advanced tuberculosis	negative reaction
4 cases moderate tuberculosis	negative reaction
5 cases incipient tuberculosis	negative reaction
2 cases advanced carcinoma	positive reaction
3 cases malaria tertian	negative reaction
2 cases lupus	negative reaction
2 cases carcinoma	negative reaction
2 cases sarcoma	negative reaction
1 case advanced sarcoma	positive reaction
1 case amebic dysentery	negative reaction
1 case tetanus	negative reaction
2 cases diphtheria	negative reaction
1 case hydrophobia	positive reaction
2 cases acute nephritis	negative reaction
4 cases chronic nephritis	negative reaction
2 cases furunculosis	negative reaction
2 cases abscess	negative reaction
2 cases infected gall bladder	negative reaction
1 case malaria (estivoautumnal)	positive reaction

These cases were obtained from the Nashville City Hospital, the Vanderbilt Medical Hospital, and a few from private patients of physicians. The two carcinoma cases that gave positive reactions show the following history:

The first patient, a white woman, married, aged 57, mother of three children, had had the diseases incident to childhood; denied all venereal trouble. There was no glandular involvement or throat trouble, and no eruption on skin. One year and a half ago, a diagnosis of carcinoma of cervix was made by microscope. She is now in the last stages of carcinomatous disease. Recently her blood was withdrawn and a Wassermann reaction resulted positively.

The second patient, a white woman, married, aged 50, mother of two children, also denied all venereal trouble. There was no glandular involvement or throat trouble; no history of rash on body. The patient had pneumonia when about 22, and when about 40 years old contracted grip. She noticed a tumor in her breast two years ago, which was removed and pronounced to be carcinoma on microscopic examination. Recurrence resulted and a second operation was performed. The patient is now in the last stages of this disease, and her blood has shown on three different occasions a positive Wassermann reaction.

The third case is one of advanced sarcoma, occurring in a white man, aged 26, who had always been healthy, save for the diseases of childhood. He denied all venereal trouble. There was no glandular involvment or history of sore throat, or skin eruption. About one year ago the patient noticed a small tumor, size of hazel-nut, on inner aspect of leg. The tumor was examined by microscope, which showed sarcoma. Amputation advised but patient refused. Several months later a general sarcomatosis developed. The Wassermann reaction was positive two different times.

The fourth case was that of hydrophobia occurring in a married white man, aged 35, who had always been healthy. He denied syphilis, but said that he had had gonorrhea. He was bitten on the hand by a rabid dog; three months later developed typical symptoms of hydrophobia. After his death, I obtained sufficient amount of blood for the Wassermann test, which was positive. The case was proved to be hydrophobia by the finding of the Negri bodies in the brain, and by the inoculation test.

The fifth case was one of malaria (estivoautumnal) occurring in a white married man, aged 27, who contracted pneumonia when 18 and at 24 had a severe attack of grip. He denied syphilis, but had had gonorrhea. For the past twelve years he had malaria. When the blood was obtained, the patient was suffering from a profound attack of estivoautumnal type of malarial poisoning, from which the patient died in two days. The Wassermann reaction was positive.

In 88 per cent. of 80 cases of active syphilis, primary and secondary, the reaction was found positive. The comparatively low positive results are due, perhaps, to the fact that three patients who gave negative reactions had received antisyphilitic treatment at the time the test was made.

I conclude by stating that more than 90 per cent. of cases of active syphilis give the reaction. The occasional reaction in other diseases lessens the diagnostic value of the test very little, if at all. The Noguchi modification is apparently more delicate than the original Wassermann. I am of the opinion that a good percentage of the city negroes of the south giving negative syphilitic histories will show a positive Wassermann reaction as modified by Noguchi, since many have hereditary syphilis.

Fifth Avenue and Elm Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. NOGUCHI, WIEDER AND L'ENGLE AND LITTERER

Dr. Maximilian Herzog, Chicago: The serodiagnosis of syphilis has certainly assumed great importance from the standpoint of the clinician. Many thousands of tests are reported from Europe, four clinics there alone reporting investigations in over 10,000 cases. What we know concerning the clinical importance of that test is based on the original Wassermann test. The modifications of this test proposed have all been shown to be defective. Dr. Noguchi referred to some remarks I made in another section when I stated I had tried the Bauer modification and had finally given it up. I did so on account of the great variability of the amboceptor-content in human serum. On the average, in a majority of cases, this variability is not so great; but there are some cases which show an enormous amount of hemolytic amboceptor, and some with none at all.

Some of the objections to Dr. Noguchi's modification that I consider valid are the following: He uses several of the substances necessary in a dry state and gives rules by which to prepare them in such a dry condition. Now, he has made the point that in his test all the quantities are known; yet I have seen in his article in the *Münchner med. Wochenschrift* the statement that non-heated human serum frequently has an anti-complemental effect as to the guinea-pig's serum complement. If, therefore, you have such a serum and have made the test, you have no hemolysis and you do not know where you stand. Dr. Noguchi's reply to this objection is that you must reduce the amount of human serum; but in this he disregards his own principle, which says that the test must be made with absolutely equal quantities. Hence, I think that it will finally be found that his test has serious defects, as have other modifications of the Wassermann test. I do not want to decry Dr. Noguchi's excellent work; but I wish to say that when we are using the serodiagnosis of syphilis for the benefit of the clinician we ought to stick, for the time being, at least, to the Wassermann test. The point that I urge against Noguchi's modification is that it will go out into the hands of the general practitioner, and everyone will believe that he can handle the serodiagnosis of syphilis. We shall then get unreliable results, and the serodiagnosis of syphilis will be discredited among practitioners. The test should be made by men with good laboratory training, who know all about the principles of hemolysis, who can meet defects and abnormalities when they do show themselves, and who are not merely going through a mechanical routine with test papers.

Dr. Frank Smithies, Ann Arbor: Without wishing to detract in the least from the ingenious device of Dr. Noguchi, I feel that I must endorse the remarks of Dr. Herzog. The commercialization and improper working of these tests by untrained persons frequently casts a good deal of doubt on the value of such a test in the minds of practitioners and the laity in general, so that I think that the work should be performed exclusively by expert laboratory men. We must admit that Dr. Noguchi has himself laid stress on this very point. My own work in connection with Dr. Cummings in 199 cases showed that 89 per cent. of known syphilitics gave positive reactions by the original Wassermann procedure; yet this reaction was obtained in other diseases. We have had it positive in pernicious anemia, cancer, Addison's disease, early measles, and tuberculosis, and in many patients who had received treatment for rabies according to the Pasteur method. We have attempted to give an explanation of its occurrence in the rabies cases in a recent preliminary report in The Journal, April 24, 1909, pp. 1330-1331. It appears to me, therefore, that while we do get a certain amount of clinical information by the Wassermann and the Noguchi tests, it is impossible, as Dr. Herzog has insisted in the present condition of our knowledge concerning the subject to entrust the work to any but experienced laboratory men.

Dr. William J. Butler, Chicago: I have investigated the precipitate reactions in conjunction with Dr. Mefford. With reference to the taurocholate and glycocholate of sodium on which we have already presented our results, we found the glycocholate of sodium conducted itself pretty well toward various sera; and while I do not wish to be put on record as believing that it is of decisive value in the diagnosis of syphilis, I think that it is not to be discredited. It gives closer information concerning the syphilis question than does any precipitate reaction, and its results parallel more or less those of the Wassermann reaction. Regarding taurin, my experience is limited. I tried it in ten cases of tuberculosis, which constitutes a good class of cases to try these reactions in. In none of the eight cases in which a positive result was obtained had we reason to suspect syphilis, so we stopped using it. Regarding the Wassermann reaction and its being found positive in other infections than syphilis, as reported by Dr. Litterer, we have all had experience in finding the reaction in other infections; and I think there are two reasons why this is so: First, there are so many sources of error in performing the reaction, that unless we adhere to pretty close lines, we are bound to fall into the mistake of making false interpretations. If we adhere to the original idea that a positive reaction is to be concluded only from a complete or almost complete inhibition of hemolysis, we shall seldom fall into error. The cases formerly termed 1 + or 2 + are gradually, in the hands of most investigators, being discarded; because there are too many sources of error in attempting to draw the lines between a 1 + and 2 + and a negative reaction. The experiments should be repeated and repeated, and the controls must come out perfect before such deductions can be made. Second, when a strong reaction is obtained, close inquiry invariably reveals a history of syphilis. The reaction is found in leprosy, occasionally in scarlet fever and noma. The point to which Dr. Herzog directs attention, namely, that human serum alone may act as an antihemolytic has, of course, been a matter of observation from the beginning of this work, and will not be eliminated by any of the modifications of the reaction that have been offered. While the modifications of Tschernogubow and Noguchi will eliminate the natural amboceptor for sheep's corpuscles, this is practically *nil* in all syphilitic serum so far as it interferes with the reaction, and on this point rests the modification advanced by Bauer.

Dr. J. J. Kinyoun, Washington, D. C.: I agree with Dr. Herzog that the Wassermann reaction should be done in the laboratory by trained men and not for the time at least be given over to the clinician. I have no fear that there will be any material departure from the methods now in vogue and it will be a long time before the clinician will undertake to do the test even if it were more simple than the modifications now proposed by Dr. Noguchi. To illustrate this point: As is well-known, a simplification of the Widal test for typhoid was made by von Ficker, which was intended to put this in the hands of the clinician, yet despite its simplicity and availability for a bedside test it has not been received with favor for practitioners. Moreover the number of requests on the laboratories where the Widal test is made has increased. Now I believe that the same will obtain for the Noguchi method, and that but few clinicians will undertake to do the test, the majority will depend on the laboratories as at present. On the whole, my observation shows the Noguchi method more delicate than the original, and sometimes I am led to believe that it is a little too delicate.

Dr. H. Noguchi, New York City: In carrying out the serodiagnosis of syphilis by complement fixation the antigen plays the most important rôle in the results. Not only the quality of the antigen should be suitable, but also the dosage of a suitable antigen should be carefully selected. An excess of antigen is to be avoided because of rendering the test unduly sensitive. Certain investigators who obtained a high percentage of positive reaction with scarlet fever or other nonsyphilitic diseases (except leprosy) by using the Wassermann method now admit that they employed unsuitable antigen or an excess of this reagent. Should any one happen to get unduly sensitive reactions with any method he ought to reduce the dose of antigen to eliminate oversensitiveness. No one should adhere without certain trials to every dose of each reagent prescribed as the reagents may differ somewhat with the course, but he should understand the prinicples of the test and adjust the dosage according to the circumstances. The reading of the reaction is another important factor in deciding the results. It is my rule to base the diagnosis of syphilis on unmistakably strong reactions only, but never on weak reactions when the clinical diagnosis is unknown. On the other hand, I take even a faint positive reaction as a sign of active syphilitic process still present when the specimen is derived from a known luetic case. Again, for the purpose of excluding possibility of syphilis from a case I put value even on a faint reaction, no matter whether the person may seem apparently healthy or not. Thus, according to my opinion, the reactions may be utilized for three different purposes, namely, when strongly positive as a diagnostic; when weakly positive as a sign of still existing syphilitic foci in a luetic subject, and as a means of excluding syphilitic suspicion from a person. For the two last purposes there can be no objection to a very sensitive method, and, in fact, for selecting wet-nurses, recruiting for the military or naval services, choosing a donor of blood for transfusion, etc., a system which will not miss the reaction whenever there is one should be recommended. This is my answer to Dr. Litterer's reports. In regard to Dr. Herzog's question I may say that it is rare to meet with specimens containing disturbing quantity of anticomplement. If such a case should occur the anticomplement can be removed easily either by reducing the serum to be tested or by increasing the quantity of complement. My system is perfectly adjustable as each factor is separate and titratable.

Dr. Henry S. Wieder, Philadelphia: I have only to say that the fact that none of the tests are any good is shown by the fact that Dr. Butler obtained the best results from glycocholates, while we got the worst results with them. The reactions depend more on the idiosyncrasy of the patient than on the disease. In tuberculosis Butler got 8 out of 10 positive reactions depend more on the idiosyncrasy of the patient than with taurin than with anything else. The result depends on the people you encounter. I do not believe that the disease has much to do with it.

PRIMITIVE GRAPHIC SIGNS IN PULMONARY WORK

BASED ON PHONETIC VALUES

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A thing is practical in proportion to the extent of its application. Up to the present time have the graphic expressions used to denote physical signs in pulmonary cases proved to be really practical? If not, why not? That they have not been applied as extensively as they should be is conspicuously seen whenever one attends clinics and visits hospital wards. And the reason for this is largely because of the un-meaningness of many of the proposed signs.

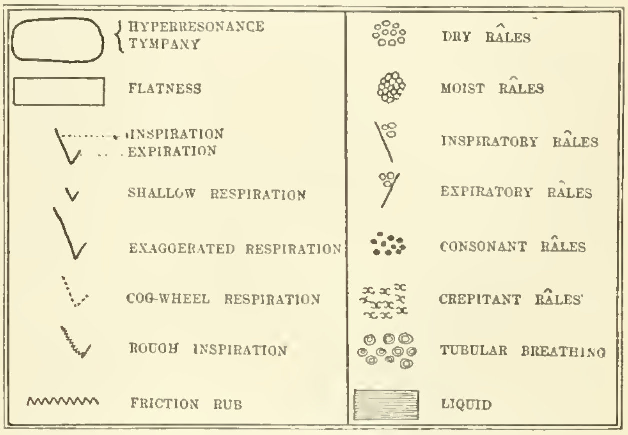


Fig. 1.—Primitive graphic signs.

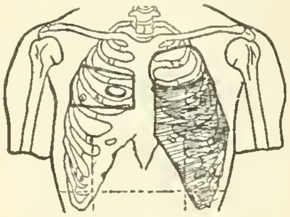


Fig. 2.—Percussion signs right side: Area of dulness enclosing area of resonance, i. e., cavity; left side: area of tympany overlying liquid.

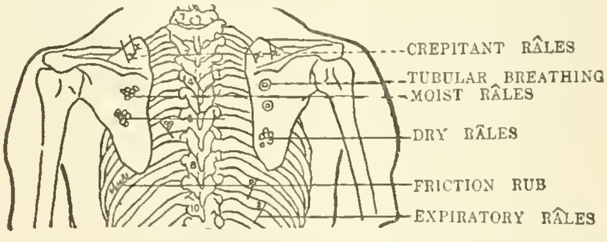


Fig. 3.—Auscultation signs.

At various clinics there have been adopted individual modifications, and in the invention of these signs the basic principle that should underlie such a system has not been sufficiently considered. The result has been that many of the signs are fanciful in proportion to the skill of their authors, and often indeed are fair representation of art for art's sake.

Unless signs are of the simplest character and have a distinct meaning of themselves they are difficult to memorize and retain. The average man on reading over a series of signs in a text-book will, within five minutes, remember but one or two out of the twenty or more; so that if he is to use them in his work he must "learn a new language." Therein lies the reason for the limited scope of their adoption.

Tyler enumerates five ways by which men communicate with each other. One of these is written signs. He says, "Signs, to be understood, must be of the natural self-expressive sort." A sign may be an imitation of the object desired to designate, or a symbol of the same; in either case its association should be readily understood. For our needs their association should be so thoroughly familiar that conscious memory should play no part in their usage. They should belong to the "unconscious memory." (Spencer.)

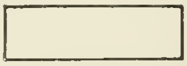
By the Chinese, and more so by the Japanese, along with the signs which originally were pictures, certain other signs are used to present sounds in their written language. With characters to express phonetic values, it is easily seen that a complete system would naturally develop as a part of such a written language. This can not be done in our writing. We may, however, adopt a system of symbols of the simplest primitive sort that is capable of entirely fulfilling the purpose for which graphic signs are intended in pulmonary work. In such a system each mark should express something definite. To this end I have carefully considered the signs that up to the present have been in use, retaining those which are true and capable by themselves of transferring a meaning to the reader of them and replacing others by new elemental signs which express the meaning intended to convey.

The first requisite for the record is a chest outline that is accurately proportioned. At the hospital we use an outline 3½x4½ inches on the history blanks, and in my private work I use the same size rubber stamp on a 4½x8 card.

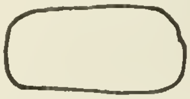
PERCUSSION SIGNS

Normal Resonance.—If the percussion sounds seem normal, there is no need for making any marks at all.

Flatness or Dulness is designated by drawing straight border lines over the limits of the involved area. The straight lines, when joined in the shape of a square or oblong, or irregular area, always suggest to the mind a block or something flat or solid.



Tympany or Hyperresonance may be shown by a curved outline over the involved area. Round outlines suggest to the mind hollowness and hollow sounds.



These are the basic signs for percussion.

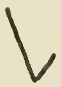
The degree of *flatness* or *hollowness* may be specified in the history or by abbreviation. In combination on chest outlines they are most suggestive. For example — an oval outline included within a square one at once suggests a hollow space in a solid body, a cavity in a solidified lung. Within these round or straight border lines can be marked the evidences of auscultation.

AUSCULTATION SIGNS

Inspiration is well represented by the down stroke of the letter \, the air rushing downward into the lung.

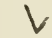
Expiration is shown by the up stroke, the air rushing upward out of the lung.

Relative Values of the sounds normally heard over the chest with *inspiration* and *expiration* are represented by a longer downward and inward stroke (inspiration) and a shorter outward and upward stroke (about one-fourth the length) for expiration. As with the resonance, normal values need not be expressed.

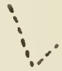


Abnormally Prolonged Expiration or Inspiration is represented by the relative increase in the length of either of the lines.

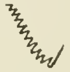
Shallow Breathing is represented by small marking.



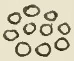
Cog Wheel Breathing is pictured by interrupted lines.



Roughness of expiratory sounds is plainly indicated by a serrated line (inspiratory in similar manner).

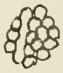


Dry Râles.—On listening carefully to chest one is impressed with the fact that dry râles seem as discrete, individual sounds. I would, therefore, represent them as discrete circles.



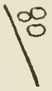
They may be large or small, or both, in proportion to their fineness or coarseness or mixture of both.

Moist Râles, on the other hand, always seem to be confluent sounds running together, as bubbles do. I would, therefore, represent them as circles joined—large or small, or both, as the physical findings suggest.

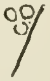


Inspiratory Râles.—These should be designated by marking the circles along the inward stroke.

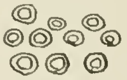
If heard at the beginning of inspiration, then at the beginning of the line; if at the end, then at the end of the line.



Expiratory Râles are designated by placing the signs at the beginning or middle or end of the outward line, corresponding, according to the judgment of the examiner, to the beginning or end of the expiratory sound.

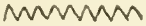


Tubular Breathing is designated by the image of a tube, a circle including a circle, a sign that is perfectly easy to make. It represents the bronchus; it suggests how tubular breathing is produced; seen on a diagram, it is an object-lesson in itself. If it is to represent the bronchial breathing of a small bronchus, the sign is a small one; if a large bronchus, the sign is made larger. The location also suggests its possible size.

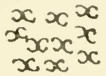


Mixed Sounds, as, for instance, when the ear detects bronchial breathing, and, at the same time moist or dry râles, are shown by the sign of each recorded side by side. This is more accurate than to have a combination sign for both: for, accurately speaking, these sounds are produced by adjacent parts of the lung and never from one spot.

Friction Rub is very well represented by the sign frequently used which represents a saw edge, or jagged rough surface. Fine or coarse sounds are easily suggested by the size of the irregular up and down stroke. The location of the sign will designate its pleuritic or pericardial origin.



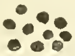
Crepitant Râle.—This sound is so important and usually of such distinctive meaning as to deserve a sign of its own.



The sign that is here shown represents the separation of the approximated alveolar walls, the manner in which we believe it is produced by the inspired air. One may also see in it the letter *c* for crepitant. This sign should accompany the inward or outward line, designating the time at which it is heard.

When it can be determined that the sound is produced by a fine pleural rub, then it should be represented by the friction sign. We already have a sign for the so-called *subcrepitant râle* that is merely a fine moist râle—and it would be well if the term itself were abolished, as its meaning is frequently confused (Bonney).

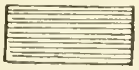
Consonance is a quality that râles possess under certain pathologic condition of the tissues out of which they emanate. This quality being largely that of increased intensity, is very well represented by having the sign of the râles appear as black dots, which convey a distinct meaning as contrasted with the circles.



The dots are discrete or confluent, according as to whether the râles seem dry or moist. A large element of personal equation enters into the interpretation of sounds possessing consonance, and, all considered, a dubious value is placed on their reliability for diagnostic inference.

The foregoing signs, if carefully considered, will each be found to correspond very closely to the underlying principle of phonetic writing, in which the picture or sign in this instance, should represent the character of the sound to be designated. Their meaning is therefore true.

Liquid is represented by a series of horizontal lines included within straight boundary lines. The outlined area is flat and, auscultatory sounds being absent, may be effaced by the horizontal lines; these also represent liquid better than any other simple sign.



This system includes the desirable elements of the various former systems of signs and in the new ones offers to the mind the simplest primitive forms in such a way as, once they are considered, they should be naturally retained.

4502 Fifth Avenue.

Headache Remedies.—Remedies for the relief of migraine are almost without number, but the most that can be expected of any of them is a diminution of the severity and a curtailment of the duration of the pain once the attack has become fairly established.

THE COMING REVISION OF THE UNITED STATES PHARMACOPEIA

TORALD SOLLMANN, M.D.
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The decennial convention for the revision of the Pharmacopeia will meet in Washington, D. C., on the 10th of May, 1910. The intervening time is none too long for the careful consideration of the policies which the delegates to this convention will have to determine. Their decisions will be the main factor in the fate of our Pharmacopeia, at least for the next ten years, and perhaps for much longer. The times are peculiarly favorable for effecting any necessary reforms, and it may be many years before an equally favorable opportunity will again present itself.

This convention elects the revision committee and the officers and trustees. It may also direct the scope of the Pharmacopeia and the general methods to be used in the revision. Within very wide limits, it has the power of prescribing almost any policies which it considers wise. It is, therefore, charged with very great responsibilities which should not be undertaken without serious thought and reflection. According to the constitution this responsibility is divided between the two professions of medicine and pharmacy. The constitution permits of more medical than pharmaceutical delegates, and thereby imposes the greater responsibility on the physicians. Most unfortunately, our profession has shirked its share in recent years and has turned the work over to the pharmacists. The latter have discharged their duties in a manner which should be a model to us. Accordingly we have in the Pharmacopeia a work which is a fairly representative standard of the best in modern pharmacy; but which is seriously lacking as a standard of the best in modern pharmacotherapeutics. The revision has passed into the hands of the pharmacists, because they were willing to do the work which we shirked. They merit praise, rather than reproach, for "capturing the Pharmacopeia."

AS TO ITS CAPTURE

Another reason for this capture is that the technical work of the revision requires mainly pharmaceutical rather than medical knowledge. Because of this fact it would be disadvantageous to increase materially the medical representation on the general revision committee, or to elect a clinician as editor. On the other hand, physicians should have at least an equal share in directing the general policies, and they alone should decide what substances are to be admitted to the Pharmacopeia. This is absolutely indispensable—at least, if the Pharmacopeia is to be a medical standard and not merely a compilation of pharmaceutical receipts and tests. If the latter is to be its main function, the wisest course for the medical profession would be to abandon a false position and to disclaim all responsibility. The founders of the Pharmacopeia certainly did not have this pharmaceutical conception of its scope, for in the early days the Pharmacopeia was published by the medical profession exclusively. With the discriminative evolution of the two professions, it became a wise step to place the technical matters in pharmaceutical hands. On the contrary, the simultaneous and unnecessary abandonment of a controlling voice in the direction of the general policies, and especially of the admissions, was distinctly a step in the wrong direction.

In theory we still retain this control, and it may not be too late to make it practically effective. The constitution provides for equal representation for both professions, so far as national and state bodies are concerned. It also provides that each college of pharmacy and of medicine is entitled to send three delegates. Since there are more medical than pharmaceutical schools, it was the obvious intention of this provision that the medicine should have the larger representation. This, however, is not the way in which it would work in practice. The Pharmacopeia is the "book of books" in pharmacy, with every detail of which every competent pharmacist must be thoroughly familiar, however little he may know besides. Accordingly every member of a pharmaceutical faculty would be prepared to take an intelligent interest in the revision. The case is very different with the physician. For him the Pharmacopeia is only one book, if an important one, among many others which he must study. The acquaintance of the ordinary physician with the Pharmacopeia cannot, therefore, be as intimate as that of the pharmacist. Accordingly only a small proportion of a medical faculty, as a rule, would be prepared to understand the details of the revision. While, therefore, it should be easy for every pharmaceutical school to send its contingent of delegates, it would be difficult for many medical schools to find on their faculties three men who would be willing and able to attend. This inequality could be easily remedied by reducing the number of delegates for both professions—a reform which may be supported by other weighty arguments. There is little doubt that the present size of the convention is entirely too large for the most effective transaction of its business in the brief time at its disposal.

A VICIOUS CIRCLE

After all, however, the main reason why the policy of the Pharmacopeia has passed out of the hands of the medical profession is that the latter has not exerted itself to retain the control. . This, again, is due mainly to the fact that the Pharmacopeia has become so predominantly pharmaceutical in its tone and contents that it is really of minor importance to the physician. There is here a vicious circle: Physicians take no interest in pharmacopeial revision, because the Pharmacopeia does not represent their vital interests; and the Pharmacopeia does not represent their interest because they take no interest in its revision.

Let us face the issue frankly: If the Pharmacopeia is not and cannot be made practically important to the physician, then let us abandon it altogether. If it is or can be made important, then let us live up to our responsibility, break this vicious circle, and start it to revolve in the useful direction of improvement. Few will deny that the Pharmacopeia has within it the germ of the greatest practical usefulness—were it only as an instrument in putting down the evils of nostrum-quackery. In fact, the Pharmacopeia is one of the strongest potential factors in advancing scientific therapeutics—which means simple and accurate prescribing.

So far as I have been able to ascertain, the medical profession is practically a unit in believing that some radical changes are required to make this potentiality an actuality—however widely opinions differ as to the details of these changes. These differences of opinion are a most healthy symptom, for from their thorough discussion we may expect the nearest approach to perfection. It is essential, however, that the bulk of this discussion should take place before the convention meets. At the convention the time for discussion will be altogether too limited to hope for the best results. It is also essential that the delegates should be well informed and, so far as may be, united. For, while the times are propitious, we dare only hope for the best results if those who believe in the necessity of reform will present a united front. Finally, it will be necessary that the program of reform should not be vague and indefinite, but that it be presented in the form of clean-cut motions.

With this object in view—namely, of submitting a definite program for discussion—I venture to recapitulate, in the form of motions, the principles of reform which I had the honor of discussing before the Section on Pharmacology and Therapeutics at the Chicago meeting in 1908. I would refer those who are interested in the arguments to the published paper.[1]

PRINCIPLES OF REFORM

The changes which appear to me as of the first importance, from the medical standpoint, are about as follows:

A. *Reorganization of the Revision Committee.*—The complexion of the revision committee should be changed so that the present relatively large committee, with vague individual responsibilities, may be replaced by a smaller "executive committee," each member being elected directly by the convention as chairman of a given department of the revision, and thus charged directly with the full responsibility for his department. The departments are enumerated under Motion 3. Their personnel, in addition to their chairman, should consist of "associate members," whose number, selection and appointment should rest with the chairman of the department, with confirmation by the executive committee. The appointment of all the members of the admission committee, however, should be made directly by the convention. The chairman of the editorial committee should be *ex officio* chairman of the executive committee. The appointment of all the members, associate as well as executive, should be conditioned on effective work, and in case of failure should be subject to revocation by the board of trustees.

Unfortunately the election of the revision committee precedes the discussion of amendments, in the order of business of the convention. This would mean, as I interpret it, that any reforms along these lines could not be made fully effective until the next convention, in ten years—unless, indeed, the newly elected revision committee would offer the self-sacrifice of resigning in a body when such amendments are adopted. This would be by far the simplest solution of the difficulty. Otherwise the convention would need to provide a temporary makeshift by filling all the newly created positions from the revision committee which had been elected according to the old plan. This would be feasible, although more complicated.

These changes are covered by the following motions:

Motion 1.—That Article I of Chapter V (page 13[2]) of the by-laws be amended to read as follows:

"The committee of revision shall consist of (a) an executive committee, composed of the chairmen of the ten departments of revision, to be elected at the decennial meeting; (b) the associate members to be appointed by the chairman of each department with the approval of the 'executive committee' (except that the members of the 'admission committee' are to be elected directly by the convention as provided below under Article IV; (c) the president of the convention, *ex officio.*

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[1] The Journal, Dec. 12, 1908, pp. 2013-2018.

[2] The "pages" refer to the pamphlet "United States Pharmacopeial Convention," printed by order of the Board of Trustees, Washington, D. C., 1909.

"The business of the committee may be transacted by correspondence."

MOTION 2.—(Required only if a revision committee has already been elected according to the old plan). That, as a temporary expedient, the chairmen of the departments for the current revision be elected from the members of the revision committee, elected according to the by-laws hitherto in force.

MOTION 3.—That Article III of Chapter V (page 14) of the by-laws be amended to read as follows:

"The departments of the Revision Committee shall be the following: (1) Editorial; (2) Admission; (3) Pharmacognosy and Botany; (4) Proximate Principles and their Chemical Assays; (5) Volatile and Fixed Oils and Resins; (6) Inorganic Chemicals, Chemical Processes and Reagents; (7) Organic Chemicals (including Synthetic Products); (8) Pharmaceutical Processes and Recipes; (9) Pharmacodynamics (including Sera and Physiological Assays); (10) Therapeutics (including Strengths and Doses)."

"The chairman of the editorial department shall be *ex officio* chairman of the executive committee. He shall have the general direction of the work of revision, assign the subjects to the departments, receive and announce the votes of the executive committee, attend to the correspondence and prepare the final manuscript. It shall be his duty to present to the decennial meeting a report of the work of the revision committee. The executive committee shall elect from its members two vice-chairmen and a secretary to serve until their successors are elected."

B. *Control of the Admissions.*—This reform is of most particular interest to physicians. The present method rests on the entirely indefensible assumption that the chemist and pharmacist are the most competent judges of therapeutic usefulness. This absurd arrangement should be abolished by placing the control of admissions in a special committee elected for their special fitness for this particular purpose—by far the most delicate and complex problem with which the revision will have to deal.

MOTION 4.—That Article IV (page 14) be amended to read as follows:

"The Convention shall elect the entire committee on admissions, which shall consist of a chairman and five other members, of whom at least four shall be physicians. It shall be the duty of this committee to pass on the admission of substances to the pharmacopeia, subject to any general direction which the convention may give, and to report their conclusions promptly to the chairman of the 'executive committee.'"

MOTION 5.—That Article V (page 14) be replaced by the following:

"The chairmen and other members of the revision committee shall receive such compensation for their services as the board of trustees may direct. Vacancies may be filled by election by ballot by the executive committee."

C. *Nominating Committee.*—These changes will necessitate some alterations in the method of nomination:

MOTION 6.—That Chapter VI of the by-laws (page 14) be replaced by:

"*Article I.*—A nominating committee of ten shall be elected by and from the delegates present at the decennial meeting.

"*Article II.*—The nominating committee shall present one or more names for each of the elective positions for the ensuing ten years, namely, president, five vice-presidents; secretary, assistant secretary, treasurer, five trustees, chairmen for each of the ten departments, five additional members of the committee on admissions."

D. *Standards for Admission.*—In addition to these motions which affect the constitution and by-laws, the convention should express itself as to the general policies to which the revision committee should adhere. The following are of medical interest:

MOTION 7.—That there be admitted to the Pharmacopeia only those drugs whose medicinal value and superiority are generally acknowledged, and which are in general use in the United States.

MOTION 8.—That the number of official preparations of these drugs be reduced to the effective minimum.

MOTION 9.—That substances which are not used directly as medicines be not admitted to the body of the book; such as are needed only for manufacturing, testing, etc., being placed in an appendix.

MOTION 10.—That no substance be barred solely because its assay is complicated.

MOTION 11.—That physiologic assays shall be introduced whenever they are necessary and sufficiently accurate.

MOTION 12.—That patents or trade-marks shall not exclude substances which are otherwise eligible; but that great conservatism shall be practised in the admission of proprietary substances.

E. *Secrecy.*—Secrecy should be eliminated.

MOTION 13.—Secrecy is undesirable in official work. The revision committee should seek advice openly, and give opportunity for the public discussion of its findings before these are officially adopted. It should therefore devise a method of preliminary publication.

F. *Frequency of Revision and Issue of Supplements.*—The Pharmacopeia should aim to keep abreast with science. Since the additions to knowledge do not occur at stated periods, but are more or less continuous, the work of revision and, if possible, the publication should aim to be continuous:

MOTION 14.—That the revision committee publish its conclusions as soon as possible after they are made, and that an interval of at least four months be allowed for public discussion before the conclusions are officially adopted; that once a year, or oftener if necessary, a supplement be issued, printed in such a manner as to be readily detached and inserted in the current pharmacopeia; that each supplement become official four months after the date of its publication; that a new issue of the pharmacopeia, embodying these supplements, be printed whenever and as often as the supplementary matter is of sufficient volume and importance to justify the board of trustees in printing a revised edition. That the greatest conservatism should prevail in regard to established standards of strength and processes.

G. *Dosage.*—The legal and moral responsibility for the treatment of a patient rests on the attending physician. Since he has this responsibility, he should have the right to prescribe whatever quantity of whatever substance he deems necessary for the treatment. This right must not be abridged in any manner. As a protection against errors of interpretation, however, the physician should indicate to the dispenser whenever he prescribes intentionally an unusually large dose of potent drugs. To make this protection possible, the maximum limit of the "usual" dose of such substances should be officially defined.

MOTION 15.—That the revision committee is requested to introduce into the pharmacopeia a table of official "maximum doses" of potent drugs, in addition to the average doses; that it be stated, in a prominent place, that the insertion of these maximum doses is not intended to limit the right of the physician to prescribe larger doses; but as a protection to him, as well as to the public and the dispenser, against accidental errors.

H. *Working Method.*—As a method of obtaining the necessary data the following may be suggested:

MOTION 16.—That the following outline be transmitted to the Executive Committee for their consideration: The consideration of any substance to be admitted to the Pharmacopeia shall originate with the committee on admissions, which shall communicate its decisions promptly to the chairman of the executive committee. The latter shall then assign the substance to the chairman of one of the departments (3-9), on whom the responsibility for securing a description shall rest. The chairman of this department shall then apportion the article among his associate members, and obtain what aid he may need from the other departments, and elsewhere, and render a report to his department for discussion. After alteration and adoption by this department he shall transmit his final report to the executive committee for vote. If adopted, the therapeutic committee shall affix the dose, and the editorial committee shall prepare the description for publication, submitting proof to the executive committee and to every member of the department in which the report originated.

Before concluding I should like to state once more that I offer these suggestions at this time for the purpose of evoking discussion. I do not flatter myself with the hope that they are perfect and infallible; but it is precisely by thoughtful discussion that their weak points may be made manifest. I shall be the first to welcome any and all improvements.

HYPERTROPHIC STENOSIS OF THE PYLORUS IN INFANTS

REPORT OF CASES OCCURRING ON THE PACIFIC COAST *

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SAN FRANCISCO

The uncertainty and conjecture surrounding every feature of this most interesting affection has induced me to contribute the following results of a study of all the known cases, occurring on the Pacific coast, of which I have been able to collect reports. This uncertainty involves not only the etiology, but the nosology, diagnosis, prognosis, treatment, and even the question of final cure. Only one thing seems positive, but that seems to be so everywhere, that the more attention is called to the affection, the more cases there are discovered, and all writers agree that the frequency of the affection is very much greater than the number of recorded cases would indicate.

The clear and complete description of the condition by Meltzer, of New York, at the meeting of the Association of American Physicians in 1898, and by Scudder and Quinby,[1] of Boston, leave nothing to be added in this particular by me. The symptom-complex of projectile vomiting, visible peristalsis, prominence of the epigastrium, and retraction of the lower half of the abdomen, scanty stools, and diminished secretion of urine, with or without a demonstrable tumor of the pylorus, suddenly appearing in the second or third week of life, is characteristic enough to awaken suspicion as to the nature of the affection. Koplik's recent paper has done much to harmonize the various theories and opinions regarding the nature of the disease, but I agree with Porter, of San Francisco, that so far as his classification is concerned, pure pyloric spasm should not be placed in such juxtaposition with pyloric stenosis. There is undoubtedly such a condition as pure pyloric spasm in infants, as in adults, without demonstrable hypertrophy of the muscles, either antemortem or postmortem, microscopically or macroscopically. Such a case was reported in our list—the patient was operated on for hypertrophic stenosis, but no tumor or stenosis of the pylorus was found. A gastroenterostomy was done nevertheless and the infant recovered from the operation, but died three weeks later from continuance of the vomiting. Spasm of the pylorus is far more apt to be secondary to trouble elsewhere in the gastrointestinal tract than the stomach, or a reflex from some other organ of the abdomen or pelvis, in adults and I believe also in infants, and is often a conservative effort on the part of Nature to prevent anything from passing into the intestine on account of some trouble below. A gastroenterostomy ought to and often does do harm under such circumstances, and possibly did do harm in the case of the infant mentioned. In infants I believe it will be found to occur later than hypertrophic stenosis, and to be the condition present in those cases of alleged hypertrophic stenosis, in which the symptoms begin after the first two months or so of life, and which make complete recoveries under medical treatment. The histories and symptoms of these cases ought to differ considerably from the others, and a careful study of them will, I am sure, enable a differential diagnosis to be made—the vomiting will not be so explosive or so constant, the peristaltic waves not so marked, the character of the stools different, the urine not so scanty, and the condition be more promptly relieved by medical treatment.

Our cases have thrown no new light on the etiology, but the fact has been amply demonstrated that the disease is characterized by the existence of a tumor of the pylorus, made up principally of hypertrophied muscles, both longitudinal and circular, but including as well all other structures constituting the pylorus, except the mucous membrane, as has been described by Prudden and others, and recently by Lee, of San Francisco. All pathologic examinations have shown practically the same conditions. It is incomprehensible that such a tumor, the size of an olive and as hard as cartilage, should be the result of any postnatal irritation arising in the first two or three weeks of life, when it is the fact that the condition occurs almost always in a previously absolutely healthy, strong, robust, breast-fed boy baby, and never occurs as the result of the numerous attacks of gastrointestinal disturbances in later infancy.

It is not within the scope of this paper to discuss any of the many theories for the cause of the hypertrophy, but I will dogmatically state that I believe the hard cartilaginous tumor will ultimately be found to be the result of a congenital abnormality of developmental origin, and not the result of swallowing amniotic fluid, or lanugo hairs or normal healthy mother's milk, and that its proper title will be admitted to be "congenital hypertrophic stenosis."

As certain as the fact of the existence of the hypertrophied muscle tumor is the fact of its capability of spasmodic contraction, and the degree of this spasm is not necessarily measured by the amount of hypertrophy present. In the two cases in which I operated, one patient being three and one four weeks of age, no suggestion of a lumen could be demonstrated by compressing the tumor, and there could be no doubt that the tumor was at the expense of the lumen. In the four postmortem specimens I have seen, one of them a fresh specimen, the same condition as has been repeatedly observed by others was found—a lumen reduced to a tortuous passage, one-half to three-quarters of an inch long, that would hardly admit a probe. In such cases the supervention or not of spasm is of no consequence—even when the muscle is entirely relaxed in death, the narrow lumen, filled with folds of reduplicated mucous membrane, is barely patulous. These are cases in which a tumor ought to be felt, and I think would more often be felt if repeatedly sought for, especially under an anesthetic. I think such examinations under an anesthetic are not frequently enough made, for it is of the highest importance, so far as prognosis and treat-

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* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Scudder, Charles L., and Quinby, William C.: Stenosis of the Pylorus in Infancy, The Journal A. M. A., 1905, xliv, 1665.

ment are concerned, to determine the existence or not of a tumor. Tiny infants stand an anesthetic just exactly as well as adults, if not better, and show remarkably little after-effects. I strongly urge that such examinations be made in suspicious cases.

Not all cases are of such an extreme type, however. In most the hypertrophy is not so great, the tumor so well defined, or the lumen so narrowed. These cases fall under Koplik's second division, are the ones that cause the greatest confusion, and are the ones of which I wish particularly to speak. They are the cases in which Loretta's operation has been done with more or less, generally less, benefit. They are the cases in which pyloroplasties of various kinds have been done; they embrace the postmortem cases in which the pylorus would admit a lead pencil; they are the cases in which after death the contracted lumen has been observed to increase in size to nearly normal, and in such cases the patients may entirely recover under medical treatment, or may improve but continue to suffer in some way or other all their lives. In these a tumor may be felt at some times and not at others, and might disappear when the spasm is relaxed in profound anesthesia. They are cases in which there is congenital hypertrophy of the pylorus, but not to a degree incompatible with the passage of food, except when spasm is added, and only moderate spasm may be sufficient to cause occlusion as complete as the organic occlusion in the class of cases first mentioned, which correspond to Koplik's third division. They differ from these only in the degree of hypertrophy, and this degree can be measured, so far as our present experience goes, only by the results of medical treatment or by exploratory incision. Such, in my opinion, are the patients that Robert Hutchinson, of London, cures by daily lavage of the stomach and the administration of minute quantities of very dilute milk, and by encouraging to reach a degree of exhaustion such that there is not vitality enough left in the muscles of the infant, pyloric or otherwise, to respond to any stimulus, and then the hypertrophied pylorus will relax enough to admit food to pass it. If it continues to do so permanently, as he says is the fact in his cases, I think it is because the degree of hypertrophy in his cases has been only moderate. It is partly due to his teaching, together with that of Pfaundler, Bloch, Heubner, and others, and partly to the poor showing made by surgery from including in its statistics cases of patients moribund at the time of operation, that makes the general practitioner uncertain what course to pursue when dealing with one of these cases, and makes him postpone surgical relief till it is as plain to the parents as it is to himself that the infant is about to die.

TABLE 1.—PATIENTS TREATED MEDICALLY

	Physician.	Location.	Date.	Onset.	Result.	Remarks.
1.	Barbat.	San Francisco.	../04	3rd Week.	Died (6 weeks).	Tumor found at autopsy.
2.	Baun.	" "	2/05	3rd Week.	Recovered.	Still requires soft food. No palpable tumor.
3.	Edwards.	Los Angeles.	../05	?	Died (8 weeks).	No autopsy.
4	"	" "	?	?	Died.	Tumor at autopsy.
5.	"	" "	4/09	8th Week.	Stationary.	Treated one month.
6.	"	" "	5/09	?	Stationary.	Treated few days.
7.	Farmer.	Folsom, Cal.	11/08	Birth.	Died (16 weeks).	No autopsy.
8.	Frick.	Los Angeles.	12/08	3rd Week.	Stationary.	Weighs 7¾ lbs. at 6 mos. palpable tumor.
9.	Lewitt.	San Francisco.	10/08	3rd Week.	Recovered.	Weighed 13¾ lbs. at 6 mos. palpable tumor.
10.	"	" "	11/08	3rd Week.	Improved.	Weighs 9¾ lbs. at 5 mos. palpable tumor.
11.	Porter.	" "	../09	4th Week.	Died (11 weeks).	Collapse; tumor found at antopsy.
12.	Spaldiug.	" "	../09	3rd Week.	Died.	Pneumonia found at autopsy.

TABLE 2.—PATIENTS TREATED SURGICALLY

	Surgeon.	Location.	Date.	Age.	Result.	Operation.
1.	Barbat.	San Francisco.	....	3 Weeks.	Recovered.	Posterior gastrojejunostomy.
2.	Eagleson.	Seattle, Wash.	?	?	Recovered.	Posterior gastrojejunostomy.
3.	"	" "	?	?	Recovered.	Posterior gastrojejunostomy.
4.	"	" "	?	?	Recovered.	Posterior gastrojejunostomy.
5.	Krone.	Oakland, Cal.	../07	12 Weeks.	Recovered.	Anterior gastrojejunostomy.
6.	Lartigau.	San Francisco.	9/08	3 Weeks.	Recovered.	Posterior gastrojejunostomy.
7.	Stillman.	" "	3/08	4 Weeks.	Recovered.	Posterior gastrojejunostomy.
8.	"	" "	6/08	3 Weeks.	Recovered.	Posterior. gastrojejuuostomy.
9.	Tait.	" "	4/07	16 Weeks.	Died.	Gastroduodenostomy.
10.	Willits.	" "	3/08	9 Weeks.	Died.	Posterior gastrojejunostomy.

I do not think that it is as well appreciated by the average medical man, or perhaps by the average surgeon, as it ought to be, that infants, particularly in the first six weeks of their life, are as well able to stand surgical operations and anesthetics, and are as tenacious of life, so far as shock is concerned, as at any other time of their lives, provided certain precautions are observed, and these are that their vitality shall not have been lowered by starvation before operation, and that their body heat shall not be lowered by exposure during operation. Adults may sometimes be reduced in weight before operation, with impunity, but not infants. They begin to lose almost immediately in vitality and resistance, with loss of weight. Hence the urgency in this affection of early decision as to whether a given patient should be operated on or not.

The total number of cases I have to report is 27. The records were received in response to letters sent to representative physicians and surgeons throughout the states of Washington, Oregon, and California. The earliest case reported occurred in the practice of Dr. Barbat in 1904. In 1905, 2 cases were discovered; in 1906, 2 cases; in 1907, 1; in 1908, 13, and to date this year, 7 cases; in one case the year could not be ascertained.

Of these 27 cases, the diagnosis was verified by postmortem or operation in 15. Of the remaining 12, the diagnosis in 7 was made by men of the highest standing and experience; in one of these operation was urged but refused, and the infant died. In 2 others a tumor was present. The remaining 4 I class as doubtful.

Of these patients one died, and the records were lost in the fire of 1906. One has vomited since birth at intervals of four to ten days, and is now 5 years old. One is reported cured after three years, and one is now under treatment—a very recent case. Of the 27 patients 18 recovered and 9 died.

Eleven were operated on, of whom 9 recovered and 2 died. Sixteen were treated medically of whom 9 recovered and 7 died. Subtracting from these 27 cases the 4 doubtful ones, and a case in which no tumor was found at operation, there are left 22 undoubted cases of hypertrophic stenosis.

Of these patients 15 recovered and 7 died. Ten were operated on and 12 were treated medically. Of those operated on, 8 recovered and 2 died. Of those treated medically, 6 recovered and 6 died.

Of those recovering after operation, all have remained well and are healthy normal babies in appearance. Of those dying after operation, one died forty-eight hours after, and the other after a second operation performed five days after the primary one, which was a gastroduodenostomy and failed to relieve the vomiting. Of the six recovering under medical treatment, one at the age of 5 years is obliged to live on vegetable purées and milk and meat-juice. One has been under treatment one month and one ten days only. One at the age of 5 months weighs 7½ pounds; operation has been considered, but not advised because the mortality rate in the published statistics has been so discouraging. One at 6 months weighs 13½ pounds, and one at 7 months weighs 9¾ pounds. Of those dying under medical treatment, one died of double pneumonia, one of sudden collapse two days after beginning treatment. In two cases operation was urged but refused. The ten patients treated surgically were operated on by seven different surgeons, none of whom, I am sure, would lay claim to more than average skill or experience. The patients not operated on were treated by eight physicians, not counting consultants. Of the 6 living patients, 5 have been treated along the lines laid down in the past eighteen months; 1 was discharged cured five years ago, and still requires semisolid food. Of the 6 dying, 3 had the benefit of the best modern treatment, 2 were treated four and five years ago, and in 1 the character of the treatment is unknown.

As to the nature of the operations done, of the successful 8, 7 were posterior gastrojejunostomies and 1 anterior. Of the 2 fatal cases, 1 was a posterior gastrojejunostomy and 1 a gastroduodenostomy. If to the cases of gastrojejunostomies posterior and anterior we add the case in which no stenosis was found, but in which the patient recovered from the operation and died three weeks later from causes not chargeable to the operation itself, we have 10 cases of gastrojejunostomy with 1 death. The patient on whom a gastroduodenostomy was done, and a second operation five days afterward, would probably have recovered also had a gastrojejunostomy been done. If so, the record would have been 11 cases with 1 death.

These figures do not represent the results of the work of one or two brilliant and exceptionally experienced operators, but of seven different surgeons of average experience—and their significance lies in that fact. They do not represent triumphs of surgery, but of medicine—they are less the result of surgical technic than of intelligent and enlightened judgment on the part of medical practitioners. The babies still had a chance when operated on, and they lived and are all healthy, happy, robust babies to-day.

So far as the operation of choice is concerned, it seems to me to need no argument that it should be posterior gastrojejunostomy. While not ideal, perhaps, it succeeds and can be done more safely and quickly by the average surgeon than any pyloroplastic operation. Whether the pylorus in some cases recovers its patency, and the artificial opening closes or not, does not affect the main issue at all, to my mind. The babies so treated are, within a month, all normal well-nourished babies and have continued to be, while the medically treated ones have in some cases continued apparently cured for a long time, but in most have continued to suffer in some way for many months. One of the patients reported to us, but not included in our series because of lack of early history, has had periods of vomiting at average intervals of a week since birth six years ago; his present physician thinks that even yet he may advise operation. Of the six patients said to be cured so far as vomiting is concerned, one is still restricted to semisolid food at 5 years, a second weighs only 7½ pounds at 5 months; a third 9¾ pounds at 7 months; 2 are still under treatment, and only 1 is in positively satisfactory condition. This child weighs 13⅜ pounds at 6 months. Of the 6 patients dying under medical treatment, 1 died of pneumonia and 1 of collapse from heart trouble. Was not their starved condition responsible for their inability to contend with these affections, and are not all these infants, during the many weeks and months in which they are going down hill preparatory to "rounding the corner," as Hutchinson puts it, in greater danger of their lives from some intercurrent affection, or from failure to "round the corner," than they are from death due to a timely gastroenterostomy?

Our cases are, of course, too few to draw positive conclusions from, but those collected on this side the world have been too many; I have avoided combining them, because I did not wish to spoil our record. I think a new series should be started, combining all cases since Scudder's series of 1905—perhaps limited to cases occurring in this country, and if surgeons will refuse to operate in the last-resort cases the statistics will be such, I think, as to convince both practitioner and parents that there is less to fear from a timely operation than from timorous delay. While they do not justify positive conclusions, our cases afford food for reflection, and as the result of such reflection on my own part I may say that I believe that no one who has ever actually palpated one of the hard unyielding tumors found in the class of cases first mentioned can question the necessity of operation in them, and I think that the presence of a palpable tumor is a positive indication for immediate operation, whether the infant can apparently be benefited by medical treatment or not.

I think that cases of pure pyloric spasm can, and ought to be, in most cases, differentiated from all but the most mild cases of hypertrophic stenosis, and that they should probably never be treated surgically.

I think that medical treatment should be given while there is a reasonable doubt as to the diagnosis, in cases of hypertrophic stenosis plus spasm, in which no tumor can be demonstrated, but thereafter medical treatment should not be persisted in if the infant is losing ground; that control of vomiting in these cases does not mean cure, and that gastroenterostomy does not mean cure in at least nine out of ten cases, and that it is not so much a question of necessary operation as of unnecessary suffering, danger, and death.

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Dosage for Children.—L. C. Ager, in *Pediatrics*, states that the dosage of drugs for children can not be calculated by any comparison of body weights. Almost all drugs are relatively better borne by children than by adults; this is probably due to more rapid elimination. On the other hand, there are some drugs that must be used with great caution with children. Probably the two extremes are atropin and arsenic. No drug in any dose should be administered without a definite idea as to the result that it will produce and then the amount used should be sufficient to produce that result. Almost as much harm has been done by thoughtless and injudicious use of vehicles as by the wrong use of active drugs. A teaspoonful of the various syrups frequently administered would upset the digestion of a healthy infant. Not infrequently also children receive an excessive amount of alcohol by the use of the elixirs or some of the proprietary foods.

PERFORATED GASTRIC AND DUODENAL ULCERS

WITH A REPORT OF TWENTY-TWO CASES [*]

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It has seemed to us that a study of twenty-two cases of perforated gastric and duodenal ulcers might be productive of some conclusions worthy of attention. This collection of cases represents our entire combined experience with this interesting lesion. all cases being included, whether successful or unsuccessful. Many of our patients were operated on in the same institutions, and in all but one instance the operation was done as soon as permission for it was granted and the necessary arrangements could be made. Neither of us has declined to operate in any case of this nature which has come to our notice.

Before taking up the discussion of the cases it will be well to consider the following brief histories of them. Cases 1, 2, 4 and 5 were reported[1] by one of us a number of years ago. These histories will be given only in brief.

The cases are presented chronologically.

CASE 1.—F. C., male, aged 18; Bryn Mawr Hospital; perforated duodenal ulcer; closure and drainage; Jan. 13, 1903; sixteen hours after onset; recovery. (Gibbon.)

Comment.—The interesting points in this case are the following: There was nothing in the patient's previous history which could possibly indicate a duodenal ulcer; the attacks of pain which have been spoken of were supposed to have been due to the appendix. The patient had never had attacks of vomiting, nor had he ever passed blood by the bowel.

CASE 2.—T. B., male, aged 50; West Chester Hospital; perforated gastric ulcer; closure and drainage, April 7, 1903, thirty-six hours after onset; operation advised by physician eighteen hours after perforation but patient would not consent; death eleven hours after operation. (Gibbon.)

Comments.—This case is a very typical one of acute gastric perforation presenting a typical history and the characteristic symptoms. If operation had been performed when it was first advised it is altogether possible that the patient's life might have been saved.

CASE 3.—J. C., male, aged 24, operated on at Jefferson Hospital for perforated gastric ulcer, April 23, 1903, five hours after the initial pain; recovery. (Stewart.)

History.—The patient had never had indigestion and was enjoying good health up to 3 p. m. of the day of admission, at which time, after eating several lamb chops and a quantity of peas, he was suddenly stricken with violent pain in the region of the umbilicus, the pain later shifting to the neighborhood of the pylorus and then becoming generalized. The entire abdomen was tender and its muscles rigid, but both these signs were most marked in the right upper quadrant. The abdomen was scaphoid, liver dulness preserved, and no dulness could be detected in the flanks. The temperature was 97, the pulse 110, the respirations thoracic, the leucocytes 19,000, and the blood pressure 235. The patient had vomited his lunch, but there was no blood in the ejected material.

Operation.—A diagnosis of perforated gastric ulcer was made and the abdomen opened through the upper half of the right rectus muscle. There was a large quantity of odorless milky fluid in the peritoneal cavity but no gas. On the anterior wall of the stomach, about one-half inch from the pylorus and nearer the greater curvature, there was an opening about one-eighth of an inch in diameter, through which milky fluid and gas bubbled when the pylorus was handled. The surrounding stomach wall was markedly indurated. The opening was closed with a double row of continuous Lembert sutures of silk, some of which tore out, owing to the friability of the stomach wall. The peritoneum was normal in appearance. A second incision was made above the pubes, the entire abdominal cavity irrigated with salt solution, a gauze drain passed into the pelvis and another just below the pylorus.

Postoperative History.—The patient was placed in the right lateral posture and fed by rectum for one week. Recovery was uneventful.

CASE 4.—M. S., female, aged 17; Bryn Mawr Hospital; perforated gastric ulcer; closure and drainage; May 1, 1903, forty-eight hours after onset; death twenty-four days after operation. (Gibbons.)

Comment.—This case was one of subacute perforation with the discharge of the gastric contents into the pelvis, and but for the complication which arose two weeks after the operation the patient would have recovered. This complication was the result solely of our failure to reintroduce the pelvic packing sufficiently deep to keep up drainage. This error is one which I (Gibbon) believe frequently results in death. It is often difficult to reintroduce the packing as deep as it ought to go, and we are too frequently content to get it simply within the peritoneal cavity. I would have lost a patient with gangrenous Meckel's diverticulum from the same cause had I not performed a second operation earlier than I did in this case and re-established drainage of the pelvis.

CASE 5.—I. R., male, aged 45; Pennsylvania Hospital; perforated gastric ulcer; closure and drainage; Oct. 1, 1903, nine hours after onset; gastroenterostomy eighteen months later for recurrence of symptoms; recovery. (Gibbon.)

CASE 6.—J. B., male, aged 32; operated on at the Jefferson Hospital for perforated gastric ulcer. Dec. 20, 1903, four hours after the perforation; recovery. (Stewart.)

History.—This patient had suffered for about five years with severe indigestion. While walking along the street he suddenly felt "ten thousand needle-like pains" shoot through his abdomen to the back, the right shoulder and the rectum. The pain abated somewhat and he ate a meal consisting of chops and potatoes, immediately after which the pain became excessive, being most marked in the epigastrium and later in the right iliac fossa. He took an emetic and vomited a large amount of semidigested food. There was marked rigidity and tenderness over the whole abdomen, absence of liver dulness and dulness in the flanks. The temperature was normal, the pulse 120.

Operation.—A diagnosis of perforated gastric ulcer was made and the perforation, one-eighth of an inch in diameter, found on the anterior wall of the stomach near the pylorus. The perforation was closed with a double row of continuous Lembert sutures of silk, the abdominal cavity flushed with salt solution, a drain of gauze passed to the vicinity of the pylorus and another through a separate incision into the pelvis. In this case the appendix also was removed.

Postoperative History.—Recovery was uneventful, except for a persisting sinus in the epigastrium, which healed after discharge of the silk suture with which the perforation had been closed. About five years after the operation the indigestion returned in a severe form and was treated medically with a happy result by the patient's physician, Dr. E. Q. Thornton

CASE 7.—R. H. B., male, aged 44; Bryn Mawr Hospital; perforated gastric ulcer; closure and drainage, May 30, 1904, twenty-four hours after onset; death five days after operation. (Gibbon.)

History.—A diagnosis of gastric ulcer was made several years previous by Dr. Walter Chrystie. The patient had been sick a week with gastric symptoms including hematemesis. Twenty-four hours before operation he was seized with sudden severe abdominal pain. Dr. T. F. Branson saw him nine hours later and diagnosed perforated gastric ulcer. The abdomen was board-like but there was no obliteration of liver dulness. There had been no vomiting since the perforation occurred.

Operation.—There was a large amount of extravasation into the peritoneal cavity. The liver was adherent over the upper portion of the anterior wall, and from between the liver and stomach the gastric contents could be seen escaping. There was a large perforation near the lesser curvature, about the juncture of its first and second third. Ulcer closed by two rows of silk sutures. Suprapubic incision; thorough irrigation, with the escape of a large quantity of seropurulent fluid. Both wounds drained.

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[*] Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909. Owing to lack of space, the article is here abbreviated by condensation of the case reports. The complete article appears in the Transactions of the Section and the authors' reprints.

[1] Gibbon, J. H : Am. Med., Dec. 19, 1903.

Postoperative History.—The patient did well until his second day, when he developed delirium tremens and died on the fifth day from this condition. His abdominal condition was perfectly satisfactory, but as there was no autopsy it was impossible to say what would have been the outcome but for the delirium tremens.

Case 8.—L. F., male, aged 27; operated on at the Jefferson Hospital for perforated duodenal ulcer, May 8, 1905, five hours after the perforation; recovery. (Stewart.)

History.—This man had had severe indigestion for one week. Immediately after drinking a large quantity of beer he experienced violent epigastric pain which radiated to the right shoulder and quickly spread over the entire abdomen. This was associated with great rigidity and tenderness; the liver dulness was undiminished, and no fluid could be demonstrated in the flanks. The temperature was normal and the pulse 90 and strong.

Operation.—A diagnosis of perforated gastric ulcer was made and the abdomen opened through the upper right rectus muscle. There was no extravasation of stomach contents, except a little mucus. The perforation was on the upper surface of the duodenum close to the pylorus and was about one-eighth of an inch in diameter. It was closed with silk, the abdominal cavity irrigated, and a small gauze drain placed in the wound.

Recovery was uneventful.

Case 9.—A. Z., male, aged 30; operated on at the Pennsylvania Hospital May 28, 1905, for perforated duodenal ulcer, twenty-four hours after the perforation; death within twenty-four hours. (Stewart.)

History.—The patient had been ill for twenty-four hours with severe abdominal pain and vomiting. There was general tenderness and rigidity over the abdomen, most marked, however, in the upper right quadrant; this with absence of liver dulness, led to a correct diagnosis. The temperature was 101, the pulse 140.

Operation.—An incision was made through the upper right rectus and a perforation found on the anterior wall of the duodenum near the pylorus. There were a number of adhesions and the peritoneal cavity was filled with pus and gastric contents. The perforation was closed with silk, the abdominal cavity irrigated and drained.

The patient died the following day.

Case 10.—W. W. H., male, aged 33; Pennsylvania Hospital; perforated gastric ulcer; closure and drainage, December 29, 1905, five hours after onset; recovery. (Gibbon.)

History.—The patient was seen with Dr. J. Norman Henry three hours after the sudden onset of severe abdominal pain, not relieved by 1/2 gr. of morphin. The abdomen was scaphoid and extremely rigid. The pain extended to the back and to the right shoulder. There was nothing in the previous history that threw any light on the case. The severe character of the pain and its radiation to the shoulder suggested gall-stone colic. The patient had never vomited blood or passed blood by the bowel.

Operation.—Immediate operation was done. Gas escaped as soon as the peritoneum was opened, making a diagnosis of perforation certain. The gas was followed by a large quantity of the gastric contents. The dissemination of this material was very general. A perforation was found on the anterior surface of the first portion of the duodenum; it was large and surrounded by considerable cicatricial tissue. Perforation closed with one row of catgut sutures reinforced with a portion of the lesser omentum. Suprapubic incision made and abdomen thoroughly irrigated. Both wounds drained.

Postoperative History.—The patient made a good recovery. He was fed by rectum until the eighteenth day, and is at the present time perfectly well.

Case 11.—E. F. female, aged 22, operated on at the Germantown Hospital, May 2, 1906, for perforated gastric ulcer, sixteen hours after the perforation. Recovery. (Stewart.)

History.—This patient had been treated for several years by Dr. R. P. Cummings for indigestion, associated with severe pain after eating and occasional attacks of vomiting. About sixteen hours before operation there was very severe pain in the abdomen, particularly in the right iliac region, but the greatest tenderness was in the left epigastrium. The abdominal muscles were rigid, the liver dulness normal, and no dulness in the flanks. The temperature was 99, the pulse 100, the leucocytes 24,000.

Operation.—A correct diagnosis was made and the stomach exposed through a median epigastric incision. A perforation ¼ inch in diameter and adherent to the anterior abdominal wall was found in the anterior wall of the stomach. There was no generalized peritonitis. The ulcer was closed with silk sutures and a posterior gastroenterostomy performed. The upper abdomen was irrigated and the abdominal wound closed without drainage.

The patient recovered and has remained well.

Case 12.—P. C., male, aged 29, operated on at the Pennsylvania Hospital, Oct. 27, 1906, for perforated gastric ulcer, twelve hours after the perforation; recovery. (Stewart.)

History.—This man had complained of indigestion for a number of months, a gnawing pain appearing in the region of the pylorus about two hours after eating and being relieved by eating. On the day of admission after breakfast the pain became excessive and radiated to the back and shoulders. This was associated with marked rigidity of the abdominal muscles. The liver dulness was normal and there was no dulness in the flanks.

Operation.—About twelve hours after the onset of the pain the abdomen was opened through the upper right rectus muscle and a perforation, 1/16 of an inch in diameter, found in the anterior wall of the stomach, near the lesser curvature and close to the pylorus. This was closed with silk sutures, and as only the peritoneum of the upper abdomen was soiled the foot of the bed was raised; a gauze drain was passed to the region of the perforation.

Recovery was uneventful, but about one year later there was recurrence of the indigestion.

Case 13.—McA., male, aged 45; Jefferson Hospital; perforated gastric ulcer; closure and drainage; Jan. 23, 1908; twenty-four hours after onset; death forty-eight hours after operation. (Gibbon.)

History.—The patient on admission to hospital was thought to be suffering from gall-stone colic and was treated for such. For ten days previous to admission he had suffered pain after eating. The family physician, Dr. Elinor Jones, reported that she had treated him several years previous for severe gastric symptoms. He was seen first eighteen hours after his admission when he had a board-like abdomen but no obliteration of liver dulness. His temperature was 97 and pulse very weak and about 104. The diagnosis of general peritonitis, due to perforated gastric ulcer, was made.

Operation.—The patient was in very bad condition with no pulse at the wrist. As soon as the peritoneum was opened gas escaped, followed by a profuse discharge of dark, thick fluid. The abdomen was so filled with this that two pitcherfuls of salt solution had to be used to wash it out before any structure could be recognized. The perforation, ¼ inch in diameter, was in the anterior wall of the pylorus; the ulcer being an old one. The perforation was closed with one row of linen thread sutures; a suprapubic incision was made; the cavity thoroughly irrigated; and both wounds drained. During the operation one quart of salt solution was injected intravenously.

Postoperative History.—The patient received the Murphy treatment for general peritonitis. He improved during the first twenty-four hours but grew worse the next day and died at 6 p. m.

Case 14.—B. S., female, aged 30, operated on at the Jefferson Hospital, April 9, 1908, for perforated gastric ulcer, three days after the perforation; death in thirty-six hours. (Stewart.)

History.—Mrs. S. developed excruciating epigastric pain three days before admission; this quickly became generalized and was followed by symptoms of peritonitis. There was continuous vomiting, marked distension of the abdomen, great pallor, and a pinched face. The temperature was 101 and the pulse 140 and thready. A mass was found in the right iliac region both on external and vaginal examination. This was afterward found to be due to adhesions among the intestines. A diagnosis of peritonitis, probably the result of a ruptured appendiceal abscess, was made.

Operation.—The appendix was removed and found to contain a segment of a tapeworm, but there was only slight inflammation of the mucous membrane. A second incision was made in the epigastric region and a hard mass about 2 inches in diameter and 2 inches from the pylorus found on the lesser curvature of the stomach; in the center of this indurated area was a minute perforation. The whole ulcer was inverted with silk sutures. There was a large quantity of purulent exudate throughout the abdominal cavity. After irrigation a gauze drain was placed in each wound.

Death occurred thirty-six hours later.

CASE 15.—G. G., male, aged 42, operated on at the Polyclinic Hospital, July 14, 1908, for perforated duodenal ulcer, five hours after the onset of pain; recovery. (Stewart.)

History.—The patient had suffered with indigestion for several months. Just before supper he felt a severe knife-like pain in the epigastrium, shooting to the right shoulder and later to the right iliac fossa and throughout the abdomen. The tenderness was most marked in the epigastric region. The liver dulness was normal and there was no dulness in the flanks. The abdominal muscles were tensely contracted, the temperature normal, the pulse 110, leucocytes 15,000. There had been no vomiting.

Operation.—A diagnosis of perforated gastric ulcer was made and the abdomen opened through the upper right rectus muscle. There was a generalized serous peritonitis and a perforation about ⅛ of an inch in diameter in the anterior wall of the duodenum ¼ of an inch from the pylorus; this was inverted with silk sutures and a portion of the gastrohepatic omentum fixed over the suture line, owing to the friability of the duodenal wall. The peritoneal cavity was irrigated and the pyloric region drained with gauze.

Recovery was uneventful.

CASE 16.—J. C., female, aged 60, was operated on at the Germantown Hospital, Aug. 11, 1908, for perforated gastric ulcer, four hours after the perforation; death in thirty-six hours. (Stewart.)

History.—Mrs. C. had had indigestion for a number of years and felt as if there was some obstruction at the pylorus. During the week before operation there had been epigastric pain and daily vomiting; blood was detected in the stools once. At 1 a. m. she was wakened from sleep with severe abdominal pain which was referred to the right iliac region. There was marked collapse, great rigidity of the abdominal muscles, and absence of liver dulness. The patient was seen with Dr. Edward Rhoads.

Operation.—A diagnosis of perforated gastric ulcer was made and the abdomen opened through the upper right rectus muscle. There was a large quantity of bloody fluid in the peritoneal cavity. The pylorus was hard, the induration extending 2 inches along the upper surface of the duodenum. There was a perforation just to the gastric side of the pylorus, about ¼ of an inch in diameter, with a piece of sloughing omentum plastered over it. The perforation was closed with silk sutures, and a posterior gastroenterostomy performed because of the narrowness of the pylorus and the previous obstructive symptoms. Owing to the extensive induration and the age of the patient a piece of the ulcer was excised for microscopic examination; no evidence of carcinoma was found by the pathologist. The abdominal cavity was flushed with salt solution and the right kidney pouch drained.

The patient vomited a large quantity of dark blood after operation and died at the end of thirty-six hours.

CASE 17.—W. B., male, aged 20, was operated on at the Jefferson Hospital, Sept. 12, 1908, for perforated duodenal ulcer, twelve hours after the perforation; recovery. (Stewart.)

History.—The patient had never had indigestion or abdominal pain up until two weeks before operation, when he began to complain of pain about the umbilicus, more marked after eating. Twelve hours before operation the pain became intense and shifted to the right iliac region. At the time of examination there were evidences of a generalized peritonitis which seemed to be most intense in the region of the appendix. The liver dulness was normal and there was no dulness in the flanks. The temperature was 101, the pulse 100 and the leucocyte count 12,000. There had been no vomiting.

Operation.—A diagnosis of appendicitis was made and the appendix removed through a McBurney incision. It was normal except for the presence of several concretions. There was a large quantity of purulent fluid in the abdomen and adhesions could be felt about the pylorus. A second incision was therefore made in the epigastric region and a perforation ¼ of an inch in diameter found in the anterior wall of the duodenum near the pylorus. After peritoneal lavage a gauze drain was placed in each wound.

The patient made an uneventful recovery.

CASE 18.—G. R., male, aged 48, was operated on at the Germantown Hospital, Oct. 12, 1908, for perforated duodenal ulcer, three days after the perforation; death in five hours. (Stewart.)

History.—There was no history of indigestion. The illness began with a sharp pain over the lower ribs on the right side, the pain being reflected to the back. The temperature was subnormal at this time; twenty-four hours later the patient developed a cough with mucous expectoration. The respirations were 40 and at the end of each there was acute pain in the mid-axillary line on a level with the fifth and sixth ribs, at which point a loud friction sound could be heard. The right chest expanded less than the left and there was dulness from the fourth interspace to the costal margin in the mid-axillary line, with impaired vocal fremitus and resonance. Numerous small râles could be heard over both lungs. The upper right rectus was moderately rigid but there was no tenderness in this area. The liver dulness was undiminished and no fluid could be detected in the flanks; the temperature was 100. We saw the patient at this time and thought the condition to be a beginning pneumonia. The following day there was marked improvement but on the third day the patient began to vomit quantities of dark fluid and passed a small quantity of bloody mucus by bowel. At this time we were asked to see the patient again. There was marked distention of the abdomen, absence of liver dulness, fluid in the flanks, no rigidity, and very little pain and tenderness over the abdomen. The leucocytes were 10,000, the pulse 90 and of poor quality, and the expression bad.

Operation.—It was thought that there was some intestinal obstruction or possibly a thrombosis of the mesenteric vessels, but owing to the seat of the initial symptoms the abdomen was opened through the upper portion of the right rectus. The liver was found pushed back by an enormous quantity of gas and foul black fluid. In the descending portion of the duodenum a perforation about ½ inch in diameter was found adherent to the under surface of the posterior and outer edge of the liver. It was exposed with great difficulty, sutured with silk, and covered with an omental graft. Irrigation was omitted and a large gauze drain passed down to the region of the perforation.

The patient died five hours later.

CASE 19.—T. H., male, aged 43; Jefferson Hospital; perforated gastric ulcer; closure and drainage, Dec. 23, 1908, twenty-six hours after perforation; death fourth day after operation. (Gibbon.)

History.—The patient was seen with Dr. E. E. Graham. He gave a history of occasional attacks of indigestion but never vomited. Twenty-six hours before the operation he was seized with sudden severe abdominal pain. At the time of the operation much of the rigidity had disappeared, being displaced by a distention of the lower portion of the abdomen. He had all the evidences of an extensive peritonitis, and from its sudden onset was thought to be due to a perforation of the intestinal tract.

Operation.—Gas escaped as soon as the abdomen was opened. The pelvis was filled with thick pus. The appendix was removed and a second incision was made above the umbilicus. A perforation one-eighth of an inch in diameter was found near the lesser curvature, about one inch from the pylorus. Perforation was closed with a continuous gut suture, and both wounds drained.

Postoperative History.—The patient did remarkably well for three days but died on the fourth from a spreading peritonitis.

Case 20.—J. T. F., male, aged 50; Jefferson Hospital; perforated gastric ulcer; closure, posterior gastroenterostomy, drainage, March 7, 1909, seven hours after onset; recovery. (Gibbon.)

History.—The patient had had stomach trouble for twenty years. History was typical of gastric ulcer. The patient was seen first two hours after the sudden onset of severe pain, unrelieved by ¼ gr. of morphin given by his family physician, Dr. Himmelwright. Patient was anemic; his abdomen was scaphoid and of board-like rigidity; liver dulness was absent. The diagnosis of perforated gastric ulcer was easy.

Operation.—As soon as the peritoneum was opened there was an escape of gas. The perforation, measuring 1 inch in diameter, was found in the anterior wall of the pylorus. The ulcer extended all the way around the pylorus, and when the perforation was closed with a suture of gut and one of linen thread, the pylorus was completely obstructed. In the belief that there was probably a perforation on the posterior wall the lesser peritoneum was opened but no perforation was found. Because of the obstruction of the pylorus a posterior gastroenterostomy was done. When anastomosis was complete thirty-five minutes had been occupied in operation. A suprapubic incision was made, the cavity irrigated, and both wounds drained.

Postoperative History.—The patient was placed in the sitting posture and given the Murphy treatment. He made a prompt recovery and has remained well until the present time.

Case 21.—J. G., male, aged 53, was operated on at the Pennsylvania Hospital, April 10, 1909, for perforated gastric ulcer, seventeen hours after the perforation; recovery. (Stewart.)

History.—This patient had slight indigestion for several weeks previous to admission. Seventeen hours before operation and just before supper he was seized with a severe pain about the umbilicus which quickly became generalized. The temperature was 100 and the pulse 130; vomiting did not occur. The abdominal muscles were moderately rigid, although a large dose of morphin had been given. The tenderness was most marked in the right iliac region, leading to a diagnosis of appendicitis.

Operation.—The appendix was found to be normal and the peritoneal cavity filled with a purulent fluid. Adhesions could be felt in the right hypochondrium and a second incision was made in the epigastrium. This liberated a large quantity of air and pus and revealed a perforation one-eight of an inch in diameter in the anterior wall of the stomach near the pylorus. This was closed with silk, the peritoneal cavity irrigated with salt solution, and both wounds drained with gauze.

Recovery was uneventful.

Case 22.—W. P., male, aged 36; Jefferson Hospital; perforated gastric ulcer; closure, posterior gastroenterostomy; May 4, 1909, some days after onset; death twenty days after operation. (Gibbon.)

History.—The patient was admitted to the hospital suffering from an extensive peritonitis; very weak, with rapid pulse, and subnormal temperature. The abdomen was scaphoid and rigid, and liver dulness partially obliterated. The patient had been in bed three weeks suffering from nausea and vomiting. He was operated on one hour after admission. The time of perforation is indefinite but the patient had been suffering a great deal of pain for several days. His history indicated gastric ulcer.

Operation.—Gas escaped as soon as the peritoneum was opened and there was an extensive extravasation of the gastric contents. Perforation three-eighths of an inch in diameter was found in the pylorus; its edges were everted and hard; its closure, with one row of catgut sutures, nearly completely closed the pylorus and therefore a posterior gastroenterostomy was done. A suprapubic incision was made, cavity irrigated, and both wounds drained.

Postoperative History.—The patient was given the Murphy treatment and did well for two weeks, he then began to develop symptoms of septic infection and died on the twentieth day.

Autopsy.—The left chest was filled with pus and the lung was necrotic. There were a number of small collections of pus in the abdomen and a suppurating focus in each kidney.

PATHOLOGY

In these 22 cases the perforation occurred in the anterior wall of the stomach near the pylorus in 15 and in the anterior wall of the first portion of the duodenum in 7. The size of the perforation varied from 1/16 to ½ inch in diameter. It is our belief that probably all perforations are minute in the beginning and that they rapidly enlarge. Induration, indicating chronicity of the ulcer, was present in all of our cases. In three cases (4, 16 and 22), in which there had probably been a slow leak and then a sudden and profuse outpouring of the gastric contents, the perforation was large and the edges were thick and everted.

The extravasation has varied very much both in character and extent and depends largely on the acuteness and duration of the perforation. In the operations done in the early stages the extravasation consisted of the gastric contents. In the later stages it was found mixed with serum and pus. In only one case was the extravasation bloody. Plastic lymph was usually present about the site of the perforation, and in the delayed cases was often found about the ascending colon, cecum and small intestine occupying the pelvis. In one or two cases the appendix was covered with lymph, and but for a careful search would have caused the operator to think that here was the primary cause of the peritonitis.

In the large majority of the cases gas was free in the abdominal cavity and escaped the moment the peritoneum was opened.

SYMPTOMS AND DIAGNOSIS

In most of the cases a correct diagnosis was made before operation, and in all the symptoms were sufficiently urgent to demand immediate operation. In one case (18), owing to the atypical symptoms presented, the condition was not recognized at once. The following are the diagnoses made in these cases before operation: perforated gastric or duodenal ulcer, 15; acute appendicitis, 4; diffuse perforative peritonitis, 2, pneumonia and obstruction of the bowels, 1. It will be observed that the condition is most frequently mistaken for acute appendicitis. The history of previous indigestion extending over a long period; attacks of pain in the epigastric region, with vomiting; melena and more or less constant pain after eating, will aid greatly in turning attention to the stomach. In the slow perforations and early in the acute ones the extravasated material passes down the right side of the abdomen over the omentum or to the outer side of the colon to the right iliac fossa, and here gives rise to pain, tenderness and rigidity. Acute tenderness and rigidity is always present over the site of the perforation, however. The most typical history of the attack is that of a sudden severe pain, but little influenced by sedatives and accompanied by a board-like and scaphoid abdomen. Later with the diffusion of the peritonitis the abdomen becomes distended. With such a history and these signs alone perforation should be suspected and after the elimination, as far as possible, of other conditions, immediate operation should be done. Severe pain, tenderness and rigidity were present in all of our twenty-two cases. The pain is usually epigastric in the early stages and is apt to radiate to the back and sometimes to the right shoulder-blade, making confusion with biliary colic possible (see Case 13). Often the pain and tenderness later become most marked in the right iliac fossa, as the peritoneum in this situation becomes involved in a beginning and intense inflammatory process. The rigidity early becomes general in the acute cases and is absolutely board-like. The scaphoid and rigid abdomen constitutes one of the most marked and valuable signs of perforation and continues until the peritonitis becomes so far advanced as to produce distention.

The mistake is often made of expecting distention of the abdomen at the onset when there is a perforation of the stomach as the result of the escape of gas. Distention is never present in the early stages, and when present it indicates an extent and degree of peritonitis from which patients will seldom recover.

The absence of liver dulness associated with a scaphoid and rigid abdomen is an invaluable sign of perforation. When the abdomen is distended the diminution or absence of liver dulness is of little value. The preservation of normal liver dulness is no indication that perforation is not present. The liver dulness was diminished or absent in 6 of our cases; was normal in 9, and not recorded in 7. Movable dulness in both flanks was present in 3 cases, was absent in 7 and not recorded in 12. Vomiting after perforation had occurred took place in 12 cases; did not occur in 6 and was not recorded in 4. Vomiting of blood occurred in 2 instances.

Collapse is of variable occurrence and should not be expected. It takes place early and may be profound. It is by no means common, and its absence is of little significance.

Arrest of intestinal peristalsis, as determined by auscultation, occurs only after the peritonitis is sufficiently advanced to produce paralysis of the intestine. It may be a diagnostic aid, but is not a very reliable sign of perforation.

The temperature in the early stages is usually normal, subnormal or but slightly elevated. Even in the later stages it is a mistake to expect high temperature, although it may occasionally occur. The pulse-rate is usually increased, and the pulse may be very weak if collapse is present. The respiration is entirely thoracic and shallow and the respiratory rate is increased.

Leucocytosis was not marked in the early stages in this series of cases, although in some of the advanced cases it amounted to 24,000. We would say that little dependence can be put on the leucocyte count in making a diagnosis in the early stages of perforation. In practically every case the symptoms are sufficiently urgent to demand immediate operation, and no delay should be made for the study of the blood, although, when possible, this examination should be made without delay. The history of the patient may be of great value in determining the cause of the peritonitis. It is important to question him regarding stomach symptoms, especially the occurrence of pain coming on at a fixed period after eating or coming on at night after retiring. A history of vomiting and eructations of gas are significant. Often the patient will say that for years he has had indigestion or dyspepsia. In two of our cases a definite diagnosis of gastric ulcer had been made before perforation took place; six patients had been treated for "stomach trouble"; and in several others the symptoms were sufficiently significant to have indicated ulcer. A history of indigestion was present in 16 of our cases; was not present in 4 and could not be determined in 2. Melena sometimes occurs without other symptoms of ulcer and it should be inquired for carefully. A history of melena was given in 4 of our cases.

Age and sex are of no diagnostic value, but it is interesting to note in regard to sex that, although gastric ulcer has until recently been considered more frequent in women than in men, yet in these 22 cases of perforation there were 18 men and 4 women. As regards age our youngest patient was 17 years old and our oldest 60 years. Between 17 and 30 years, inclusive, there were 9 cases; between 31 and 40, 4 cases; between 41 and 50 years, 8 cases, and between 50 and 60 years, 2 cases.

The immediate cause of perforation may be very difficult to determine. In a few cases, however, it may be quite apparent. Any force either from within or without the organ which increases the tension of its walls may be the determining cause of perforation. In one of our cases the perforation occurred when the patient was lifting a buggy; another occurred after drinking largely of beer, and in several cases reported by others perforation has occurred after drinking a carbonated water.

TREATMENT

From our experience in these cases we are convinced that success or failure in the treatment of perforated gastric or duodenal ulcer depends almost entirely on the time which elapses between the perforation and its operative repair. Of the 13 patients operated on within seventeen hours, all but one recovered, while the remaining 9, all operated on after twenty-four hours, died. These figures are striking and significant and, moreover, are in fair accord with those presented by other operators. Occasionally, of course, one may be able to save a patient after one, two or even three days, but these will usually be cases of subacute perforation. The first point, therefore, in the treatment which we would emphasize is the importance of operating as soon as those early symptoms, already enumerated, of perforative peritonitis present themselves, whether or not we are able to make a definite diagnosis of their cause.

The abdomen should be opened through the right rectus above the umbilicus, an incision which gives the easiest and widest access to the viscera probably involved. If by chance an incision has been made below the umbilical line it is better to make another one above than to increase the first until the stomach and duodenum can be reached. The first incision should not be closed until the necessity for drainage of the pelvis has been determined by the extent and character of the exudate. If the symptoms have led the operator to make the lower incision and he finds the pelvis filled with exudate and an appendix or a Fallopian tube involved in the inflammatory process, but not in such a condition as to account for the extensive peritonitis, and especially if free gas is present, he should at once turn to the duodenum and stomach and assure himself that a perforation has not occurred. We know of one instance, at least, in which this mistake has been made and, therefore, warn against it.

The perforation having been found, it should be rendered as accessible as possible and closed. The method of closure must vary with the character of the ulcer and especially with the degree of induration about the perforation. In the simple cases with little induration a continuous suture may suffice, while in other cases the most carefully placed interrupted sutures may result only in an unsatisfactory closure because of the friability of the tissues through which they pass. These are the cases in which an omental graft will be useful. The sutures should be of the Lembert type and placed well beyond the edge of the perforation. A second row of sutures may seem to be indicated and should be used if they can be introduced without too much constriction of the caliber of the pylorus or duodenum. If the constriction is too great, then a portion of the lesser or greater omentum should be stitched over the first row of sutures. We have never employed excision of the ulcer and believe it to be unnecessary. The suture material employed in this series of cases has varied; one of us (Stewart) preferring to use silk and the other (Gibbon) chromicized or iodized catgut for the first row and linen thread for the second or linen thread alone if but one row is inserted. At this point the surgeon should assure himself that there is not a second perforation. In searching for the second perforation, however, one is not justified in opening the lesser peritoneal cavity for the purpose of examining the posterior wall of the stomach unless there is some distinct indication of a second perforation in this region.

The perforation having been satisfactorily closed, the next step in the operation is the toilet of the peritoneum. The question of irrigation at once arises and must be determined by the extent and character of the exudate. In all but one of our cases more or less irrigation was done. We believe that in the early cases with little extravasation simple cleansing with limited irrigation or moist sponges will suffice. When the extravasation is purulent or extensive, irrigation should be more or less general. It is a good plan to pour the irrigation fluid into the upper incision and allow it to flow into the pelvis and then out through a tube placed in the suprapubic wound. In this way the irrigation takes the course of the extravasated gastric contents. Evisceration is never indicated, and irrigation of every part of the abdominal cavity when the extravasation is limited to the right side and pelvis is a mistake. Drainage is necessary except in occasional cases of early perforation with little and limited extravasation. Drainage at the site of the perforation was employed in twenty-one of our cases and a pelvic drain also used in fifteen of these. In one of the successful cases no drainage was employed.

Gastroenterostomy may be indicated in addition to closure because the pylorus or duodenum has been shut off by closure of the perforation. We believe that this alone should be the indication for gastroenterostomy. In four of our cases a gastroenterostomy was done: in three because of the closure of the pylorus, and in the fourth with the idea of curing the ulcer. Two of the patients recovered and two died. In none of these could the result, either cure or death, be attributed to the gastroenterostomy. One of our main reasons for opposing gastroenterostomy in cases of perforation is that with proper after-treatment a cure can be obtained in nearly all of the cases. Even with considerable constriction of the caliber of the pylorus, liquids will pass and the tract will open up later, with the healing of the ulcer, to its normal capacity. There are distinct objections to performing a gastroenterostomy in the presence of a perforative peritonitis. In the first place, it prolongs the operation at least twenty minutes and it opens up to infection the clean lesser peritoneal cavity. Of course, there is some comfort after the patient has recovered in feeling that a gastroenterostomy has been done, but the justification for it in the majority of cases is very questionable. A subsequent gastroenterostomy may occasionally have to be done because of a recurrence of the symptoms. This was true in one of our twelve cases of recovery.

The after-treatment of these patients varies little from that in any case of peritonitis, excepting that rectal feeding is indicated in all cases in which closure without gastroenterostomy is done. It will be noticed that in our earlier cases we confined the feeding entirely to the rectum for a long period, but that in the more recent cases liquid nourishment was allowed by the mouth at a much earlier period without any marked difference in the results. Large quantities of salt solution by the rectum were used in the cases in which the peritonitis was extensive or of long standing.

The question of posture is one about which surgeons will probably always differ as we do. One of us (Stewart) believes that the right lateral posture is the one always to be preferred. The posture must be influenced to some extent by the situation of the drains. Where drainage at the site of the ulcer only is employed Stewart has used always the right lateral position and occasionally elevated the foot of the bed. Where a pelvic drain has been used Gibbon has always employed the Fowler position or some modification of it.

RESULTS

The results obtained in these cases may be divided into immediate and ultimate. In the twenty-two cases reported there have been ten deaths (all but one occurring in cases of operation more than twenty-four hours after the perforation) and twelve recoveries, all of patients operated on within seventeen hours after the perforation. In two of the fatal cases life was prolonged for three weeks. The table shows the time of operation and the results.

TABLE OF TIME OF OPERATION AND RESULTS

Case.	Time Between Perforation and Operation.	Cured.	Died.	Time of Death After Operation.
1.	16 hours.	1		
2.	36 hours.		1	11 hours.
3.	5 hours.	1		
4.	48 hours.		1	24 days.
5.	9 hours.	1		
6.	4 hours.	1		
7.	24 hours.		1	5 days.
8.	5 hours.	1		
9.	24 hours.		1	24 hours.
10.	5 hours.	1		
11.	16 hours.	1		
12.	12 hours.	1		
13.	24 hours.		1	48 hours.
14.	3 days.		1	36 hours.
15.	5 hours.	1		
16.	4 hours.		1	36 hours.
17.	12 hours.	1		
18.	3 days.		5	5 hours.
19.	26 hours		1	4 days.
20.	7 hours.	1		
21.	17 hours.	1		
22	Some days.		1	20 days.
		12	10	

The causes of death open up an interesting subject. Six of our ten deaths occurred within about forty-eight hours, presumably as a result of the peritonitis; one patient died twenty days after operation from general sepsis, pus being found postmortem in the pleura, abdomen and both kidneys; another died on the fourth day from an extension of the peritonitis; another on the twenty-fourth day after the perforation and seven days after a second operation done for obstruction, the result of a pelvic abscess; still another died on the fifth day from delirium tremens, the abdominal condition being satisfactory.

Except in one case in which a gastroenterostomy was subsequently required, all but one of the twelve patients who recovered have remained well. This one patient developed gastric symptoms some time after his operation, but these disappeared under medical treatment.

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ABSTRACT OF DISCUSSION

ON PAPERS BY DRS. STILLMAN AND GIBBON AND STEWART

Dr. W. J. Mayo, Rochester, Minn.: When I began the practice of medicine and surgery, operation for hernia was not considered until there was strangulation. We came to the point later when we no longer waited for strangulation, but operated on certain patients who had been strangulated. Later, it seemed advisable to operate before strangulation could again occur. Later still, we came to the step of operating on patients to whom wearing a truss was disagreeable or in whom it was effectual, and now we operate without question as to whether there is any likelihood of strangulation occurring or not.

Almost the same conditions have been experienced in regard to appendicitis. We no longer wait for an abscess to form or for peritonitis to occur, but operate early. Dr. Deaver's and Dr. Ochsner's papers show clearly that pancreatitis is usually the result and a late result of gall-stone disease. We should not wait for these conditions to appear. And, finally, the last two papers show that the mortality of these operations is not from the operation *per se*, but rather from the condition, and this depends largely on the length of time patients waited before operation was considered.

I endorse what Dr. Stillman said in regard to the second group of cases apparently of hypertrophic stenosis, in which the patients recover. I am no longer certain that they do recover. We have a small group of patients who give typical signs of moderate stenosis when infants, but recover or partially recover, and then drag along for many years, finally come to operation which discloses a condition of partial hypertrophic stenosis which had caused much suffering and disability. The removed specimens show clearly the same pathologic conditions which existed in the infants operated on for stenosis.

In the treatment of the hypertrophic variety, I agree with Dr. Stillman that the posterior gastroenterostomy is the better operation of the two. To one who has actually had these almond-shaped tumors in hand at the operating table, it certainly looks as though a plastic operation would not be so safe as gastroenterostomy.

Drs. Gibbon and Stewart said that nearly all their patients had previous symptoms of ulcer, lasting for years before operation took place, and that those operated on within seventeen hours after perforation occurred, nearly all recovered. Those operated on later did not. I think that we should consider in the question of perforation that there are two classes of ulcers, the acute and the chronic. Where is the ulcer that Watson describes so beautifully and of which Fothergill wrote? The girl who while hanging up clothes on a line falls in a heap and the postmortem shows not one but many perforations! That is a rare form of disease and it is an acute toxic ulcer. I have seen but one such case in my experience. The ulcers we do see have not been described, because the patients do not die suddenly, but from a general peritonitis, and the real origin of the trouble has been obscured by secondary conditions and complications. We must always bear in mind that the postmortem does not show the condition as it existed in life, but that of which the patients died.

Speaking finally of the operation itself, I wish to endorse what Dr. Gibbon has said in regard to the operative treatment. It is better to close the ulcer and to drain, and then, if necessary, do a gastroenterostomy later than to do a primary gastroenterostomy, because, in the experience of von Eiselsberg, as well as of ourselves, the perforating ulcer cures itself. We have not had a single case of perforation in which there was relapse of the ulcer, and when trouble did appear late it was a secondary stenosis and not a return of the disease.

Dr. Joseph C. Bloodgood, Baltimore: I wish to emphasize what may be called suprapubic exploration and pelvic drainage. Dr. Gibbon and his associates in the Pennsylvania Hospital, Philadelphia, have demonstrated the importance of pelvic drainage in all cases of general peritonitis. In all doubtful abdominal cases my experience teaches me that the suprapubic incision will allow better than any other single incision the best view of a rapid diagnosis. For example: In pancreatitis, especially acute cases, the suprapubic incision will expose the omentum and its fat necrosis at once and clinch the diagnosis. In one of my cases this was of great help, because when I made the incision to expose the pancreas I found no positive evidence of the disease until the pancreas was exposed through a great mass of fat. Another advantage of the suprapubic incision in all cases of peritonitis is that through this incision you can at once remove with gauze wet in salt solution the exudate; then you can pack the pelvis and other parts of the abdomen with gauze wet in salt solution. Now, while the surgeon is attacking the focus of the infection, whatever it may be, the patient is getting the advantage of this extensive drainage, which might be called temporary drainage. I have had a number of cases recently in which I have employed this temporary pelvic drainage, while I was attacking the focus of infection—appendix or stomach perforation—through a second incision.

In regard to perforation of the stomach, not the non-traumatic perforation, but those following bullet wounds, I would urge exploration of the posterior wall of the stomach in every case. In a recent case in which the patient recovered, I found for the first time that the best way to explore the posterior wall of the stomach is to approach the stomach as when performing a posterior gastroenterostomy. That gives a better view than can be obtained in any other way. Besides, this is close to the pancreas and we can drain through the opening in the omentum between the stomach and transverse colon. This drainage of the pancreas is an important point in treatment of perforation of the posterior wall of the stomach.

Dr. F. C. Shattuck, Boston: We physicians, pure physicians, owe a great deal to surgeons and to their work of the past few years. For instance, our knowledge of peptic ulcers was formerly necessarily limited to the clinical symptoms and postmortem findings; we rarely felt justified in making the diagnosis in the absence of hemorrhage. As regards the postmortem findings, as Dr. Mayo well said, a distinction must be drawn between the disease and the results of the disease. Surgeons are, in a sense, vivisectors. They see disease and its results in the living body and have transferred many conditions from the incurable to the curable class.

As a physician, I am, naturally, conservative as regards operation, and I think that some surgeons have been too ready to operate for digestive disturbances. I see patients who have been operated on for gastric symptoms who are in no way the better for the operation. They have recovered from the operation, but they have not recovered from the disease nor have they been relieved of their symptoms. This remark has a wider application than simply to gastric cases. A busy practitioner in the vicinity of Boston, a first-class man in every way, said to me recently: "It is all very well, this modern surgery. The surgeons operate on patients, discharge them as cured, and then we have to take care of them for years." The fact that a patient can recover from an operation is not, of course, sufficient reason for doing an operation. It may be more blessed to operate than to be operated on. With any new procedure the pendulum is apt to swing too far at first, but it will swing back, an equilibrium will be found, knowledge will be increased, humanity will be benefited. In all this surgeons are playing an important part in which we physicians want to be helped and to help even by criticism.

Dr. William W. Skinner, Geneva, N. Y.: Regarding the perforation of the stomach by bullets, we should not forget that the enlarged anterior bullet wound may furnish a convenient avenue for exploration and suture of the posterior stomach wall. In several instances I have done this successfully. Regarding the so-called medical cures in cases following gastric ulcer, I have recently had two cases in which stenosis following gastric ulcer had produced an enormous dilatation of the stomach. These patients had been treated by electricity, by diet and various other means, and since two weeks after the operation, after a period of from five to twenty years of suffering from dyspepsia and vomiting, and in recent months an inability to take any solid food, these patients are now eating everything without any distress whatever. These patients had run the entire gamut of nerve specialists, stomach specialists, and what-not. I wish simply to add these cases to those already mentioned.

Nervous Prostration.—A close analysis shows that the real cause of most so-called nervous prostration is failure of adjustment to environment, and is psychogenetic.—T. A. Williams, in the *Kansas City Medical Index-Lancet.*

PELLAGRA, ANCIENT AND MODERN

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NEW ORLEANS

Though the fact may not be generally known, it is none the less true that pellagra, cases of which are frequently coming to notice in various sections of the United States, has existed among us for many years unrecognized or, probably, erroneously diagnosed, and attracted but little attention. The startling developments of the disease in its various phases in this country during the past two years have aroused such keen interest, and in some cases anxiety, in the subject of the "new" disease, from both professional and lay points of view, that it may not be a waste of serious effort to inquire into the geographical distribution of the disease. Before referring to the history and published reports as to the occurrence and incidence of the disease, it will be worth while to study briefly the early history of maize, *Zea maidis*, which undergoes deterioration and, thereby, causes the disease under discussion.

Maize, otherwise known as Indian corn. *Zea maidis*, is of the natural order *Graminaceæ*. Stephen Ladislaus Endlicher, a noted Hungarian botanist and professor of botany at the Vienna University (1840) and author of "Genera plantarum," states that, while little of it is known in its natural state, it is probably indigenous to tropical America. Bonafon, a French naturalist and the author of "Histoire naturelle du Mais," asserts that corn had been cultivated from a very ancient period in the Asiatic islands under the equator, and quotes three authorities (Bock, 1532, Ruel and Fuchs) in support of this statement.

From Asia, corn was soon introduced into China, and shortly after the beginning of its cultivation there was transported westward. Later it was observed in India and Turkey, in the latter country being termed "Turkey corn," under which designation in the year 1597 John Gerard, an English surgeon and botanist, described seven varieties, and one species particularly which he called "Corne of Asia."

Both Gerard and Bonafon maintain that maize was first found in the far East, and that following the discovery of America it was reintroduced into Europe from that country. Embodied in Bonafon's work is a drawing of corn reproduced from a Chinese treatise on natural history, "Li-chi-tchin," dated 1562, seventy years after the discovery of the New World by Columbus. Santa Rosa de Viterbo, a Spaniard, declares, in conflict with these writers, that maize was introduced into Spain by the Arabs in the thirteenth century. Egyptian writers and students of archeology assert that they have never seen the likeness of corn reproduced on Egyptian monuments. Travel throughout Asia and Africa was quite extensive during the twelfth to the fifteenth centuries, inclusive, and yet no mention of corn is made until the sixteenth century.

That the views of both Bonafon and Gerard were erroneous is evident from the fact that the expeditions to the New World undertaken by Ponce de Leon, Hernando Cortez, Francesco Pizarro, Lucas Vasquez de Ayllon and Pamphilo de Narvaez, all in the beginning of the sixteenth century, had as members of their parties many who had previously traveled in the far East and they knew nothing of corn and had never seen it before their arrival in America. During the disastrous excursion of Pamphilo de Narvaez into the interior of Florida he and his companions seized several hundred bushels of corn from the Indians at a bay which they called the "Baia de Caballos," now Apalachee Bay; this was the first experience of the Europeans with corn as a foodstuff.

Baron Friedrich Heinrich Alexander von Humboldt, a celebrated German scientist and author, published in 1814 to 1834 the results of his American journey in a large series of volumes bearing the general title, "Voyage aux régions équinoxiales du nouveau continent." In this work Humboldt furnishes conclusive proof that maize was first found in America; that its introduction into Europe was not a reintroduction, and that at the time of the discovery of the New World it had long been cultivated there, "green corn" being considered an important item of food by the Indians. Many of the tribes celebrated its season with religious ceremonies and festivals.

Evidence as to the correctness of Humboldt's statement is found in the fact that in 1600 Baruino, in a medical treatise, called attention to a peculiar malady prevailing among certain tribes of the American Indians. From his meager description it apparently resembled the pellagra which we have to-day: and he ascribed it to the use of corn, which formed a part of the Indian's daily diet. Francesco Scipione, Marchese di Maffei, an Italian poet, archeologist and litterateur, a few months after the appearance of Baruino's treatise, made similar observations. At this time various travelers returning from the New World called attention to a disease noted in horses, as a result of which the animal becomes paretic and tabetic and also loses hair. This affliction in the horse was thought to be caused by eating bad corn. All of this evidence obviously demonstrates that the North American continent is the natural habitat of *Zea maidis* and consequently the original home of pellagra. The first mention of the disease in literature was made by Ramazzini, who called it "mal del padrone."

The first really authentic accounts of the disease come from Spain, where corn was introduced during the period of 1680 to 1700. It would appear that in 1735 it was observed in the vicinity of Oviedo, and twenty-seven years later, or 1762, Gaspar Casal describes the disease which he has seen in the Asturias and gives to it the name "mal de rosa." The term "lepra scorbutica" and "asturiensis" is also said to have originated with Casal. Among the peasantry the disease was at different times termed "mal de la rosa," "mal del sole" and "mal de la miseria." When the disease was found in this region it remained for a long time confined within very narrow limits. Oviedo is still the principal focus of the disease, but it is also prevalent in Cuenca, Lower Aragon, Saragossa, Navarre, Burgos and other provinces.

In Italy the disease was first reported from the neighborhood of Lago Maggiore, and in 1750, fifteen years after its first noticed appearance in Spain, it broke out simultaneously in the districts of Milan, Brescia, Bergamo, and Lodi. From these points it spread rapidly to Como, Cremona, Mantua and Pavia, and before the year 1798 the whole of Lombardy was a very pellagrous region. At the time of the wholesale infection of the Lombard region, the disease became endemic in Venetia on the one side and in Piedmont on the other almost simultaneously. With the beginning of the year 1800 the course of the disease was southward, and soon Emilia and Tuscany were invaded, the disease, however, becoming more prevalent in its original and earlier seats. Frapolli, physician to the Hospital of Milan, clearly described the disease in 1771, nine years after Casal had described the disease as "mal de rosa." To

Frapolli we owe the present name of the disease (from *pelle*, skin, and *agra*, rough), and the same writer declared that the disease was an ancient one and none other than pellarella, having been noted in 1578, as would be seen by reference to the regulations for admission to the Hospital Major of Milan at that time. At about the time Frapolli named the disease, Adoardi of Venetia called it "scorbutus alpinus." The disease spread to such an extent that the Venetian authorities, at the request of the Sanitary Commission of Venice, issued an edict in 1776 prohibiting the sale or exchange in the public markets of corn having a bad odor or taste. As a proper designation of the disease (corresponding to the symptoms observed), D'Oleggio in 1784 suggested that it be termed vernal insolation—the "sunburn of spring." During the same year the Joseph II Pellagra Asylum, a hospital for the special study of the disease, was established in Legnano by royal warrant, and the older Strambio appointed as chief physician. Giambattista Marzari, about 1810, was the first to call attention to the probable relation between maize and pellagra; and sixteen years later (1826) Vincenzo Sette declared that the principal cause of pellagra was fungi, producing acid decomposition in the fatty oils of the corn.

With the exception of the proclamation of the Venetian authorities, very little was done to check the ravages of the disease until Ballardini, in 1845, declared and demonstrated that pellagra was caused by eating damaged maize. His views as to the causation of the disease met with contemptuous ridicule from many quarters. While the discussion as to its cause waxed warmer the disease raged to such an extent that in the space of seventeen years (1839 to 1856) it increased from 14 to 28 per thousand, or from 20,282 to 38,777. This alarming increase aroused the Lombard government to action, with the result that a special commission was appointed from the Instituto Lombardo to look into the cause of the malady. This commission differed in its opinion from Ballardini. The report stated that, though Ballardini's theory as to damaged maize being the causative factor in the production of the disease was correct, the commission could not concur in his opinion that a diet free from maize influenced the disease; their own conclusions being that such a diet did not affect the progress of the disease one way or the other. The final conclusions of the commission certainly are not in accord with their first findings as to Ballardini's theory. All improvements in the condition of the afflicted peasantry or decline in the disease they attributed to better conditions of alimentation, and it may easily be seen that their findings were affected, at least in a measure, by an element of personal prejudice.

In the province of Vicenza the number of persons known to be pellagrous between the years 1853 to 1855 was 1,380; in 1860, 2,974, and in 1879 it had risen to 3,400; these figures, it will be noted, covered only one province. In 1879 it was estimated that the number of pellagrous peasants numbered 97,855, the distribution being as follows: Lombardy, 40,838; Venetia, 29,386; Emilia, 18,728; Tuscany, 4,382; the Marches and Umbria, 2,155; Piedmont, 1,692; Liguria, 148; Rome, 76. In Lombardy, where the disease has always attained its maximum, the most infected centers have been in the provinces of Brescia, Pavia, Piacenza and Ferrara. Next to Lombardy the disease raged most severely in Venetia and Emilia. In Lombardy, Venetia and Emilia, the number of persons actually afflicted with the disease (1880) formed 31.70, 30.52 and 23.66 per thousand of the agricultural population. That pellagra seriously affected the military recruiting in this section of Italy may be seen from the army report of 1878, wherein it is stated that 20 per cent. of the conscripts in Lombardy and 18 per cent. in Venetia were unfit for military duty by reason of pellagra. In 1874 the total number of known pellagrous lunatics in Italy was 945. In 1877 the number had increased to 1,348. Between the years 1879 and 1881, a period of two years, the disease had increased from 97,855 to 104,067. In 1899 the number of pellagrous peasants showed a slight decline, there being only 72,603 cases, or 10.30 per 1,000, reported. It is interesting to note that Lombardy, always the greatest stronghold of the disease, was surpassed by Venetia in the total number of cases according to the statistics of 1899, the figures being: Venetia, 39,882, or 34.32 per thousand, and Lombardy, 19,557, or 12.90 per thousand.

In a government report, "Annali di Agricoltura, No. 18," published in Rome, 1880, under the caption, "La Pellagra in Italia" (1879), the statistics for the St. Clement's Hospital of Venice for the period of the preceding six years are given, and it is not too much to say that they are startling. From it one may obtain some conception of the extent of the disease which the Italians so graphically call "il delirio della miseria."

The figures are as follows:

	Total No. Insane.	Pellagrous Insane.
1874	558	178
1875	595	153
1876	666	175
1877	802	215
1878	859	294
1879	924	337
Totals	4404	1352

In 1884 it was conservatively estimated that there were 10,000 pellagrins in Italian hospitals and insane asylums. A bill for the better prevention of pellagra was introduced in the Chamber of Deputies at Rome through the efforts of the Zannardelli cabinet in the spring of 1902. In 1903 it was calculated that there were in Italy 60,000 cases of pellagra. According to Dr. L. W. Sanbon, however, these statistics are very unreliable for the reasons (1) that the disease is one that is not usually admitted by the victim because it is by many considered degrading; (2) that the notification of its presence to the authorities is not compulsory; and (3) that the local authorities very often, for obvious reasons, endeavor to make it appear that it is decreasing in their respective districts. Sanbon believes that it would be no exaggeration to place at the figure 100,000 the cases in which the disease is plainly manifest; of these, 3,000 at least are in the lunatic asylums of the kingdom. The statistics of 1907 show no appreciable decline of the disease, and conditions, instead of being bettered, are stationary, though there has been a marked decrease in the number of deaths, from 3,987 in 1898 to 376 in 1907.

From France we obtain the following data: The first reliable information of the existence of pellagra in Gascony came from the vicinity of Arcachon in the year 1818, after which it spread along the coast of the Gironde and the Landes. Marchand, in 1826, called attention to the disease in the southern provinces of France. Dr. Petit, a French physician, took note of it about 1828, and states that it was more common in the Landes than in the Gironde district and that at one period in his memory there were 200 cases out of a population of 6,000. Lavinder states that the disease was first observed in France by the elder Hameau in the vicinity of Teste in the early part of the nineteenth century, 1818 (whence the name, "maladie de la Teste").

After leaving the Gironde and Landes districts the malady spread along the left bank of the Garonne and toward the Pyrenees mountains. In the vicinity of Dax the disease never assumed serious proportions.

At intervals, even at the present day, our attention is called to cases occurring in various parts of France.

Tuczek, in 1893, stated that 2 per cent. of the Spanish peasantry were pellagrous.

In Roumania the first recorded case was in 1810, and the medical profession is unanimous in tracing the disease to damaged corn imported from Italy by vessels in the coast trade. From the period between 1833 to 1846 the disease attracted much attention and was known to the people under the name of of "Buba Tranjilar." Between 1854 and 1859 it had increased considerably and gave much alarm to the government, as at that time the records pointed to 4,500 known cases, Moldavia having more cases than Wallachia. In 1885 there were 10,626 cases; in 1886, 19,797 cases. In 1898 the peasant population of Roumania was estimated at 5,300,000. Of this number, according to statistics, 21,272 were pellagrins. Triller, in 1906, calculated the number of pellagrous peasants in this country to be not less than 30,000, and possibly many more. In 1907 the number of pellagrins were supposed to number not less than 40,000. Conditions in Roumania, the same as in Italy, instead of improving, seem to have become aggravated.

Corfu, an island off the coast of Epirus, has also had its share of pellagra, the disease becoming endemic in that island beginning with the year 1856. In Corfu it exists in more than 30 out of a total of 117 communes, the proportion of cases for the whole island being 3.2 per 1,000 inhabitants. Typaldos, of Corfu, has given the disease a great deal of study.

The disease exists in Austria, where the Tyrol region has been the area most affected. In Bukowina, having a population of 38,000, pellagra affects 2.9 per cent. of the peasantry, and there are seventeen institutions in Austria for supplying the peasants with proper food. Austria has enacted legislation dealing with pellagra and, aided by popular education, the government expects to keep the disease within bounds.[1]

In Great Britain, peculiarly enough, the disease has been noted but twice, the first case being reported by Drs. Brown and Carruthers,[2] of Rock Ferry, England. The second case was reported by Drs. R. Dods Brown and R. Cranston Low,[3] assistant physicians in the Royal Edinburgh Asylum, in which institution it occurred in the current year.

In Africa pellagra was first recognized in 1847 by Pruner, who had studied the disease in Italy. Pruner's statements were criticized by Hirsch and others. Years later at a meeting of the medical congress held at Cairo from Dec. 18 to 23, 1892, Dr. F. N. Sandwith, M.R.C.P., and senior physician and lecturer on medicine at Kasr-el-Aini Hospital, Cairo, made a report on the disease and read a very able paper on its prevention. He states that, through the courtesy of Dr. J. Wornock, superintendent of the lunatic asylum of that region, he was able to note annually forty to fifty cases of pellagrous lunatics. Sandwith has seen more than 1,100 cases since 1893, and states that the disease is frequent in Lower Egypt, though not so prevalent in Upper Egypt. He declares that the percentage of pellagrins who become insane in Egypt is far lower than that of Italy. In June, 1902, Sandwith journeyed through eleven villages of Gharbieh and examined 315 men. Of these, 114, or 36 per cent., showed signs of early pellagra. An American, Passed Assistant Surgeon C. H. Lavinder, of the U. S. Public Health and Marine-Hospital Service, one of the foremost students of the disease, differs from the above statement of Sandwith, stating that the disease occurs rather extensively in Upper Egypt. The disease is endemic between 42 and 46 degrees north latitude, 11 degrees west and 26 degrees east longitude of Paris. The island of Corfu and several other small foci are outside of this area.

The disease has been observed in Algeria, Tunis, Bulgaria, Servia and in various sections of southern Europe. Reports as to the recognition of the disease have also been received from northern Portugal, Dalmatia, Croatia, Bosnia, Turkey, Bessarabia, Kherson and as far north as Poland. Low, one of the later investigators, while in Italy in company with Sanbon, saw several cases, and reported that it was the same disease he had encountered in the West Indies. Neirte has reported the disease from New Caledonia. Ray, in 1902, stated that he had noted several cases of pellagra in one of the districts of North Behar, India.

In the Americas, pellagra has been recognized in Barbadoes, Brazil, Uruguay, the Argentine Republic, and in Mexico in more recent years by Bouchard, as well as in the United States.

In the United States, sporadic cases of pellagra were recognized in New York and Massachusetts hospitals as early as 1863 and 1864. It was about this time that reports were received of an epidemic from the vicinity of Halifax, Nova Scotia. Reports of this outbreak of the disease were very meager and uncertain. It is a matter of interest that the medical records and memoirs of the Civil War do not contain any specific instances of cases bearing a resemblance to pellagra having occurred during the long struggle. Certainly, the culinary methods of the troops in the field at that time were anything but good.

In this connection it is fair to assume that every one recalls that during the war there were several large prisons or camps in the South created for the detention of prisoners of war captured by the Southerners. Omitting any reference to the minor prisons, I shall dwell here only on Andersonville and Libby prisons. With the sectional controversy as to the inhumane treatment of these prisoners by their captors, this history has no connection. Yet, making due allowance for possible brutality (perhaps a natural consequence of a bitter internecine war), the mortality rate in these two prisons was, indeed, staggering. It is generally known, of course, that the South was in the midst of a desperate struggle for governmental existence; that the ordinary industries of the entire section had been largely paralyzed, and that corn was one of the chief (if not absolutely the only one) article of diet. In the two prisons referred to, both situated in agricultural states, corn was necessarily generally used, and the bread furnished the prisoners is described as having been of very poor quality. Under these circumstances, the inquiring mind naturally asks if pellagra, unrecognized and unheeded, did not prevail in these prisons to a great extent. This line of thought might well be pursued with profit by other students of historical medicine; and I hope that as a result of the suggestion further inquiries of this nature will be made for the benefit of the profession and the public in general.

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[1] Vienna Letters, THE JOURNAL A. M. A., Sept. 4, 1909, liii, 808; Aug. 1, 1908, li, 420.

[2] Brown and Carruthers: Practitioner, London, May, 1906

[3] Brown, R. D., and Low, R. C.: Edinburgh Med. Jour., September, 1909.

Dr. John P. Gray, of Utica, N. Y., and Dr. Tyler, of Somerville, Mass., at the annual convention of American Asylum Physicians, held in Washington, D. C., in 1864, reported two cases of suspected pellagra.[4] in each of which there were mental symptoms.

We hear no more of the disease until 1902, when Drs. S. Sherwell, of New York, and H. F. Harris, of Georgia, each reported a case. Between the first and second authentic accounts of the disease in the United States a period of thirty-eight years elapsed, and it is reasonable to infer that during that interval the disease was either erroneously diagnosed or unrecognized. Dr. Isaac M. Taylor, of Morganton, N. C., has seen seven positive cases of pellagra since 1905, and states that, reviewing his twenty-three years' care of the insane, he is now convinced that he has seen similar cases within that period. This is also the experience of Dr. J. Taylor, of Columbia, S. C. The two Taylors, one from North Carolina and the other from South Carolina, have expressed the opinion that the so-called "scrofulous" negroes were really pellagrous. W. S. Thayer, of Baltimore, recalls having seen a case in 1905 which he is convinced to-day was pellagra.

In 1907 a sporadic case of pellagra in Texas was reported by Dr. T. C. Merrill, of Colorado, Texas. During the same year the disease was recognized and reported independently by Dr. J. W. Babcock, superintendent of the South Carolina State Hospital for the Insane, and Dr. George H. Searcy, superintendent of the Alabama State Hospital for Colored Insane. In 1908 the disease was identified by two South Carolina physicians (Babcock and Watson, of Columbia) while in Italy, where they had gone for the purpose of studying the disease. They recognized the disease independently of each other. Within the past eighteen months, reports as to the occurrence of the disease show it to be of alarming frequency in the Carolinas, Georgia and Alabama. The Public Health Reports of the United States issued by the Treasury Department, vol. xxiv, No. 25, contains a table showing about 1,000 known cases of pellagra scattered in thirteen states. More than half of these have been reported from asylums or similar institutions. Since the inception of the present discussion a number of cases are coming to light in Florida, Louisiana and Mississippi. Sporadic cases have been reported from Texas, Arkansas, Kansas; and in the Eastern states the disease has been observed by various physicians in New York and Pennsylvania, and in the southern states of Maryland and Virginia. Dr. B. K. Ashford has recorded one case occurring in Porto Rico, and Dr. J. A. Hayne has seen two cases in the Panama Canal Zone. C. H. Lavinder makes a conservative estimate of at least 1,500 cases since 1906. He recently found from forty to fifty cases in the Illinois State Hospital for the Insane, at Peoria, Ill. From the testimony of the staff of that institution it now appears that the disease has existed for the last eight years and was only recently recognized.[5]

I have endeavored to trace briefly (1) the meaning and origin of the term pellagra; (2) the extent and location of the disease; (3) the labors of the foremost students of the disease in the United States. I have purposely refrained from touching the etiology of the disease, and for this phase of the subject would refer the reader to Sanbon's exhaustive essay.[6] Every student of the malady will gain much valuable knowledge and be amply repaid for his time by a thorough perusal of the valuable monograph on the disease by C. H. Lavinder.[7]

In the preparation of this paper I have consulted all the authorities accessible to me and have utilized whatever seemed essential to the discussion. No history is ever absolutely "original," but each must be culled from many sources. I do not assert that this essay is the result of years of painstaking personal investigation, but rather a summary of the works of some of the greatest students of the disease.

2131 Baronne Street.

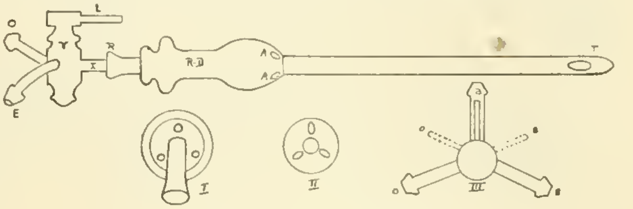
Clinical Notes

A NEW DEVICE FOR RECTAL ANESTHESIA

F. HOEFFER McMECHAN, M.D.
Anesthetist to St. Mary's Hospital
CINCINNATI, OHIO

Thus far in rectal anesthesia two phases of the administrative technic have given trouble: (1) the simultaneous supply of oxygen with the warmed ether vapor or its independent use after the completion of the operation to facilitate recovery, and (2) the accumulation of gas in the bowels without any satisfactory method of egress.

The accompanying sketch of a device for use in conjunction with the Cunningham apparatus shows how these troublesome phases have been overcome.



Device for rectal anesthesia.

V is the Haslam bladder-washer with an additional hole bored into the core at the opening O, and a groove cut across the core for one-third of the distance from the exit tube to the inlets, thus making a three-way valve. With the lever at I both oxygen and ether are admitted; the movement of the lever toward E gradually shuts off the oxygen and admits ether vapor alone; the lever moved toward O gradually shuts off the ether vapor and admits only oxygen. The tube from the oxygen water-bottle is attached at O and the tube from the anesthetic apparatus at E. The supply of oxygen and ether separately or in combination can then be regulated by the movement of the lever at the discretion of the anesthetist.

The three-way valve is connected with a flexible rectal tube (RT, French 27, American 18), which fits into an especially prepared rectal dilator (RD). This dilator is metal and of the self-retaining type. The caliber of the central channel is just large enough to admit the rectal tube on pressure, thus allowing an elongation or shortening of the tube projected into the bowel, which projection averages, according to Cunningham, between ten and twelve inches. Another series of channels extend from the tip to the butt of the dilator. These channels serve as air-vents for the egress of accumulated gases in the bowel and dispense with the necessity of introducing the finger into the rectum during the course of anesthesia to facilitate the egress of the accumulated gases.

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[4] Am. Jour. Insan., October, 1864

[5] A full report of this recent epidemic will be found in Treasury Department Reports, xxiv, 38, in that section bearing on the work of the Public Health and Marine-Hospital Service.

[6] Sanbon: Brit. Med. Jour., 1905, ii, 1272.

[7] Lavinder, C. H.: Public Health Reports, June, 1909, xxiv, No. 25.

The butt of the dilator with the air-vents and rectal tube is shown at I. II represents the tip of the dilator with the air-vents. III the valve with the lever turned to points indicating the combination of ether and oxygen or their separate use.

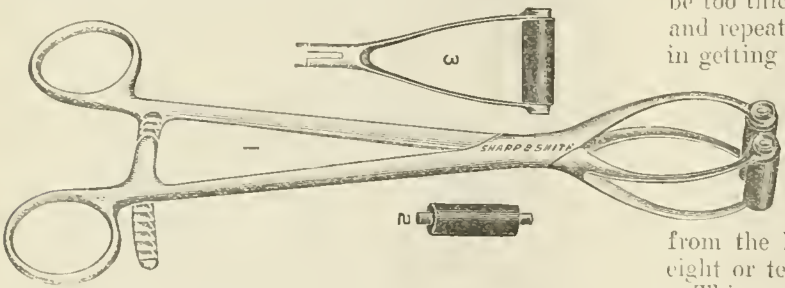
The device can be taken apart and sterilized by boiling, thus insuring asepsis and avoiding the danger of transmitting contagion.

639 West Seventh Street.

A NEW VISCERA FORCEPS

MILTON R. BARKER, M.S., M.D.
CHICAGO

In the forceps about to be described the jaws are round, made of steel, and so constructed that they can be removed in an instant by springing apart the supporting frame. Figure 2 represents one of the jaws of the forceps removed from the frame, and Figure 3 is a front view of a jaw section of one of the blades. The jaws are covered with rubber tubing, which projects beyond the frame of the instrument, thus preventing any tissue grasped being injured by it. The frame supporting the jaws is so fashioned that if, after being grasped, any bellying of the tissues takes place, as often does in handling the stomach or intestines, they cannot be injured as they cannot come in contact with the frame.



A new viscera forceps. 1. The complete instrument; 2. one of the jaws of the forceps removed from the frame; 3, front view of a jaw section of one of the blades.

A large or small amount of tissue may be included in the bite of the instrument as the case demands. The force that may be applied is regulated by the pliable steel frames supporting the jaws by the rachet in the handle of the instrument and by the rubber cushion covering the jaws. The greatest force that can be applied will not injure any of the tissues handled. The instrument, when applied, never slips nor loses its hold.

The forceps is made in two sizes. The jaws of the larger being seven-eighths of an inch long, those of the smaller one-half inch long. In other respects they are alike. The larger instrument best serves the purpose when handling the stomach or large intestine; the smaller is better adapted to gall-bladder, small intestine and appendix work.

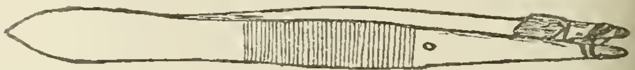
While the instrument was designed for handling the abdominal viscera, I have found it useful in many surgical procedures, when it is necessary to handle organs or tissues without traumatism. I have recently delivered a kidney, with the larger instrument, with great satisfaction. So far I have used only plain, sterile rubber tubing on the jaws of the instrument, discarding the corrugated varieties. It is always best in this instrument, as in all others, with which rubber is used, to sterilize the instrument and tubing in separate vessels; otherwise the instrument is blackened.

4625 Greenwood Avenue.

AN IMPROVISED METHOD OF MAKING FROZEN SECTIONS FOR IMMEDIATE DIAGNOSIS

H. J. RELIHAN, A.B., M.D.
BURR OAK, KAN.

I have recently needed, on the removal of various pathologic tissues, to arrive at immediate diagnosis, and being in the average country office, without microtome and the accompanying conveniences of a city laboratory, I have been forced to improvise some method to meet the conditions.



Specimen of pathologic tissue held in tissue forceps for freezing.

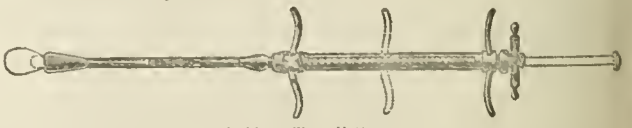
After having removed the tissue I take a small piece, about 1 cm. square, and place it in the jaws of a common tissue forceps about 1 inch from the end, and then wind a small rubber band around the points of the forceps; the tissues are thus held securely, as shown in the illustration. Next I freeze the tissues, which is done with a common tube of ethyl chlorid; after freezing thoroughly I trim off most of the section roughly so that the surface of the tissue is about 2 mm. above the jaws of the forceps. It is again frozen, and a sharp razor, held at a good cutting angle, resting on the jaws of the forceps as a track, is drawn across the tissue. The first section will be too thick, but after freezing the third or fourth time, and repeating the same procedure, I have had no trouble in getting thin sections. The contraction of the forceps blades seems to be so much quicker than the tissue contraction that the projecting portion is about the right thickness for a section. By going through this procedure I have had no trouble in getting very thin sections, which answered my purpose perfectly. The time from the live tissue until the mount is made is about eight or ten minutes.

This could not be recommended where the slide is to be made for a permanent specimen, but it very well answers the purpose of a temporary mount for an immediate diagnosis, the same technic being used for mounting as in any frozen section.

A NEW TONSIL-SNARE

ARTHUR J. HILL, M.D.
CANTON, OHIO

This snare consists essentially of a stylet, sliding collar, wheel and cannula, in the upper part of which are two longitudinal slots. The sliding collar is fastened to the stylet by means of a thumb-screw which passes entirely through the collar and stylet. Threads are cut in the stylet only, thus preventing friction on either side and permitting instantaneous tightening of the wire on the tonsillar base, when a few turns of the wheel completes the operation. The illustration shows the mechanism very well.



A New Tonsil-Snare.

Its advantages are its ease, rapidity and certainty of operation, strength and simplicity, and the fact that it cannot get out of order.

604 Courtland Building.

BLUEBOTTLE FLIES AS CARRIERS OF INFECTIONS

W. FOREST DUTTON, M.D.
PITTSBURG, PA.

The bluebottle and blow- or flesh-flies are not so numerous in or about human habitations as the house-fly, yet they are not to be considered a minor factor as a carrier of disease. The *Lucilia cæsor* is the commonest bluebottle or greenbottle fly and is most likely to frequent houses before rain.

Some species breed exclusively on meat, while others may lay their larvæ on meat, open sores, decaying vegetable material, cow manure and undigested human dejecta. The larvæ grow rapidly and attain full size in about five days. They develop into adults in two weeks. The *Sarcophaga sarraceniæ*, which resembles an extra large house-fly, is, perhaps, the most abundant flesh-fly in this country.

The habits, breeding places and nature of these flies make them a tangible factor in the dissemination of typhoid fever. This can best be exemplified by citation of one instance in which such was the case: A bacilli carrier was attacked with acute indigestion and passed particles of undigested meat, etc. The stools were voided or deposited in a privy, standing two feet above the ground, some twenty yards from the dwelling. The stools were passed directly on the ground and were easily accessible to flies.

The flies fed freely on this dejecta and carried infected material on their hairy feet and body to the food used by the household. The result was that four members of the family were attacked at about the same time. Every other avenue for infection, except by flies, was excluded.

The human bacilli carrier, the infected bluebottles, the transmission to the meat (cold sliced) gave, in this particular case (from deductions and conclusions), the source of infection.

624 Pittsburg Life Building.

THE LATER STAGES OF EXPERIMENTAL MYOCARDITIS

A PRELIMINARY NOTE *

MOYER S. FLEISHER and LEO LOEB
PHILADELPHIA

The investigators who employed frequently repeated intravenous injections of adrenalin into rabbits for the production of aortic lesions commonly noted at the autopsy not only blood-vessel but also myocarditic changes. So far it has not been possible to study the succeeding stages in the development nor the ultimate outcome of this disease.

A short time ago we found that one single injection of adrenalin (0.2 c.c.) cause in many cases a myocarditic lesion and that one injection of a combination of a relatively small dose of adrenalin and spartein or caffein produced macroscopic changes in the heart of the rabbit in about 60 per cent. of the cases and microscopic changes in almost all of the animals. We concluded therefrom that a cardiac and not an aortic lesion was the typical effect of intravenous injection of adrenalin. This enabled us to establish the sequence of events in the development of the myocarditic lesions. The change taking place during the first six weeks after the injection of adrenalin we have described elsewhere.[1] Since then we have studied later stages, namely, the period six to fifteen weeks after the injection, and here we wish to state briefly the main result of these studies, which we believe to be of interest from the point of view of human pathology also.

While up to approximately six weeks after the onset of the disease we found in many hearts very pronounced gross lesions, yellow discoloration, stiffening and loss of pliability, thickening of the wall of a part (sometimes the major part) of the left ventricle, we were surprised to see how completely such apparently far-going gross lesions can retrogress within a relatively short time.

The microscopic changes, which consist in the first period of the disease (comprising the first six weeks) principally of a considerable enlargement of the muscle fibers, increase of the connective tissue and some degenerative changes of the muscle fibers, show likewise retrogressive changes in the following period from six to fifteen weeks after the onset of the disease. It is very rare to discover vacuolization of the muscle fibers; the enlargement of the muscle fibers is considerably less marked; the appearance of the double nuclei in the muscle becomes much rarer. Now, however, at some places we find tracts of rather dense fibrous tissue and occasionally infiltration of small cells.

There can therefore be no doubt that very pronounced healing processes take place with a surprising rapidity and hearts which a few weeks after the primary injury showed marked lesions to the naked eye appear in many cases quite normal a few weeks later. Thus relatively small lesions can be detected in such cases only through microscopic examination.

It will be of great interest to follow the fate of the fibrous bands which develop in such hearts. We hope to be able to report on this question at a later date.

A SMALL LOCALIZED EPIDEMIC OF AMEBIASIS

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Professor of Parasitology, North Carolina Medical College
CHARLOTTE, N. C.

In June, 1909, a person with amebiasis moved into House 3 on North Johnson street. The five households in this row all used water from the well between Houses 1 and 2. This is a surface well, about twenty-five feet deep and in no way protected from surface drainage. The privies are all directly back of the houses, on higher ground than the well, at a distance varying from 50 to 150 feet.

On August 16 three people in House 5, three in House 4, and one each in Houses 3, 2 and 1 complained of sore mouth; some of them had diarrhea, some of them only intestinal fermentation without diarrhea. These sore mouths had all developed within the past two weeks and all presented the same appearance—dry red erosions at the angles of the mouth with a dry, brick-red, bald, fissured tongue.

When the first one was seen, pellagra was suspected; when representatives from every house on the street presented themselves, it became evident that the trouble was epidemic, and amebic dysentery was the next most natural thing to suspect. This suspicion was heightened when a history of recently acquired diarrhea was obtained from about half the sufferers.

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* From the Laboratory of Experimental Pathology, University of Pennsylvania.

[1] Fleisher, Moyer S., and Loeb, Leo: Experimental Myocarditis, Archives of Internal Medicine, February, 1909, iii, 78.

On August 17 a microscope was carried out and *Entamœba histolytica* found in the stools of two patients in House 5 and in one of the two patients examined in House 4. The other patient in House 5, and the patient in House 3 (son of the original patient), together with the patients in whose dejecta amebæ were found, all showed eosinophilia. Unfortunately, it was impossible for a man in general practice to make a routine examination of the blood and feces of every one living in the five houses. Within three weeks three of these households had moved, one to another mill section of Charlotte, one to another North Carolina town, and one to parts unknown.

The dysenterics at once attributed their sickness to the well used by all in common. They said that the water smelled bad, and were unanimous in saying that it "griped" them. A specimen of this water, with scrapings from the well bucket, was taken at once.. This showed algæ, vorticellæ, several varieties of low animal life that were unknown to us, and amebæ corresponding in size and appearance to the *histolytica*. We cannot say definitely that these were pathogenic amebæ. The use of the well-water was stopped at once, and in the families we have been able to keep track of, no new cases have developed. The owner of the property very humanely put in a safe water-supply.

In view of the wide-spread prevalence of amebiasis throughout the South, it is imperative that the local health authorities take some steps to abolish the careless and almost universal custom of soil pollution that prevails in this section.

DISAPPEARANCE OF A LARYNGEAL GROWTH, PROBABLY CARCINOMA, WITHOUT TREATMENT

JOSEPH B. GREENE, M.A., M.D.
BIRMINGHAM, ALA.

The following case presents some points of interest worthy of reporting, as it seems to correspond with a certain class of cases recently referred to by Jonathan Wright.[1] Till Wright's paper appeared, I had been almost convinced that my case was one of benign papilloma, in spite of the fact that the growth had all the macroscopic appearances of early malignancy. The opinion that the growth was malignant was shared by Dr. E. Fletcher Ingals, who saw the patient in June, 1908. Now I am of the opinion that the tumor was carcinoma, but disappeared without treatment. As to this fact, however, we can never be sure, as the patient declined to have a specimen removed with a view of prompt laryngectomy, or, at least, laryngotomy.

Patient.—A physician and friend, aged 50, first consulted me May 2, 1908. He had always enjoyed good health; had been a hard-worked physician for about twenty years. He smoked cigars and pipe moderately. There was no history of syphilis or tuberculosis. Family history negative, except that the patient's paternal grandfather died, probably of carcinoma. The patient's present condition was that of a fairly well-nourished man, though he looked a little older than 50. Three months before examination patient began to complain of slight pain in the throat, worse at times, when larynx was in a certain strained position.

Examination.—Chest negative. No glandular enlargement on neck or elsewhere. No cough. Hoarseness very slight, hardly noticeable. Markedly deviated nasal septum. Some nasopharyngeal catarrh present. A small growth over the center of the left vocal chord, about the size and shape of a small grain of wheat, attached to the upper and inner side of the chord; not pedunculated; surface somewhat uneven, and attached base distinctly red.

Course of Disease.—On May 19, 1908, there seemed to be some increase in size. On June 4, patient was seen by Dr. Ingals in Chicago, who pronounced the case probably carcinoma. He advised the use of tuberculin for diagnostic purpose, and if no reaction occurred, then a removal of a fragment of the growth for examination. If found to be carcinoma, he advised laryngectomy, or at least laryngotomy. In this advice I coincided. At this time (June 4) I again advised the patient's return to Chicago for examination and operation, if necessary. Patient seemed to agree as to the probable diagnosis, but preferred to continue his work as long as possible and to avoid a severe operation, which would probably cause serious impairment or entire loss of his voice. The tuberculin gave the patient unpleasant symptoms, such as headache and dizziness, and was, therefore, discontinued. The small dose gave no reaction either in appearance of the growth, or a rise of temperature. On Oct. 7, 1908, patient reported at my office for examination, and to my surprise and delight there was no sign of the growth to be seen.

While the result of the above case was very satisfactory without surgical measures, far be it from my mind to recommend delay or expectant treatment of such growths.

803 Title Guarantee Building.

CECOSTOMY—THE OPERATION OF CHOICE FOR TEMPORARY DRAINAGE OF THE COLON

C. C. ALLISON, M.D.
OMAHA

For that class of cases, in which colostomy is indicated, for physiologic rest of the colon, the problem of efficient drainage is paramount, but the subsequent closure of the opening in the bowel is a surgical problem hardly secondary in importance to successful drainage.

Appendicostomy can not be accorded more than a limited field of usefulness, because in a great majority of cases it is diversion of the fecal current, rather than irrigation, that is the essential therapeutic aid; nor will the mere opening of the ascending colon afford sufficient drainage in the more severe types of colitis.

It is my experience that cecostomy can be so accomplished by rotating the cecum upward and outward and making the opening opposite the ileocecal aperture, then not only efficient drainage is accomplished, but, what becomes most practical in the subsequent management, the closure of the opening in the cecum can be done with the utmost ease by the surgeon and with perfect safety to the patient.

It is true that a part of the cecum is sacrificed, but the danger of stricture is eliminated, a complication which is actual in case of simple colostomy, without a spur, and the dangers of an anastomosis is avoided, as would be the case with the Maydl tube.

Cecostomy has appealed to me, therefore, as being the operation of choice, when the fecal current is to be temporarily diverted from the colon, both because it affords more efficient drainage and because the closure of the opening becomes a minor surgical procedure.

A Model City.—If we had a national department of health it could assist in making our national capital, the city of Washington, into a model sanitary city, free from insanitary tenements and workshops, air pollution, water pollution, food pollution, etc., with a rate of death and a rate of illness so low as to arouse the attention of the world.

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[1] Wright, J.: Laryngoscope, August, 1909, New York Med. Jour., July 17, 1909.

New and Nonofficial Remedies

SINCE THE PUBLICATION OF THE BOOK "NEW AND NONOFFICIAL REMEDIES, 1909," THE FOLLOWING ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK ARE ASKED FOR.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(*Continued from page 869*)

SOLUBLE FERRIC ARSENITE—Ferri Arsenis Solubilis.—Ferric Arsenite and Ammonium Citrate.—Ferric Arsenite made soluble by the addition of ammonium citrate.

Soluble ferric arsenite occurs in green scale, easily soluble in water; it contains 1.06 per cent. arsenic, equivalent to 1.4 per cent arsenous oxide, and iron, equivalent to from 15 to 18 per cent. elementary iron.

Actions and Uses.—Soluble ferric arsenite is a hematinic said to be particularly indicated in anemia, complicated with malaria, in pernicious anemia and in pellagra.

Dosage.—0.03 to 0.065 Gm. (½ to 1 grain). It may be given by subcutaneous injections in the gluteal region in doses of 0.03 Gm. (½ grain) dissolved in 1 Cc. (15 minims) of water every two or three days.

Non-Proprietary Preparations:

Ampules Iron Arsenite Solution S. & D.—Each Ampule is said to contain 0.06 gm. (1 grain) of soluble iron arsenite, dissolved in 1 c.c. (16 minims) of distilled water, representing closely 0.00092 gm. (1/70 grain) of arsenic trioxide and 0.0092 gm. (1/7 grain) of metallic iron.

Prepared by Sharp & Dohme, Baltimore, Md.

ANTIPYRINE SALICYLATE—Antipyrinæ Salicylas.—(See N. N. R., p. 24).

Proprietary Preparation:

SALIPYRINE.—A name applied to antipyrine salicylate.

Manufactured by J. D. Riedel Aktiengesellschaft, Berlin, Germany. (Riedel & Co., New York.) U. S. patent No. 444004. U. S trademark No. 19043.

PARA COTO—(Coto[1]).—The bark of an undetermined South American tree, probably a species of Cryptocarya.

Para Coto occurs in pieces which are of considerable size and thickness, 30 cm. (12 in.) wide and 1.5 cm. (⅝ in.) thick. The outer surface is of reddish-brown or cinnamon-brown color. It is sometimes fissured longitudinally and transversely, and sometimes nearly smooth, with occasional patches of whitish cork. The inner surface is coarsely striated. It breaks with a fibrous, splintery fracture, and the smoothed transverse section exhibits a thin, brown cork within, which is a narrow cortex separated by a line of sclerenchymatous cells from the very thick bast, which is well characterized by the presence of abundant groups of sclerenchymatous cells. The odor is spicy and characteristic, the taste aromatic and pungent. (Para coto is exported from Para at the mouth of the Amazon, and should therefore be called Para coto and not paracoto.)

The chief constituent of Para coto is paracotoin, an indifferent crystalline, bitter principle along with hydrocotoin, methyl hydrocotoin protocotoin, methyl protocotoin (oxyleucotoin), phenyl coumalin, piperonylic acid, volatile oil, resin and tannin.

Para coto is distinguished from coto by the action of nitric acid on the ether extractive matter. In the case of Para coto the result is the formation of a yellow color and in the case of coto a red color appears.

Actions and Uses.—Paracotoin is irritant to the gastrointestinal tract and is similar to cotoin but is weaker. Para coto is used like coto as an appetizer and for diarrhea and dysentery and similar disorders.

Dosage.—0.05 to 0.5 Gm. (1 to 8 grains).

PARACOTOIN.—A principle, $C_{12}H_8O_4$, from Para coto.

Para coto is extracted with ether and the ether extract distilled. The residue is fractionated by repeated crystallizations from hot alcohol. The first body to separate out is paracotoin.

Paracotoin is a pale yellow, crystalline body, neutral in reaction, tasteless and odorless, melting at 149°-152° C. (300.2°-305.6° F.). It is difficultly soluble in water, but easily in ether, chloroform and boiling alcohol. Concentrated sulphuric and nitric acids dissolve it, forming a yellowish-brown solution

On boiling with a solution of caustic alkalies, a colorless crystalline body, melting at 82°-83° C. (179.6°-181.4° F.), and having the odor of coumarin is formed; this body is acetopiperon (paracumarhydrin) $C_9H_8O_3$ or $C_6H_3O_2CH_2.CO.CH_3$, and paracotoic acid $C_{12}H_{10}O_5$ a yellow amorphous mass melting at 108° C. (226.4° F.). Paracotoin fused with potassium hydroxide yields principally piperonylic acid $C_8H_6O_4$.

1 Gm. of paracotoin shaken up with 10 Cc. of fuming hydrobromic acid forms a semi-solid mass of yellow crystals, which on drying over potassium hydroxide lose hydrobromic acid. This residue decomposed with water and recrystallized forms paracotoin, recognized by its crystalline form and melting point.

By gradually adding about 1 Gm. paracotoin to about 10 Cc. concentrated nitric acid, a red-brown solution will result, which, when heated for a short time on the water bath and cooled, deposits a yellow crystalline mass. This product recrystallized from acetone and then from benzene or glacial acetic acid forms golden yellow crystals, melting at 195° C. (323.0° F.). This body is dinitro paracotoin, probably of the formula $C_{12}H_6(NO_2)_2O_4$.

An excess of bromine added to a 10 per cent. solution of paracotoin in chloroform cooled to 0° C. produces a deep yellow precipitate, which loses hydrobromic acid, and when recrystallized from alcohol forms the mono-bromide of paracotoin, melting at 200°-201° C. ($C_{12}H_7BrO_4$).

Actions and Uses.—See para coto.

Dosage.—0.06 to 0.18 Gm. (1 to 3 grains).

MERGAL.—Mergal is a mixture of 1 part of mercuric cholate and 2 parts of albumin tannate put in capsules, each capsule said to contain approximately 0.15 Gm. (2¼ grains) of mergal equivalent to 0.05 Gm. (¾ grain) mercuric cholate and 0.1 Gm. (1½ grains) tannin albuminate. Mergal contains approximately 4.4 per cent. mercury.

Mercuric cholate is prepared by a patented process, mixed with albumin tannate, and inserted into gelatin capsules in the usual way.

Mergal is a yellowish white, loose, somewhat light powder, insoluble in water and alcohol and almost insoluble in solution of sodium chloride.

When 0.1 Gm. of mergal is shaken with a few drops of saturated solution of cane sugar and underlaid with concentrated sulphuric acid, a purplish red to reddish violet zone is produced.

If 0.2 Gm. of mergal is warmed on the water bath with 10 Cc. of hydrochloric acid for about fifteen minutes and the evaporated water replaced after cooling and filtering, there results a colorless or slightly yellowish solution which gives a black precipitate with solution of hydrogen sulphide. The same filtrate gives with a drop of stannous chloride solution an immediate precipitation of metallic mercury.

Mergal should leave no weighable residue on incineration.

0.2 Gm. of mergal boiled for one minute with 20 Cc. of water gives a clear filtrate which is colored dark violet on the addition of a drop of solution of ferric chloride.

0.1 Gm. of mergal when heated with a mixture of 5 Cc. of concentrated sulphuric acid and 5 Cc. of water to boiling, produces a turbid reddish solution. The filtrate after dilution with 3 to 4 parts of water and the addition of a drop of solution of copper sulphate gives on careful underlaying or on mixture with an excess of sodium hydroxide solution an evanescent violet-red color. Mergal should be protected from the light.

Actions and Uses.—Mergal is said to pass through the stomach without decomposition and to be decomposed into its constituents in the small intestine, where the mercury is quickly absorbed into the blood and excreted through the kidneys. It is said to be useful in all forms of syphilis and in the para-syphilitic affections, such as diabetes and general paralysis. It is also said to be useful for the chronic intermittent treatment according to the method of Fournier and Neisser.

Dosage.—One capsule three times a day after meals, gradually increasing to two capsules five or six times a day.

Manufactured by J. D. Riedel Aktiengesellschaft, Berlin, Germany (Riedel & Co., New York). U. S. patent No. 811193. U. S. trademark No. 53919.

N. N. R. ARTICLES AMENDED

ADRIN SOLUTION 1-500

The H. K. Mulford Co. has informed the Council that the epinephrine used in making adrin solution 1-500 (see N. N. R., 1909, p. 53) is no longer made by the method of Abel, but by the method of v. Fuerth (Hoppe Seyler's Zeitschrift für physiologische Chemie, vol. xxvi, p. 15).

ARTICLES ACCEPTED FOR N. N. R. APPENDIX

Manhattan Eye Salve Co., Owensboro, Ky.:

Argyrol Ointment (M. E. S. Co.).—An ointment said to consist of argyrol 10 per cent.; hydrous wool fat, 25 per cent.; white petrolatum, 65 per cent. Put up in collapsible tubes, for application to the eye.

Dionin Ointment (M. E. S. Co.).—An ointment said to consist of dionin 5 per cent.; white petrolatum, 95 per cent. Put up in collapsible tubes, for application to the eye.

Holocain and Adrenalin Ointment (M. E. S. Co.).—An ointment said to consist of holocain 1 per cent.; adrenalin chloride, 4 per cent.; hydrous wool fat, 10 per cent.; white petrolatum, 85 per cent. Put up in collapsible tubes, for application to the eye.

Sharp & Dohme, Baltimore, Md.:

Compressed Tablets Atoxyl and Iron.—Each is said to contain atoxyl 0.02 gm. (1/3 grain) and ferrous lactate 0.06 Gm (1 grain).

(*To be continued*)

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[1] While commercially, Para coto and coto are sold indiscriminately, botanists make a definite distinction between them

Therapeutics

ALCOHOL

In spite of the many discussions on this subject, the question is still open as to whether alcohol should ever be used as a therapeutic agent.

The whole general discussion of alcohol is grossly unfair to it as a component part of the materia medica. Who would think of describing the poisonous effects of large doses, or the dire effects from the prolonged use, of some drug of the Pharmacopeia other than alcohol, when the discussion was on the value of that drug as a therapeutic measure? Large doses of alcohol are harmful; repeated large doses are pernicious; and an alcohol habit is ordinarily bad physiologically, pathologically, and morally. But if we are to be fair to alcohol as a drug we must discuss it as we would any other drug, viz.: describe its physiologic action in therapeutic doses, the indications that it may therefore meet, and the undesired symptoms and conditions that it may successfully combat. Next we must discuss the possibility of some other drug acting as well to meet these indications. In other words, are there other drugs that act physiologically similar to alcohol? Next, does this drug cause the alcohol habit if used therapeutically, and, if so, how frequently?

To answer the last question first, very rarely does any patient acquire the alcohol habit from its medicinal use during an acute disease. If such has occurred, it was because of a tendency to the habit, inherited or acquired, and it was only a question of opportunity or environment for it to develop. A physician should not be excused, except perhaps in rare instances, and that generally in old age, who orders alcohol for a chronic condition, and the legitimate use of alcohol in chronic conditions is so limited as to be hardly a subject for discussion.

We then come to the physiologic action of alcohol that is desired or can be utilized to combat diseased conditions or undesired or dangerous symptoms. To discuss this properly, alcohol must be classified therapeutically. The objects for which it has been used, and its physiologic action, have caused it to be classed as a stimulant, a vasodilator, a narcotic, a hypnotic, and a stomachic.

It is a mistake to class alcohol as a stimulant, as this carries with it a mistaken idea of the physiologic action. While it may stimulate the heart and raise arterial pressure momentarily, its secondary effect is a cardiac depressant and a vasodilator. The only time when alcohol is a stimulant is in acute cardiac failure, and then it is stimulant to the heart only before its absorption, reflexly from the irritation, when taken in concentrated solution, of the mucous membrane of the mouth, pharynx, esophagus and stomach, the rectum, if it is administered as an enema, and the tissues, if it is given hypodermatically. To obtain such stimulation it is, of course, a recognized fact that the alcohol must be a strong preparation, either brandy, whiskey, gin, rum, or champagne. This reflex irritation through the vasomotor center temporarily raises the blood pressure, and perhaps through the accelerator nerves stimulates the heart. To keep up this stimulation, another dose must soon be given, in from fifteen minutes to half an hour or an hour, depending on the prolongation of the heart weakness. The dose of alcohol for such stimulation should be small in order that the results from the subsequent absorption will be the minimum, as the vasodilator effects are not desired. If the alcohol is administered too frequently, it accumulates in the system before the previous doses can be burned or eliminated, and then to obtain stimulation it will be necessary to give a larger, concentrated dose to cause sufficient irritation and stimulation to overcome the depression of the previous doses. The result of such medication is very obvious. Soon the vasodilatation is increased, the heart is depressed, the nervous system more or less paralyzed, and depression is added to depression; and the treatment is vicious. Consequently, the only excuse for using alcohol in any form as a cardiac or circulatory stimulant is when the depression or syncope is short lived, or perhaps as a primary stimulant in acute collapse. In any prolonged circulatory depression alcohol is contraindicated.

In conditions of prolonged fever in which alcohol is given no more frequently, for any length of time, than every three hours, one dose is probably eliminated before the next one is administered. The real value of its administration is due to the dilatation of the peripheral blood vessels, which equalizes the circulation and reduces the temperature.

As an actual narcotic alcohol is rarely used, and should not be so used. As a secondary effect of therapeutic doses its general tendency to quiet nervous irritability in seriously ill patients may be desired and utilized, but to use alcohol as a narcotic directly when other symptoms do not indicate its use is ordinarily inexcusable. In serious feverish conditions undoubtedly the narcotic action of alcohol quiets a patient who is highly alert to his danger, and may be of distinct advantage, as mental worry and anxiety are aids and abetters of disease which should be overcome by any legitimate means.

The discussion of the use of alcohol really resolves itself into a discussion of its value as a vasodilator. Vasodilatation is often indicated in feverish processes, i. e., in acute disease, and at any time when the pulse tension is high and the surface circulation sluggish. If we can slow the heart, dilate the peripheral blood vessels, increase perspiration, and quiet the nervous excitation and restlessness, our acutely sick patient is not only more comfortable, but in a safer condition and better able to withstand the acute disease. Alcohol in proper doses will do this. A rapid heart will become slower and regular, the blood vessels fuller and softer, the skin warmer, and the circulation be in better equilibrium, i. e., internal congestions will be relieved and the surface circulation, even in the feet, improved; normal perspiration is established; the brain is relieved of pressure by more blood going to the surface of the body; the slight narcotic effect of a small dose of alcohol quiets and may cause sleep, and the patient is improved.

A physician who says he has not seen these good effects from alcohol has not practiced medicine in acute disease. If alcohol acts undesirably, the following symptoms occur: flushing of the face, dry skin, dry tongue, throbbing, bounding pulse, and the odor of alcohol on the breath. Such symptoms positively show that alcohol is contraindicated or that the dose is too large, and until lately the consulting physician often saw delirium and meningismus, especially in patients suffering from typhoid fever and pneumonia, which was caused by too large and too frequent doses of alcohol.

The successful use of alcohol in feverish processes means a careful analysis of the need for it, a careful study of its action, and then a regulation of the dose and frequency to obtain the desired, and none of the undesired, effects. In other words, the action desired from a dose of whiskey or brandy, or its equivalent, is a warming of the surface of the body, a fuller pulse, a moistening of the dry skin, and a quieting effect on the brain.

Now, with the well-known indications for alcohol present and some treatment needed, can we surmount the condition by any other treatment? The drugs or methods that act somewhat similarly to alcohol are aconite, coal-tar products, nitroglycerin, bromids, hypnotics, and cold. Each has its disadvantages. Aconite is a vasodilator, but should be used only in the beginning of acute disease, and then rarely, as cardiac depression may start early in acute conditions and may be hastened by aconite. Coal-tar drugs may be of temporary advantage, but certainly are positively contraindicated, on account of the cardiac depression they all cause, after the first day or two of the feverish process. Nitroglycerin with high arterial tension and a dry skin is often of advantage and may be often substituted for alcohol in acute fever. It has no quieting effect, however, and even in small doses often causes unpleasant momentary headache. However, this drug may be relied on more than any other to meet the indication for which alcohol would be used in acute sickness. There is no question that bromids, chloral, or the synthetic hypnotics are often needed and are often of great value in acute sickness, but if the illness is prolonged, the circulation weak, and the heart's action impaired, any depressant, as all of these hypnotics are, would be and is bad treatment. The value of cold applications in fever, when the temperature is high, in causing, by the coincident friction and the flushing of the skin, a bettering of the surface circulation, a quieting of the patient, and an improvement of the action of the heart is, of course, well understood and generally utilized to-day, and the gentler methods of cold applications are much better than the more severe. However, if the temperature is low, of course, cold applications are contraindicated.

In other words, the positive value and advantages of the proper use of alcohol as a drug in acute disease, when the condition indicates the necessity for physiologic action similar to its activity, cannot be gainsaid. Alcohol should certainly not be used because a patient is ill or has a fever, but very frequently nothing in the drug line will take the place of alcohol as a medicine. A dose larger than from one to three teaspoonfuls, once in three hours, is probably never indicated, and if given should certainly not soon be repeated.

As a food alcohol may save the burning of some tissue during acute fever when the nutriment is not sufficient, or is not metabolized sufficiently, to save fat and muscle. Hence in fevers it has a distinct food value, but probably no better than that which would be obtained from sugar.

In continued cardiac failure or depression, whether in patients suffering from chronic disease or in patients with acute disease, alcohol is contraindicated, strychnin being generally the best medicinal treatment. Consequently strychnin should not be begun early in acute disease, but be reserved until it is needed and becomes a life saver.

As a nutrient in chronic diseases alcohol is uneconomical and generally a positive disadvantage to the system.

As a vasodilator in chronic high arterial tension it should ordinarily not be used. This indication for treatment is present in arteriosclerosis and gout, and is a symptom and sign in late middle life or old age. If the condition requires treatment it is much better managed by nitroglycerin, thyroid extract, potassium iodid, or small doses of chloral. If arteriosclerosis is present and the patient is well along in life and is accustomed and has been accustomed to take alcohol regularly in doses that do not intoxicate, it may be unwise to stop the vasodilating effects of the alcohol until it has been ascertained that some other treatment will be as conducive to his well-being. In other words, the physiologic relief from high tension which he has been accustomed to acquire by taking alcohol cannot be abruptly stopped without due consideration of the consequences of withdrawing the drug.

Though alcohol in proper dose and in the proper form has an hypnotic effect not only by dilating the peripheral vessels and relieving the tension of the cerebral circulation, but also by its quieting effect on the nervous system, it should not frequently be considered or used as a hypnotic. Still, instances occur both in acute illness and in debilitated patients where it seems to be the safest and the most satisfactory of hypnotics. Of course, when alcohol is used thus as a drug it should be stopped by the physician as soon as he considers that the patient can tolerate another hypnotic, or that the positive indication has ceased to exist. In very old people who cannot sleep, alcohol as a "night-cap" has been frequently advised. Sleeplessness in senility is frequently due to high tension circulation, and one can often cause these patients to sleep as well with small doses of nitroglycerin, administered at bedtime, as by alcohol so administered.

Alcohol has been largely used and frequently ordered, and the laity often resort to it to abort acute colds. There can be no discussion of the fact that the physiologic action of a good dose of alcohol combined with hot water, and the patient placed in a warm room, will cause perspiration and the re-establishment of surface circulation sufficiently to relieve internal congestions, and a cold with a localized congestion may thus be aborted. On the other hand, hot baths, combined with hot lemonade, or hot tea, or other hot non-alcoholic liquids, or a dose or two of a coal-tar sweat-producing drug, or a Dover's powder, and the quickly acting saline cathartics, will accomplish as much in aborting colds as will alcohol, and therefore it is rarely necessary to resort to alcohol in such a condition.

The local uses of alcohol are numerous and valuable, but need not be discussed, as they are well understood.

A Good Governor.—It's a good thing sometimes to have a man in the governor's chair who knows a little about the drug business. Governor Johnson of Minnesota promptly signed what is known there as "the nasty ad. bill" which forbids the publication of indecent advertising of the lost manhood variety. We never have been able to understand why a quack doctor could publish with impunity in his advertisements things that would cause him to be kicked off the front doorsteps if he said them instead. The newspapers that take that sort of stuff, though—and there are lots of them—always profess entire inability to see anything objectionable about it: which shows that they ought to consult an oculist. In Minnesota they won't need to see: the law is going to do a little seeing itself. And that reminds us. We have in Detroit a paper that has for its motto, "Every column clean." What is better, *Saturday Night*—that's its name—lives up to it. The publishers have had plenty of off-color advertising offered to them and they say, "We could have used the money, but we didn't want it that much." Governor Johnson, you remember, used to be a drug clerk. He hasn't forgotten some of the things he learned in those days.—*The New Idea.*

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[*For other information see second page following reading matter*]

SATURDAY, NOVEMBER 6, 1909

TUBERCULIN AND IODID OF POTASSIUM

Beginning with Koch's discovery of tuberculin and its use later as a diagnostic means, various attempts were made to obtain bacterial products which might be used as specific diagnostic measures. A noticeable result of these attempts was the discovery of mallein and its use in the diagnosis of glanders. More recently work has been carried out showing in several instances the diagnostic value of injections of certain dead bacteria in infections caused by those particular organisms. Of special importance in this connection seem to be the gonococcus reactions of Irons[1] and the ocular typhoid reaction first described by Chantemesse and modified by Hamburger.[2]

In 1897 Rondot demonstrated that weak doses of potassium iodid produced, in individuals with incipient tuberculosis, reactions which were similar to those produced by tuberculin and were supposed to be caused by the liberation of tuberculin from the lesions. Later its use as a diagnostic measure fell into disrepute because of the fact that such a procedure was not infrequently followed by a generalized tuberculous infection. In view of the somewhat similar characteristics of leprosy and tuberculosis the finding of Marchoux and Bourret,[3] that potassium iodid produces a similar reaction in lepers, is of interest. They conclude that the drug exercises on the lepra bacillus a destructive action which liberates a toxin acting in the manner of tuberculin in the tuberculous. Of further interest in this connection is the observation by Slatineano and Danielopol[4] that the subcutaneous injections in lepers of three milligrams of tuberculin produced a rise in temperature which in some cases amounted to as much as 3.7 C. Babes[5] later confirmed these observations, but because of the fact that the reaction appeared later and continued longer than in tuberculosis, and that sometimes it occurred only after several injections, he disagreed with the conclusions of these authors, who believed the reaction to be due to associated tuberculosis. The experiment seems to be open to criticism on the grounds that three milligrams of tuberculin make an excessive dose, and, furthermore, the possibility of inciting a hypersusceptibility to tuberculin itself by repeated injections would have to be considered.

Sorel[6] has recently investigated the cause of the reaction produced by potassium iodid in tuberculous subjects. He found that guinea-pigs which had been made tuberculous experimentally and had been given potassium iodid in doses considerably less than lethal amounts died of generalized miliary tuberculosis, and usually several weeks earlier than those which had received no iodid. He attributed this to the fact, shown in his experiments, that the large phagocytic cells (macrophages) were increased in number, thus facilitating the ingestion of the tubercle bacilli, but at the same time permitting their dissemination in greater numbers in the organism. Furthermore, he found that the actions of the iodid and tuberculin, although comparable, were not identical; for an intraperitoneal injection of potassium iodid in a tuberculous guinea-pig excited the formation of an exudate which contained no tuberculin. Whether his explanation of the fact that potassium iodid is dangerous to the tuberculous be correct or not, Sorel's results serve to emphasize the dangers of the indiscriminate drugging of tuberculous patients so commonly practiced.

THE RESISTANCE OF THE BODY TO SIMPLE POISONS

In striking contrast to the rapid extension of knowledge concerning the processes of defense of the animal body against the complicated bacterial toxins and the venoms, is the failure to explain satisfactorily the means by which tolerance to alkaloids and certain mineral poisons is acquired. Because these poisons are of known chemical composition, and infinitely more simple in structure than the toxins, it would seem that the problem should be correspondingly simple, but the reverse has so far been the case. Although a few early experimenters asserted that they secured an antitoxic serum by immunization of animals to morphin, their results have not been confirmed, and, supported by Morgenroth's negative results with this alkaloid, Ehrlich propounded the dictum that the body does not manufacture antibodies for substances of simple, known chemical composition. This position may become untenable, however, for from time to time reports appear which maintain that antitoxic serums of greater or less efficiency can be secured for this or that non-protein poison.

In this country Ford's[1] researches have been particularly striking, demonstrating that immunization to extracts of the poisonous mushroom, *Amanita phalloides*, causes the serum to become distinctly antitoxic for the hemolytic poison, which is a glucosid. The antitoxic power is, however, by no means comparable to that obtained by immunization with toxins, for one cubic centimeter of the immune serum neutralizes but five to eight times a fatal dose of the amanita extract. An antiserum of about equal strength was also obtained for the poisonous glucosid of the poison ivy (*Rhus toxicodendron*). Somewhat similar but less striking results have been obtained by immunization to cantharidin, which is an aromatic ring compound of comparatively simple chemical structure, Champy[2] securing a serum which neutralized one milligram of the poison when given in 20 c.c. doses. Resistance to arsenic in increasing doses, however, does not seem to depend on any change in the serum, but rather on local changes, such as decreased absorption from the alimentary tract.

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[1] Trans. Jour. Infect. Dis., 1908, v, 279.

[2] Hamburger, W. W.: The Ocular Typhoid Reaction, THE JOURNAL A. M. A., 1908, l, 1344.

[3] Marchoux and Bourret: Bull. Soc. path. exot., 1908, vi, 347

[4] Slatineano and Danielopol: Compt. rend Soc. de biol., 1908, lxv, 528, 530.

[5] Babes: Compt rend Soc de biol., 1909, lxvi, 641.

[6] Sorel: Ann. de l'Inst. Pasteur, 1909, xxiii, 533.

[1] Ford: Jour. Infect. Dis., 1907, iv, 541

As the most common and most striking illustration of acquired resistance to a poison of simple chemical composition, the means by which tolerance to morphin is secured has been particularly investigated. About once in so often some one claims to have secured an anti-morphin serum, but even the slight activity claimed for these serums seems not to be satisfactorily proved on critical investigation. Perhaps the most distinct advance was made by Faust, who finds that dogs habituated to morphin have an increased power to destroy the poison. If morphin is injected subcutaneously into normal dogs, over three-fifths can be recovered in the feces, by which route it is chiefly eliminated; but, as toleration to morphin increases after repeated doses, the amount excreted in the feces decreases until in dogs made highly resistant there may be none excreted at all. As the organs of such habituated animals contain but traces of morphin it is apparent that the power to destroy morphin must have been greatly increased.

This work has been recently extended by W. Rübsamen,[3] who wished to learn if this destruction of morphin is rapid enough to account for the resistance of morphin habitués, who must otherwise receive in their central nervous system after subcutaneous injection of the enormous doses to which they are accustomed, many times the amount of morphin necessary to kill a normal person. Working with rats he found, as Faust had found with dogs, that the power to destroy morphin increases with habituation; this destruction is not rapid enough, however, to prevent the presence in the circulation during the first hour after injection of maximal doses into immune animals, of enough morphin seriously or fatally to poison a non-immune animal. Therefore, it would seem that the increased power of destruction of morphin is not alone sufficient to account for high degrees of resistance, and with this means of defense there must be a decreased susceptibility on the part of the cells.

VITAL STATISTICS FOR 1908

Some interesting facts are to be found in the Census Bureau Bulletin 104, compiled by Dr. Cressy L. Wilbur, Chief Statistician of the Bureau of Vital Statistics, and transmitted by Director of the Census E. D. Durand to Secretary Nagel of the Department of Commerce and Labor.

The conclusion reached in the report is that the civilized world has reached an era of low mortality. The death-rate in the registration area in 1908 was 15.3 per thousand of population. This rate, Dr. Wilbur states, is probably the lowest that has ever occurred in the United States. The death-rate in the rural portion of the registration states is even lower, being only 14 per thousand, while that of the urban population was 16.5 per thousand, the latter including all cities having a population of over 8,000 in 1900. Such a death-rate would have been considered impossible, or at least remarkable, in former years. Nor are present conditions limited to the United States. In the same year the death-rate for England and Wales was only 14.7 per thousand and of London 15.8. The death-rate of England and Wales has been under 16 per thousand since 1893, with the single exception of 1904, when it was 16.2.

The total number of deaths reported in the registration area for 1908 was 691,574, or only 4,540 more than the number of deaths reported for 1907, although the registration area for 1908 was increased by the addition of Washington and Wisconsin. The year 1908 must, therefore, be regarded as one of extremely low mortality throughout the United States, so far as can be determined from available data. It was marked by a general absence of severe epidemics, as well as of unusual mortality from other causes.

Comparison of deaths by sexes shows that females contributed a slightly larger proportion of deaths in 1908 than in 1907, the percentage being 45.7 of female mortality and 54.3 of male mortality. Classified according to age, the returns for 1908 show a slightly increased percentage of deaths of infants under one year, but the ratios for the individual years from 1 to 4 are the same as in 1907. A very close correspondence appears in the mortality rate of the five-year age periods from 5 to 50, while the showing for 1908 for the age periods from 15 to 49 is slightly more favorable than in 1907. Nearly one-fifth of all deaths for the year were in infants under one year of age, and over one-fourth of all deaths occurred in children under 5. One-fourth of all deaths registered were those of persons born outside of the United States. This, however, does not necessarily indicate a lower death-rate among native-born Americans, but is partly due to the fact that the states having the largest proportion of native-born Americans are those in which it is the most difficult to secure the passage of effective registration laws; in other words, it would seem that the larger the proportion of native-born American citizens the more difficult it is to pass and enforce a vital statistics law.

Comparison of the year's record by months shows that the highest death-rate occurred in January with 67,763 deaths, while the minimum death-rate occurred in June with 49,701 deaths. Comparison by states shows variation from 18.4 per thousand for California to 10.1 for South Dakota. With the exception of South Dakota, all the registration states show a lower death-rate for

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[2] Jour. de physiol. et de path. gén., 1907, ix, No. 5.
[3] Arch. f. exper. Pathol. u. Pharmakol., lix, 227.

1908 than for 1907, the death-rate for 1908 being in several cases the lowest on record for the state. In Massachusetts the rate for 1908 (16.5) is the lowest on record, except 1904, in which it was 16.3. In thirty-five cities of 100,000 inhabitants or over, the 1908 death-rate was lower than in previous years in all except five.

The registration states for 1908 were California, Colorado, Connecticut, Indiana, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, South Dakota, Vermont, Washington and Wisconsin, to which should be added the District of Columbia and seventy-four registration cities in non-registration states, making an aggregate registration area for 1908 having a total estimated population of 45,028,767, or 51.8 per cent. of the total estimated population of the continental United States, which is estimated at 86,874,990. The addition of Ohio for 1909 has increased the percentage of population embraced in the registration area to 55.2. It is no credit to the profession, to the people or to our lawmakers that 44.8 per cent. of the population of the United States is still in no way represented in the mortality reports of the Census Bureau and that only eighteen states have as yet been admitted to the registration area. Not a southern state is as yet represented nor is there a state, north or south, in which there are any adequate birth-returns whatever. Such a lack of systematic and accurate methods for the collection and preservation of records on such important matter as births and deaths is no credit to the nation, and constant efforts should be exerted by the medical profession for the education of the public, and particularly of legislators, until the entire nation is included in the registration area.

THE ROCKEFELLER GIFT FOR THE EXTERMINATION OF THE HOOKWORM

One of the apparently insolvable problems of the South for generations past has been the "poor white." Historians have asserted that he was of the purest Anglo-Saxon blood—the same stock which rose to eminence in many a Southern and New England family of long lineage and high social standing. Yet his uselessness as a worker and his gradual, but apparently hopeless, degeneration have been generally admitted, though unexplained. In 1902 Dr. Charles W. Stiles, Chief of the Division of Zoology in the Hygienic Laboratory, announced that the poor white was not a wilful degenerate, but a helpless invalid, and that the cause of his condition was the *Uncinaria* or hookworm, an intestinal parasite, probably brought from Africa by slaves many generations ago. Estimates made by Dr. Stiles showing the wide-spread distribution of the disease and the enormous number of its victims (at least two million), while received with incredulity at first, have since been independently confirmed by other observers. This discovery is one of the greatest triumphs of medical laboratory work in this country, and is another illustration of the great value of laboratory researches in public health matters. If the Hygienic Laboratory in its entire existence had made no other contribution to medical knowledge, this work alone would more than justify its establishment.[1]

It would naturally be supposed that the conclusive evidence presented by Dr. Stiles, showing not only the cause but the remedy, at once would have resulted in vigorous efforts on the part of the government to eradicate this disease, the effects of which have played so important a part in the economic and social life of a large section of the country. Yet seven years have elapsed since both the cause and the remedy became known and no steps could be taken for the extermination of this parasite—fittingly named by Dr. Stiles *Necator americanus*—"the American murderer"—because there seems to be no law authorizing the expenditure of money by the national government for this purpose. How different would it have been had the lives and health of a few million horses, cattle or sheep been involved instead of merely a few million human beings! Nothing could better illustrate the need of a bureau of public health, authorized and equipped to carry out at least an aggressive campaign of education regarding the cause, prevalence and remedy of such diseases.

But where the state has failed the individual has come to the rescue. Mr. Rockefeller's magnificent gift of one million dollars to combat hookworm disease in the South is characteristic of the times and of the man. In previous generations and ages, benevolent and charitably inclined persons gave money for the establishment of hospitals, asylums and institutions for the treatment of the individual. The charity of the middle ages as well as that of the modern civilized world until recently consisted primarily in relieving the sufferer without regard to the conditions or causes underlying and responsible for his disease or misfortune. The plagues of the middle ages were accepted as visitations of God, as scourges inflicted by the Almighty on a sinful world. They were not to be avoided or prevented, and the charitably inclined could only hope to relieve a few of the victims. To-day the ravages of disease are recognized as due to the ignorance or carelessness of human beings, to be controlled, and if possible suppressed, by education and care. It is significant and characteristic that an American business man, successful above all others in organizing gigantic mercantile machinery of worldwide scope, should be dissatisfied with palliative methods of relief which deal with the accidental and symptomatic, rather than with the essential and causative factors. This gift is not the result of a sporadic or accidental impulse. It is in harmony with the modern spirit to regard the problem from the standpoint of society rather than that of the individual, and to seek to abolish disease as a factor in the social equation, rather than merely to relieve the accidental victim. The diversion of this vast sum from private means to public usefulness is also significant and gives promise of the development of a spirit of new philanthropy.

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[1] An editorial in the *Times Dispatch*, Richmond, Va., is worth quoting in this connection:

"In all the annals of American science there has been no more striking tribute to the work of a single man than that paid by Mr. Rockefeller in his gift for the extermination of the hookworm disease. The oil king's donation was as much an honor to Dr. Charles Wardell Stiles as it was a credit to the giver. When Dr. Stiles began his study of hookworm, almost eight years ago, he had only a theory on which to work. He had no predecessors; he had few sympathizers. He had only the hypothesis that a disease which had appeared in Europe might also be found in America. At a time when his faith almost failed him he found the parasite, and observed and studied its dire effects. Enfeebled bodies, dwarfed minds, chronic debility and acute physical maladies proved the melancholy vindication of his theory. The ridicule which Dr. Stiles' discoveries received at the outset now seems itself ridiculous. The idea of a germ of laziness could not at first be assimilated by the public mind. The hookworm was soon a subject of popular jest, and its finder became the butt of many dull jokes. But public disbelief and contempt only spurred Stiles to repeat his experiments and to stand on his discoveries. If any lingering doubt remained as to the accuracy of his observations, that doubt is banished by the confidence of the board named by Mr. Rockefeller. When William H. Welch and Simon Flexner, America's greatest pathologists, lend their support to a campaign against the hookworm, popular support must follow. Their approval is the seal of scientific authority."

As far as the medical profession is concerned, there can be but one feeling regarding Mr. Rockefeller's gift, that of gratitude for his generosity mingled with admiration for the insight and sagacity of the business man who could so clearly see the necessity of striking at the root of the evil. That the money will be wisely and effectively used is guaranteed by the character of the men composing the commission, as well as by the positive demonstration of the curability of the disease. The establishment and endowment of the Commission on Hookworm Disease will do much to arouse interest in public health matters in this country, since it is well known that Mr. Rockefeller exercises the same discriminating care in benevolent and educational contributions that he does in his private business affairs. The fact that he considers the present situation so urgent as to justify the expenditure within five years of a million dollars should furnish food for serious reflection to those responsible for public health legislation. Great sanitary problems, involving the efficiency, health and lives of millions of people, are certainly proper subjects for consideration by the state, yet there is to-day no law authorizing the national government to do such work as Mr. Rockefeller has undertaken personally. The country is to be congratulated that it has private citizens who can undertake a work of such magnitude, yet it is not to our credit as a nation that such crusades against disease must be financed by individuals. It should not be necessary for the individual to do the work of the nation.

BRITISH NEWSPAPERS AND THE NOSTRUM BUSINESS

The British Medical Association has recently issued a small book entitled "Secret Remedies," which contains the results of analyses made by the association of the nostrums most widely advertised in the British press. In many respects it is similar to the booklet that The Journal has been getting out for some years past—the Propaganda for Reform in Proprietary Medicines. The British book differs from the Propaganda in that it deals exclusively with the so-called "patent medicines"—the "ethical" nostrums not being considered. To increase the British public's knowledge of the "patent medicine" evil, "Secret Remedies" is advertised and sold to the public. When the advertisement was offered to some of the large London dailies and weeklies they promptly refused it. As the book is not only of general interest, but of distinct educational value, the newspapers as "public educators" might reasonably have been expected not only to carry the paid advertisement of it, but also to have reviewed the work at length for the benefit of their readers. It is evident, however, that the same evil influence which the Proprietary Association of America wields over the American press is exerted by its British counterpart, the Proprietary Articles Trades Association, over the newspapers of the United Kingdom. The "patent medicine" men across the water, like their brethren on this side, have seen the handwriting on the wall and they may be expected to employ the same tactics to stem the tide of popular disapproval that have been used in this country. As to the attitude of the press we cannot do better than quote the closing words of our British contemporary: "Advertisement, bold and free and mendacious, is the motive power in the nostrum business, and the refusal of certain newspapers even to insert an advertisement of a book telling the public the truth about the best known of them is disquieting evidence of the kind of reception which any proposals for legislation to control a trade, which is really nothing short of fraudulent, is likely to meet from a large section of the press."

Medical News

ARKANSAS

Medical Society Incorporates.—The Pulaski County Medical Society was incorporated October 19 at Little Rock, on the petition of Drs. Edwin P. Bledsoe and Orange K. Judd.

Medical School Opens.—The Medical Department of the University of Arkansas, Little Rock, opened for its annual session September 30. Dr. Morgan Smith delivered the principal address.

Personal.—Dr. Caleb E. Witt, Little Rock, has been appointed medical director of the People's Health and Accident Insurance Company, vice Dr. Burley C. Bain, who remains as secretary of the board.——Dr. James C. Weld has been elected president of the Stuttgart Board of Health.

State Sanatorium.—By unanimous vote the State Sanatorium Board has chosen Booneville, Yell county, as the location for the proposed sanatorium. The offer of Booneville includes the gift of 1,000 acres of land, the construction of a macadam pike from the site three miles to the station in Booneville, the sinking of wells for water supply, and the construction of a bridge over the stream between the site and the city.

CALIFORNIA

Antituberculosis Organization.—Permanent organization was effected by the Alameda Antituberculosis Society, October 15, with the following physicians as officers: Dr. Weston O. Smith, Alameda, vice-president, and Dr. James K. Hamilton, Alameda, a trustee.

Sanatorium Not Destroyed.—The report that Burke's Sanatorium, near Santa Rosa, was completely destroyed by fire last month is incorrect, as only thirteen tents used by patients during the summer months and a cottage occupied by a member of the attending staff were destroyed. The main building was in no way damaged.

Hospital News.—The Board of Supervisors of Contra Costa county has set aside $25,000 for the construction of the new county hospital.——On November 6, the cornerstone of the new San Francisco County Hospital, which when completed will have cost about $2,000,000, was laid with appropriate ceremonies.

Personal.—Dr. Julian J. Benton has been reappointed health officer of Berkeley.——Drs. Clark J. Burnham, Robert Hector, and George F. Reinhardt are the medical members of the newly appointed board of health of Berkeley, and Dr. Reinhardt has been elected president.——Dr. Julius C. Egeberg has been appointed assistant surgeon of the Central Emergency Hospital, San Francisco, vice Dr. Charles B. Pinkham, promoted.——Dr. Edouard S. Loizeaux, Patton, for several years a member of the staff of the Southern California State Hospital, has resigned to accept the position of city bacteriologist of Sacramento.——Dr. Lulu H. Peters, Los Angeles, has been placed in charge of the pathologic laboratory of the Los Angeles County Hospital.

GEORGIA

Personal.—Dr. William J. Blalock, Atlanta, has been elected president of the Fulton National Bank.——Dr. T. M. Greene has been elected medical director of the State Sanatorium, and Dr. W. J. Cranston, Augusta, has been elected a member of the staff.——Dr. Odom O. Fanning, Atlanta, has been elected superintendent of the Fulton county almshouse.——Dr Mark H. Blandford has been appointed city physician of Columbus.——Dr. Charles Pelham Ward, Atlanta, sustained a serious injury of the eye October 8.——Dr. Joseph W. Duguid has been selected as city physician of Macon, vice Dr. Edward D. Hope.

Meetings of Physicians.—The members of the Ocmulgee Medical Association and the Eleventh Congressional District, held a joint session at McRae, October 19, organized the Eleventh District Medical Association, and elected the following officers: President, Dr. Jefferson D. Herrman, Eastman; vice-presidents, Drs. Micollins N. Stow, Jesup, and Wade H. Born, McRae; secretary-treasurer, Dr. William E. Miller, Eastman; and censors, Drs. James M. Smith, Valdosta, Benjamin M. Kennon, McRae, and George W. Blanton, Brunswick. The next meeting will be held June 3, 1910, at Brunswick.——At the annual meeting of the Ocmulgee County Medical Association, held in McRae, October 19, Dr. Nathaniel P. Jelks, Hawkinsville, was elected president; Dr. Benjamin M. Kennon, McRae, vice-president; and Dr. J. Cox Wall, Eastman, secretary-treasurer.

ILLINOIS

Examination for Chief of Staff.—Cook County Civil Service Commission began an examination October 28 to fill the position of chief of the medical staff at the Cook County Institutions, Dunning. Sixteen appeared to take the examination, of whom twelve were from Illinois.

Acquitted of Malpractice. In the case brought by Mr. Garner, Effingham, against Dr. Charles F. Burkhardt, in which $5,000 damages was claimed for alleged malpractice in the treatment of an injured elbow-joint for the son of the plaintiff, the jury on October 28, returned a verdict exonerating the defendant.

Annual Meeting of Western Illinois Physicians.—The annual meeting of the Western Illinois District Medical Society was held in Quincy, October 29, under the presidency of Dr. John W. Adams, Carrollton. The following officers were elected: President, Dr. John H. Rice, Quincy; vice-presidents, Drs. Waldo Fisher, Alton, and John G. Franken, Chandlerville; secretary-treasurer, Dr. William P. Duncan, Jacksonville, and censors, Drs. Robert J. Christie, Quincy, Luther J. Harvey, Griggsville, and Levin H. A. Nickerson, Quincy. The next meeting will be held in October, 1910, at Alton.

Personal.—The trustees of Lincoln State School and Colony have provided for the establishment of a department of clinical psychology in the State Institution for the Feeble-Minded, to be under the care of Dr. Edmund B. Huey.——Dr. Edward Bowe has succeeded Dr. Frank P. Norbury as superintendent of Maplewood Sanatorium, Jacksonville, and Dr. Elmer L. Crouch, late first assistant physician at the Jacksonville State Hospital, has been appointed resident physician and superintendent of the sanatorium.——Dr. Albert Purcell, Streator, has been appointed division surgeon of the Chicago, Ottawa and Peoria Railroad.——Dr. John B. Shaw, Joliet, has sold his home and will locate in Montana.——Dr. Frank G. Crowell, Rochelle, is ill at the home of his brother in Pawpaw, with acute kidney disease.——Dr. Guy G. Dowdall, Clinton, has disposed of his practice and property to Dr. P. J. Gilbey, East St. Louis, and will move to Chicago.—— Dr. Alsephus T. Robertson, Ashmore, who has been seriously ill, is reported to be improving.——Dr. George S. Edmonson, Clinton, has been appointed district surgeon of the Illinois Central, vice Dr. Guy G. Dowdall.

Chicago

Fortune Teller Fined.—Mrs. E. Harrison, a fortune-teller on Milwaukee avenue, charged by the State Board of Health with practicing medicine without a license, is said to have been found guilty and fined $100 and costs.

Visitors Discuss Brain Tumors.—The meeting of the Chicago Medical Society, October 27, was devoted to a symposium on tumors of the brain, their diagnosis, and the operative measures for their removal. Drs. William G. Spiller, of the University of Pennsylvania, Philadelphia, and Harvey Cushing, Johns Hopkins University, Baltimore, were the guests of the evening and led the symposium.

Money for Charities.—The concert for the benefit of the German Hospital of Chicago, given October 24, enriched that charity to the extent of more than $9,000.——The net receipts of Tag Day, October 16, were $40,167, which are to be divided among sixteen charities.——The Jewish Consumptive Relief Society realized more than $4,000 from its annual ball held at the First Regiment Armory, October 31.

Fined for Malpractice.—Edward R. Hibbard, Oak Park, formerly president of various medical institutes, who had previously been convicted of having used the mails to defraud, and sentenced to two years in the house of correction, and in whose case the United States Circuit Court of Appeals refused an order for a new trial, was taken before Judge Landis, October 26, and told that if he would plead guilty a fine would be imposed. He pleaded guilty, was fined $1,500, and paid the fine.

Contagious Disease Situation.—The chief of quarantine and disinfection of the department of health comments in the current issue of the *Bulletin* on the contagious disease situation. In less than two months the total number of cases of diphtheria and scarlet fever has trebled. The causes responsible for this are badly ventilated houses and association of the sick with the well. To check the further advance of these diseases, the department gives the following advice:

1. Keep your windows open all the year around; don't be afraid of fresh air and sunshine; you have no better friends and the germs have no worse enemies.
2. Allow no dust, dampness or dirt in your house.
3. If your child shows any suspicious signs of illness keep it out of school and send for the doctor immediately. Delay is dangerous.
4. If it proves to be a case of contagious disease you must strictly isolate it, for in this instance there is danger in numbers.
5. Don't attempt to conceal contagious disease. In doing so you are cheating yourself of the help and protection that the community offers you and such actions may result in nothing short of murder.
6. If you are not able to properly care for the patient at home send him to the hospital, where the best treatment and care is given and no charge made.

INDIANA

District Society Meeting.—At the fourth annual meeting of the Eleventh District Medical Society, held in Huntington, October 21, Dr. William A. Fankboner, Marion, was elected president, and Dr. James L. Gilbert, Logansport, secretary-treasurer. The next meeting of the association will be held in Delphi.

Personal.—Dr. George W. Kirby, Millersburg, expects to sail for Europe November 17.——Dr. Robert Griffis, Middletown, was stricken with paralysis, October 13.——Dr. Laughlin O'Neal, Somerset, fell recently and sustained serious injuries of the head.——Dr. John I. Metts, Ossian, had a cerebral hemorrhage September 27, and is in a critical condition.——Dr. John D. Nichols, Indianapolis, has been elected supreme medical examiner of the Knights and Ladies of Honor.

August Mortality.—During August there were 3,164 deaths reported, equivalent to an annual mortality of 13.6 per 1,000. Of these, 575, or 19.2 per cent. of the total, were under 1 year of age, and 838, or 28 per cent. of the total, were 65 years old or over. The central section of the state shows the highest death rate for the month, and also shows the highest rate from smallpox, pneumonia, cancer, and violence; the southern section of the state shows the highest death rate from typhoid fever, diphtheria, and whooping cough.

KENTUCKY

Personal.—Dr. John Edwin Hayes, Louisville, is recovering from an operation for appendicitis, performed at St. Joseph's Infirmary, October 3.——Dr. Roland H. C. Rhea, Morganfield, announces his retirement from practice October 1.——Dr. John A. Lewis, Georgetown, who has been confined to the house for several weeks on account of a fall, is convalescent.

Antituberculosis Society Organized.—The Kentucky Association for the Prevention and Relief of Tuberculosis was organized at Lexington, September 28, and the following officers were elected: President, C. L. Adler, Lexington; vice-presidents, Mrs. Desha Breckenridge, Lexington; D. H. Kellar, Frankfort; Mrs. Charles Dallam, Henderson; E. T. Frank, Owensboro; and Mrs. Benjamin L. Banks, Richmond; directors, Bernard Flexner, Louisville; Dr. George P. Sprague, Lexington; James A. Scott, Frankfort; Miss Harriet Anderson, Louisville; Mrs. Lafon Riker, Harrodsburg; Dr. Dunning S. Wilson, Louisville; Dr. William R. Thompson, Mount Sterling; Dr. Jacob Glahn, Owensboro; and Thomas Johnson, Lexington.

LOUISIANA

Quarantine Site Acquired.—The United States Government has accepted the proposition of the State Board of Health and the governor for transfer of the quarantine property, embracing about 1,500 acres of land with improvements, to the federal government, for a consideration of $100,000. An annex and hospital quarters will be built at the quarantine station and better facilities will also be provided for the inspectors.

State Board Matters.—At the special session of the State Board of Health, October 14, it was decided to recall Dr. Joseph A. Estopinal from Havana and to assign him as assistant to Dr. Sidney G. Porter, state medical inspector.——Dr. Porter announces that he will inaugurate a campaign for the eradication of spitting in places of amusement, in railway stations, on floors, platforms or any other place around railway stations, street cars, public buildings, stores, sidewalks or street crossings.——The chairman of the finance committee reported a balance on hand of more than $10,000.——On motion of Dr. Leadbetter, $600 a year was appropriated for a monthly bulletin or journal to be under the auspices of the board, and to be sent to every physician and health officer in the state.——The board endorsed the resolutions of the Orleans Parish Medical Association, eliminating the word "allopath" and substituting therefor "regular physician."——The board passed strong resolutions denouncing as false and acrimonious certain statements made by Dr. Aristides Agramonte, Havana, relating to yellow fever and sanitary conditions in the State of Louisiana and City of New Orleans.

MARYLAND

Pure Food Argument.—Dr. Nathan R. Garter addressed the Confederated Civic Improvement and Protective associations of Baltimore county at Catonsville, October 18, and advocated a stronger pure food law. The main defects in the Maryland laws are that they are not definite and the appropriation for their execution has never been increased since their original passage. Consequently Maryland has become the dumping-ground for inferior and unwholesome foodstuffs.

The Tuberculosis Conflict.—At the annual meeting, October 22, of the Social Service League of Montgomery county, organized about a year ago to combat tuberculosis and to provide care and treatment for the poor of the county afflicted with the disease, Dr. William L. Lewis, Kensington, was elected president, and Drs. Horace B. Haddox, Gaithersburg, William T. Pratt, Rockville, and George M. Boyer, New Windsor, were elected directors.

Baltimore

University Medical Association.—At the annual meeting of the University of Maryland Medical Association, October 19, Dr. John T. O'Mara was elected president; Dr. Charles W. McElfresh, vice-president, and Dr. Salvatore DeMarco, secretary.

Gets Head Nurse from Baltimore.—Miss Nancy P. Ellicott, who has done noteworthy work in connection with the medical research department of Johns Hopkins University, has been appointed superintendent of the new Rockefeller Hospital now in course of construction in connection with the Rockefeller Institution for Medical Research, New York City.

Plea for Hospital.—Dr. William H. Welch made a strong plea before the board of estimates for the appropriation asked for by Health Commissioner Bosley for the Sydenham Hospital for Contagious Diseases. He asked for $30,000 to be used in the construction of another hospital ward building, also an amount sufficient for a wing for the administration building, and $3,000 to build a road to the hospital. He believes that there should be coordination between the Tuberculosis Hospital, Sydenham Hospital, and the City Hospital, and that a single heating and lighting plant should be sufficient for the three. He attributes the diminution of diphtheria in the city and the recent stamping out of an outbreak of the disease at Kelso Children's Home to the effectiveness of Sydenham Hospital.

MICHIGAN

Change in Medical Course.—In the opening of the medical course of the University of Michigan, a change is made from a four to a six-years course in this department. Heretofore the six-years course has been optional, but from this time on it is made obligatory.

Gift to Sanitarium.—The bequest left to Battle Creek Sanitarium by Charles E. Wood, a former patient, consists of stocks, bonds and real estate, which are expected to realize more than $500,000. This will be expended, in part at least, in the founding of a memorial sanitarium at Atlantic City, N. J.

MINNESOTA

Aid for Cripples.—The University of Minnesota Dispensary has established a department of orthopedic surgery, which was opened September 27. An obstetric department is also to be maintained by the dispensary.

Fight Tuberculosis.—Mayor Lawler of St. Paul has pledged the members of the council to place on the budget for next year any reasonable amount asked for by the antituberculosis committee for its hospital. He also announces his willingness to vote for an appropriation of $50,000 next year for a hospital.——The Antituberculosis Hospital near Bass Lake, which will accommodate twenty patients, is now almost completed. ——The capacity of the State Sanatorium for Consumptives, Walker, will be more than doubled before the end of the year by the completion of six cottages, erected at a cost of $10,000. Two of the cottages will have accommodation for sixteen, and the other four for eight patients each.——The commissioners of Ramsey county have passed the 1910 budget, which includes an additional appropriation of $50,000 to the hospital fund for the care of tuberculosis patients.

MISSOURI

Personal.—Dr. Edwin H. Schorer, assistant professor of parasitology and hygiene in the University of Missouri, Columbia, has resigned to accept the appointment of professor of bacteriology and pathology in the University of Kansas, Lawrence.——Dr. W. A. Nixon, Kansas City, has returned after a stay of more than a year in North Labrador, where he has been investigating the health conditions of the Eskimos.

Dispensaries Opened.—A free tuberculosis dispensary was opened in the Associated Charities Building, Kansas City, September 22. In addition to instructions and advice in the proper methods of care for themselves, Dr. Charles B. Irwin of the health department has provided each patient with cuspidor, pocket flask, and porch cup.——The new tuberculosis pavilion on the grounds of the old Kansas City General Hospital, was presented to the city October 16, by the Jackson County Society for the Relief and Prevention of Tuberculosis. The pavilion was built at the personal expense of William Volker, and will accommodate fifteen patients. Dr. John G. Hayden is physician-in-charge.——The Kansas City Postgraduate Medical College has established a free clinic for nervous diseases every Tuesday, Thursday and Saturday morning.

St. Louis

To Aid Baptist Sanitarium.—Mr. A. D. Brown has given $100,000 to the building fund for the Missouri Baptist's Sanitarium, contingent on the raising of $50,000 additional.

Staff Election.—The consulting staff of St. Louis Maternity Hospital, at its annual meeting, October 8, elected Dr. Frank Hinchey, president; Dr. William H. Stauffer, vice-president; and Dr. Davis Forster, secretary.

NEW JERSEY

Personal.—Dr. and Mrs. Edmund L. B. Godfrey, Camden, will spend the winter in southern California.——Dr. Charles M. Gray has resigned as a member of the Vineland Borough Board of Health.——Drs. John W. Reid, Eugene H. Goldberg, Alfred A. Muller, Walter R. Reick, Morris W. Clouse and Widner A. Doremus have been appointed medical inspectors of schools of Kearny.——Dr. Meyer J. Jedel, Newark, has been appointed physician for the tenth district, vice Dr. William P. Lamb, Newark, resigned.

New Jersey Joins Tuberculosis Crusade. At a meeting, October 21, in the Taylor Opera-House, presided over by Governor Fort, New Jersey began a crusade to fix the responsibility for the spread of tuberculosis in her borders and to find a correct method for stamping it out in the commonwealth Dr. William H. Welch, Philadelphia, spoke on the general subject of tuberculosis, and Dr. Henry B. Favill, Chicago, discussed the question, "On What Ground May the States Assume the Direction of Public Health." Homer Folks, secretary of the New York State Charities Aid Association, spoke on the "Value of Hospitals," and the other speakers were Dr. Richard Cabot, of Boston; Dr. William A. Evans, of Chicago; Senator Thomas Frelinghuysen, of New Jersey; and Senator Ernest Ackerman, of Union county. Last winter the legislature appropriated $1,500 for lectures and public meetings by experts in the treatment of this dread disease.——The Soho section of Belleville has been selected as the site for the proposed Essex County Tuberculosis Sanatorium.

NEW YORK

Personal.—Dr. Matthew R. Carson, Canandaigua, was honored by his fellow-members of the Ontario County Medical Society, October 12, at the annual meeting in celebration of the completion of his half-century of membership. Dr. Albert Vanderveer, Albany, was the guest of honor, and gave an address on the history of surgery.——Dr. Robert King, Ogdensburg, has been appointed junior assistant physician of the St. Lawrence State Hospital.

Will Help in Tuberculosis Fight.—Benjamin B. Odell, Jr., has filed a certificate of incorporation of the Newburgh Tuberculosis Sanatorium and Camp, which he intends to establish at a personal expense of $75,000, for the cure and systematic treatment of tuberculosis. This application will probably be granted without the customary hearing, as the State Board of Charities recognized the great usefulness of such an institution.——At a meeting, held October 12, in Dundee, an auxiliary organization of the State Charities Aid Association was organized, having for its objects adequate hospital care for advanced cases of tuberculosis; laboratory facilities in the county for the examination of tuberculous sputum; the aftercare of recorded or arrested cases; enforcement of the law requiring the report of cases of tuberculosis to the health officer; the relief of families of patients taking treatment; and the adoption of local sanitary regulations regarding incipient cases of tuberculosis.

New York City

The Herter Lectures.—The Herter Lectures at the University and Bellevue Hospital Medical College will be given this year by Prof. Dr. Otto Cohnheim of the University of Heidelberg on "Enzymes and Their Action." The lectures begin December 6 at 4 p. m. and continue daily throughout the week. Those interested are cordially invited to attend.

To Check Tuberculosis.—The board of estimates and apportionment has been requested by the representatives of various charitable, medical and civic organizations to urge an increase of $487,250 in the budget of the city, for the prevention and cure of tuberculosis, distributed as follows: Health, $372,660; education, $22,140; Bellevue and allied hospitals, $17,460; and charities, $75,000. The board has agreed to include an appropriation of $110,000 in the budget for 1910.

Mask for Street Sweepers.—A new sanitary mask to cover the lower part of the face with a gauze-like cover for the mouth and nostrils has been adopted by the department of street cleaning for the sweepers. It is exceedingly light and does not annoy the man who wears it, while it effectually prevents the breathing of germ-laden dust. The sweepers have always been more subject to infectious diseases than any other class of men in the department, the efficiency of the force being lessened by the number of days off that they are forced to take owing to illness, contracted undoubtedly in the course of their work. Consequently the matter is one of departmental economy as well as of plain humanity.

Graduate Course. Columbia University, College of Physicians and Surgeons, announces a graduate course, consisting of thirty laboratory demonstrations in the departments of physiology, pharmacology and bacteriology. The demonstrations will be held on Tuesdays, Thursdays and Saturdays from 3 to 5 p. m., during the months of November and December, and the first part of January. The course is intended to offer to physicians an opportunity to see demonstrated the more important and practical of the experiments of modern medical research, and thus to come into critical touch with the newer laboratory methods as applied at the bedside in both medicine and surgery. Further information may be obtained from Mr. E. K. Hayt, assistant registrar, 437 West Fifty ninth street

The Right of Autopsy in New York.—The question as to the circumstances under which a physician may properly perform an autopsy in New York has just arisen in a suit brought against two members of the staff of St. Joseph's Hospital, Far Rockaway, by the children of a deceased patient, who was treated by the defendants in that institution. The plaintiffs alleged that the autopsy was performed without their previous knowledge or consent. The law in this state declares that the right to dissect the dead body of a human being exists only in four classes of cases: (1) Those prescribed by special statutes; (2) whenever a coroner is authorized by law to hold an inquest on the body, so far as such coroner authorizes dissection for the purpose of the inquest and no further; (3) whenever and so far as the husband, wife or next of kin of the deceased, being charged by law with the duty of burial, may authorize dissection for the purpose of ascertaining the cause of death and no further; and (4) whenever any district attorney in the discharge of his official duties shall deem the exhumation and dissection of a dead body necessary in order to ascertain the cause of death. Any person who makes or causes or procures to be made any dissection of the body of a human being except by authority of the law or a permission given by the deceased, is deemed guilty of a misdemeanor. The case above referred to is the first in New York in which the right to maintain a civil action to recover damages for an illegal autopsy was distinctly and expressly asserted.

NORTH CAROLINA

Personal.—Dr. Minor R. Adams, Statesville, has been elected president of the Iredell County Antituberculosis Society.——Dr. Albert Houck, Statesville, has been elected third assistant, and Dr. Fonso B. Watkins, Concord, fourth assistant physician of the State Hospital for the Insane, Morganton, the latter position being vacated by the resignation of Dr. Edward M. Gayle, who has moved to Richmond, Va.

Additional Accommodation in State Hospital.—The State Hospital Commission in session at the capitol last week, perfected arrangements for the reception of additional patients in the new addition to the State Hospital for the Insane and also in the colony building for epileptics. About 600 patients will be added to the capacity of the institution. The commission meets in November at Goldsboro to consider the urgent necessity for additional accommodation for 200 at the colored insane hospital in that place.

Physician May Not Prescribe Liquor for Himself.—The judge in an inferior court in Greensboro, recently decided in the case of Dr. J. C. Waddy, a reputable colored physician, that a physician cannot legally prescribe liquor for himself, even if ill. Dr. Waddy was convicted of violating the state prohibition law. The case was appealed, and the adjudication of the higher court is watched for with much interest by the profession generally. Two other physicians were tried for alleged violation of the state prohibition law, in which one was charged with prescribing for patients "not actually professionally under their treatment." In each case the physician was acquitted.

OHIO

To Prevent Medicine Sampling.—A drastic ordinance has been drafted by the city council of Dayton, prohibiting the indiscriminate distribution of samples of medicine in the city.

Illness and Injury.—Dr. Thomas M. Moore, Willoughby, is reported to be ill in a Cleveland hospital with appendicitis.——Dr. Joseph H. Huntley, Lima, was seriously injured in a collision between his automobile and a freight train near Lima.

Damaged by Fire.—The Alliance City Hospital was badly damaged by fire October 17. The nineteen patients in the hospital were rescued with difficulty.——A fire in the dissecting room of the Western Reserve Medical College, Cleveland, October 17, was caused by the explosion of chemicals.

District Society Meeting.—At the annual meeting of the Tenth District Medical Association, held in Delaware, October 7, the following officers were elected: Dr. George W. Morehouse, Delaware, president; Drs. William H. Christopher, London, George S. Stein, Columbus, John W. Birk, Bucyrus, and Frank C. Larimore, Mount Vernon, vice presidents; and Dr. Fred Fletcher, Columbus, secretary-treasurer. The next meeting is to be held in Columbus.

Illegal Practitioners.—B. S. Slocum, a so-called "Hindoo Doctor" of Columbus, is said to have been sentenced on October 13, to imprisonment for sixty days in the workhouse and to pay a fine of $25 and costs, on the charge of the illegal practice of medicine.——In the case of E. E. Ellsworth, North Baltimore, said to have been recently convicted of the illegal practice of medicine, appeal motions were heard, the motion for a new trial was overruled, and the defendant was fined $50 and costs.——The State Board of Medical Examination and Registration, on October 5, is said to have revoked the license of Dr. James N. Nelson, Alliance, for the alleged sale of cocain, and that of Dr James M. Lubergh, Miamisburg, for the performance of an illegal operation.

State Sanatorium Opens. The new State Sanatorium for Tuberculosis near Mount Vernon, was formally opened, October 27, when the keys were turned over to the trustees by the governor. The principal address was delivered by Dr. William C. White, medical director of the Anti-Tuberculosis League of Pittsburg, Pa., on "Centralization in Tuberculosis Work." Patients were received beginning November 1. The institution has at present accommodation for fifty patients, and this will be increased as construction work under way and planned progresses. Patients who are able will be required to pay about $5 a week, and those who are able to work will be allowed to support themselves. Dr. Clayton B. Conwell, Cincinnati, is superintendent of the institution.——A Tri-County Tuberculosis Hospital is to be built by the commissioners of Lorain, Erie and Huron counties.

Physician in Every School.—A bill has been prepared and approved by the state board, to be presented to the next session of the legislature, which has for its ultimate purpose the stationing of a physician in every school who will be as much a part of the makeup of the school system as is the principal and teachers. The law contemplates the examination of each child in the public schools by the teacher for sight, hearing and breathing. It further provides that the board of education of each city shall, and of each village and township may, appoint one or more physicians, to whom shall be referred every pupil returning to school after having been absent because of sickness, and every child who shows signs of ill-health or appears to be suffering from a communicable disease. The school physician shall also give lectures and instructions to teachers on hygiene and the recognition of communicable diseases.

Cincinnati

New Cottage at Fresh Air Farm.—The Fresh Air Fund has received $2.000 from Miss Mary Hanna, with which to build a cottage for convalescents at the Fresh Air Farm, Terrace Park.

Attempt to Coordinate Antituberculosis Associations.—The following physicians have been appointed to attempt to correlate and coordinate the different institutions and associations that are waging a fight against tuberculosis in the city: Drs. George A. Fackler, Otto P. Geier, Aka B. Isham, David I. Wolfstein and William E. Kiely.

Alumni Meet.—The local chapter of the Alumni Association of Miami Medical College met October 1, and elected the following officers: President, Dr. Franklin H. Lamb; vice-presidents, Drs. Arthur L. Knight, William C. Harris, William C. Schmidter, and Raymond E. Gaston; secretary, Dr. William C. Herman; and treasurer, Dr. Browerman. Dr. B. Merrill Ricketts read a paper on the "Sterilization of Criminals."

PENNSYLVANIA

Board of Health Resigns.—At the meeting of the Board of Health of Lewistown, October 26, the members of the board resigned. This action was taken, it is said, because councils ignored the recommendations of the board looking to the health of the public.

Post-Graduate Club Election.—The Post-Graduate Medical Club of Franklin at its annual meeting, October 14, elected Dr. John B. Glenn, president; Dr. John R. Borland, vice-president; Dr. Charles H. Brown, secretary; Dr. Thomas A. Irwin, assistant secretary, and Dr. Louis E. McBride, treasurer.

Personal.—Dr. Charles E. Ziegler has been appointed professor of obstetrics in the University of Pittsburg.——S. P. Light, Lebanon, has been appointed by the governor trustee of the State Asylum for the Chronic Insane, Wernersville, vice J. B. Kremer, resigned.——Dr. F. R. McGrew, Carnegie, was seriously injured in a collision between his automobile and a Pennsylvania train, October 28.

Philadelphia

Transactions Free.—An announcement has been made that physicians can obtain copies of the bound proceedings of the Philadelphia County Medical Society, without cost, by applying at once to the janitor of the College of Physicians at the old building, Locust and Thirteenth streets.

Memorial to Dr. Huger.—On November 4, Dr. John Doran presented a bronze medallion to the Medical School of the University of Pennsylvania to commemorate the attempt of Dr. Francis Kinloch Huger to rescue Marquis de Lafayette from the fortress of Almretz. Dr. Huger graduated from the university in 1797.

College of Physicians.—Many eminent men have accepted invitations to the dedicatory exercises of the new building of the College of Physicians to be held November 10. The committee of arrangements is composed of Drs. Charles H. Frazier, George E. de Schweinitz, James Tyson, Thomas M. Tyson and George W. Norris. Mr. Andrew Carnegie, who contributed $100.000 toward the erection of the new building, will be the guest of the college. Many national and local societies have chosen delegates to represent them at the dedication.

Free Medical Libraries.—At the business meeting on October 20, of the Philadelphia County Medical Society, a special committee was named to investigate the practicability of the county society placing in certain branches of the Free Library of Philadelphia periodicals and medical books for the use of physicians in general. The committee consists of Dr. James M. Anders, chairman, and Drs. Henry Leffmann, Abram B. Hirsh, Albert M. Eaton, Herman B. Allyn, Edward E. Montgomery, and Frances R. Packard, and is expected to report to the society in January.

Building for Doctors.—Plans are being prepared for the construction of a twelve-story physicians' office building, to be located in the center of the city. The building is to be operated on the cooperative plan. The suites of offices will have from two to six rooms. The estimated cost of construction is $500.000. The plans provide for a brick, stone and terracotta building of hospital construction, thoroughly fireproof, with a frontage of 100 feet and a depth of 130 feet. Two hundred offices will be arranged for the exclusive use of physicians, dentists and the allied professions. The upper floor will contain a large auditorium for society meetings and entertainments, and the ground floor will be occupied by a drugstore and other stores.

Care of Babies.—A crusade to teach poor mothers how to feed their infants has been launched by the Philadelphia Alliance for the Care of Babies, which will hold free lectures and clinics in the public schools next winter. The alliance, which is under the auspices of the Department of Health and Charity, the public schools, the Mothers' Congress and the League of Home and School Associations, has been divided into ward committees, and besides holding public meetings will carry its work into the homes. Members will be furnished with the birth records of their districts, and will call on mothers and give them personal instruction in the care of their children. The evils of bottle feeding will be explained and attention will be called to the enormous percentage of deaths among artificially-fed children. The alliance has procured the cooperation of physicians of the city who will give talks on child hygiene in the schoolhouses.

GENERAL NEWS AND COMMENT

Decrease in Tuberculosis.—Cressy L. Wilbur, chief statistician of the division of vital statistics of the United States Census Bureau, in a bulletin issued October 21, reports a decrease in the deaths from tuberculosis for 1908. The rate in 1907 was 183.6 per 100.000 population and in 1908, 173.9 per 100.000.

New England Jefferson Graduates Organize.—Graduates of Jefferson Medical College living in New England met September 29 at Springfield and organized the Springfield Branch of the New England Association of Jefferson Graduates and elected Dr. Albert R. Rice, president; Dr. Robert P. M. Ames, secretary; Dr. William G. Craig, financial secretary, and Dr. Payson J. Flagg, treasurer.

Work for Public Health.—The American Public Health Association, at its thirty-seventh annual meeting held in Richmond, Va., October 19-22, elected the following officers: President, Dr. Charles O. Probst, Columbus, Ohio; vice-presidents, Drs. Charles A. Hodgetts, Toronto, Ont., Ernest C. Levy, Richmond, Va., and Frederico Torralbas, Havana, Cuba; secretary, Dr. William C. Woodward, Washington, D. C.; treasurer, Dr. Frank W. Wright, New Haven, Conn.; and executive committee, Drs. Eugene Buehler, Indianapolis, Marshall L. Price and Cressy L. Wilbur, Washington, D. C. It was decided to hold the next annual meeting in Milwaukee.

Boston to Have International Laryngology Congress.—The permanent international committee representing the laryngologists and rhinologists of the world has decided to organize the third international congress for laryngology and rhinology to convene during the same week and at the same place as the international congress for otology, either a few days before or after the latter. These congresses are to be held during the intervals between the international medical congresses; the designation of time and place is left to the otologists. Boston has been selected for the next gathering. Only one subject will be appointed for discussion at each sitting, with addresses on it by two speakers.

Meeting of Southern Physicians.—The annual meeting of the Southern Medical Association, whose territory includes the states of Tennessee, Alabama, Georgia, Florida, Louisiana and Mississippi, will be held in New Orleans November 9-11, under the presidency of Dr. Giles C. Savage, Nashville, Tenn. The work of the association is divided into sections on medicine, surgery and ophthalmology, presided over, respectively, by Drs. John A. Witherspoon, Nashville, Tenn.; Francis G. DuBose, Selma, Ala., and Alexander W. Stirling, Atlanta, Ga. Dr. Edward M. Hummell, New Orleans, is chairman of the entertainment committee. The general meetings will be held in Hutchinson Memorial Hall, where the president's address and the annual oration by Dr. Isadore Dyer, dean of Tulane University Medical Department, will be delivered. The headquarters of the association will be Hotel Grunewald. Membership in a component medical society or association in any of the states mentioned and South Carolina or Kentucky, entitles to full membership in the association, on payment of the annual dues of $2.

Railway Surgeons Meet.—The third annual convention of the Association of Surgeons of the Chicago, Burlington and Quincy Railroad was held in Kansas City, Mo., October 14. The following officers were elected: President, Dr. Byron B. Davis, Omaha; vice-presidents, Drs. Charles E. Cook, Mendota, Ill., John M. Allen, Liberty, Mo., and John W. Freeman, Lead, S. D.; secretary, Dr. George F. Roehrig, Denver, and treasurer, Dr. John P. Savage, Sioux City, Iowa. The next year's meeting will be held in St. Paul.——At the eighteenth annual meeting of the Erie Railroad Surgeons' Association, held in New York City, October 7, Dr. Charles E. Sawyer, Marion, Ohio, was elected president.——The New York and New England Association of Railway Surgeons will hold its nineteenth annual meeting at the New York Academy of Medicine, 17 West Forty-third street, November 16 and 17, under the presidency of Dr. Jonathan M. Wainwright, Scranton, Pa. The symposium will be on "Causes of Railway Accidents Individualized," taking up construction, maintenance, operation, medicolegal features, injuries of the head and spine, and medical and surgical end-results and accidents. On the afternoon of the second day, a clinic is to be given the association at the Presbyterian Hospital by Dr. Joseph A. Blake.

FOREIGN

Acute Poliomyelitis in Germany.—This epidemic, which has been referred to by our Berlin correspondent in this and previous issues, is the first actual epidemic of the kind in Germany. It affects the northwestern province of Prussia, bordering on the Netherlands. Steiermark is also involved, a number of cases having occurred at Graz. A total of 450 cases, with 70 deaths, were reported up to the middle of October. G. Vieten of Hagen, the center of the epidemic, in Westphalia, describes the symptomatology, course, treatment and prophylaxis of the disease in the *Zeitschrift für aerztliche Fortbildung*, October 15, page 633, urging the necessity for compulsory notification of cases of the disease. This will permit isolation and disinfection, and by study of the cases in the hospitals it may be possible to discover the causal agent and means for effectual treatment. He also urges the necessity for legal regulations compelling the parents to permit autopsy in the fatal cases as the only means to obtain better insight into the processes of the disease.

LONDON LETTER

(From Our Regular Correspondent)

London, Oct. 23, 1909.

Relation of Scarlet Fever to Disease of Cows' Udder

The health committee of the London County Council has concluded an important inquiry into the causation of an outbreak of scarlet fever. The epidemic occurred last June and affected 400 persons in London and Surrey who had consumed milk supplied by a particular dairy company. The fact that scarlet fever may be milk-borne is now well recognized, and to account for this two hypotheses have been put forward either that the milk is infected by persons who have recently suffered from scarlet fever coming in contact with it, or it is infected by some condition of the cows. In several outbreaks infection from the former source was excluded, thus supporting the latter hypothesis. In 1882 the eminent hygienist, Sir William Power, investigated an outbreak which occurred in London, and suggested that as in the human female there is a connection between scarlatina and accidents of the puerperium, a similar connection might exist between the disease and some condition in cows which had recently calved. In 1895 he advanced his hypothesis a step farther when investigating the origin of an outbreak of scarlet fever in persons who had consumed milk from a farm at Hendon (a London suburb). The cows on this farm were found to be suffering from an eruption on the teats and udders, which has since been known as the "Hendon disease." Subsequently several outbreaks of scarlet fever have been traced to recently calved cows suffering from the "Hendon disease." In the present outbreak a minute investigation showed that the milk began to show infectious properties at the time that three recently calved cows were added to the herd. The calf of one of these cows died after being suckled for four or five days, and an eruption suggestive of the "Hendon disease" was present on the teats and udders of the cows.

Establishment of a Radium Factory in London

Lady Ramsay, the wife of the great scientist, Sir William Ramsay, has performed the ceremony of laying the foundation stone of a radium and uranium works of the British Radium Corporation which is to be built at Limehouse to treat pitchblende ore extracted from a Cornish mine. Sir William Ramsay delivered an interesting address, in which he traced the history of radium from the experiments of Becquerel and the Curies. A great difficulty to the therapeutic use of radium is its cost, which has increased since its discovery. At first it could be bought for $1.50 per milligram, now the price is $3.50. Sir William has discovered a process by which the time taken to extract radium from its ore will be considerably shortened—from some months to as many weeks. It is hoped that this will increase the present infinitesimal supply and bring radium within the reach of many physicians who would be glad to try it.

Education of the Medical Student

As has been stated in previous letters, the continual progress of medicine and its ancillary sciences is making greater and greater demands on the medical student, and the problem of his satisfactory education is becoming more and more difficult. In his presidential address delivered to the Medical Society of London, on "The Relation of Medicine to the Ancillary Sciences," Dr. Samuel West, physician to and lecturer at St. Bartholomew's Hospital, made some important pronouncements on the point. His great experience as a teacher and examiner has led him to the conclusion that the five years' curriculum (a comparatively recent extension of the older four years) is too short. With so much to do and so little time in which to do it, the medical teaching of the present day was an organized system of cramming. So much time was spent in preparing the student to be a physician that there was little or none left to make him one. In other words, so much time was spent on preliminaries that practical clinical work was scamped. As an examiner of different licensing bodies for many years, he had come to the conclusion that the general standard of practical work in the final examination had been steadily and progressively failing. If each student could add to his curriculum a year of residence in a hospital as a house-officer without an examination to work for, he would obtain what was lacking. Under the present system, instead of gaining practical experience in the wards while they were students, when mistakes did no harm and could be corrected, they had to gain experience later in practice where mistakes were serious to themselves and to their patients. The remedy was to cut down the curriculum until the work required was not more than could be accomplished by the average man in the time allotted.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Oct. 17, 1909.

Congress of Medical Officers of Public Health

The first congress of medical officers of the government was held here on October 15 and 16. There were about 600 persons present. The chief object of the congress was to fix a certain scale of remuneration for public health work. Naturally, also, scientific research was made the object of the transactions. The influence of the *Amtsärzte*, as the public health officers are called here, may be estimated if it is stated that the directors of all hospitals, the chiefs of all serum institutes, the medical inspectors of schools, all being appointed by the state, are *Amtsärzte*. Apart from the more sociologic papers read at the convention, there were some papers of more general medical interest. Thus Dr. von Kutschera spoke on the "Epidemiology of Cretinism." He has made the surprising observation that cretinism can be propagated by contact. He has examined the whole family of each subject studied, and in each case he was able to demonstrate personal contact between any two or more cases in a family. The paper was much commented on and discussed. Prof. Wagner von Jauregg, who has perhaps the greatest experience with cretinism and goiter in Europe, admitted the possibility of the explanation offered by the author. The congress resolved to institute exact researches into the possible contagiousness of exophthalmic goiter or any other forms of hypothyroidism and hyperthyroidism. The new Austrian bill on epidemic diseases was discussed by the congress. A special sanitation program for communities was approved by the majority and forwarded to the government; other recommendations fixed the payment of compensations to persons who were prevented by quarantine from earning their living. The exclusion of compulsory notification of measles, puerperal fever and varicella from the list of notifiable diseases was disapproved.

Much time was devoted to the discussion of "natural sudden death" and its legal importance. Professor Haberda said that a sudden natural death really never occurred in healthy persons. The victims of sudden death during life only appear to be healthy, but they are subjects of chronic nephritis, atheroma, of ulcus ventriculi, of aneurism, without symptoms of grave disease having appeared or warned them beforehand. If death happens soon after a meal, poisoning is often suggested, and in history several times deaths of eminent men were attributed to poison, when an examination would have shown a very obvious natural cause for the sudden termination of life. The psychic factor is very important. Deaths due to fright or joy are by no means known only in fiction, as syncope is one of the most frequent causes of sudden death. A paper was read by Dr. Jürntrait on the epidemic of poliomyelitis in Austria. The first cases were noticed in 1908 in Vienna, whence the disease spread to the other provinces of the empire. Most of the affected children were between 2 and 5 years old; the mortality was 12 per cent. In no instance could the schools be held responsible for an outbreak; the frequency of the disease diminished constantly after September, 1908, although the schools were then opened after the summer vacancy. Nevertheless, transmission by contact has been proved without a doubt. One of the most important results of the congress is the decision to institute regular classes of postgraduate study in legal medicine for the *Amtsärzte*. This branch of the duties of a health officer is so important that it deserves strictest attention.

Reforms Demanded by Hospital Staff

Once more the unsatisfactory remuneration and requirements of the members of the hospital staffs have been made the subject of controversy between the organization of medical men and the managing boards of the government hospitals. About a year ago certain reforms of the present system were demanded by the doctors, and a special committee was empowered by the government authorities to promise all reforms. As yet the promises have not been fulfilled. Therefore the union of hospital staff doctors has informed the managers of the hospitals that unless the grievances are set right by November 1, all members of the union, composing about 80 per cent. of all the house physicians and nearly all the juniors of the hospitals, will give notice on that day. This would mean a standstill of all hospital and charitable work except at the clinics, for the directors and assistants alone cannot deal with the amount of work that would be on their hands. The chief demands are: Clear division of rights and duties between medical staff and administrative staff; free board and lodging; minimum salary of $30 a month; insurance against accidents and against claims of damages by patients while employed in hospital; choice of positions; an annual vacation of four weeks on full pay. The controversy has aroused much comment on the part of the press and public, and sympathy rests with the doctors, who are fighting for conditions long ago gained in many branches of common life.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Oct. 14, 1909.

Personals

Professor Salkowski, the distinguished physiologic chemist and director of the chemical department in the pathologic institute here, has been appointed an honorary professor. This title is a distinction that is accorded in Prussia to professors of unusual worth.

In the daily and medical press the announcement was made that Prof. v. Pirquet, formerly privat-docent in Vienna, and now in Baltimore, would be called to Breslau as the successor of Professor Czerny, who as previously announced has assumed charge of the clinic for children in Strasburg. This statement is incorrect; neither the faculty nor the educational department has as yet taken up the question of the successor of Czerny.

Consultants and Practitioners

Practicing physicians have frequently had the unpleasant experience that patients whom they have sent to a specialist for a single treatment or for diagnosis were retained by the consultant for further advice without the knowledge of the family physician so that the practitioners were deprived of their patients. It is to be hoped that an end has been put to this abuse by a recent decree of the Prussian medical Court of Honor. The court has decided that a physician called as a consultant shall not undertake the independent treatment of a patient, unless in exceptional circumstances, without the consent of the attending physician.

Women Medical Assistants in the Municipal Hospitals

Women physicians are slowly gaining ground among us. At a recent meeting of the council it was decided to install female medical assistants in the municipal hospitals, beginning with the Moabit and Urban.

The Epidemic of Infantile Spinal Paralysis

The epidemic of acute infantile paralysis in Westphalia, the appearance of which I have already reported, has reached a remarkable extent. Professor Krause, the director of the medical policlinic in Bonn, who was sent to Hagen to investigate the disease, has made a report to the department of education a few days ago. From this report, which will soon be published in the *Deutsche medizinische Wochenschrift* I can give you to-day the following interesting facts. The entire number of deaths among 436 cases of the Province of Arnsberg numbered 66, the youngest child attacked was 4½ weeks old, the oldest 15 years. Most cases occurred in the second year of life. The female sex was somewhat more affected than the male. In over 90 per cent. of the cases symptoms referable to the stomach and intestines were noted at the beginning of the disease, and in two-thirds of the cases the children were attacked with severe diarrhea, rarely with vomiting, while in one-third constipation was present. In many cases there was at the same time a gastrointestinal catarrh affecting other members of the family; in one case seven members of the family suffered at the same time from diarrhea. As to paralyses, the limbs were affected as to frequency in the following order: one leg or single groups of muscles, one arm, both legs, one-half of the face, both legs and one arm, and lastly paralyses of the bladder, which occurred only with coincident paralysis of both legs. In severe cases there were also respiratory symptoms. In the fatal cases respiratory paralysis seems to occur regularly. The sensorium was with few exceptions entirely free even at the height of the disease. A number of cases of sudden death with disturbance of breathing shortly before the fatal end are referred to acute infantile paralysis. The paralyses were uniformly completely flaccid. The tendon reflexes were abolished, the skin reflexes for the most part fully retained. Corresponding to the clinical findings there was discovered in eight of the nine cases submitted to autopsy, a severe enteritis. The mesenteric glands were also swollen and enlarged and there was a splenic tumor. Reports of the histologic investigation of the central nervous system are not yet available. Krause distinctly advocates the infectious character of infantile paralysis. The occurrence of groups of cases was plainly established. It is certain that in many cases also a communication of the disease by healthy infection carriers can be demonstrated. The gastrointestinal tract is in all probability the portal of entry. The particular method of infection has not yet been determined. In Westphalia, as some years ago in Sweden, a remarkable mortality of chickens was established. Bacteriologic examinations have so far led to no definite results. Pathogenic germs especially have not been demonstrated. Attempts to infect mice, guinea-pigs, pigeons, chickens have for the present led to no result. Experiments with apes are not yet concluded. In several cases, however, by subdural, intravenous and intraperitoneal inoculation of material from cases of infantile paralysis into rabbits it has been possible to bring about the death of the animal with pronounced symptoms of affection of the central nervous system. The investigations will of course be continued. Therapeutically, Professor Krause recommends the isolation of the patients in the acute febrile stage. Calomel or castor oil is to be prescribed for the gastrointestinal symptoms. He frequently observed a rapid regression of the paralyses after lumbar puncture. The usual treatment is to be adopted in convalescence.

Change of Diet in Municipal Hospitals

The frequent cases of food poisoning which have occurred in the Rudolph Virchow Hospital in previous years have now led to an alteration of the dietetic regulations for the municipal hospitals and more light vegetables are to be used. Dishes of rice and meal, macaroni and the like are to be supplied in place of the large messes of potatoes. The nurses shall provide for each patient, if required, even more than a half a pound of bread per day. Instead of breakfast and afternoon coffee, cocoa, gruels and all other drinks ordered by physicians are to be furnished.

School Dental Clinic in Schöneberg

A school dental clinic will be established by the city also in Schöneberg. The city dentist draws a salary of $1,500 (6,000 marks), but has not the privilege of private practice. In addition a nurse with a yearly salary of $375 (1,500 marks) will be installed.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Oct. 4, 1909.

Hygiene in the Navy

M. Chéron, assistant secretary of the navy, has instituted in each maritime division a bureau of naval hygiene, similar to the bureaus of military hygiene of the garrisons, which will cooperate with the recently established superior commission of hygiene and epidemiology and will organize the prophylaxis of contagious diseases, study on the spot all questions of hygiene in the naval service and will establish a watch over the quality of the drinking-waters. In order to keep himself informed constantly and precisely in regard to the importance and the number of various epidemics in the naval service, M. Chéron has just decided to have the maritime prefects send him daily telegrams informing him of the following points in regard to the maritime establishments:

1. The movement of the patients (arrival, departure, death) during the foregoing twenty-four hours.
2. The number of cases of each contagious disease under treatment.

M. Chéron desires to establish a regular statistical service in regard to the morbidity and mortality of the merchant marine. Cases of contagious diseases will be immediately reported to him.

Medicine at the International Aviation Exposition

At the International Exposition of Aerial Locomotion, which opened a few days ago at the Grand Palais, there has been organized an especial section for aeronautic physiology. The Museum of Natural History has placed on exhibition series of flying animals from insects up to the birds and the flying mammals. There is also on exhibition a series of stuffed pigeons illustrating the researches of Marey on the physiology of flight among birds, and charts recording the most remarkable heights of ascension. The results of physiologic research on the influence of altitude on the physical organism are graphically shown; the influence on the hearing, on the state of the blood, etc. There are also exhibited various instruments employed for research into the physiology of altitude, notably various models of apparatus to measure arterial tension, also models of oxygen inhalers intended to prevent the serious effects of excessive reduction of the atmospheric pressure in ascents to very great heights. Among the engravings there is a collection of portraits of aeronauts who have taken part in ascensions for scientific research, including Gay-Lussac, Robertson, Green and others.

The Increase of Medical Fees

As I mentioned in one of my previous letters (The Journal, August 28, 1909, liii, 726), the question of the increase of medical fees was submitted, on the initiative of the medical society of the fourth division (*arrondissement*) of Paris, to the consideration of a mixed commission representing the various medical societies of Paris and its environs, organized under the name of the *Fédération des médecins de Paris et de la Seine.* The federation approved the increase of fees and decided to address to the political papers a communication setting forth the reasons for this increase; likewise a circular to all the physicians of Paris and the department of the Seine. The federation believes that in Paris and in the suburbs the minimum fees for working people, domestic servants and persons of small salaries and restricted means should be 4 francs for a visit at the patient's home and 3 francs for a consultation in the physician's office. For employers, merchants and persons in comfortable circumstances, the minimum fee should be 6 francs for a visit and 4 francs for an office consultation. Above these rates, fees should be regulated according to convenience and circumstances, by agreement with the patient in accordance with the means of the latter, the standing of the physician, and the importance of the services rendered. The federation has decided to ask double fees for Sunday, evening and night visits.

Not all physicians, however, approve of these measures. For instance, the *Journal des Praticiens*, edited by Dr. Huchard, has published an editorial approving the increase of medical fees by the individual action of physicians, but strongly condemning collective public action through the papers, on the ground that patients will be offended and the medical profession be made to appear mercenary and self-seeking. These conditions, moreover, will be to the special disadvantage of the younger physicians; for, whatever happens, the public will continue to rely on the older physicians, in whom people have learned to have confidence.

Principles of Medical Ethics

The general council of the component medical societies of Paris has recently adopted the following principles governing the attitude of physicians with reference to their colleagues. A physician called in during the absence of the regular family physician should continue to treat the patient only during his colleague's absence. If the patient wishes the physician who has thus been called to remain in charge of the case the latter may continue to treat the patient after having warned his colleague. A physician summoned in an emergency to treat a patient who is under the care of another physician should confine himself to prescribing what is immediately necessary, and should not return to see this patient unless called in consultation by the physician in charge of the case. A physician called in to see a patient who is being regularly treated by another physician should do his best to have the latter recalled to the case. If he fails, he should without delay notify the colleague whom he has replaced. A locum tenens should refrain from attending a patient with whom he has become acquainted only through the other physician's practice, unless he obtains the permission of the latter to do otherwise. A physician called into a consultation ought to abstain from making any criticisms in the presence of the patient or those around him. The treatment agreed on in private consultation should be carried out by the physician in charge. The consulting physician should not return to see the patient unless called in again and authorized by the physician in charge. A fraternal spirit should prompt the acceptance of the consulting physician proposed by the family, whatever his age, position or distinction or lack thereof, provided he is personally and professionally beyond reproach. The cabinet of consultation is a neutral ground.

Pharmacology

[Contribution from the Chemical Laboratory of the American Medical Association]

LABEL AND CONTENTS

Discrepancies Found in Estimating Sodium and Potassium in Pharmaceutical Mixtures

W. A. Puckner

The Council on Pharmacy and Chemistry submitted to the laboratory for examination a proprietary alkaline elixir of rhubarb which, according to the label, contained among numerous other ingredients, 20 grains of potassium bicarbonate to each fluid ounce. As a result of the laboratory analysis[1] it was reported to the Council that if all the potassium in the preparation was present in the form of the bicarbonate, the amount of potassium bicarbonate thus indicated was less than 2 grains per fluidounce instead of 20 grains as given on the label. In fact the examination seemed to show that practically all the bicarbonate was present as sodium bicarbonate, a result that the present—modified—label on the product bears out.

The explanation offered by the firm regarding the discrepancy between the statement on the labels and the facts as brought out by the laboratory analysis was as follows:

"The original formula called for potassium bicarbonate as printed on the label, but acting on the advices of a number of physician friends, we substituted sodium bicarbonate for part of potassium bicarbonate and reduced the total alkalinity about one-half. . . . In publishing the formula we went back to the original record on file in the office and the discrepancy which you have noticed is due to lack of co-ordination between the various departments."

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[1] Details of the analytical method pursued in estimating the amount of sodium and potassium in the presence of organic matter will appear in the annual report of the Chemical Laboratory of the American Medical Association.

The name of the firm putting out this preparation is not published as the label has been changed to conform with the facts. The matter is referred to for the specific purpose of calling attention to the need of some sort of control or oversight of non-official pharmaceutical products. The Council on Pharmacy and Chemistry, with the aid of the Association's laboratory, has repeatedly brought to light both the lack of uniformity of composition and the discrepancies between labels and contents that exists in many proprietary preparations; these, too, emanating from some of the more reliable firms. What the state of affairs must be in the case of those proprietaries put out by the pseudo-pharmaceutical houses which have no reputation at stake, can better be imagined than described. If the Council and the Association's laboratory have accomplished nothing more than the awakening of manufacturers to the fact that the physician demands that he shall know just what he is giving his patient, these bodies have more than justified their reason to be.

CANCEROL

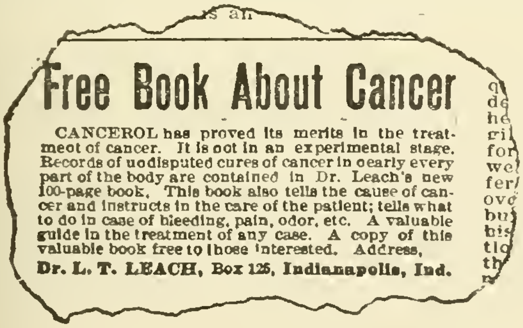
Dr. L. T. Leach's Cancer Cure and His Parkview Sanatorium

In recent issues of THE JOURNAL[1] details were given of two "cancer cure" concerns that have been declared fraudulent by the post-office authorities. This week we present a third, that of Dr. L. T. Leach and his "cure," Cancerol. In giving this case, we cannot do better than to quote it at length from the memorandum which was submitted by the assistant attorney-general, Judge R. P. Goodwin, to the Postmaster-General:

"Dr. Leach advertises as a cancer specialist. He treats patients chiefly by mail, but conducts a small sanatorium at Indianapolis, where such few patients as present themselves are cared for. About 90 per cent. are mail patients. The mail treatment costs about $25 a month and the sanatorium treatment about $150 a month.

"Dr. Leach is about 35 years of age and graduated from the Medical College of Indiana in 1901. For some time after his graduation, he assisted his father-in-law, Dr. D. M. Bye, in a business similar to that under discussion, and later commenced this business of his own. This is the extent of his experience in treating cancer."

As a specimen of advertising done by Leach, we reproduce an advertisement that appeared in the *Kansas Farmer*, Nov. 21, 1907. This seems to have been the stock "copy" used by this concern in obtaining its victims. It is interesting in this connection to note that a subscriber to the *Kansas Farmer* who criticized the "medical" advertisements which that publication carried, was told by the editor, that "we will not . . . assist in any kind of a swindle."



Free Book About Cancer

CANCEROL has proved its merits in the treatment of cancer. It is not in an experimental stage. Records of undisputed cures of cancer in nearly every part of the body are contained in Dr. Leach's new 100-page book. This book also tells the cause of cancer and instructs in the care of the patient; tells what to do in case of bleeding, pain, odor, etc. A valuable guide in the treatment of any case. A copy of this valuable book free to those interested. Address,

Dr. L. T. LEACH, Box 125, Indianapolis, Ind.

CANCEROL

On his [Leach's] receipt of an inquiry, a copy of a pamphlet entitled "Facts About Cancer," a symptom-blank and a sheet containing alleged testimonials are sent to the correspondent. These matters are carefully prepared to convey the impression that Dr. Leach has discovered and offered a treatment by medication that will cure practically all cases of cancer. For example, such statements as the following are made:

> The agent which meets this requirement is Cancerol. Hundreds have been cured in this way where it would have been impossible to come to my Sanatorium. Cancerol is the mildest efficient remedy known. . . . Cancerol may be employed in most any situation of the body. Cancerol has cured many cases where all other remedies have failed.
>
> Here is one who has made a specialty of the disease and who cures cancer.
>
> I can cure more serious cases of cancer than anyone else, bar none.
>
> In the vast majority of cases the medical treatment which I employ, in varying strengths and combinations, will give satisfactory results when all other methods fail.
>
> I do not know that I have ever failed in a case where I had given it as my professional opinion that I could cure. . . . I have cured many of those so-called incurable and hopeless cases; pronounced so by some physicians.
>
> Nothing has ever been compounded which, in my judgment and in the judgment of other competent doctors, is as efficient as Cancerol. Where I can get cases early, not one in ten need result fatally.

"The correspondent is informed that, if he will answer the questions asked in the symptom-blank, Dr. Leach can correctly diagnose his trouble and will advise him of his condition.

"On the return of the symptom-blank, Dr. Leach continues his correspondence, pretending to report his opinion of the disease, and offering to treat the case by mail at about $25 a month."

ANALYSIS OF THE "CURE"

The medicines were analyzed by the government chemists and found to consist essentially of cottonseed oil and simple tonics. The "treatment" for cancer of the uterus consisted of:

1. "Blood Renovator." Found to be but a simple bitter, alcoholic tonic.

2. "Cancerol: Reg. U. S. Pat. Office." Consisted of cottonseed oil.

3. "Special Germ Killer and Disinfectant." A fluid similar to cresol, but which, diluted to the degree called for in the directions, possessed little, if any, germicidal power.

4. Red, sugar-coated pills, consisting essentially of sodium bicarbonate, ferrous sulphate, capsicum and glucose: in other words, a simple iron tonic.

Should the victim have an external cancer, he was sent the simple tonic, the cottonseed oil and the red pills as described above, and in addition received:

"Prescription 16": An alcoholic preparation containing opium.

"Healing Salve": Boric acid and bismuth salts in petrolatum.

"Day Oil": One-half ounce of ichthyol.

"De Vit-Ol": Caustic paste containing 34 per cent. of arsenic.

From the results of these analyses the government chemists reported as follows:

> "The above findings clearly show that there is nothing in the treatment submitted by the Post-Office Inspector to warrant any claims or representations to the effect that the treatment is capable of mitigating or effecting a cure of cancer."

CLAIMS VERSUS ADMISSIONS

"Dr. Leach at the hearing was compelled to admit that there was nothing in the treatment purchased by the inspector which could be relied on to cure a case of cancer. He contended that he had not promised to cure the case. This contention, however, is not supported by the facts. The letters and printed literature are clearly intended and calculated to induce the patient to purchase the treatment by the hope of a cure."

THE "CURES"

"The inspector obtained the names of persons who had paid money to this advertiser, and by correspondence received reports of the results of the treatment in about forty instances. Examination of this correspondence reveals that but seven out of the forty claimed to have been cured, and that in but 2 cases was the patient examined by a local physician who diagnosed the trouble as cancer. In eighteen other instances in which the local physician had examined the patient and stated that the trouble was cancer, the patients found no benefit from the treatment. In no case had there been a microscopic examination of the growth, so that it cannot be positively said that in any case the disease was a true cancer.

"The result of this correspondence is so strikingly in contrast with the advertising claims as to prove conclusively, I think, the spurious quality of the medicines that are sold by this advertiser as a cure for cancer, and especially in view of the findings of the analyses."

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[1] "Curry Cancer Cure," THE JOURNAL, Oct. 9, 1909; "Bye Cancer Cure," THE JOURNAL, Oct. 16, 1909. The matter that has appeared in THE JOURNAL concerning the Curry, Bye and Leach "cancer cures" has been reprinted as a pamphlet, entitled, "A Trio of Cancer Fakes;" it will be sold at four cents a copy.

After thus showing the mendacity of Leach's claims, the valuelessness of his medicines and the worthlessness of his "cures," Judge Goodwin, the assistant attorney-general, sums up the case against this man as follows:

> "Dr. Leach's pretense that he can properly diagnose cases of cancer and prescribe remedies for them without personal examination merely by this correspondence scheme is without any scientific or proved foundation, and he must well know that it is mere pretense. What is undoubtedly the fact that out of the many cases submitted to him and diagnosed by him as cancer there are some which are not cancer at all, but simply non-malignant sores which in some instances yield to treatment, is what affords him a basis on the recovery of such cases to claim that he has cured cancer.
>
> "That Dr. Leach has not succeeded where the profession has failed, and that he is not honestly endeavoring to cure his patients, but that his pretensions to have discovered a cure for this disease are false and fraudulent and asserted merely to deceive and defraud suffering humanity, is revealed by the analysis of his medicines and the finding that they are merely cottonseed oil and some ordinary tonics and caustics."

In short, it was fairly evident that Leach's business was that of using the United States mails as a means of obtaining money by fraud. This being the case, the assistant attorney-general recommended that the Postmaster-General should issue a fraud order against Leach. This was done.

RESINOL

To the Editor:—Please publish the ingredients and proportions of each, used in making Resinol.

E. E. C., Manila, P. I.

Answer: Resinol has not been examined in the Association's laboratory, and we are unable to obtain from other sources any detailed information regarding its composition. The Philadelphia branch of the American Pharmaceutical Association issued a pamphlet some two years ago in which the following appeared relative to this and similar products:

"Within recent years there have been introduced a number of compound ointments that in their supposed range of therapeutic usefulness are scarcely equalled and certainly not excelled by the magic unguents of the quacks and charlatans of continental Europe, who, several centuries ago, essayed to cure all manner of disease by inunction or the simple application of compound ointments of secret composition.

"As typical of this modern class of panaceas we may mention Resinol. This preparation is being widely advertised at the present time in the daily papers as a valuable adjunct to Resinol Soap in the treatment of all kinds and varieties of diseases of the skin. The makers of this particular mixture, in the form of an ointment, modestly assert that it will cure all skin diseases, and is also 'A Specific for Pruritus Ani, Itching Piles, and Pruritus Vulvæ.'

"An equally efficient ointment, so far as the ointment itself and not the misleading claims made in connection with it may be concerned, is to be found in the Unguentum Resorcini Compositum, N. F. This ointment represents:

Resorcinol	6 parts
Zinc Oxid	6 parts
Bismuth Subnitrate	6 parts
Oil of Cade	12 parts
Paraffin	10 parts
Petrolatum	25 parts
Hydrous wool fat	35 parts"

Solubility of Phenol

To the Editor:—In regard to making aqueous solutions of phenol (carbolic acid), as discussed in The Journal, Oct. 2, 1909, p. 1114, if the phenol is dissolved in soap solution it will mix readily with water. I use a solution of green soap made according to the following formula:

Green soap	16 parts
Alcohol	8 parts
Oil of cloves	1 part
Water, sufficient to make	32 parts

Equal parts of this solution and of phenol are mixed, and if the mixture is not clear the addition of a few drops of alcohol will make it so.

B. L. Hale, M.D., Cherryvale, Kan.

Comment: This process yields a preparation similar to the Liquor Cresolis Compositus, U. S. P., a 50 per cent. solution of cresol in green soap, or to the Liquor Sodii Carbolatis, N. F., which is a 50 per cent. solution of phenol in water made by the aid of 3.5 per cent. of sodium hydroxid.

Correspondence

Frequency of Tuberculosis in Man

To the Editor:—Under this caption an editorial in The Journal (Oct. 23, 1909, liii, 1402) discusses the apparent disparity between the findings of Naegeli of Zurich and Burkhardt of Dresden and those of Beitzke of Berlin.

Naegeli found evidence of either latent or active tuberculosis in 97 per cent. of 500 successive adult bodies, and Burkhardt obtained very similar results in a large number of autopsies. Beitzke, in 1,100 bodies studied especially with reference to the presence of healed and active tuberculosis, found between 50 and 60 per cent. with positive evidence of the disease, either in the lungs or lymphatic glands.

There appears to be no doubt that Naegeli and Burkhardt were correct in their statements, for their conclusions were not based wholly on finding caseous areas or calcareous deposits in the lungs and lymphatic glands, nor yet on the presence of pleuritic adhesions, but rather on microscopic and bacteriologic examinations of these and other body tissues. If I have read their article aright, they often found tubercle bacilli in the meninges, in the glands and in thoracic or abdominal organs in cases in which there were no macroscopic appearance of the disease, while for Beitzke's purpose such minute examinations were unnecessary. The explanation that the larger percentage of tuberculous subjects found by the first two observers was due to greater frequency of the disease in their cities than in Berlin, or to a physically poorer class of patients, does not seem to apply to the case; for the observers were working on different problems; their methods were not the same, and the latter observer had no occasion to search for bacilli unless macroscopic appearances suggested the presence of tuberculosis.

Eminent surgeons have asserted that 80 per cent. of the human family are tuberculous, and there seems no good reason to doubt that they were correct, from their point of view; but as they do not see many medical cases of tuberculosis, their estimate would naturally give a lower percentage than those of Naegeli and Burkhardt.

Beitzke believes that Naegeli's statement should be changed to read: "In autopsy material of the hospitals of certain large cities nearly every adult body is tuberculous." He also believes that only about one-half of all persons in all states of society suffer from a demonstrable tuberculous lesion during their lives.

These appear to show that there is really no discrepancy between his findings and those of Naegeli and Burkhardt, who wrote only of the post-mortem conditions, many of which evidently could not possibly have been demonstrable during life. Considering the exhaustive methods employed by Naegeli and Burkhardt, the opinions of surgeons, and the conditions found by Beitzke, I can find no reason for doubting that practically every adult human being has, or has had, either latent or active tuberculosis.

It is most important that this should be recognized by the profession in their efforts to prevent tuberculosis, and also from a prognostic point of view for patients suffering from the active manifestations of the disease. If we all harbor tubercle bacilli, it is clear that they do not cause much more trouble than numerous other pathogenic organisms often found in healthy bodies; their host is in no special danger from them so long as he keeps well; but he should never abuse his body, nor allow his physical condition to run below normal if it can possibly be prevented.

If we all harbor these bacilli there is no reason for the insane fear of taking in a few more or less, and we need not shun the unfortunate sufferers from consumption, provided they are cleanly in their habits.

If we all have tuberculosis, the futility of directing our prophylactic measure chiefly against the bacilli, as has been so commonly done in recent years, becomes at once apparent, and we must realize that such measures are only a small part in the battle against the white plague, and that they are of far less importance than securing highly resistant bodies by good heredity, good environment and sane living.

E. FLETCHER INGALS, Chicago.

The Responsibility of the Mentally Subnormal

To the Editor:—Your editorial on the above subject (Oct. 23, 1909, liii, 1403) is sound. No man who has committed a murder and who has been judged irresponsible may safely be entrusted with liberty. With the knowledge that his past record of insanity renders him immune to punishment, he has little to deter him from a repetition of his antisocial act; and an act once successfully committed is, under such circumstances, a constant invitation to its repetition.

Whether the state should feel obliged to support at its expense those who are a constant menace to others and who cannot possibly be useful citizens, I cannot say; there might be a more summary way of dealing with them; but if there be no death penalty certainly there should be no less than a life sentence for them.

The man with a mental make-up which sets at naught the right of his neighbor to die a natural death certainly has no right to be at liberty, whether he is what is ordinarily called "responsible" or not. The very fact that he is of that make-up renders him irresponsible and it is the state's duty, the first time this becomes apparent, to take care of him.

G. H. HEALD, Washington, D. C.

The Netting Eye-Shield

To the Editor:—The improved eye-bandage described and illustrated by Dr. C. W. Talbot (THE JOURNAL, Oct. 30, 1909, liii, 1487) is exactly like the Fuchs *Schutzgitter* (lattice-shield) which has been in use in the clinic in Vienna for the past twenty-five years. It is described in Elschnig's edition of Czermak and also in all text-books on ophthalmic surgery.

It seems that an author should examine into the originality of his device before publishing a claim for originality, and that THE JOURNAL is also at fault for inserting the description in its worthy columns.

JESSE S. WYLER, Cincinnati.

Association News

Trustees' Meeting

The Trustees of the American Medical Association met in Chicago October 22 and 23, at the rooms of the Association. Three sessions were held on Friday, October 22, and one on Saturday, October 23. There were present at all sessions:

Dr. M. L. Harris, Chicago (Chairman).
Dr. Wisner R. Townsend, New York (Secretary).
Dr. Philip Marvel, Atlantic City, N. J. (Vice-chairman).
Dr. W. W. Grant, Denver, Colo.
Dr. Philip Mills Jones, San Francisco, Cal.
Dr. W. T. Councilman, Boston, Mass.
Dr. W. T. Sarles, Sparta, Wis.
Dr. C. E. Cantrell, Greenville, Texas.
Dr. C. A. Daugherty, South Bend, Ind.

The first session on Friday was held from 10 a. m. to 12:30 p. m. The secretary reported that since the last meeting the following circular letter had been sent the chairmen of all standing and special committees, and that replies had been received from all:

"On September 10 the following notice was sent to you:

Your attention is respectfully called to the following resolutions which are in effect in the Board of Trustees:

First: That all annual appropriations be made to date from the termination of the annual session to the termination of the next annual session.

Second: That appropriations so made must not be exceeded.

Third: That suitable blanks for use by committees, etc., in making applications, bills, etc., will be provided on application to the Secretary of the Association, Dr. George H. Simmons, 535 Dearborn Avenue, Chicago, Ill.

The Trustees would kindly request that you present an estimate of the funds needed for the ensuing year to the Secretary on or before October 1, as there will be a full meeting of the Board in October, when the matter will be taken into consideration.

Your attention is respectfully called to the following amendments to the By-Laws which were passed by the House of Delegates at Altantic City:

Chapter IX, Section 1: Add to the section the words "during the intervals between the sessions of the House of Delegates, the Board of Trustees shall supervise the action of committees constituted by action of the House."

Chapter X, Section 1: Add to the section the words "any of these committees, acting during the intervals between the sessions of the House of Delegates shall be subject to the Board of Trustees."

"Should your committee desire to take any action during the intervals between the meetings of the House that would be governed by either of the above sections, won't you kindly first communicate with the Chairman of the Board of Trustees, Dr. M. L. Harris, 100 State street, Chicago, Ill., in order that the matter may be officially brought to the Board's attention.

"Yours very truly,
"M. L. HARRIS, Chairman,
"WISNER R. TOWNSEND, Secretary."

Dr. Harris, as Chairman of the Committee on Arrangements for the next meeting, reported that he had visited St. Louis and had arranged for Dr. Dorsett to act as Chairman of the Local Committee on Arrangements.

Dr. Harris, Chairman of the Committee on Postal Relations of THE JOURNAL, reported progress, and stated that the action of the Board of Trustees and House of Delegates at Atlantic City, had been duly forwarded to the Third Assistant Postmaster General, and receipt acknowledged.

A letter from Dr. Wynn, outlining a plan for providing an exhibit of an educational nature, was read and Dr. Wynn was requested to present more definite data at the next meeting of the Board.

A letter from Dr. Reed was read, asking for an interpretation of the amendments to the by-laws made at Atlantic City. After a discussion of the same the following resolution was passed:

In accordance with the Amendments of By-Laws passed at the last meeting, at Atlantic City, which Amendments were passed without the knowledge or solicitation of this Board, it feels that it is the duty of the Board of Trustees to supervise the work of all committees.

The Board discussed fully the question of THE JOURNAL advertising and approved of the work and methods in use in that department.

SECOND SESSION, HELD FROM 3:15 TO 6:30 P. M.

A letter was read from the Honorable Seth Low, of the National Civic Federation, asking that delegates be appointed for the meeting to be held in Washington, Jan. 5, 1910, next, by that body. The Board passed a resolution requesting the president, Dr. Gorgas, to appoint six delegates to represent the American Medical Association.

The subject of the publication, by the Association, of books, was discussed and a committee appointed to consider the subject more fully.

Letters from the various committees asking for appropriations for the year were then taken up, and each matter considered separately. After full discussion on the needs of the committees, so far as the Board could ascertain, the following appropriations were made for the year 1909, these appropriations to apply from the termination of one annual meeting to the termination of the next annual meeting:

BUDGET FOR 1909-1910

	Amount Appropriated.
Judicial Council	$ 25.00
Committee on Medical Legislation	1,500.00
Committee on Transportation and Place of Session	25.00

Council on Medical Education	6,000.00
Board of Public Instruction on Medical Subjects	750.00
Council on Pharmacy, etc., and Chemical Laboratory	8,000.00
Committee on Organization	6,000.00
Committee on Ophthalmia Neonatorum	100.00
Committee on Scientific Research	1,500.00
Committee on Nomenclature and Classification of Diseases	250.00
Committee on Pharmacopeia	300.00
Committee on Postgraduate study	900.00
Council on Defense of Medical Research	500.00
Committee on Scientific Exhibit	600.00
Committee on Uniform Regulation of Membership	25.00
Committee on Anesthesia	500.00
Committee on Selection of Insignia	25.00
Committee on Preventive Medicine and Public Health to Cooperate with Committee on Medical Legislation	50.00
Section Secretaries	600.00
State Secretaries Meeting	100.00
	$27,750.00

All unexpended balances at the end of the year revert to the Treasury of the Association, except that of the Committee on Scientific Research.

THIRD SESSION, HELD FROM 8:30 TO 10:30 P. M.

Dr. Marvel presented the report of the Committee of Arrangements of the Trustees for the Atlantic City meeting, involving expenses paid by the chairman, amounting to $5,919.75.

The subject of the large number of new committees appointed each year by the House of Delegates and the overlapping of the work of many of these, the demands of each for funds for stenographic purposes, etc., was carefully discussed, and, as a result, the Board passed a resolution recommending, in the interest of efficiency and economy, that the Committee on Organization of the Council on Public Health, Publicity and Legislation, should seriously consider the consolidation of a number of the present special committees.

FOURTH SESSION, SATURDAY, OCT. 23, HELD FROM 10 A. M. TO 12:30 P. M.

The new building for the Association was thoroughly considered. The architects, Holabird & Roche, were present and explained the plans that had been provided by the Building Committee. After a thorough discussion it was unanimously agreed that the Board of Trustees proceed with the erection of the new building, following the plans and specifications as revised, and the Chairman and Secretary of the Board of Tustees were authorized to sign the necessary contracts for the erection of said building. A Building Committee of three was appointed, consisting of Drs. Harris, Simmons and Grant, and directions given to proceed with the work without undue delay.

After reading and approving the minutes, the meeting adjourned.

M. L. HARRIS, Chairman.
WISNER R. TOWNSEND, Secretary.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

WRIGHT BLOOD-STAIN TECHNIC

To the Editor:—Please publish the full technic for use of the Wright blood-stain, particularly in malaria.

D. G. LEMKOWITZ, M.D., Berwick, La.

ANSWER.—Cabot's "Clinical Examination of the Blood," p. 41 gives the following technic:

1. Drop on the blood film with a medicine dropper as much of the stain as will remain without spilling off; leave it there for one minute. This is chiefly to fix the film.

2. Add to the fluid on the cover-glass (or slide) sufficient water drop by drop to make visible a greenish metallic scum on the surface. For a ⅞ inch square cover-glass six to eight drops are usually needed, but the exact amount does not make any essential difference. Let the stain thus diluted remain for about two minutes on the film.

3. Wash the film in tap water and let it stand in water for one or two minutes more, or until the thinner portions of the film are yellowish pink. Water washes out part of the blue dye and differentiates the stain

4. Dry cautiously with blotting paper or filter paper and mount in balsam.

The whole process should not consume more than five minutes

CHROMIUM SULPHATE

To the Editor:—Enclosed please find literature on "Chromium Sulphate in Medicine" sent out by John Wyeth & Brother, Inc. I would be pleased to receive an opinion on this drug.

G. D. HENDERSON, Holyoke, Mass.

ANSWER.—The use of chromium sulphate was discussed in THE JOURNAL, Nov. 28, 1908, p. 1885, and reference was there made to an article by L. Kolipinski (*Monthly Cycl. and Med. Bull.*, September, 1908). This appears to be the only contribution to medical literature on the therapeutic use of chromium sulphate. In his article, Kolipinski stated that so far as he knew his statements had not been confirmed by others, nor had this chemical attracted attention as a medicine. As the medical profession has been given ample opportunity to test Kolipinski's claims, it is very probable that such tests have been made by various physicians and having resulted unfavorably have not been deemed of sufficient importance for publication. The remarkable statements regarding the cure of locomotor ataxia must be regarded with critical conservatism, inasmuch as it is known that periods of apparent improvement or at least a failure of the disease to advance for a considerable time are frequently observed. The article stated that a symptomatic cure of hypertrophy of the prostate gland in old men is usually achieved in a few months but as no corroborative report of its use in this common disease has been received, it is fair to infer that the medicine in the hands of others has failed to accomplish what its introducer claims for it. So long as physicians write such optimistic reports regarding the action of medicines, manufacturers will, doubtless, continue to use these reports for advertising purposes.

JEFFERSON ADDRESSES AND ANNOUNCEMENTS WANTED

To the Editor:—I am collecting the introductory and valedictory addresses delivered at Jefferson Medical College since its foundation, which are to be placed in the library. I am also desirous of completing the library's files of the annual announcements of Jefferson Medical College prior to 1896-7. If Jefferson alumni, or any others, have any of the addresses or announcements which they are willing to dispose of, I will greatly appreciate the receipt of them. They can be sent to me in care of the "Librarian, Jefferson Medical College, 10th and Walnut Sts., Philadelphia.

H. R. M. LANDIS, M.D

The Public Service

Medical Department of the Army

Changes for the week ended Oct. 30, 1909:

Phalen, J. M., capt., granted leave of absence for 2 months, when relieved from duty in the Philippines.

Duncan, W. A., capt., ordered to the Walter Reed Army General Hospital, Washington, D. C., for observation and treatment.

Harris, J. R., capt., granted leave of absence for 1 month.

DeLaney, E. A., capt., ordered to report for examination for promotion at Washington, D. C.

DeWitt, Wallace, capt., granted an extension of 1 month and 20 days to his leave of absence.

Van Horn, J. B., M. R. C., ordered to active duty; will proceed to Fort Mackenzie, Wyo., for duty.

Lemmon, Robert, M. R. C., ordered to sail for Philippine service Jan. 5, in stead of Nov. 5, 1909.

Van Kirk, H. H., M. R. C., granted leave of absence for 7 days.

Sherwood, J. W., M. R. C., ordered from Fort Wiliams, Me., to Fort McKinley, Me., for temporary duty.

Koyle, F. T., M. R. C., granted leave of absence for 2 months, on arrival at station in the United States.

Coffin, H. L., M. R. C., relieved from active duty in the service of the United States, Nov. 9, 1909.

Laflamme, F. L. K., dental surgeon, left Fort Wayne, Mich., and arrived at Fort Brady, Mich., for duty.

Lauderdale, C. E., dental surgeon, left Fort Huachuca, Ariz., for duty.

Medical Corps of the Navy

Changes for the week ended Oct. 30, 1909:

Byrnes, J. C., medical inspector, ordered to command the Naval Hospital, Naval Station, Narragansett Bay, R. I.

Hoen, W. S., P. A. surgeon, detached from the *Philadelphia*, and granted sick leave for 3 months.

Grayson, C. T., P. A. surgeon, detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the *Mayflower*.

Dykes, J. R., P. A. surgeon, detached from the *Mayflower*, and when discharged from the Naval Hospital, New York, ordered to the Naval Medical School Hospital, Washington, D. C., for duty.

Beyer, H. G., medical inspector, ordered to duty at the Naval Medical School, Washington, D. C.

Riggs, C. E., surgeon, ordered to the Naval Academy.

Commissioned Passed Assistant Surgeons: J. B. Mears, from July 14, 1908; T. W Reed, from Sept. 21, 1909; C. E. Strite, from Sept. 27, 1908; R. C. Ransdell, from Nov. 24, 1908; W. S. Kuder, from March, 24, 1909; C. K. Winn, from March 24, 1909; J. P. Haynes from April 16, 1909; T. W. Raison, from June 1, 1909

Public Health and Marine-Hospital Service

Changes for the seven days ended Oct. 27, 1909.

Carter, H. R., surgeon, directed to proceed to Fort Wayne, Ind., on special temporary duty.

Wasdin, Eugene, surgeon, granted 1 month's leave of absence from Oct. 22, 1909, on account of sickness.

Nydegger, J. A., surgeon, leave of absence granted for 1 month and 7 days from Sept. 10, 1909, amended to read 1 month and 5 days.

Sprague, E. K., surgeon, leave of absence granted for 16 days from Oct. 8, 1909, amended to read 7 days.

Lumsden, L. L., P. A. surgeon, detailed to represent the Service at the Annual Conference of Sanitary Officers of the State of New York, to be held in Rochester, N. Y., Nov. 10-12, 1909.

Parker, H. B., P. A. surgeon, granted 3 days' leave of absence from Oct. 20, 1909, on account of sickness.

Anderson, John F., P. A. surgeon. Directed to proceed to Marietta and Philadelphia and New York, on special temporary duty.

Amesse, J. W., P. A. surgeon, granted 2 months' leave of absence from Nov. 1, 1909.

Long, J. D., P. A. surgeon, relieved from duty at San Francisco, and directed to proceed to Washington, D. C., and report to the Director of the Hygienic Laboratory for duty, stopping en route at Columbia, S. C.

Foster, M. H., P. A. surgeon, granted 15 days' leave of absence en route home

Wollenberg, R. A. C., asst.-surgeon, directed to report to the Medical Officer in temporary charge at Detroit, for temporary duty.

Simpson, Friench, asst.-surgeon, relieved from duty on the Revenue Cutter *Perry*, and directed to proceed to San Francisco, and report to Surgeon Rupert Blue for duty.

Hasseltine, H. E., asst.-surgeon, granted 7 days' leave of absence from Oct. 25, 1909, under paragraph 191, Service Regulations.

Bailey, C. A., acting asst.-surgeon, granted 3 days' leave of absence from Oct. 19, 1909.

Jackson, James M., Jr., acting asst.-surgeon, granted 20 days' leave of absence from November 8, 1909.

Miranda, R. U. Lange, acting asst.-surgeon, granted 1 month's leave of absence from Oct. 8, 1909, without pay.

Spohn, A. E., acting asst.-surgeon, leave of absence granted for 2 months from Sept. 1, 1909, without pay, amended to read 1 month.

Thompson, W. R. P., acting asst.-surgeon, granted 10 days' leave of absence from Nov. 1, 1909.

BOARD CONVENED

Board of medical officers convened to meet at the Marine Hospital, Stapleton, N. Y., Nov. 8, 1909, for the purpose of making a physical examination of two officers of the Revenue Cutter Service. Detail for the board: Passed Assistant Surgeon C. W. Vogel, chairman; Passed Assistant Surgeon C. L. Collins, recorder.

Health Reports

The following have been reported to the Marine-Hospital Service, during the week ended Oct. 29, 1909:

SMALLPOX—UNITED STATES

California, general, Aug. 1-31, 2 deaths.
Connecticut: Bridgeport, Sept. 26-Oct. 2, 1 case.
Georgia: Macon, Oct. 2-8, 3 cases.
Illinois: Chicago, Oct. 7-16, 1 case.
Indiana: Allen County, Aug. 1-31, 28 cases; St. Joseph County, 1 case.
Massachusetts: Boston, Oct. 9-16, 1 case.
Montana: Butte, Oct. 1-14, 12 cases.
New York: Buffalo, Oct. 9, 1 case.
North Carolina: Nine Counties, Aug. 1-31, 37 cases.
Ohio: Dayton, Oct. 10-16, 1 case; Springfield, Oct. 9-16, 9 cases.
Washington: Seattle, Aug. 1-31, 6 cases.

SMALLPOX—FOREIGN

Austria: Bohemia, Sept.26-Oct. 2, 2 cases.
Brazil: Bahia, Aug. 28-Sept. 24, 44 cases, 28 deaths.
Egypt: Cairo, Sept. 10-16, 1 case, 2 deaths.
France: Paris, Sept. 29-Oct. 2, 1 case.
Java: Batavia, Aug. 29-Sept. 11, 5 cases.
Malta: Valetta, Sept. 12-18, 1 case.
Mexico: Mexico, Oct. 9, 3 cases.
Portugal: Lisbon, Sept. 27-Oct. 2, 5 cases.
Russia: Riga, Sept. 27-Oct. 2, 3 cases; St. Petersburg, Sept. 12-15, 21 cases, 11 deaths.
Spain: Almeira, June 1-30, 3 deaths; Barcelona, Sept. 28-Oct. 4, 3 deaths; Huelva, Aug. 1-31, 8 deaths; Vigo, Sept. 26-Oct. 2, 1 death.

CHOLERA

China: Amoy, Aug. 29-Sept. 4, 17 deaths; Hankow, Sept. 5-11, 5 cases; Shanghai, present among natives; Swatow, Aug. 28, 3 cases, 2 deaths, on S. S. *Waising*.
India: Bombay, Sept. 15-21, 1 death; Calcutta, Sept. 5-11, 9 deaths; Rangoon, 3 deaths.
Korea: Seoul, to Sept. 25, 400 cases.
Manchuria: Dalny, Sept. 5-18, 18 cases, 14 deaths.
Netherlands: Lopik, Oct. 2, 1 case; Hansweert, 1 case.
Philippine Islands, Sept. 5-11, 20 cases, 13 deaths; Provinces, 314 cases, 248 deaths.
Sumatra: Djambi, Aug. 10-20, 6 cases.

YELLOW FEVER

Brazil: Bahia, Aug. 28-Sept. 17, 6 cases, 3 deaths.

PLAGUE

Brazil: Bahia, Aug. 29-Sept. 24, 11 cases, 8 deaths.
China: Amoy, Aug. 29-Sept. 4, 17 deaths.
India, general, Sept. 5-11, 2,781 cases, 2,096 deaths; Madras, Sept. 11-17, 2 deaths; Calcutta, Sept. 5-11, 5 deaths; Rangoon, 10 deaths.
Japan: Kobe, Sept. 18-25, 2 cases, 2 deaths.
Mauritius, Aug. 6-12, 3 cases, 2 deaths

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Regulation of Medical Charity in Chicago

The physician has always been a liberal dispenser of charity. Consciously or unconsciously, it has been recognized both in the profession and by the public that any one sick or suffering could have the gratuitous services of a physician at any time and in almost any place. Not only is this true of the physician on the staff of the city dispensary or clinic, but it is equally well-known that every physician makes calls for which he knows he will receive no compensation, and sends bills which he knows will never be paid. The time will never come when any one actually needing the services of a physician will be prevented from receiving aid on account of his inability to pay for such services.

In our great cities, however, there has developed in the last few decades a systematic abuse of the charities of the medical profession which has reached startling proportions. Free dispensaries and clinics have been established everywhere without regard to their need or justification. Many of these clinics are crowded daily with patients who are given professional services, often by leading members of the profession, without any effort to discriminate between those deserving of such charity and those well able to pay for medical services. The free dispensary question is essentially peculiar to the large city and has been repeatedly discussed from various points of view in the last few years.

The lack of reliable data on this question being apparent, the Chicago Medical Society, in 1906, appointed a "Committee on the Abuse of Medical Charities," with instructions to investigate the entire matter and report the facts as they existed in Chicago, together with any recommendations for improving the conditions. After a year's investigation, the committee reported that there were in Chicago at that time (June, 1907) fifty-five free dispensaries, sixteen of which were connected with hospitals, nine with medical colleges, while thirty had no connection with any charitable or teaching institution. Twenty-seven were used for some form of clinical instruction, seven were privately owned and operated. In six dispensaries, medicine and treatment were furnished free; in eighteen, a charge was made to cover the cost of medicine, and in twenty-three as much money was collected from the applicant as could be obtained. Only twenty-six made any claim to investigation of the ability of the applicant to pay, while in all except four of the fifty-five dispensaries the only attempt at investigation consisted of a few questions put to the applicant by the physician in charge. One dispensary referred cases of doubtful merit to the Chicago Bureau of Charities for investigation, while three employed a nurse or a clerk to look up suspicious cases and ascertain whether or not they were worthy. Twenty-six of these dispensaries were run in such a slipshod fashion that it was impossible to determine the number of patients treated. The remaining twenty-nine dispensaries treated during the previous year 223,110 persons. Sixteen dispensaries, which kept a record of the number of times each patient received treatment, has treated 93,806 persons and had given them treatment 246,140 times. The committee concluded from the data secured that at least twenty-five per cent. of the population of Chicago were receiving free medical services in some form, while only one-half of one per cent. of the population were the recipients of other forms of charity, in other words, the charitable burden imposed on the medical profession was fifty times greater than that imposed on any other class of society.

This report aroused much interest and led to further investigation. The committee reported from time to time and finally, in March, 1909, submitted a carefully prepared report summarizing its recommendations. The following premises were agreed on as starting points for the discussion:

1. Charity is a cardinal virtue of medicine. No matter how heavy the burden of true medical charity may fall on the

medical profession, it is willing to carry the burden, but the medical profession has come to a recognition of the evils which have crept into the work of charitable institutions and is bent on removing these evils.

2. The practice of medicine is based on the confidence of the people. Whatever means we shall select as the best to eradicate these evils, it is necessary that they must find public confidence and approval.

One of the evils which the committee recognized was the infringement by undeserving persons on privileges established for the deserving poor, thus working an injustice to the poor themselves, to the charitable institutions and organizations, and to the physicians, as well as to the profession at large, whose economic rights have been interfered with by unjust administration of medical charity. The progress of medical science as well as the interests of medical colleges and of the general public are all concerned in a just and adequate administration of public charities. The administration of medical charities is closely related to many serious economic and moral questions. One proposition must, in justice to all concerned, be given weight over all others, namely, the improvement of efficiency in service. The abuse of the free facilities for treatment provided for the deserving poor is the greatest evil connected with the problem and its removal is consequently the first step in a general reform of the administration of medical charities. The committee considered that the correction of this evil was only possible by placing the different interests involved on a sound and ethical basis. The interests concerned are generally benevolent but are often conflicting and antagonistic. The organization of medical charities must, therefore, rest on the same principle as that on which modern organization of general charities is based, namely, investigation of those to whom charity is given.

The committee therefore sought for advice and cooperation from the organized charities of Chicago and the following plan of administration was formulated: Each institution, dispensary or hospital shall receive each applicant for free medical service who presents himself as if in good faith. The following facts regarding each applicant shall be secured by the institution before any treatment is given: name, address, sex, nationality, married or single, widowed or separated, names and ages of children, amount received in wages by each, number in family, number of rooms occupied and rent paid. The applicant is to be given the first treatment, but is to be told that his claims for gratuitous service will be investigated. Cards bearing a duplicate record of each applicant will be sent each day to the bureau of investigation of the local charity organization, which will investigate each case and report to the institution to which application for relief was made. Emergency operations shall be performed at once if necessary. Operations of election shall not be performed until the investigating bureau has reported.

This plan was the result of conference and cooperation between committees from Chicago Medical Society, Chicago Homeopathic Society, Chicago Eclectic Society, Chicago Physiomedical Society, Chicago Bureau of Charities, Chicago Relief and Aid Society, Jewish Relief and Aid Society, Children's Relief and Aid Society, and other miscellaneous charitable bodies. The proposed plan was submitted to the general membership of the Chicago Medical Society by a general referendum at the annual election, held June 15, 1909, and was adopted by an overwhelming majority. The referendum submitted declared that it was the fixed purpose of the Chicago Medical Society to inaugurate plans whereby every patient treated in a free institution by a member of the Chicago Medical Society should undergo an investigation as to his or her economic right to free services and that, following the adoption of this plan by the society, it should be a matter of society ethics for all members of the society serving on staffs of charitable medical institutions to conform to and enforce the accepted method of administration. The money needed for carrying out this plan is to be subscribed from the general public and from the members of the society and profession. The members of the society pledged themselves individually to a full financial support of the proposed plan, stating, however, that they considered that the burden of administration expense ought, eventually to be assumed by the general public, inasmuch as the medical profession is contributing its services. The proposed method was widely discussed, both in the *Bulletin*, at the general meetings of the society and in the branches, and resulted in the endorsement of the plan by the general society membership. It consequently becomes obligatory on any dispensary with which a member of the Chicago Medical Society is connected to report the names of all applicants for relief to the investigating bureau of the local charitable organization for investigation and report.

The unique features in this work are the careful preliminary investigation of existing dispensaries as a foundation for subsequent consideration; the free discussion and hearty cooperation between the medical profession and the existing charitable organizations; the length of time that was devoted to careful consideration before formulating the report, and the final decision to turn the entire charitable aspect of the problem over to the properly constituted charitable authorities, the medical profession practically agreeing to treat free of charge all persons whom the investigating bureau of the local charitable organization reports as worthy. The result, aside from the economic features of the case, has been a marked increase of cooperation and mutual understanding between the organized medical profession and the organized charities of the city. This result alone is well worth all the work which was performed. The administration of medical relief has been put on a sound economic and moral basis which cannot but improve local conditions. The experience of the Chicago Medical Society in this particular is most interesting and is worthy of the careful study of other medical organizations in large cities.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Third Month—Second Weekly Meeting

SCARLET FEVER, SCARLATINA

PERIOD OF INCUBATION.

MODE OF TRANSMISSION: Patient, clothing, toys, domestic animals, food, air, third person. Duration of infection.

BACTERIOLOGY.

PATHOLOGY: Changes in skin and mucous membranes. Changes in other regions.

SYMPTOMS: Invasion, duration, symptoms. Eruption, character, variations, desquamation. Clinical forms, (a) mild, (b) moderate, (c) severe, (d) malignant or cerebral cases.

COMPLICATIONS AND SEQUELÆ: Throat, (a) erythematous, (b) membranous, (c) gangrenous angina. Lymph glands and cellulitis of neck. Ears, kidneys, joints, respiratory and digestive systems.

DIAGNOSIS: Onset, vomiting, fever, angina, tongue, rash. Differentiate from diphtheria, measles and rubella. Differentiate rash from erythema, scarlatinoids of pyemia, septicemia, typhoid, diphtheria, antitoxin, quinin and other drugs.

PROPHYLAXIS.

Action of Roentgen Rays on the Thymus.—Aubertin and Bordet report in the *Zentralblatt für innere Medizin*, October 2, a series of researches on young cats and rabbits to determine the effect of Roentgen exposures on the thymus. There was intense destruction of the lymphoid tissue, and the thymus became gradually transformed into what seemed to be ordinary connective tissue, the gland thus losing its lymphoid character completely. The changes observed are not specific, but have seldom if ever been observed in the thymus. Hassall's corpuscles became much hypertrophied, confirming the assumption that the growth of these corpuscles is connected with the retrograde metamorphosis of the thymus.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arkansas: Regular, Little Rock, November 9. Sec., Dr. F. T. Murphy, Brinkley.

Connecticut: Homeopathic, New Haven, November 9. Sec., Dr Edwin C. M. Hall, 82 Grand Ave.

Connecticut: Regular, City Hall, New Haven, November 9-10. Sec., Dr. Charles A. Tuttle, 196 York St.

Florida: Jacksonville, November 10-11. Sec., Dr. J. D. Fernandez.

Maine: Portland, November 9-10. Sec., Dr. Frank W. Searle, 806 Congress St.

Massachusetts: State House, Boston, November 9-11. Sec., Dr. E. B. Harvey, Room 159, State House.

Nebraska: Senate Chamber, State House, Lincoln, November 10-11. Sec., Dr. E. Arthur Carr, 141 South Twelfth St.

Texas: Levy Bldg., Greenville, November 9-11. Sec., Dr. M. E. Daniel, Honey Grove.

West Virginia: Chancellor Hotel, Parkersburg, November 9-11. Sec., Dr. H. A. Barbee, Point Pleasant.

Michigan Reciprocity Report

Dr. B. D. Harison, secretary of the Michigan Board of Registration in Medicine, sends us a list of those licensed by that board through reciprocity and under exemption clauses, since January, 1909. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with.
Georgetown University	(1906)	Dist. Colum.
Yale University	(1908)	New York
Rush Medical College	(2, 1908)	Illinois
Northwestern University Medical School	(1907) (1908)	Illinois
Northwestern Univ. Woman's Med. School	(1889)	Illinois
Chicago College of Medicine and Surgery	(1907) (1908)	Illinois
Dearborn Medical College	(1907)	Illinois
Indiana Medical College	(1906)	Indiana
College of Physicians and Surgeons, Baltimore	(1896)	Illinois
University of Maryland	(1905)	Maryland
Tufts College Medical School	(1905)	Maine
Univ. of Michigan (R)	(1886) (1887) Ohio; (1892)	Wisconsin
University of Minnesota	(1899)	Minnesota
St. Louis Medical College	(1874)	Iowa
Albany Medical College	(1906)	New York
Long Island College Hospital	(1891)	Wisconsin
Cleveland Homeo. Med. Coll.	(1871) Indiana; (1903)	Ohio
Eclectic Medical Institute, Cincinnati	(1899)	Ohio
University of Vermont	(1891)	Wisconsin
Laval University, Quebec	(1898)	Vermont

LICENSED UNDER EXEMPTION CLAUSES

College	Year of Grad.
American Medical Missionary College	(1906) (1907)
Detroit College of Medicine	(1906)
Detroit Homeopathic Medical College	(2, 1909)
Trinity Medical College, Ontario	(1899)

Indiana July Report

Dr. W. T. Gott, secretary of the Board of Medical Registration and Examination, reports the written examination held at Indianapolis, July 13-15, 1909. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 104, of whom 101 passed and 3 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1905)	89
Chicago College of Medicine and Surgery	(1909)	84
Hering Medical College	(1909)	89
Illinois Medical College	(1908) 88; (1909)	81
Bennett Medical College	(1889)	86
Northwestern University Medical School	(1909)	87, 88, 92
College of Phys. and Surg., Chicago	(1899) 80; (1909)	85
National Medical University, Chicago	(1906)	77
Indiana Medical College	(1906)	78
Indiana University	(1909)	78, 78, 82, 83, 83, 83, 83, 83, 83, 84, 84, 84, 84, 85, 86, 86, 87, 87, 87, 87, 87, 87, 87, 87, 87, 87, 88, 88, 88, 88, 88, 89, 89, 89, 89, 89, 89, 89, 89, 89, 90, 90, 90, 90, 90, 90, 90, 90, 90, 91, 91, 91, 92, 93, 94.
Physio-Medical College of Indiana	(1909)	75, 78, 87, 87
University of Louisiana	(1908) 83, 85; (1909)	75, 76, 84, 85, 86, 87, 89, 89, 89, 90, 94.
Louisville and Hospital Medical College	(1908)	76
Kentucky School of Medicine	(1907)	76
Johns Hopkins University	(1908) 92; (1909)	87
Southwestern Homeopathic Med. Coll., Louisville	(1897)	81
University of Maryland	(1908)	84, 86
University of Michigan, College of Medicine	(1908)	91
Kansas City Hahnemann Medical College	(1908)	80
St. Louis College of Phys. and Surg.	(1900) 81; (1909)	91
Washington University, St. Louis	(1908)	83
University and Bellevue Hospital Medical College	(1906)	91
University of Pennsylvania	(1904) 89; (1909)	92
Jefferson Medical College	(1908)	88

FAILED

College	Year Grad.	Per Cent.
Jenner Medical College	(1907)	66
University of Louisville	(1908)	68
St. Louis College of Physicians and Surgeons	(1907)	58

Marriages

George Parke, M.D., to Miss Elsie Bennett, both of Sylvan, Wis., September 22.

Francis M. Perkins, M.D., to Mrs. Sarah T. Addis, both of Philadelphia, October 19.

Joseph Fleitas, M.D., to Miss Lucretia Allison, both of Philadelphia, October 20.

William B. Cox, M.D., to Miss Leila Da Vega, both of Chester, S. C., October 13.

Emil Otto Ficke, M.D., to Miss Lillian M. Heede, both of Davenport, Iowa, October 21.

Walter Freeman Brown, M.D., to Miss Mabelle Brown, both of Philadelphia, October 22.

Julius Paul Lauer, M.D., to Miss Helen McKenzie Brown, both of Philadelphia, October 12.

Cuthbert Thompson, M.D., to Miss Julia Morsel Mengel, both of Louisville, Ky., October 12.

Daniel Webster Zirker, M.D., Merced, Cal., to Miss P. O. Smith, of San Francisco, October 12.

William W. Leake, M.D., New Orleans, La., to Miss Virginia de Neveu, of Chicago, November 3.

Silas Hall, M.D., Vincennes, Ind., to Mrs. Anna A. Gantz, of Carnegie, Pa., at Vincennes, October 21.

George Clarence Parcher, M.D., Saugus, Mass., to Miss Isabelle Graham, of Stoneham, Mass., recently.

John Davis Chambers, M.D., Portland, Ore., to Miss LeClaire Gilmore, of Rock Island, Ill., October 20.

Thomas Paul Doole, M.D., Fredonia, Texas, to Miss Mamie Frances Melton, of Fort Worth, Texas, October 25.

Samuel Eugene Holtzclaw, M.D., Greer, S. C., to Miss Bessie Amelia Willis, at Leetown, W. Va., October 14.

Joseph Exnalls Muse, M.D., Baltimore, Md., to Miss Laura Manulita Travers, of Cambridge, Md., November 3.

Malvern Bryan Clopton, M.D., St. Louis, Mo., to Miss Lily Lambert Walker, of New York City, October 27.

Stephen N. Jordan, M.D., Sour Lake, Texas, to Miss Zelma V. Sharman, of Liberty, Texas, in Houston, Texas, October 14.

Ralph Waldo Newton, M.D., M.R.C. U. S. Army, Fort Revere, Mass., to Miss Ethel Blanche McCrillis, of Hyde Park, Mass., October 4.

Deaths

George Eastman Stubbs, M.D. Harvard Medical School, Boston, 1863; one of the founders of the Medico-Chirurgical College of Philadelphia; for several years a member of the board of trustees, treasurer, and professor of anatomy, clinical surgery, and surgical pathology in that institution; for twenty years surgeon to the Charity Hospital, Philadelphia, and for several years an officer of the Philadelphia Board of Health; assistant surgeon U. S. Army, and brevet captain U. S. V. during the Civil War; died at his home in Merion, Pa., October 21, from cerebral hemorrhage, aged 69.

Frank Charles Bourscheidt, M.D. Rush Medical College, Chicago, 1887; one of the founders of the Illinois State Pharmaceutical Association in 1881, and its first president; from 1880 to 1890, a member of the committee on revision of the United States Pharmacopeia; for one year president and for two years secretary of the Peoria Medical Society; gynecologist to St. Francis Hospital; and at one time commissioner of health of the city; died at his home, October 16, from carcinoma of the stomach, aged 58.

Edward Grove, M.D. Cleveland University of Medicine and Surgery, 1897; of San Diego, Cal.; a member of the Medical Society of the State of California; was instantly killed while returning at night from making a professional call, October 19, by the plunging of his automobile over an embankment, near Foster, aged 36. The San Diego County Medical Society, at its meeting October 20, adopted resolutions expressing its high esteem for Dr. Grove, and extending its sympathy to the bereaved wife, family and friends.

Samuel Sigmund Kahn, M.D. College of Physicians and Surgeons, New York City, 1877; of San Francisco; a member of the American Medical Association; for a short time a member of the Medical Corps of the Army; city physician of San Francisco from 1882 to 1890; a director of and obstetrician to Mount Zion Hospital; who had been ill with intestinal amebiasis for several weeks and was believed to be convalescent; died at a hotel in Coronado, Cal., October 18, from angina pectoris, aged 53.

Robert Amasa Stephenson, M.D. Jefferson Medical College, Philadelphia, 1863; a member of the American Medical Association; who entered the army as a medical cadet in 1861, and later served as assistant surgeon of the Sixth Ohio Volunteer Infantry, and as brigade surgeon, and was severely wounded at Atlanta; a member of the local board of U. S. pension examining surgeons; auditor of Adams county, Ohio, in 1899; died in his office in Manchester, October 22, from cerebral hemorrhage, aged 71.

Irwin Hamilton McConnell, M.D. Atlantic Medical College, Baltimore, 1904; for a time surgeon for the Harper's Ferry and Hagerstown division of the Baltimore and Ohio Railroad; prominent as an athlete; physical director of the Y. M. C. A. of Washington, D. C.; died at his home in that city, October 18, from nephritis, aged 27.

William H. Twiford, M.D. Starling Medical College, Columbus, Ohio, 1851; surgeon of the Twenty-seventh Indiana Volunteer Infantry, and later chief surgeon of the First Division, Twentieth Army Corps during the Civil War; representative in the Minnesota legislature in 1867; died at his home in Owatonna, Minn., recently, aged 88.

James Pinckney Booth, M.D. Texas Medical College, Galveston, 1871; a member of the American Medical Association; professor of state medicine and hygiene in the College of Physicians and Surgeons, Los Angeles; and formerly editor of the *Los Angeles Medical Journal*; died at his home in Los Angeles, October 23, aged 62.

James M. Hoyle, M.D. Berkshire Medical College, Pittsfield, Mass., 1857; a surgeon in the Confederate Service during the Civil War; for several terms a member of the board of supervisors of Pontotoc county, Miss., and representative from Lee county in the legislature, died at his home in Tupelo, July 14, from asthma.

James Fulton, M.D. Trinity Medical College, Toronto, 1876; of St. Thomas, Ont.; local surgeon of the Michigan Central Railroad; president of the Amasa Wood Hospital; and chairman of the Board of Health; died September 15 in Victoria Hospital, London, Ont., from shock following an operation, aged 58.

Thomas J. Boykin, M.D. University of Pennsylvania, Philadelphia, 1852; a surgeon in the Confederate Service during the Civil War; for many years a resident and wholesale druggist of Baltimore; died at the home of his daughter in Chicago, October 22, from senile debility, aged 82.

James Henry Boylan, M.D. Wisconsin College of Physicians and Surgeons, Milwaukee, 1903; a member of the Nebraska State Medical Association; district surgeon at Eddyville for the Union Pacific Railroad; died in Milwaukee, October 12, after an operation on the stomach, aged 44.

Addison Atterbury Bell, M.D. Jefferson Medical College, Philadelphia, 1849; formerly a member of the Medical Association of Georgia; a surgeon in the Confederate Service during the Civil War; died at his home in Madison, Ga., August 7, from cerebral hemorrhage, aged 87.

James Wells Herbert, M.D. University of Maryland, Baltimore, 1871; apothecary at the Marine Barracks, Washington, D. C., for several years; and prior to that time surgeon to the U. S. S. *Lancaster*; died at his home in Washington, September 5, from paresis, aged 59.

Darius F. Boughton, M.D. University of Michigan, Ann Arbor, 1870; of Chicago; from 1872 to 1881 a member of the staff of the State Hospital for the Insane, Mendota, Wis.; died in Wilmette, Ill., July 30, from carcinoma of the rectum, aged 65.

George A. Engert, M.D. University of Pennsylvania, Philadelphia, 1893; ad eundem, University of Vienna, Austria, 1895; a member of the Medical Society of the State of New York; died at his home in Rochester, October 21, aged 42.

John Kinkead, M.D. Bellevue Hospital Medical College, New York City, 1872; formerly of Lexington, Ky.; died at his home in Poughkeepsie, N. Y., where he had practiced for thirty-five years, June 28, from heart disease, aged 60.

Robert Gibson, M.D. Missouri Medical College, St. Louis, 1875; for forty years a practitioner and medical missionary of Alton, Ill.; died at his home in Siloam Springs, Ark., October 21, from cerebral hemorrhage, aged 71.

William Cooke Steedman, M.D. Louisville (Ky.) Medical College, 1899; of Lagrange, Ky.; a member of the Kentucky State Medical Society; died at the home of his brother in Louisville, October 21, from paralysis, aged 46.

George J. White, M.D. University of Michigan, Ann Arbor, 1880; local surgeon of the Chicago and Grand Trunk Railroad in Jackson, Mich.; died at his home in that city, October 19, from cerebral hemorrhage, aged 54.

James William Ryder, M.D. Dartmouth Medical School, Hanover, N. H., 1896; a member of the American Medical Association; died at his home in Boston, October 22, after a surgical operation, aged 41.

Raphael Walter Meyer, M.D. St. Louis College of Physicians and Surgeons, 1902; formerly of Dubuque and Anamosa, Iowa; died at Sherrill's Mound, Iowa, October 17, after a lingering illness, aged 36.

Thomas S. Gant, M.D. Washington University, St. Louis, 1883; at one time local surgeon for the Missouri Pacific Railroad at Auburn, Neb.; died in the city hospital, Nebraska City, October 20, aged 52.

Peyton Burdette Parker, M.D. Kansas City (Mo.) Medical College, 1890; of Westport, Kansas City, Mo.; died in the General Hospital, Kansas City, October 17, from cerebral hemorrhage, aged 44.

Frank Hereford, M.D. Missouri Medical College, St. Louis, 1877; a member of the Medical Society of the State of California; died at his home in Alpine, September 21, aged 55.

J. Edwin Corlis, M.D. Louisville (Ky.) Medical College, 1893; of Portageville, Mo.; was accidentally shot and killed while hunting near that place, October 22, aged 39.

David Grant, M.D. New York University, New York City, 1888; of Providence, R. I.; died at the home of his brother in Malone, N. Y., October 13, from paralysis, aged 45.

Dane Perry, M.D. Keokuk (Iowa) Medical College, 1896; of Bundy, Wis.; died in St. Mary's Hospital, Rhinelander, Wis., October 20, from typhoid fever, aged 52.

Harry Loftus, M.D. John A. Creighton Medical College, Omaha, 1908; formerly of Omaha, Neb.; died at his home in Escanaba, Mich., October 20, aged 28.

John Marshall Eaton, M.D. Harvard Medical School, Boston, 1856; a surgeon of volunteers during the Civil War; died at his home in Harvard, Mass., October 21, aged 77.

James Bascom Jordan, M.D. University of Pennsylvania, Philadelphia, 1873; died at his home in Newbern, Va., October 19, in an epileptic convulsion.

James Clifford Goodwin, M.D. Halifax, N. S., Medical College, 1906; died at his home in Meteghan, N. S., February 17, from lobar pneumonia, aged 29.

Lyman Condit Olds (license, Md.); died at his home in West Baltimore, October 21, from injuries received in a fall from a car, aged 80.

John B. Anderson, M.D. Jefferson Medical College, Philadelphia, 1848; died at his home, Sunnyside, Hopeful, Va., October 16, aged 83.

Gustavus A. H. Wendlandt, M.D. Missouri Medical College, St. Louis, 1873; died at his home in Princeton, Wis., October 16, aged 66.

John Goddard, Jr., M.D. Pulte Medical College, Cincinnati, 1897; died in Shanghai, China, September 9, from cholera, aged 37.

Thomas J. Davis, M.D. St. Joseph (Mo.) Hospital Medical College, 1883; died at his home in Graham, Mo., October 16, aged 57.

George Hunt, M.D. Boston (Mass.) University, 1881; died at his home in Bridgewater, Mass., October 24, aged 54.

Sir Thomas Smith, K.C.V.O.; F.R.C.S.; honorable sergeant-surgeon to the king; consulting surgeon to St. Bartholomew's Hospital and the Hospital for Sick Children; formerly vice-president of the Royal College of Surgeons of England; for forty-eight years a member of the staff of the Hospital for Sick Children, Great Ormond street, London; assistant surgeon and surgeon of St. Bartholomew's Hospital, and lecturer on anatomy, and later appointed consulting surgeon and governor of the hospital; secretary of the surgical section of the International Medical Congress in London in 1881; died at his home in London, October 1, aged 76.

Book Notices

Myomata of the Uterus. By Howard A. Kelly, Professor of Gynecology in the Johns Hopkins University, and Thomas S. Cullen, Associate Professor of Gynecology, Johns Hopkins University. Cloth. Pp. 723, with illustrations. Price, $7.50. Philadelphia: W. B. Saunders Co., 1909.

The aim of the authors in this work is to place before the medical profession the subject of myomas of the uterus in an adequate but not too voluminous manner. Consequently the work appears in one volume, beautifully illustrated and attractive in every way.

From carefully preserved specimens and histories, dating from 1889 to 1909, they have been able to furnish in the work a complete account of the operations, pathology and results in 1,674 cases. These cases are taken from Johns Hopkins University and the private clinics of the authors. The history of the surgical procedure appropriate to uterine myomas, has not been considered, but the operations in the respective cases show conclusively the advance in this line of surgery.

Much stress has been laid on the errors which have occurred, and which will be of great interest to surgeons generally.

Statistics show a gradually lessened mortality, and the authors assert that during the past two and one-half years this mortality has been less than 1 per cent. Heredity is said to play no part in the causation of these tumors, but that they are associated with malignancy is proven.

The chapters on differential diagnosis, abdominal and vaginal hysterectomies contain reports of cases comprising interesting and valuable data.

This work will be of great assistance to those doing pelvic surgery, and the authors are to be congratulated on the success of their undertaking, which must have taken an immense amount of time, labor and expense.

Quain's Elements of Anatomy. Edited by E. A. Schäfer, Johnson Symington and T. H. Bryce, Edition 11. Vol. III, Part 1: Neurology. By E. A. Schäfer and J. Symington. Cloth. Pp. 421, with illustrations. Price, $4.50. New York: Longmans, Green & Co., 1908.

Quain's Anatomy is so well recognized as a standard English text-book that in recording the appearance of a new volume it is necessary only to point out a few new features. Part 1 Volume III of the eleventh edition embraces the general structure and mode of development of the elements of the nervous system and the special structure of the spinal cord and brain. Part 2 of Volume III is to contain the descriptive anatomy of the nerves and sense organs, the two parts together forming a complete text-book on neurology, indispensable to all those who wish to keep abreast of modern work in nervous anatomy. The volume has been edited, and to a large degree rewritten by Professor Schäfer of Edinburgh and Professor Johnson Symington of Queen's College, Belfast. The work is divided into three main parts: First, a discussion of the general structure and development of the nervous system; second, a consideration of the structural elements of the nervous system; and, third, a description of the cerebral spinal axis, the latter occupying the greater part of the book. The description and illustrations of gross anatomy are much the same as in former editions, a few new illustrations being added. The principal additions are in the form of new illustrations on microscopic anatomy, most of which being from original drawings contributed by Professor Ramon y Cajal. The first two chapters have been rewritten and supplemented, the number of illustrations being largely increased. The reproduction of Professor Ramon y Cajal's drawings on pages 17, 19, 23, 26 and 31 are particularly striking. The neuron theory of Waldeyer is discussed in the light of recent histological investigations.

The Medical Directory of New York, New Jersey and Connecticut. Volume XI. Cloth. Pp. 855. Price, $2.50. Published by The Medical Society of the State of New York, 1909.

The eleventh volume of the Medical Directory of New York, New Jersey and Connecticut, published by the Medical Society of the State of New York for 1909, has just been issued. The book is of the same size, style and general arrangement as preceding editions. Insertion of names is restricted to physicians registered in accordance with the laws in the three states covered. The different portions of the book are printed on paper of different colors, making reference exceedingly easy, the directory for Manhattan and the Bronx being on white paper, that for Brooklyn on yellow, the remainder of the state of New York on white, and the alphabetical index on green. The same arrangement is followed in the other states, making it possible to select instantly the portion of the book which one desires to consult. Members in county and state societies are designated by a star, membership in other medical organizations being designated by appropriate abbreviations. Particularly noticeable is the new type used in this edition. A complete roster of the Medical Society of the State of New York and a complete list of hospitals, dispensaries, benevolent institutions, public health organizations, etc., are added, forming a complete medical directory for the entire state. The matter for New Jersey and Connecticut is not so exhaustive, being limited to the lists of physicians for each state, arranged alphabetically by postoffices. Through the efforts of the state society, consequent on the publication of this directory, the registration of the medical profession in New York State has been given careful supervision, a most important work which might well be undertaken in other states. The directory is of value to all wishing information regarding the medical profession of the states and particularly to physicians and members of the organization in New York.

Experimental Pharmacology. A Laboratory Guide for the Study of the Physiologic Action of Drugs. By Charles Wilson Greene Ph.D., Professor of Physiology and Pharmacology, University of Missouri. Edition 3, with 37 illustrations. Cloth. Pp. 76. Price, $1. Philadelphia: P. Blakiston's Son & Co., 1909.

This revised third edition presents a text-book for conducting experiments in the pharmacologic laboratory, which gives explicit direction suitable to the needs of the student. The student is in the main left to make his own deduction from the experiments. Importance of knowledge of experimental pharmacology as a foundation for rational therapeutics can not be overestimated. The volume before us is well adapted to afford the student the means of gaining a personal acquaintance with this subject.

Physiology and Pathology of the Urine. By J. Dixon Mann, M.D., F.R.C.P., Physician to the Salford Royal Hospital. Edition 2. Cloth. Pp. 324, with illustrations. Price, $3.25. Philadelphia: J. B. Lippincott Co.

In this second edition of Dr. Mann's book the more recent advances in physiologic chemistry, along both theoretical and practical lines, are embodied, with the result that the volume constitutes not only an excellent treatise on the physiologic and pathologic significance of the various urinary constituents, but an extremely practical handbook of urine analysis as well. It is true that the book contains many analytical methods beyond the reach of the ordinary practitioner; but the simple methods are given as well so that the book will serve his purposes as well as those of the more advanced investigator.

Tuberculosis; A Preventable and Curable Disease. By S. Adolphus Knopf, M.D., Professor of Phthisiotherapy at the New York Post-Graduate Medical School and Hospital. Cloth. Pp. 394, with illustrations. Price, $2. New York: Moffat, Yard & Co., 1909.

The scope of this work is so broad that it can be read with much profit by everyone, lay and professional, who is in any way concerned with the tuberculosis problem. The layman is told that a proper mode of life and a careful observance of the physician's directions almost invariably result in cure. Physicians are given instructions concerning the diagnosis and treatment of the disease and their duties, not only toward their patients, but to the general public as well. Even the legislator, the employer, the clergyman and the educator are given helpful suggestions as to how they may aid in the eradication of tuberculosis. In fact, the strongest point made by the author is his appeal to the self-love of man. Each one is shown how he can help himself, and how by doing so he will help others. Knopf's personal views are so well known that it is unnecessary to touch on them in a book review. So far as the book itself is concerned, it is worthy of the highest commendation. It is a mine of useful and valuable information. The mechanical work is excellent; the illustrations are numerous, well made and really illustrative.

MEDICAL INSPECTION OF SCHOOLS. By A. H. Hogarth, M.B., B., Ch., D.P.H., County Medical Officer of Health for Buckinghamshire. Cloth. Pp. 360. Price, $2.00. New York: Oxford University Press, 1909.

The author of this work is a reformer who recognizes that an important crisis before his country and who sees in medical inspection of schools one of the steps necessary to secure the future of education and of national development. He accuses Great Britain of physical and intellectual degeneration and indifference to the vital problems of education. His remedy for the evils which he discerns lies in education—an education guided and controlled by the medical man. Medical inspection of schools is more than mere medical advice to school boards, more than inspection of school premises with reference to ventilation and the like, more than the exclusion of infectious diseases. It means that every teacher dealing with the difficult problems of school life may have the advantage of medical guidance; and that every child, normal or abnormal, may have medical inspection to determine his fitness for the work of education. The organization of the work of medical inspection and the duties of the school doctor and of the school nurse are fully discussed. The important question of medical treatment in the schools and the school clinic occupy two interesting chapters. A considerable amount of space is devoted to the discussion of diseases affecting school life. The description of these diseases is necessarily brief and adapted especially to the needs of teachers and educational authorities.

While the book is especially adapted to British conditions, much of it is equally applicable to everywhere. It will undoubtedly stimulate the demand for advanced medical care in the schools and aid in the attainment of modern ideals in education.

TEXT-BOOK OF SURGICAL ANATOMY. By William Francis Campbell, M.D., Professor of Anatomy, Long Island College Hospital. Cloth. Pp. 675, with 319 illustrations. Price, $5.00. Philadelphia: W. B. Saunders Co., 1908.

Campbell has translated isolated and consequently dry anatomical facts into their clinical values and thus gives them a vital interest to the teacher and to the student. The medical student receives the most benefit from that teacher who realizes that, regardless of their purely scientific value, some anatomical facts are of great importance while others are comparatively unimportant. The test of the value of the anatomical fact is its application to clinical conditions. As Campbell says, "A fact that can be utilized is a fact that will survive." There is throughout the volume an earnest effort to present facts as graphically as possible, either by illustrations or by concise tabulation of data. Liberal use is made of photographs, especially in illustrating fractures, the outlines of the bones concerned being drawn on the photograph. The book is copiously illustrated and is well printed on an excellent quality of paper. Especially commendable is the exhaustive index occupying thirty-three pages. A bibliography of the more important works consulted is also given.

THE ETIOLOGY AND NATURE OF CANCEROUS AND OTHER GROWTHS. By W. T. Gibson, A.R.C.S. Cloth. Pp. 123. Price, 6 shillings, net. London: John Bale, Sons & Danielsson, 1909.

Gibson, taking up the various factors apparently instrumental in the causation of cancer, first devotes considerable time to occupational incidence, with a discussion of the probable factors involved in this connection. Following this, he discusses other, more general, factors—inflammation, mechanical trauma, sunlight, *x*-rays, arsenic, etc. As a connecting link between all these miscellaneous factors, he calls attention to the little-accepted neurotic hypothesis of tumor growth, as one that in his view is of value. Finally, he discusses the increased alkalinity of the blood in malignancy, and goes so far as to suggest the induction of some degree of acidosis as a curative measure.

Gibson's arrangement of his material is not particularly well ordered, and his use of that material as a basis for his deductions would appear at times to be rather fine-drawn. These faults are somewhat excused by the prefatory remarks that the little book is in the nature of a preliminary statement, to be followed by a more extensive work. It is to be hoped that this latter will avoid the faults, while preserving the considerable suggestive value, of the present volume.

BIER'S HYPEREMIC TREATMENT. By Willy Meyer, M.D., Professor of Surgery at the New York Post-Graduate Medical School and Hospital, and Prof. Dr. Victor Schmieden, Assistant to Professor Bier, University of Berlin, Germany. Edition 2. Cloth. Pp. 280, with illustrations. Price, $3 net. Philadelphia: W. B. Saunders Co., 1909.

The vogue which hyperemic treatment early obtained made it certain that new editions of this book would soon be demanded. The popularity of this treatment has, of course, been in part due to its being taken up as a new method, but much more because of the good results obtained. When too much is not expected of it, hyperemic treatment is a satisfactory and valuable aid to the physician. It is a compliment to the work of the authors in the first edition that so little change was apparently found necessary in the second, indicating that the first covered the subject thoroughly. The chief additions are some case reports and the bibliography. This last, although only a list of articles, will be of decided service for those who wish to look the subject up further.

OBSTETRICS. Edited by Joseph B. De Lee, A.M., M.D., Professor of Obstetrics, Northwestern University Medical School, with the Collaboration of Herbert M. Stowe, M.D. Vol. V, The Practical Medicine Series. Cloth. Pp. 236, with illustration. Price, $1.25. Chicago: The Year Book Publishing Co., 1909.

This book is more than a series of abstracts from literature for the year, as the editor's personal experience and opinions are given in numerous editorial comments. Scopolamin-morphin anesthesia receives considerable attention, the editor expressing the view that the need of anesthesia in obstetrics is overestimated and stating that he prefers chloroform and ether as more under the control of the attendant. The danger of morphinization of the new-born child is emphasized. Attention is called to the danger from the ordinary methods of resuscitation of asphyxiated children, and suggestions are given by the editor for safer and milder methods.

LEGAL MEDICINE AND TOXICOLOGY. By R. L. Emerson, A.B., M.D., Member of the Massachusetts Medico-Legal Society. Cloth. Pp. 593, with illustrations. Price, $5. New York: D. Appleton & Co., 1909.

This book has been written to fill the need for a single-volume treatise, bringing the subject of legal medicine and toxicology, heretofore little understood and appreciated except by the specialists, closer to the general practitioner. The subjects are treated from a practical point of view with special reference to the needs of a physician or surgeon, who suddenly finds himself confronted with a medicolegal case. As a feature of special interest it includes extracts from the various state laws affecting the practice of medicine, occupying about 200 pages. The section on toxicology is concise and accurate, but of necessity, some subjects have been treated with undesirable brevity. This criticism applies especially to the ptomains, which are treated in a chapter of only three pages.

Society Proceedings

COMING MEETINGS

American Physiological Society, Washington, D. C., December 28-30.
Hawaiian Territorial Medical Society, Honolulu, November 19.
Medical Association of the Southwest, San Antonio, Tex., Nov. 9-11.
Ohio Valley Medical Association, Evansville, Ind., November 10-11.
Southern Medical Association, New Orleans, November 9-11.
Southern Surg. & Gynecological Assn., Hot Springs, Va., Dec. 20-21.

WEST VIRGINIA STATE MEDICAL ASSOCIATION

Forty-Second Annual Session, Held at Elkins, Oct. 6-8, 1909

The President, DR. V. T. CHURCHMAN, in the Chair

The officers elected for the ensuing year were given in THE JOURNAL, Oct. 23, 1909, p. 1409.

Report of Subcommittee on Malpractice Defense

The subcommittee made the following recommendations:

Your committee hereby recommends that the report of the Committee on Medical Defense be printed in circular form and a copy be sent to each of the component local societies, with a request that each of such societies discuss the general plan outlined, vote thereon, and forward the result of such vote to the chairman of the Committee on Medical Defense appointed at the annual session of 1908.

Endorsement of Social Hygiene

A resolution was passed as follows:

> *Resolved*, That the West Virginia State Medical Association gives its hearty endorsement to the West Virginia Society of Social Hygiene in its purpose to promote the cause of social hygiene, and that it will cooperate with its aims.

The New Neurology

Dr. C. A. Wingerter, Wheeling: The science of neurology has long been retarded by the fact that its study has been dominated by thought along anatomic lines. The new neurology forgets the old divisions into diseases of the brain and cord and peripheral nerves, and studies along the lines of function, that is, it thinks physiologically of the nervous system. Under the old method, sheer memorizing of clinical phenomena was necessary. But since the neurone doctrine of Waldeyer has been developed the why and the wherefore of symptoms becomes plain; neurology becomes both simple and scientific. Physiopathology is writing the first splendid chapter of the new neurology, and psychology will write the next. Man is body and spirit, and reacts as a biologic unit to the world about him. He responds to purely physical stimuli, and he reacts likewise to purely psychic stimuli. The study of these purely psychic reactions must be studied by neurologists, and they must learn that psychotherapeutics has come to stay. Man is studying his own mind as never before and is building up a true therapeutic science on the laws of mind.

Oration on Surgery: Early Diagnosis of Gall-Stone Disease

Dr. John Edgerton Cannaday, Charleston: The average text-book describes terminal stages and dead-house findings to the serious detriment of the patient. There is, relatively speaking, no such thing as a symptomless stone in the gall-bladder. If we inquire carefully into the past history we will find symptoms in abundance. We might as well speak of a symptomless stone in the urinary bladder as in the gall-bladder. Neither gall-stone colic nor jaundice are at all necessary to the diagnosis of gall-stone disease. The sooner we get over this fallacy the better it will be for our patients. The earliest symptoms are often trivial in character and frequently referable to the stomach. There is a feeling of fulness, weight or distention in the epigastrium, which is both peristent and annoying. It is generally relieved by belching, and vomiting gives complete relief. Relief may be given by bending the body forward, by loosening the clothing or by flexing the thigh on the body. At times there is a little pain in the gall-bladder region, at times a respiratory effort is cut short by a sudden stabbing pain. There may be a slight chilliness in the evening with a goose-flesh feeling of the skin. These symptoms have often gone unrecognized. About every fourth woman past middle age and a few less men, have gall-stones. By constant care as regards the diet, hygiene and the use of laxative mineral waters, it is possible for these patients to keep in a condition of comparative comfort. But numerous retrograde changes may take place in the liver, gall-bladder and pancreas. When operative treatment becomes imperative the mortality risk is high and the technic of the work difficult. The early operation is easy, safe and prophylactic. The question of removal of the gall-bladder, or its drainage, is largely dependent on the practice of the individual operator as to whether he is inclined to operate early or late. The man who operates early will be able to cure most of his cases by simple drainage, while the one who waits for terminal stages will find the condition so serious that removal rather than repair will be often an imperative indication.

Gall-Stones in Woman of Sixty-Two

Dr. J. E. Rader, Huntington, reported a case of gall-stones in a woman of 62. He removed 4,000 stones from the gall-bladder, varying in size from a millet seed to a hazelnut. The gall-bladder was greatly distended and inflamed. There was no previous history of gall-stones. The patient made an uninterrupted recovery.

Influence of Physical Defects on Personalities, Moral Obliquities and Crime

Dr. G. H. Benton, Chester: Personality represents the status or the expression of the status of the psychosomatic totality of an individual, and while there are as many distinct personalities as there are individuals in the universe, there are two grand divisions into which this subject can be conveniently separated and individuals may be considered under the classification of normal and abnormal personalities. The study of psychology confirms the fact that the mind is the culmination of the physical functioning of the brain through the sense organs, and the mind is composed of two distinct faculties, each embracing numerous subdivisions; the higher, or superior division, beginning with simple recognition or perception and being capable of advancing through all the steps to the highest degrees of mental attainment aggregating degrees of knowledge and wisdom, while the lower or subconscious mental strata is concerned with the recognition of physical functioning independent of thought; presiding over so-called reflex acts and directing physical processes intending to insure the comfort and well-being of the individual independent of reflection, judgment or thought, processes which may or may not be influenced or recognized by the higher functioning mind—"the psychic intellectualis."

In recognition of the two dissimilar results of cerebral functioning, we are conscious of feeling resulting from one process and of thought from another, yet the sensation of feeling and the fact of thought, while exerting much or little influence on each other, are two distinct entities. Through feeling we recognize states of satisfaction and discontent, pleasure and pain, desire and aversion, jealousy, hatred, grief, etc., which are purely the result of internal organization which we do not determine but which we feel without first having thought of them. These conditions exist for the preservation of both the man and the animal, without consciousness, reflection or any other active participation on the part of the individual being necessary; and these mental states, having reached certain intensities, simulate the impulse of an electric current applied to a vivisected animal, producing certain involuntary acts, such as movements, attitudes and gestures, entirely independent of consciousness, and always corresponding comfortably to the designs of nature for the needs and preservation of the individual. This subconscious neurocerebral functioning producing states of feeling, of impulse, of emotion, etc., constitutes the basis of the moral personality. The modification of the impulses arising from the functioning of the central nervous system by the intelligence represents the normal moral personality of any individual. Moral obliquities and crime are only the expression of different degrees of abnormality signifying intensity of feelings, which may be abnormal on the one hand, combined with a condition of relative intellectual paresis or normal feeling states with abnormal intellectual states, states of dissociation, etc. Hereditary defects involving the nervous system are the primary exciting causes of abnormal personalities, including moral obliquities and crime. Next come induced defects, toxic conditions, intrinsic autotoxicosis, extrinsic autotoxic states from alcohol or the infectious fevers, etc., traumatism, and accidental injuries.

Sterilization of Confirmed Criminals and Other Defectives

Dr. J. R. Bloss, Huntington: The defective classes include idiots, imbeciles, majority of the insane and the greater portion of the paupers and criminals, and while a certain amount of improvement can be secured in some of them by various training methods, etc., they can never become fit to propagate a strong and sturdy race. The outcome of propagation among defectives is seen among the suicides, homicides, in the divorce court and in all classes of criminality. At the close of the year 1908 the state of West Virginia had 3,397 persons under its care in the three hospitals for the insane at a cost of over $500,000 per year, the Penitentiary, Reform School and Girl's Industrial Home at a cost of over $500,000 a year. In thirty-eight years from 1870 to 1908 the ratio of insane under the care of the state increased from 1 in 2,135 of the total population to 1 in 583. Heredity is a very important etiologic factor in from 50 to 75 per cent. of patients in state hospitals. In two families, 14 of the 15 children are idiots and imbeciles. My conclusions are: 1. The defective classes are multiplying much more rapidly in proportion than the total population.

2. Stringent marriage laws will not control the increase among defectives. 3. Vasectomy, which does not impair the sexual powers, fulfils every requirement for sterilizing males (other than rapists) and should be provided for by law. 4. Salpingectomy should be provided for among defective females.

What Can the Medical Profession Do to Prevent Crime?

Dr. G. D. Lind, Richwood: There are two classes of criminals: first, those of apparently sound minds who have been driven to crime by the force of circumstances alone; second, those of unsound minds, and those who have inherited from ancestors certain degenerate tendencies. The second class is most numerous to-day. The ordinary motives for crime are less numerous to-day. Most crimes are due to degeneration of the race. If the same care were taken in breeding human beings as is taken in breeding animals and plants, there would be less insanity and crime. Statistics show that in the last thirty years homicides and insanity have increased over 200 per cent. in proportion to the population. Insanity is largely the cause of crime; drug intoxication is temporary insanity. The word assassin is derived from the Indian name of the drug cannabis indica which was taken by ancient assassins. When assassination was a political measure, degenerate men were chosen to commit the act. Insanity and tendency to crime are inherited in a great measure; so are genius and all good qualities. The punishment for crime and the treatment of the insane is a matter for the medical and not for the legal profession. Men should not be sentenced for a term of years but for an indefinite period, during which time an effort to educate and reform them should be made. Sterilization of males by vasectomy is to be recommended; castration should be advised only in cases of rapists, or would-be rapists. It has other effects than sterilization. Young men should be taught the dangers of promiscuous intercourse, and married men the results of families too large for the means of support and education.

Prolonged Intubation

Dr. T. W. Moore, Huntington, reported three cases of prolonged intubation. In the first case, a papilloma of the larynx, the tube was worn continuously for six months and the child was thoroughly comfortable for four or five weeks after its expulsion. Tracheotomy was then performed and an attempt to remove the growth was made many times, by tracheoscopy, without success. In the second case the tube was worn, with repeated removals and cleansing, for nine months, and finally when it was thought that the tube could be removed and it was left out for two days, the posterior wall of the larynx was found to be only a thickened membrane and had collapsed. Tracheotomy was performed and the child is still wearing the tracheal tube. In the third case, probably one of diphtheria, followed by edema of the glottis, the tube was worn six months with repeated removals for cleansing. When necessary to retain the tubes they should be frequently removed and cleansed and, if possible, a larger tube used each time. If the obstruction is due to papilloma it is better to do a tracheotomy and allow the child to wait until maturity before removing it, after which the growth rarely recurs, but it nearly always does if removed before maturity.

Other Papers Read

The following papers were also read: "Human Suggestibility or Fads, Fakes, and Fake Cures," by Dr. S. L. Jepson, Wheeling; "Atrophic Rhinitis," by Dr. G. A. Aschman, Wheeling; "Artificial Hyperemia as a Therapeutic Measure," by Dr. J. Howard Anderson, Marytown; "The Arithmetic of Milk Modification," by Drs. J. T. Thornton, Wheeling; "End-Results in the Fracture of Long Bones," by Dr. S. M. Mason, Clarksburg; "Colles' Fracture," by Dr. A. J. Noome, Wheeling; "Radiographic Diagnosis," by Dr. A. J. Quimby, Wheeling; "Appendicitis and the General Practitioner," by Dr. W. W. Golden, Elkins; "Serum Therapy," by Dr. H. W. Daniels; "Institutional Specialism," by Dr. T. L. Barber, Charleston; "Placenta Prævia," by Dr. Sharpe; "Brain Surgery, with Report of Cases," by Dr. F. LeMoyne Hupp, Wheeling; "Cranial Injuries and Report of a Case of Subdural Cyst," by Dr. R. H. Powell; "Differential Diagnosis of Gall-stones," by Dr. L. H. Forman.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

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Ocular Manifestations Associated with Intracranial Lesions Complicating Aural Disease

Dr. S. MacCuen Smith, Philadelphia: Intracranial lesions complicating acute middle-ear disease are of comparative infrequency. We are still deficient in ability to locate the majority of lesions involving the interior of the skull. Ocular symptoms, with the exception of nystagmus, are of definite significance to the extent that they appear to develop only when otitis has involved the tissues within the cranial walls. The importance of the association of the eye with the ear through their nervous connection has been largely overlooked in the past. Papilledema is a valuable diagnostic symptom of meningitis, but is not always present. In every case in which there is suspicion of the existence of an intracranial lesion following or accompanying disease of the middle ear, an examination of the fundus should be made, even though the sight be perfect. In the majority of aural affections involving the interior of the skull, if we wait for the appearance of diagnostic symptoms, we run the risk of losing our patients. Eye symptoms, like blood examinations, should not influence the diagnosis of an intracranial lesion in the presence of other distinctive symptoms. In brain abscess, ocular symptoms may be absolutely lacking, or may occur so late as to make it impossible to wait for their appearance. In meningitis, ocular symptoms are frequently present, but variable. In extradural abscess and sinus thrombosis, there are no eye symptoms unless the condition is far advanced. Labyrinthitis usually has nystagmus as a constant symptom from the beginning of the inflammation.

DISCUSSION

Dr. S. Lewis Ziegler, Philadelphia: The interrelation of the eye and the ear is still a *terra incognita*. From the aurist's point of view the ocular symptoms arising from otic disease are seldom pathognomonic. The most important ocular manifestations are those occurring as sequelæ of pressure edema of the nerve head. Motor disturbances are of a more complex character and manifest themselves either in the form of nystagmus or as muscular palsies. Muscular palsies may occur during the height of the middle-ear inflammation, or may result from operative procedures. Temporary amaurosis may occur, usually in the hemolateral eye, but sometimes in both eyes. The septic processes may originate grosser lesions, such as exophthalmos, orbital cellulitis, periorbital abscess or panophthalmitis.

Dr. H. F. Pyfer, Norristown: The literature is so filled with mention of eye conditions associated with ear diseases, that one would be led to believe that they are very closely associated, yet, although I make a habit of examining the eyeground in all ear cases, I have been disappointed by failure to find associated lesions.

SYMPOSIUM ON RELATIONSHIP BETWEEN ACCESSORY SINUS AND OCULAR DISEASE

How May Inflammations of the Accessory Sinus of the Nose Occasion Inflammation of the Orbit and Eyeball?

Dr. Howard F. Hansell, Philadelphia: The anatomic and clinical investigations and the symposiums of medical societies in recent years testify to the great interest of the subject and have tended to bring together the ophthalmologist and the rhinologist to their mutual advantage and to the benefit of their patients. Disease of the orbit secondary to disease of the sinuses should not be confused with affections of both dependent on a common cause. Diseases of the accessory sinuses are communicated to the orbit by the orbital walls, by the veins and lymph channels and by continuity of tissue, and give rise to bony tumors, soft tumors composed of pus retained in the sac by the orbital periosteum and orbital cellulitis and abscess, either metastatic or direct, and other serious and fatal eye affections. Nasal obstruction is the cause of chronic conjunctivitis and superficial and deep keratitis. Persistent headache and asthenopia unrelieved by ocular treatment, is reflex in character, and due to nasal causes in many unsuspected cases. This should be borne in mind by the oculist, and instead of searching for changes in the refraction which cannot reasonably be regarded as the cause of the trouble, investigate the condition of the nasal mucous membrane and of the adjacent cavities.

Sphenoid and Ethmoid Sinuses in Relation to Ophthalmologic Diseases

DR. D. BRADEN KYLE, Philadelphia, discussed the normal and anatomic relation of the sphenoid and ethmoid sinuses to the orbit; the importance of variation from the normal, first, as anatomic irregularities regarding size and position, and, second, pathologic, structural alterations; the significance of the x-ray as a means of diagnosis and prognosis; the importance of careful intranasal examination, and primary and secondary lesions.

Ocular Symptoms Caused by Intranasal Diseases

DR. JOHN F. CULP, Harrisburg: Many ocular symptoms of an obscure character are often caused by intranasal diseases in which intranasal pressure is a predominant factor. Removal of this pressure by nasal treatment, if not too long delayed, gives immediate and permanent relief.

Differential Diagnosis of Orbital Affections Due to Sinusitis, with Report of a Case of Thrombosis of the Cavernous Sinus

DR. WENDELL REBER, Philadelphia: There is more evidence to-day than ever before that anatomic and metastatic phases of orbital disturbance do not occur spontaneously, but are the direct result of previous rhinologic disease. These disturbances may be inflammatory or non-inflammatory. Of the former are periostitis, optic-nerve disorders, orbital cellulitis, orbital abscess and thrombosis of the cavernous sinus; of the latter are edema of the lids and chronic distention of the walls of the sinuses giving rise to crowding of the orbital contents. In cases of suspected sinus disease, exhaustive and repeated rhinologic examination should be made.

Discussion on Relation Between Orbital and Aural and Nasal Disease

DR. WILLIAM A. HITSCHLER, Philadelphia: While the diagnosis of sinus disease and its relation to ocular affections are often established with comparative ease, it frequently happens that this is a matter of great difficulty. The anatomic anomalies of the sinuses still further complicate the diagnosis. A right-sided optic neuritis may have its origin in the left sphenoid cavity or the left ethmoidal labyrinth. It is to be hoped that the x-rays may ultimately enable us to make a diagnosis with confidence.

DR. S. D. RISLEY, Philadelphia: Years ago, general surgeons called the attention of medical men to the great danger to life of suppurative diseases about the nostrils and upper lip. The region of the orbit should also be included in this. In 1896, there occurred in my family a fatal case of thrombosis of the cavernous sinus due to a pimple on the malar region. At that time I searched for an explanation of the edema of the eyelids which occurred in that case, but found only a slight reference to it, and that in Fuch's book. Since then, many cases of this affection have been reported. Before undertaking surgical interference in the region drained by the ophthalmic vein into the cavernous sinus, we should always have a picture of the possibility of thrombosis of this sinus in mind. Many of the patients with acute middle-ear disease will do well if treated by rest in bed, and such drugs as aconite, belladonna and salines, and in this way surgical interference may be avoided in cases in which it seemed at first to be necessary.

DR. W. CAMPBELL POSEY, Philadelphia: A careful ophthalmoscopic examination is of importance in sinusitis of the ethmoidal and sphenoidal cells. I believe that the ophthalmologist treats a number of cases of sinusitis in the belief that he is dealing with errors of refraction. The relief from atropin in such cases is not due to putting the ciliary muscle at rest, but to drying up the secretions in the sinuses. The fact that in a case of orbital cellulitis the nasal examination is negative should not be regarded as evidence that the trouble is not due to sinusitis. One should never undertake operation in these cases unless he is prepared to enter the sinuses.

DR. ROSS H. SKILLERN, Philadelphia: The complications from the sinuses result chiefly from the ethmoid and the sphenoid. The former are mild and the latter severe in their manifestations. There is a form of ethmoiditis characterized by the formation of polypoid masses in the ethmoid cells which causes more mild eye symptoms than all other sinus troubles together.

DR. S. LEWIS ZIEGLER, Philadelphia: I believe the antrum of Highmore furnishes more disturbance than the other sinuses. I am not sure that it is due to infection, and am inclining to the belief that some chemical irritant keeps up the inflammation in the eye.

DR. E. B. HECKEL, Pittsburg: In a case recently under my observation in which there was marked proptosis of the left eye, it was only after cooperation with others, including the radiographer, that a diagnosis of gumma could be made by exclusion. Treatment on this basis resulted in complete recovery.

DR. S. MACCUEN SMITH, Philadelphia: During the early stages of these sinus troubles good results are often obtained and complications which require surgical interference avoided if the patient is put to bed and treated by suitable remedies.

DR. GEORGE W. JOHNSTON, Pittsburg: More is expected of the x-rays in these cases than should be. They have strict limitations. It is impossible to state when a sinus is obscured whether this is due to an edematous membrane or pus, or both. However, if the picture is made with the patient in the erect posture, the level of the fluid, if due to pus, will be distinctly seen. The diagnosis is not made by a single examination, but by comparison at different examinations, and, unless the radiograms are made under identical conditions, comparisons cannot be made.

Psychoses Associated with Eyestrain

DR. S. D. RISLEY, Philadelphia: I have observed certain phases of mental disturbances associated with eyestrain—in one instance insanity, in others hallucinations, mental delusions and fear of insanity or loss of mental control. In all the patients entire relief followed the correction of the ocular strain which was due to defects of refraction, anisometropia and difficulty in maintaining binocular vision because of some muscular anomaly. In one of the patients, a high degree of exophoria made constant, strained attention necessary to avoid crossed diplopia; in three of the patients the fault was hyperphoria which upset the binocular balance. I desire to call attention to the great difficulty presented, in the present state of our knowledge of brain physiology, in reaching any satisfying explanation of the manner in which strain on a group of muscles innervated by the oculomotor should set up a symptom-complex essentially psychic in nature. I suggest that the contiguity of the at present accepted location of the oculomotor nucleus, to the primary visual cortex might, through the influence of the vasomotor nerves of the sympathetic, lead to vascular changes in the visual cortex, or that exhaustion or irritation might disturb the transmission of visual perceptions from the primary to the secondary or higher visual, or apperception areas, and so disturb the concrete mental conception of visual image.

DISCUSSION

DR. JOSEPH WILLETTS, Pittsburg: The eye, as associated with functional psychoses affecting the adult of middle life, is, in my opinion, a subject paramount in importance to any other subject in ophthalmology. I have long believed that the functional psychoses are primarily dependent on underlying, unrecognized natural causes. The almost magical disappearance of isolated groups of symptoms in distant organs after the correction of refraction errors and adjustment of muscle imbalances of the eye seem to me to be due to direct saving of nerve impulses which were being expended in unsuccessful attempts to compensate. The leak has been stopped and other organs get their normal supply.

DR. C. K. MILLS, Philadelphia: We must never make the mistake of supposing that the correction of the ocular errors will of itself absolutely cure these patients. It may, as in Dr. Risley's cases, so relieve the pressing conditions as to put the patients in good shape.

Conservative Surgery in Ocular Injuries

Dr. L. Webster Fox, Philadelphia: The treatment of ocular injuries must be approached from a standpoint different from that assumed in injuries elsewhere in the body. This is due to the complexity of the tissues found within a small compass rendering probable the injury to many dissimilar tissues at the same time. Also, traumatism to one eye puts on the surgeon the responsibility of maintaining the integrity of the other eye. The treatment of injuries to the eye is gradually being revolutionized, and better results will be obtained from such injuries in industrial centers where eye injuries are common and the pendulum is gradually swinging toward the side of conservatism rather than that of hasty enucleation. The teaching that the prognosis of injuries within a zone one-fourth of an inch wide encircling the cornea is necessarily grave, has not been my experience. I have found that in incised wounds of the eyeball, even in the ciliary region, the ciliary involvement is often minimized or *nil*, provided the incision penetrates between the ciliary processes, while a diagonal cut increases the ciliary involvement by extending directly through one or more of the ciliary processes. After injuries to the eyeball, in addition to local antiphlogistic applications, sodium salicylate internally is of great value. A patient can take daily a number of grains equal to the number of pounds body weight. I have done over 400 Mule's operations without a single case of sympathetic ophthalmia following the operation.

DISCUSSION

Dr. Edward Jackson, Denver, Colo. (by invitation): I was early impressed with the old statement about the danger of small penetrating wounds in the ciliary region as regards the danger of producing sympathetic ophthalmia, so that I have, so far as possible, sought to give free drainage to penetrating wounds in this region. In extracting foreign bodies I have tried to remove with the foreign body the injured tissue adjoining. In magnet extraction I have made as free an incision as possible. I have never had reason to regret preserving or attempting to preserve an eyeball. I have also learned by experience, rather than from the literature, that minute foreign bodies can be left in the cornea and in the tissues back of the cornea without insuring the loss of the eye.

Dr. W. B. Weidler, New York: I have had good results from the use of large doses of sodium salicylate. I always work to the physiologic limit.

Dr. S. D. Risley, Philadelphia: I am sure that many ophthalmologists save eyeballs now which in former years they made no attempt to save. I have in a measure lost my dread of punctured wounds in the ciliary region. It is folly to try to save an eyeball which contains copper, brass or lead. These substances may be surgically pure in the sense of infection, but they undergo certain chemical changes which are deleterious to the eye, and my experience is that I have had to remove such eyes sooner or later. The foreign bodies that we remove with magnets are not the most serious.

Dr. G. E. de Schweinitz, Philadelphia: Injuries in the ciliary region are not quite so dangerous as we have been led to think; they are no more dangerous than injuries in some other parts of the eye. Whether an eye can be saved or not depends on the character of the injury. We are probably saving more eyes now than formerly. I have been using calomel combined with salicylate of sodium recently, with very good results. By large doses of sodium salicylate the tendency to sympathetic ophthalmia is distinctly lessened. I wish also to commend the use of conjunctival flaps for preventing infection of wounds at the sclerocorneal region.

Dr. J. F. Klinedinst, York: I do not remove so many eyes now as I did ten or fifteen years ago. I am able to preserve them by the use of sodium salicylate and simple external disinfectants; also, by using dionin and atropin. I have great faith in sodium salicylate in injuries of the ciliary region.

Refracting Opticians

Dr. James Thorington, Philadelphia, reviewed the efforts made by opticians in various states to obtain legislation which would license them to do refraction, and summarized the laws to this effect already existing in a number of states. He also dealt in detail with the bill which was defeated in the last session of the legislature in Pennsylvania. He set forth reasons why such legislation should not be enacted. The various "schools of optometry" were discussed and their defects pointed out.

Brief History of the Treatment of Stammering, with Some Suggestion as to Modern Methods

Dr. G. Hudson Makuen, Philadelphia: The treatment of stammering, although formerly in the hands of the medical profession, is now given over largely to charlatans and semi-professional empirics. This treatment, conducted on a purely commercial basis, is not only unscientific, but also, in the great majority of instances, wholly inefficacious. A certain small percentage of stammerers will regain freedom of speech without any special assistance whatsoever, and these are the only ones whom the treatment referred to can possibly reach, while in the majority of the severer cases, the patients are not only not benefited by it, but are made distinctly worse by having their confidence shaken and their hope destroyed. The unscientific treatment of the charlatan consists largely in an attempt to cure the affection by a kind of short-cut, psychotherapeutic method, ignoring almost entirely the physical habits on which the affection to a large extent depends. The cures are only temporary, and the stammerer is worse off than he was before. Stammering is a psychophysical affection, and any scientific treatment of it must take into account its dual nature. The modern scientific treatment of stammering, therefore, recognizes the psychophysical nature of the affection. It aims to supplant the faulty habits of speech with correct ones, and at the same time to meet the requirements of the psychical condition.

DISCUSSION

Dr. E. Kenyon, Chicago (by invitation): Stammering is a social disorder only; the stammerer can talk to himself indefinitely without stammering, but stammers only when talking to others. All the problems relating to stammering are medical problems and can be solved only by the physician. The mother of a stammering child in the smaller communities is unfortunate in not having any one to go to but the family physician, whose advice in this respect is often unfortunate, to say the least. Every physician should know certain basal facts so that his advice may not do harm. We will supplant the methods of the flamboyant stammering schools only by making our methods more effective than theirs. In the larger cities there should be stammering classes in the public schools presided over by medical men.

Dr. D. B. Kyle, Philadelphia: Stammering is only one form of speech defect. Whether it is a local or a mental one is a question. The habit of stammering is mental. Several years ago I showed two boys, previously not stammerers, who acquired the habit from a third boy. The proper treatment of stammering requires individual attention. If four or five stammerers are put together for treatment, not much can be accomplished.

Dr. E. Bosworth McCready, Pittsburg: Dr. Makuen has done more than any other man in this country to take the treatment of speech defects out of the hands of the charlatan. I believe that the tendency to stutter is present in the child from the time he begins to speak. In a recent study of 26,000 school children in Pittsburg, I found that over 1 per cent. were stutterers. The problem of taking care of so many is a serious one. It resolves itself into a question of special classes or special schools.

Dr. G. Hudson Makuen: There are marked exceptions to the rule that stammerers do not stammer when they talk to themselves. Many a stammerer does not know that he stammers until he is told by some one. A majority of children with speech defects are wholly unconscious of the defect. Patients are cured of stammering only when they have been so trained that they can talk more easily without than with stammering.

Mastoiditis in Diabetes

Dr. B. H. Potts, Philadelphia: Although there is decidedly more risk in operating on diabetic than non-diabetic patients, when it becomes necessary to operate, the earlier the procedure is resorted to the better the chance of recovery. Mastoiditis in diabetes is almost characteristic, in that it often occurs without any marked signs of trouble in the tympanum, beginning apparently as a primary osteitis of the mastoid, and also that the destruction of bone takes place more rapidly and more extensively than in other cases. Whether the destruction of the bone in the mastoid be rapid or slow, the acute inflammatory phenomena are apt to be absent until rather late. This is an added indication for early operation. The danger of anesthesia is greater in these cases, and, following ether or chloroform, there may be dyspnea, which usually presages a fatal termination. Speed in operating and short anesthesia are extremely important factors. The removal of the involved bone must be thorough. It is better not to close the external wound by suture.

Restoration of the Upper Eyelid by Skin Graft, with Report of Three Cases

Dr. Edward B. Heckel, Pittsburg: Skin grafting in these cases is rarely done and the technic is usually faulty. In my cases I used Thiersch grafts for the arm. The upper lid was drawn down and stitched to the cheek to increase its surface. The graft taken was three times the area of the surface to be covered. After contraction occurred the cosmetic result was excellent.

DISCUSSION

Dr. G. B. Jobson, Jr., Franklin: I believe that it is better to use grafts without pedicles wherever possible. Local is preferable to general anesthesia. I use 2 per cent. cocain with 1 to 2,000 adrenalin, injecting it into the lid. Hemorrhage from the denuded lid must be controlled absolutely or the graft will not adhere. The graft must be two or three times the size of the area to be covered.

Dr. William Campbell Posey, Philadelphia: I would much rather use a pedicle flap than Thiersch grafts. The pedicle flap is better nourished and, if carefully planned and massage is used, the cosmetic result is good. I prefer local anesthesia, but use 2 per cent. solution of novocain, as it is less toxic than cocain. I do not think it is necessary to have every bleeding point controlled. The quicker one gets through with the operation the more certainly will healing occur.

Isolated Paralysis of the External Rectus in Acute Otitis Media

Dr. W. Hardin Sears, Huntingdon: This condition has been reported by a number of observers. In one series of 257 cases of paralysis of the external rectus it was due to otitis media in 2 cases. In a case of otitis media which I observed, paralysis of the external rectus occurred coincidently with acute articular rheumatism. Complete recovery followed the use of sodium salicylate and pilocarpin.

DISCUSSION

Dr. T. B. Schneideman, Philadelphia: Paralysis of the sixth nerve is a rare complication of otitis, and is most frequent between 5 and 15 years of age. One bilateral case has been reported, but in this case the ear distress was bilateral. The mortality in collected cases has been 16 per cent. The most certain preventive measure is early and adequate paracentesis with proper drainage.

(To be continued)

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Thirty-fifth Annual Meeting, held at St. Louis, Oct. 12-14, 1909

(Continued from page 1506)

Surgery of the Gall-Bladder

Dr. W. D. Haines, Cincinnati: In cholecystectomy, the first essential is to secure the cystic duct and artery in the grasp of a long hemostat placed near the junction of the cystic with the hepatic duct. Another hemostat is placed a short distance before the first and the cystic duct and vessel are divided. The first hemostat will control hemorrhage and the second will serve as a retractor in the succeeding steps of the operation. Incision of the peritoneum for stripping up the gall-bladder should be made in the fold where the peritoneum is reflected from the gall-bladder to the liver, in order to preserve sufficient tissue to cover the raw surface of the liver. If unusual difficulties present themselves in ligating the cystic artery, the hemostat may be left in place for forty-eight hours. The denuded surface of the liver is then covered by sutures of divided peritoneum and a rubber tissue-covered drain placed in the bottom of the wound. A large vein, sometimes mistaken for the portal vein, is occasionally found crossing the ducts, and, if present, is almost invariably injured in the course of the removal of the gall-bladder. It should be clamped, doubly ligated, cut and the end retracted, as hemorrhage in the bottom of the wound is difficult to control, causes delay and adds to the shock of the operation. In closing the abdomen the peritoneum and posterior sheath of the rectus are included in the first tier by a button-hole or interrupted suture. Two or three figure-of-eight silkworm-gut sutures should be placed so as to include the muscle, the fascia and skin, but are not tied until the anterior fascia is closed by continuous catgut.

The Latent Gall-Stone

Dr. C. N. Smith, Toledo, Ohio: In the light of our present knowledge of the initial symptoms of gall-stone disease and of the slight or characteristic symptoms of latent gall-stone, we must believe that in every case they have produced, do now produce and will continue to produce a certain train of symptoms so distinctive in nature that a positive diagnosis depends only on a correct interpretation of them. The three symptoms which are mentioned almost invariably when cholelithiasis is in consideration are colic, jaundice and putty-colored stools. Every one of these symptoms is a late or terminal event occurring after a more or less prolonged period of occupancy of the gall-bladder by the stone, during which period distinctive and diagnostic symptoms are present, and should be correctly interpreted. One of the most important advances in the surgical treatment of diseases in the upper abdomen accrues from the recognition of the fact that 80 per cent. of the cases of chronic pancreatitis are the result of gall-stones and the sequentially occurring infections of the biliary tract. Medical and hydropathic treatment, both confessedly powerless in so far as absorption or removal of the concretion is concerned, aim only at the control of the symptoms through abatement of the infection. Surgery, advancing on the limited possibilities of medicine, by one safe and eminently successful procedure, removes simultaneously the causal gall-stones and the resultant infection.

Latent Duodenal and Gastric Ulcer

Dr. Willard J. Stone, Toledo, Ohio: Duodenal and gastric ulcers are more common than supposed. Most of them are masked under the symptoms and diagnosis of functional hyperchlorhydria. The acute forms, with severe recurring hemorrhages in certain cases may demand surgical interference, although such patients are in an extremely critical condition and the surgical risk extremely hazardous. Many patients recover under medical care. Perforation demands, first of all, early diagnosis. Fully 60 per cent. of these cases are wrongly diagnosed, as appendicitis, gall-bladder, intestinal obstruction or acute peritonitis, not stating the cause. The earlier the interference the better the results. Goldstücker, who has recently reviewed 236 cases of perforation, found that among patients operated on within the first 12 hours the mortality was 29 per cent., after 12 hours the mortality was 54 per cent. Robson found among 155 cases of perforating ulcer in the literature to 1907, that the mortality among the patients operated on during the first 24 hours was 37.7 per cent., after 24 hours the mortality was 85 per cent. In about one-fourth of the cases in the literature of perforating duodenal ulcer no previous dyspeptic symptoms suggestive of the condition had existed. Fully 75 per cent. of uncomplicated ulcers of the duodenum or stomach are cured by medical means, the remaining 25 per cent. become chronic and may be classified under: (1) Chronic ulcer with active symptoms, such as pyloric spasm, scar contraction, perigastric adhesions or malignant transformation; (2) chronic ulcer with latent symptoms, which may be defined as that type giving rise to periodic attacks of distress at the height or end of gastric digestion and simulating in a large percentage of cases neurotic or functional hyperchlorhydria. Hemorrhage or vomiting is not necessarily a symptom of chronic ulcer. The attacks are periodic, lasting a month or two, with recurrence after two or three months. The distress is relieved by taking food, milk or an alkali. Hypersecretion, which is a far more important diagnostic sign than hyperchlorhydria (which exists in about one-half the cases), is practically always present. The finding of from 50 to 100 c.c. hyperacid secretion in the fasting stomach is extremely suggestive of ulcer. Patients often complain of raising a mouthful of acid secretion from the stomach when the organ is supposedly empty. Elaborate laboratory investigations are not necessary. The longer the pain is relieved by food the more probable is the lesion duodenal rather than gastric. The typical pain of chronic duodenal ulcer occurs from three to five hours after a meal. Pyloric stenosis in infants, when due to pyloric spasms from hyperacid contents (not the true congenital stenosis due to hyperplasia), may be the result of reflex irritation from a pyloric or duodenal ulcer. In an infant of six weeks dying in thirty-six hours with symptoms of laryngismus stridulus and pyloric obstruction, an ulcer one centimeter in diameter was found in the duodenum just below the pyloric ring. The differential diagnosis should, in general, exclude cholelithiasis and, in particular, functional non-organic hyperchlorhydria. Chronic ulcer of duodenum and stomach is not, as a rule, cured by medical means. Such patients may, however, barring the contingency of severe hemorrhages or perforation, be fairly comfortable with a carefully regulated diet and appropriate medical treatment. If these measures fail after a reasonable time surgical aid offers the best hope for cure when performed by those experienced in the surgery of the upper abdomen.

Discussion on Gall-Bladder and Gastric Surgery

Dr. A. J. Ochsner, Chicago: Our attention has been directed constantly to the fact that we must look for gall-stones, without complications, without the impaction of the stones in the ducts, whenever a patient complains of gastric symptoms, and that we can count on an early diagnosis in the majority of cases from now on. The mortality following operations for the removal of gall-stones is small now as compared with what it was six or eight years ago. At that time patients were operated on who were suffering from cholangitis. Another reason why the mortality is small now, is that fewer harmful things are done during the operation. The gall-stones are simply removed and drainage established.

Dr. R. A. Bate, Louisville: If we go back to the origin of gall-stones, there is absolutely no reason why medicine should not remove every gall-stone which is composed of 90 per cent. cholesterin. If the gall-stones are differentiated, those containing bilirubin calcium in greater proportion than 10 per cent. may require surgical interference. Gall-stones are formed in the gall-bladder and in the ducts in very much the same way as mucin, and when stagnation of bile occurs the mucin causes putrefaction of the bile, and this in turn permits the micro-organisms which are not very hard to overcome, to pass up, and wherever cholesterin is deposited by the lecithin being broken up, the lecithin holds the cholesterin in solution. There are three factors to consider in connection with gall-stones: Microbes of various kinds, alkalies, and the acids.

Dr. H. Tuholske, St. Louis: A fairly large personal experience has taught me the important lesson that a gall-bladder with stones in it can be relieved when the stones are mechanically taken out. I have spent considerable time at the great Mecca of the gall-stone sufferers, Carlsbad. I have heard people say that there are enough gall-stones passed in Carlsbad to pave the streets with them. I have come in contact with the best men of the profession there, have talked with them about gall-stone cases, and I am sorry for any man or woman who has a gall-stone that goes traveling and leaves its comfortable little bed in the gall-bladder, for then trouble is likely to begin. There is danger of lodgement in the narrow duct. There is danger of ulceration and perforation. Then come all the obstructive symptoms the adhesions which muddle the picture and produce a serious condition. When the gall-bladder is in a fair condition, the dangers incident to the removal of the stone or stones is not great. The presence of gall-stones not infrequently causes a change in the epithelium of the gall-bladder, and we may find the typhoid bacillus as a nucleus in the gall-bladder. All things considered, when a diagnosis of gall-stones is made, it is better for the individual to have the stones taken out.

Dr. Daniel N. Eisendrath, Chicago: While olive oil has its function, there are cases in which, either through some condition of the patient or complication, or some voluntary objection to the operation, the patient will not consent to operation. Such patients are benefited temporarily by olive oil and the Carlsbad waters; but let there be obstruction produced by the gall-stones, or let there be retention of secretion, hyperemia occurs and all the pathologic processes incident to obstruction. What happens? There are cases of gall-stones in which the common duct stone becomes impacted, stays for a few days or a few weeks, and goes back again. Fenger called attention to this under the head of intermittent jaundice in connection with common duct stones. Carcinoma not infrequently develops from the constant mechanical irritation of a gall-stone or gall-stones. The only reliable and satisfactory treatment for gall-stones is to remove them.

Dr. J. Henry Carstens, Detroit: It is an outrage for a general practitioner, or for a specialist in gastrointestinal diseases to treat patients month after month and year after year in different ways, without making a correct diagnosis. It would redound to the credit of such men to say, when they are in doubt: "I do not know whether you have duodenal ulcer or ulcer of the stomach, and I think you ought to go to an abdominal surgeon, who can make a small opening and find out whether you have gall-stones or not. If you have, they can be taken out. On the other hand, if it is an ulcer, it can be excised, the opening closed and a cure effected."

Dr. Thomas B. Noble, Indianapolis: Several years ago I did a pelvic operation which necessitated a suprapubic incision. During this operation I discovered two stones the size of marbles in the free gall-bladder. Directly thereafter that woman was given phosphate of sodium for one year. For another year she took olive oil three times a day, after which she was seized with intense pain due to a stone blocking the cystic duct, and an infected gall-bladder. I had to do an emergency operation, and I found these stones of the same size and the same character they were two years previously. Previous to that time I was not very much in favor of medical treatment in cases of preformed stones, and I am less so now.

Dr. Richard A. Barr, Nashville: Olive oil must be brought in contact with the gall-stones to do any good, and one may as well rub olive oil on the outside of the abdomen as to give it internally, so far as any effect it would have in preformed gall-stones is concerned.

Dr. M. C. McGannon, Nashville: A member of the medical profession came under my observation two years ago as a patient who had had persistent jaundice for three months. It was not accompanied by pain. He was quite yellow at the time I saw him. He had lost flesh, and it was thought that he might be suffering from cancer. A diagnosis of cancer had been made by a good internist. When the man came under observation I was willing to agree with the internist in the supposition that the condition was cancer, but as he was a physician I put this argument before him: "If this is cancer, you will certainly die from its effects. If it is not cancer, and you submit to operation, we may be able to give you relief. If we do not give you relief, we at least will do you no harm. We will not shorten your life with an exploratory incision, to determine the character of the trouble." The operation was consented to and performed. The gall-bladder was found to be completely shrunken, the duodenum involved in a mass of adhesions, binding it down into a knuckle formation about the gall-bladder and liver. The breaking up of the adhesions was effected with a great deal of difficulty. The stomach was opened in the dissection, but closed at the time. The breaking up of the adhesions relieved the condition. The gall-bladder was removed, and to-day that man, after four years, is able to ride horse-back and is practicing medicine in the state of Tennessee.

(*To be continued*)

Medicolegal

Physician's Insurance Not Proper to Be Shown in Malpractice Case—Liability of Administerer of X-Ray Treatment

The Kansas City Court of Appeals says that the plaintiff in the malpractice case of Gore vs. Brockman (119 S. W. R. 1082) alleged that in the defendant's treatment of her with the *x*-ray, for hardening of the right lobe of the liver, the right side of the abdomen for a space of more than one foot in diameter was blistered and became raw and sore, etc. She recovered a judgment for $3,500, but that is reversed, and a new trial ordered, account of errors in the trial.

First of all, the court holds that it was improper and highly prejudicial to ask the defendant, on cross-examination, if he did not, on or about the time when the plaintiff's condition became serious, take out physician's protective insurance to guard against damages that might accrue from this or any other suit for malpractice. The issue on trial was the alleged negligent treatment of the plaintiff by the defendant as her physician, and indemnity insurance would not aid in determining that question; but, more than that, the tendency and effect was to withdraw the real defendant from the consideration of the jury and to substitute for him an insurance company. A litigant has a right to his own personality, and the opposing party has no right to have the consideration of his claim influenced or measured by any other standard, so far as individuality is concerned, than that afforded by the party of whom he complains. He cannot ask unliquidated damages of a good man who may have injured him and then substitute a bad man at the trial.

Again, the defendant was asked if he had not conveyed property. As asked, the question was improper. It would, however, have been permissible to ask him on cross-examination if he had conveyed his property to avoid payment of damages he may have considered he had incurred.

An instruction given the jury submitted, among other things, whether *x*-ray treatment "was in accordance with the ordinary and established practice of the medical profession for the treatment of the disease from which the plaintiff was suffering." The proper submission of that question, as raised by the petition, was whether an ordinary skilful and prudent physician would have adopted that treatment in the circumstances which confronted the defendant when he applied it.

Of the instructions asked by the defendant, two were refused which informed the jury that the defendant as a physician should not be held as an insurer of the success of treatment "by the *x*-ray process," or that it would not be attended by unexpected results, and that he was only required to have the necessary learning and experience to give the treatment in a careful and prudent manner. These instructions were proper, and should be given on another trial, unless the issue was clearly tendered that there was negligence or unskilfulness in prescribing such treatment at all. If that was an issue, then the instructions should also cover that phase, for a physician might be fully equipped in learning, skill, and care to use the *x*-ray, and yet use it in a case where a prudent physician would not have adopted it as a remedy. For instance, a surgeon might possess great learning and skill, and when performing a certain operation might be as careful as possible, yet it might be that a prudent and skilful man of that profession, in the same circumstances and conditions, would not have performed such an operation.

On the subject of direction to the jury in cases of this character, it may be stated to be the law that a physician is not to be held for honest error of judgment. He is only required to give his patient his diligent attention and best thought, and in prescribing, administering, or applying treatment, to use that care, skill and prudence that an ordinarily capable physician would use in the same or like situation and condition or circumstances. Otherwise, in view of the fallibility of all men, we would require of him more than can justly be demanded.

The issue which one should tender who seeks to hold a physician liable in damages for malpractice is incompetency or negligence, or both. As to which of these, or whether both, should be charged, must, of course, depend on the case, but, at all events, the charge relied on should be distinctly made so that confusion may not result.

Liability of Publishers of Changed or False "Patent Medicine" Testimonials—Admissibility of Evidence of Analysis, Etc.

The Court of Appeals of Kentucky says, in Foster-Milburn Co. vs. Chinn (120 S. W. R. 364), an action brought by the latter party to recover damages for a wrongful publication of an alleged testimonial of Doan's Kidney Pills, in "Doan's Directory," that it is a fraud on the public to publish indorsements of public men in publications of this character which are not genuine. A man has the right to complain when he is published in a directory having a circulation of 8,000,000 copies, as indorsing a "patent medicine" he has never seen. To publish with the forged letter his picture and a sketch of him is to give weight to the letter. It has become a custom in the press to publish the pictures of prominent public men; but it is a very different thing for a manufacturer to use without authority such a man's picture to advertise his goods in connection with a forged letter indorsing the goods.

Words which are written or printed are actionable when they subject a person to disgrace, ridicule, odium, or contempt in the estimation of his friends and acquaintances or the public. How far the publication in question would subject a person to ridicule or contempt or make him odious is a question for the jury. While there is some conflict in the authorities, this court concurs with those holding that a person is entitled to the right of privacy as to his picture, and that the publication of the picture of a person without his consent, as a part of an advertisement for the purpose of exploiting the publisher's business, is a violation of the right of privacy, and entitles him to recover without proof of special damages.

The plaintiff recovered a judgment in this case for $2,500 damages, but that is reversed, and the cause remanded for a new trial, on account of an erroneous admission of certain evidence.

A physician, who was a member of the American Medical Association, was allowed to testify that an officer of the association had made an analysis of Doan's Kidney Pills; that he had seen a report of the analysis, and that it showed that the pills were composed of certain ingredients; that a pill thus composed was harmless, but of no value, and that Doan's Kidney Pills were a fraud. This evidence was incompetent, as hearsay, though a witness who has made a chemical analysis himself may testify as to the analysis which he has made. The contents of the pills could only be proven by some person who knew the facts.

It was also error, the court holds, to permit physicians to testify as to the repute in which the medical profession holds those whose names appear in patent medicine advertisements, the plaintiff not being a physician, and the subject not being one for expert testimony, because the jury, when the facts were shown, could judge of this as intelligently as the witnesses. But it was proper to allow it to be shown that there was a scale of prices paid for cards of this sort, as this would tend to show that persons who knew of the custom of paying for such cards might conclude that the plaintiff had sold his signature.

Conducting of So-called "Maternity Hospital" the Maintenance of a Nuisance

The Supreme Court of Oregon says that in the case of State vs. Atwood and another (102 Pac. R. 295), the defendants, who were charged with equipping and maintaining a "maternity hospital" with the intent of unlawfully producing abortions, were convicted, under the "nuisance statute" of that state, of the crime of committing an act grossly disturbing the public peace and health, openly outraging public decency, and injurious to public morals. The conviction is affirmed by the rule invoked where the reviewing court is evenly divided, as was the supreme court here with regard to the statute applying.

In what may be termed the prevailing opinion in this case it is stated that it was not necessary to allege that the acts of the defendants in producing abortions were done in cases where the operations or procurements were unnecessary. The offense related to a business or condition. If there were a statute authorizing the procuring of abortions in certain cases, it might be necessary, in an indictment in such a case as this, to negative such exceptions, but Oregon has no such statute. Or if this were a prosecution under a criminal statute, and in the description of the offense certain exceptions were made, then such exceptions must be negatived in the indictment.

But the business of wrongfully and unlawfully committing and producing abortions can have no reference to, nor include instances in, the legitimate practice of medicine, in which an abortion may be necessary and lawful, and the charge of this offense need not negative such cases. The charge here was that the house was maintained with the intent and purpose of wilfully, wrongfully and unlawfully producing abortions. It was not the purpose of the indictment to charge that the intention of the defendants was to commit the crime of killing by producing abortions under section 1748, but that they were conducting a business that openly outraged the public decency and was injurious to public morals, and the business with which the defendants were charged clearly came within those terms.

The conclusion is that the acts charged against the defendants were not lawful, neither authorized by law, nor morally right, but constituted a nuisance per se (in and of themselves), and therefore need not be shown to be performed in a public place, and that the charges in the indictment were sufficient to constitute a nuisance under the "nuisance statute."

Current Medical Literature

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

October 23

1 Ehrlich's Side-Chain Theory of Immunity. J. W. McLaughlin, Austin, Tex.
2 Empyema of the Antrum of Highmore; Its Relation to Other Diseases, and Its Treatment. W. Freudenthal, New York.
3 Rigidity of the Chest Muscles as a Sign of Involvement of the Pulmonary Parenchyma. F. M. Pottenger, Monrovia, Cal.
4 Therapeutic Value of Antigonococcus Serum and Gonococcus Bacterins. G. K. Swinburne, New York.
5 *Ethyl Chlorid as a General Anesthestic for Operations in the Throat as Especially Applied to Children. E. M. Sill, New York.
6 Interstitial Keratitis in Acquired Syphilis. S. L. Phillips, Savannah, Ga.
7 *A New Physical Sign. F. M. Pottenger, Monrovia, Cal.

5. **Ethyl Chlorid as a General Anesthetic.**—Sill regards ethyl chlorid as a comparatively safe and reliable general anesthetic which is most suited for operations for removal of adenoids and tonsils in children. It is simple of administration and does not require an expert or one of large experience to give it. The patient is under the influence quickly, is out almost immediately on completion of the operation; there are no unpleasant or dangerous effects from its use either during or after the operation. This anesthetic is not only especially applicable in operations in the throat, but should be used in most other operations performed on children. When the inhaler is kept over the patient's nose and mouth he can be kept under the anesthetic as long as desired. It is only when that is removed that the patient regains consciousness more quickly than with other anesthetics. When long operations are necessary on the nose or throat, Sill advises first putting the patient under ethyl chlorid and then continuing deep anesthesia with ether, using the drop method.

7. **New Physical Sign.**—This sign, probably a skin reflex, whereby solid organs, the heart and liver, and inflammatory processes found in lungs and pleura may be detected by palpation, consists of a feeling of resistance to the palpating finger when pressed gently on the skin. To determine the presence of this sign, Pottenger says that it is well to begin at some little distance from the edge of the organ, or if it be an inflammation or infiltration that is to be outlined, it is well to begin over presumably normal tissue, and then by advancing toward the area whose limits are to be determined there will be noted a feeling of resistance when this is reached. He believes it to be a skin reflex produced by the contraction of the erectores pilorum. The heart can be easily and accurately outlined by it, the liver dulness, both relative and absolute, can be determined, and the areas of infiltration in the lung can be mapped out with surprising accuracy.

Boston Medical and Surgical Journal

October 21

8 The Diagnostic Bearing of Certain Normal and Abnormal Pulmonary and Pleural Conditions. F. T. Lord, Boston.
9 Work Accomplished in the Control of Tuberculosis in Massachusetts During the Past Year. A. T. Cabot, Boston.
10 Necessity of Providing Suitable Employments for Tuberculosis Patients. A. Worcester, Waltham, Mass.
11 *Program for Tuberculosis Societies in Smaller Cities and Towns. C. A. Allen, Holyoke, Mass.
12 Asexualization as a Remedial Measure in the Relief of Certain Forms of Mental, Moral and Physical Degeneration. J. E. Mears, Philadelphia.
13 *Intravenous Use of Strophanthin in Broken Cardiac Compensation. A. K. Stone, Boston.

11. **Program for Tuberculosis Societies.**—Allen places before the profession a general plan of organization and a practical working scheme which has been found valuable in actual practice in several Massachusetts cities and towns. He says:

> Get together a few interested persons, with as many physicians among the number as possible; also business men, ladies prominent in social and charitable work, the Young Men's Christian Association, clergy, and others interested, and organize. Every organization should have one central board of directors or executive council, who should have full control of the work. Let them appoint a few essential committees, somewhat as follows: (1) On education and publication; (2) finance; (3) laws and ordinances; (4) hospitals and day camps; (5) membership; (6) statistics; (7) tenement and milk inspection; (8) relief. These and other committees should be appointed according to the location, character and need of the community. It would seem wise to have the chairmen of all committees members of the central board, and let them appoint the other members from outside, so as to interest as many public-spirited citizens as possible. The committees should report to the central board at stated intervals, giving full detail of all work done or attempted. As soon as the society is fully organized, hold a general public mass meeting. See the editors of all local papers and get their assistance in advertising the meeting and its object. Have some man of prominence in the work as the principal speaker, and invite all physicians, nurses, teachers, charitable and fraternal orders to attend, besides the general public. Following such a meeting have the tuberculosis exhibit for a week, if possible. The mass meeting, exhibit, and free newspaper advertising will thoroughly awaken the community, and the work of the various committees will be greatly enhanced thereby. The cost of maintaining an active antituberculosis organization is considerable. Besides membership fees and voluntary contributions, funds may be secured in various ways. Churches, fraternal organizations and charitable societies have contributed generously.

13. **Strophanthin in Broken Cardiac Compensation.**—Stone believes that in strophanthin we have a powerful agent for good, if used with discretion, and one with which disastrous consequences may occur if it is used recklessly. The drug should be injected only by physicians who have had much experience with cardiac disease, and who are sure of their intravenous technic. Stone has given strophanthin intravenously over fifty times without a single death attributable to the drug. He makes it a rule to postpone the injection long enough to be sure that all digitalis previously given has been excreted.

New York Medical Journal

October 23

14 Municipal Campaigns for Reducing Infant Mortality. S W Newmayer, Philadelphia.
15 Prevalent Diseases of Tropical America. J. H. Egbert, Portovelo, Ecuador, S. A.
16 Esperanto in Relation to Medicine. K. W. Millican, Fairlee, Vt.
17 Cancer of the Stomach. J. E. Cannaday, Charleston, W. Va
18 Economics of Health. R. J. Behan, Pittsburg.
19 Treatment of Ophthalmia Neonatorum. M. J. Levitt, Brooklyn.
20 The Thiocyanates in Solution, the Natural Physiologic Solvents of the Body. B. R. Le Roy, Athens, Ohio.
21 *Home Modification of Cow's Milk for Infant Feeding; Simplified Method. H. B. Sheffield, New York.
22 *Rectal Erosions; New Method of Examination. S. Lewis, Lakehurst, N. J.

21. **Home Modification of Cow's Milk.**—Sheffield gives the following directions:

> 1. Bear in mind the standard formula (1:1), which is intended for babies six months old.
> 2. For infants under six months increase (about every two months downward) the diluent by one ounce or its multiple, using "top milk" as a base and plain or cereal water as the diluent.
> 3. For infants over six months of age, increase (every six months upward) the milk by one ounce or its multiple, using "whole milk" as the base and cereal water as the diluent.
> 4. Include in the diluent one teaspoonful of lime water for every ounce of milk, and add one third of a teaspoonful of milk sugar for every ounce of the diluent.

22. **Rectal Erosions.**—Instead of the usual speculum, Lewis employs glass rectal dilators. One of these, as large as the patient will bear, should be lubricated with glycerin or some other transparent lubricant (not petrolatum) and inserted.

The entire surface is at once open to inspection. The normal mucosa is pale from pressure; and fissures, erosions, or emboli are clearly seen. Partial relief of pressure by tilting or partial withdrawal of the "speculum" may assist. An electric diagnostic lamp is useful. The most satisfactory treatment Lewis has employed has been the use of potassium permanganate, crystal or saturated solution, followed by the usual powders, ointments or suppository as the case may demand.

Lancet-Clinic, Cincinnati

October 16

23 Mistakes in Medical Practice. S. G. Bonney, Denver.
24 The Modern Medical College. C. A. L. Reed, Cincinnati.
25 Conservatism in Ear, Nose and Throat Surgery. F. W. Davis, Cincinnati.

Kentucky Medical Journal, Bowling Green

October 1

26 Medical Defense. J. J. Moren, Louisville.
27 Some Needed Changes in Medical Defense. C. Pope, Louisville.
28 Enterocolitis. R. J. Estill, Lexington.
29 Diarrheal Affections of Children. H. Blane, Cadiz.
30 *Treatment of Acute Insanity. S. Brown, Chicago.
31 Removal of Foreign Bodies from the Trachea and Esophagus. J. W. Murphy, Cincinnati.
32 Rachitis: Pathology, Diagnosis and Treatment. E. F. Katzmann, Louisville.

October 15

33 Intestinal Obstruction. W. H. Wathen, Louisville.
34 Submucous Fibroids Complicating Labor. G. C. Leachman, Louisville.
35 Bier Static Hyperemia. F. L. Koontz, Louisville.

30. Published in the *Illinois Medical Journal*, October, 1909.

Northwestern Lancet, Minneapolis

October 1

36 A Talk to Doctors. J. N. McCormack, Bowling Green, Ky.
37 Epidemic Anterior Poliomyelitis. A. S. Hamilton, Minneapolis.

Virginia Medical Semi-Monthly, Richmond

October 8

38 The Negro as a Factor in the Spread of Tuberculosis. T. A. Parker, Richmond.
39 Pathognomonic Signs as Relating to Appendix Location. A. J. Walscheid, Union, N. J.
40 Pellagra; Report of a Case. C. H. Saunders, Chase City.
41 Pellagra: Report of Fourteen Cases (continued). W. F. Drewry, Petersburg.
42 Production of Immunity. J. W. Winston, Norfolk.
43 Celiac Parotitis. E. L. Crutchfield, Baltimore, Md.
44 The Medical Society of Virginia. S. McGuire, Richmond.

Alabama Medical Journal, Birmingham

September

45 The Doctor and Proprietaries. C. L. Murphree, Gadsden.
46 Care of the New-Born. C. M. Nice, Birmingham.
47 Fused Kidney (Horseshoe Kidney). B. Robinson, Chicago.
48 Management of the Heart in Convalescence. R. H. Hamrick, Birmingham.
49 Therapeutics of Digitalis, Strophanthus and Sparteine. E. C. Bandy, Birmingham.

Archives of Internal Medicine, Chicago

October

50 *Further Observations on the Third Heart Sound. W. S. Thayer, Baltimore.
51 *The Effect of Tuberculosis on the Heart. F. M. Pottenger, Monrovia, Cal.
52 *Influenzal Meningitis. D. J. Davis, Chicago.
53 Clinical Significance of the Urinary Nitrogen. J. Ewing and C. G. L. Wolf, New York.
54 *Mechanical Factors in Experimental Acute Pulmonary Edema. J. L. Miller and S. A. Matthews, Chicago.
55 *Comparative Study of Serodiagnosis in Syphilis. H. F. Swift, New York.
56 *The Much-Holzmann Seroreaction in Insanity. A. J. Rosanoff, Kings Park, N. Y.

50. **The Third Heart Sound.**—According to Thayer, the third heart sound is present in the majority of young individuals in the recumbent and left lateral posture. This sound may well be due, he says, as first suggested by Hirschfelder, and later, independently, by Gibson and Thayer to the sudden tension of the auriculoventricular valves as a result of the first rush of blood from auricle into ventricle in diastole. Pathologically, the sound is most frequent in conditions in which the quantity of blood entering the ventricle from the auricle is especially large; in which the diastole is unusually rapid; in which there is a lowered ventricular tonus or dilatation of the ventricle. The most striking examples of these conditions are aortic and mitral insufficiency, some instances of slight mitral stenosis combined with insufficiency, adherent pericardium, myocardial weakness, and dilatation of the ventricle. A protodiastolic gallop is not, therefore, *per se*, a pathologic manifestation.

51. **Effect of Tuberculosis on the Heart.**—Of one-hundred and sixty-two hearts examined by Pottenger, seventy were under 11 cm. in diameter, measured on a level with the fourth interspace, and ninety-two were more than 11 cm. Of course it must be remembered, he says, that we are not always measuring the same cross-section of the heart, for in the displacement that occurs different portions of the heart are found on a line with the fourth interspace. It must also be understood that no effort was made by Pottenger to give the greatest cross-diameter of the heart in these measurements. It is probable that these figures are somewhat in error as to the size of the heart, for signs of hypertrophy of the right ventricle were present in a large number of the cases, which, together with the traction of the pleura on the pericardium, as it often occurs in the advanced cases, would probably have a tendency in certain cases to force the heart backward. Thus a considerable degree of enlargement of the heart might be present without enlarging its borders, as found on percussion. The same condition results from the fact that as the heart is pushed to the left it is forced to turn backward because the walls of the chest turn backward. The conclusions arrived at by Pottenger are the following:

1. A relative low blood-pressure is found in tuberculosis, especially in advanced cases.
2. The factors which favor low pressure are the effect of the toxins on the vasodilators, the weakness of the heart muscle and general wasting.
3. The factors which have a tendency to maintain pressure are hypertrophy of the heart muscle and thickening of the systemic arteries.
4. Thickening of the systemic arteries occurs perhaps as a result of the action of the toxins on the vessel wall and is found especially in patients who have had tuberculosis for some time.
5. Myocarditis is a condition very common in advanced tuberculosis and one which, if recognized, yields to appropriate treatment in many instances.
6. It is difficult to give an opinion on the heart tones in advanced tuberculosis because conditions surrounding the valves are changed by such things as infiltrations, cavities, emphysemas and contraction.
7. In the majority of advanced cases (ninety-nine out of one hundred and thirty) the heart is displaced and working at a disadvantage.
8. In estimating the size of the heart it must be remembered that as the heart pushes over to the left it pushes backward, and consequently the lateral diameter as taken on a level with the fourth interspace does not give an adequate idea of the real or true size of the heart; also that the hypertrophy of the right heart often throws the left ventricle backward, producing the same result.

52. **Influenzal Meningitis.**—Twin brothers became ill on the fifth day after birth; the cases ran an identical clinical course and terminated fatally on the ninth and eleventh days respectively after birth. There was little or no distinct clinical evidence of meningeal involvement. Autopsy on the first child revealed as the prominent lesions acute purulent leptomeningitis and acute enteritis. From the meningeal exudate and from the peritoneal fluid pure cultures of *Bacillus influenzæ* were obtained. The usual atria of infection—nasal cavity, tympanic cavities, lungs, bronchi and throat—were normal. Omphalitis was not present.

54. **Experimental Acute Pulmonary Edema.**—Summarizing the cardiovascular changes observed in the pulmonary edema produced by various chemical agents, Miller and Matthews notice a striking similarity. Generally there is a fall in the systemic pressure and a rise in pressure in the pulmonary artery. At the same time, the right side of the heart becomes dilated, the left remains normal in size or, as some have maintained, contracted. Pressure changes in the pulmonary artery are not necessarily associated with corresponding changes in the left auricle, since a rise in pressure in the pulmonary artery may be associated with a fall in pressure in the left auricle or *vice versa*. The authors' experimental work was undertaken with a view of determining the following questions: first, whether acute pulmonary edema, produced by other agents than those already tried, is associated with a rise in pressure in the pulmonary artery; second, to repeat the experiments with acetic ether, since in the previous work the acetic ether had been an exception, inasmuch as it produced pulmonary edema without an increase in pressure in the pulmonary artery; third, the value of various agents in controlling the development or modifying the course of acute experimental pulmonary edema.

Miller and Matthews found that when pulmonary edema develops after exposure to nitric oxid or ammonia, there is no evidence that mechanical factors play a rôle; *i. e.*, they were unable to detect any evidence of disproportion between the working power of the two sides of the heart. The acute pulmonary edema following inhalation or intravenous injection of acetic ether is usually associated with evidence of disproportion in the working power of the two sides of the heart, as there is a fall in the systemic and a corresponding rise in pressure in the pulmonary artery. When large doses of acetic ether are injected intravenously, pulmonary edema may occur without evidence of disproportion in the working power of the two sides of the heart, thus showing that such changes are not essential for its appearance. It would appear, therefore, that mechanical factors are not responsible for the edema. In the acute pulmonary edema produced by iodids, there is in the beginning a marked rise in pressure in both the systemic and pulmonary circulation; later the systemic blood pressure falls, but the pressure in the pulmonary artery remains high.

This disproportion in the working power of the two ventricles was present in every instance; it would appear from these experiments, therefore, that the edema might be explained by mechanical agents, although not necessarily so. The intravenous injection of adrenalin chlorid, when preceded by ligation of the thoracic aorta, caused pulmonary edema. Apparently as a result of the great increase in the systemic blood pressure after such a procedure, the left ventricle is unable to empty itself completely; stasis and rise in pressure in the pulmonary artery follows. This is perhaps the mechanism of acute pulmonary edema in nephritis with hypertension. In the mechanical edemas, therapeutic measures to be of value should tend to equalize the work of the cardiac chambers. This may mean the use of vasodilators in some instances; in others, the use of drugs that stimulate the heart activity.

55. **Serodiagnosis in Syphilis.**—According to Swift, the Wassermann reaction is a fairly definite diagnostic measure. A positive reaction practically always means syphilis. Negative findings give only presumptive evidence of the absence of syphilis. The Bauer modification is not reliable because of the inconstant content of native hemolysin to sheep cells. A large anti-sheep hemolytic content will mask a partial complement fixation. The Noguchi reaction, Swift asserts, is more readily applied and is more sensitive than the Wassermann reaction. This increased sensitiveness, however, sometimes causes a positive reaction with non-specific serums which give a negative Wassermann reaction. Experiments now under way seem to indicate that this may be avoided by the use of inactive serum.

56. **Much-Holzmann Serum Reaction in Insanity.**—Practically all human serums possess the power, in a more or less pronounced degree, of inhibiting the hemolytic action of cobra venom on human blood corpuscles. A comparatively high degree of this power, which constitutes the basis of Much and Holzmann's reaction, is not strictly specific for any psychosis, being found with greater or less frequency in almost all psychoses and in the blood of a considerable percentage of persons who are apparently normal (8.1 per cent. in the series cited in this paper).

This reaction was present in more than half of Rosanoff's series of cases (57.9 per cent.) of dementia præcox. As it appears to be much more common in this condition than in any other, it may prove to be a diagnostic aid; it would seem, says Rosanoff, that the presence of this reaction in a psychosis should add, in the consideration of the diagnosis, some degree of probability in favor of dementia præcox. Of a series of fifteen typical cases of manic-depressive insanity not one gave a positive reaction, and in only one was the reaction doubtful, being clearly negative in all the rest. Two of the patients had recovered from their psychosis when their blood was examined. There is apparently no relationship between the Wassermann reaction and the Much-Holzmann reaction.

Iowa Medical Journal, Des Moines

October

57 Materia Medica and Pharmacology. C. S. Chase, Iowa City.
58 The Therapeutic Problem and the Young General Practitioner. J. C. Cooper, Villisca
59 Alkaloidal Therapy. G. H. Sumner, Waterloo.
60 Atoxyl and Other Remedies in Treatment of Diseases of Children. A. Staples, Dubuque.
61 Organotherapy and Serotherapy to Date. E. T. Kegel, Walcott.
62 Bacterial Vaccines. H. Albert, Iowa City.
63 *The Lemuiscus Temporalis et Occipitalis. H. J. H. Hoeve, Des Moines.

63. **The Lemniscus Temporalis et Occipitalis.**—Under this name, Hoeve describes a hitherto undescribed bundle of brain fibers forming a direct connection with the cortex of the lobus temporalis et occipitalis. The bundle in question is a large bundle of fibers which leaves the mid-brain at a point supero-lateral to the corpus mamillare, just internal to the upper part of the pedunculus cerebri. It lies directly superior to the radix medialis tractus optici and supero-internal and infero-external to the pars occipito-temporalis commissuræ anterioris. It curves backward around the pedunculus cerebri in close contact with it. It is a cord-like bundle which is round in its anterior part and considerably flattened from side to side posteriorly. It can readily be exposed if a brain is placed with its base upward, the pia removed from the substantia perforata posterior, the lower part of the lobus temporalis removed, the tractus opticus reflected backward and the corresponding pedunculus cerebri reflected outward and backward, after being cut just above the pons.

St. Louis Medical Review

September

64 The State Laboratory as a Safeguard to the Public Health. G. McConnell, St. Louis.
65 Diagnosis of Cholecystitis and Cholecystitis Calculosa. B. Robinson, Chicago.
66 The Compressible Tube Treatment of Gonorrhea. W. Karo, Berlin, Germany.

Northwest Medicine, Seattle

October

67 State Care of the Insane. A. W. Frater, Seattle.
68 *State Care and Treatment of the Insane. J. W. Givens, Orofino, Ida.
69 *Expression of Cataract in Its Capsule. H. V. Würdemann, Seattle.
70 General Treatment of Wounds. E. F. Tucker, Portland, Ore.
71 Diagnosis and Treatment of Fractures. L. H. Hamilton, Portland.
72 *Tobacco Toxemia. R. V. Dolby, Vancouver, B. C.
73 *Abscess of Kidney Diagnosed as Empyema of Gall-Bladder. C. W. Sharples, Seattle.
74 Treatment of Patients Preparatory to and Immediately Following Operation. P. W. Willis, Seattle.
75 Do Protozoan Disease Germs Exist in British Columbia? B. D. Gillies, Vancouver, B. C.
76 Diagnostic Value of the Wassermann Reaction. H. P. Marshall, Spokane.

68. **Care and Treatment of the Insane.**—Givens claims that the best way for the patients in a state asylum to obtain their food is by producing it themselves. Every state asylum should own and operate one or more large farms. With such a farm with its gardens, orchards, vineyards, fields, meadows, flocks and herds, and the many patients needing employment, the entire state asylum population can live on the very fat of the land and with very little cost to the taxpayers of the state. The farm thus serves a triple purpose. It affords to the patient a great variety of interesting healthful employment for body and mind. It gives him the best possible food. It relieves, to a considerable extent, the taxpayer in supporting the state asylum. A great deal of the construction work of state asylums can be advantageously done by the patients. The grading, excavating, laying of water and sewer pipes, making brick, hauling building material on the grounds and attending to masons can be largely done by the patients. By selecting the more competent patients for such work, building can go along as patients increase without overcrowding and with small state appropriations.

69. **Expression of Cataract.**—Würdemann's experience has shown that where the 2/5 sclerocorneal section with conjunctival flap is made, delayed union is unknown, combined with a very small iridectomy and expression of lens; *i. e.*, the regular operation less a capsulotomy, in immature and hypermature cataracts, is the only all-round satisfactory operation. The ordinary run of mature cataracts may, perhaps, be as well operated on with less risk in the average hands by the generally adopted flap extraction with capsulotomy; cataract in children and traumatic cataract by discission. The least handling of the eye and the fewest instruments possible is the characteristic of this operation. It is

not an operation for a beginner, but it can safely be practiced by a skilled eye surgeon.

72. **Tobacco Toxemia.**—When the subject is examined, says Dolbey, even in a superficial way, it is evident that our most cherished beliefs are founded on misconceptions. Exact knowledge, once divorced from popular prejudice, shows that after the hookah, the cigarette is the least harmful form in which tobacco can be used. Chewing is without doubt the most pernicious form in which to employ tobacco. The pipe and cigar, far from being the safest medium for the indulgence of tobacco, are the most dangerous. Tobacco amblyopia, cardiac syncope, angina, loss of memory, tardy and delayed cerebration are found chiefly in heavy cigar and pipe smokers. The cigarette, hitherto considered so baneful, the one form of smoking which has been interdicted by special legislation, seems now to be responsible for cardiac irritability, largely in neurotic people, and an irritable laryngitis and pharyngitis alone. Even cancer of the lips or tongue, and without doubt tobacco is one only of the predisposing and irritating causes, seems to be the special heritage of the pipe or cigar smoker. The Indians and Mexicans, all inveterate cigarette smokers, though exhibiting some tendency to cancer of the breast or uterus, seem to show an exceedingly slight predisposition to cancer of the lips and tongue.

73. **Abscess of the Kidney.**—A man was running a high temperature and had pain under the right costal cartilages going through to his back. He was apparently septic. To moderately deep pressure he was tender over the right rectus in the upper part, which was not rigid; and, on hooking the finger under his ribs and asking him to take a long breath, he stopped short on account of the pain it produced. A diagnosis of empyema of the gall-bladder was made. At the operation, no disease was found in or around the gall-bladder, but the kidney was found to be enlarged. The abdominal wound was closed and a lumbar incision made, when it was found there was a large abscess in the upper half of the kidney, on the posterior surface; and so superficial was the pus that during the operation the abscess was evacuated.

Surgery, Gynecology and Obstetrics, Chicago

October

77 *Later Results of Ovariotomy, Especially in Cases of Doubtful Character. Prof. Hofmeier, Würzburg, Germany.
78 *The Rôle of Heart Massage in Surgery. C. S. White, Washington, D. C.
79 *Checking the Secretion of the Lactating Breast. H. J. Storrs, Baltimore.
80 *What is the Preferable Time for Abdominal Operation for a Chronic Inflammatory Mass in Pelvis. H. S. Crossen, St. Louis.
81 Evolution of Ovariotomy in France. S. Pozzi, Paris, France.
82 Esophagoscopy and Gastroscopy in Diagnosis. B. A. Thomas, Philadelphia.
83 Bone Sarcoma. L. Buerger, New York.
84 Data Acquired with the Aid of the Ureteral Catheter. W. F. Braasch, Rochester, Minn.
85 Anesthetics in Hospitals and Private Practice. J. T. Gwathmey, New York.
86 Experiences in Cranial Surgery. C. A. Elsburg, New York.
87 Inguinal Hernia of the Rudimentary Horn of the Uterus and Adnexa in an Infant with External Genitals of an Intermediate Type. H. Upcott, Hull, England.
88 New Operation for Radical Cure of Femoral Hernia. B. B Cates, Knoxville, Tenn.
89 Method of Closing Abdominal Wounds Without Using Buried Sutures. G. Torrance, Birmingham, Ala.

77. Abstracted in The Journal, May 15, 1909, p. 1615.

78. **Heart Massage in Surgery.**—Of fifty cases reported, including two of White's, 20 per cent., or ten patients, were saved. One of White's patients died on the eleventh day, of an affection in no way connected with massage of the heart. Eight of the ten patients were saved by subdiaphragmatic massage, two by direct, and none by transdiaphragmatic massage. Fourteen patients were partially revived, living from thirty minutes to twenty hours, death in several instances being due to a toxemia of an unknown etiology. It appears that the subdiaphragmatic method has surpassed the earlier methods in percentage of recoveries. Heart massage is an established method of resuscitation, and inasmuch as heart failure is rarely primary in chloroform anesthesia, it is essential that respiration be invoked by artificial means in conjunction with heart massage. Artificial respiration alone will not inaugurate heart contractions nor maintain blood pressure. The best results have been obtained by the subdiaphragmatic method. The most frequent indication for its use is in chloroform narcosis with cessation of respiration and circulation. In other conditions of heart failure secondary to respiratory failure and not dependent on organic changes in the heart, the method is applicable. Further, use of the method will widen its field of usefulness. The possibility of resuscitation bears a definite relation to the time that has elapsed between the cessation of the heart beat and massage. The briefer the interval the more rapid is the response to the massage.

79. **Checking the Secretion of the Lactating Breast.** Since 1904, the obstetric staff of the Johns Hopkins Hospital has employed a simple method of checking the lacteal secretion in women who could not suckle their children for one reason or another. This method was first used by Dr. Edwin R. Lewis of Westerly, R. I. It consists in the administration of from 15 to 20 grains of acetate of potassium in water three to four times a day, associated with small doses of codein or morphin, if the breasts are painful, and has proved so satisfactory that Dr. Lewis has not found it necessary to use a breast pump, to apply a binder, or to make any medicinal application to the breasts for nearly twenty years. Under this treatment, the breasts become more or less acutely engorged on the second, third or fourth day after labor on the discontinuance of suckling, but the condition passes off spontaneously within twenty-four hours if the breasts are left absolutely alone, after which they gradually become softer and smaller and secrete less and less milk, so that the secretion entirely disappears by the end of the week. Storrs says that not a single case of mammary abscess has occurred in the hospital since this method of checking the lacteal secretion has been in vogue. This series of cases comprises patients in all stages of lactation—from that following premature or full term delivery to cases in which it has persisted for some months or even a year. In no instance did mammary abscesses develop in spite of the fact that some of the women were harboring more or less serious infection. Occasionally one breast was the seat of a mastitis at the time of admission, yet the other would dry up as spontaneously under treatment.

80. **Chronic Inflammatory Mass in Pelvis.**—A careful study of personal and recorded cases leads Crossen to say that in more than half of the cases of chronic suppuration in the pelvis, the pus is sterile at the time of operation—showing that sterilization of the infected focus takes place automatically within a reasonable time in the majority of cases. Abdominal removal of the mass while the bacteria are active and virulent, results in fatal peritonitis or localized infection in many of the cases. Abdominal removal of the mass after the bacteria are dead or greatly attenuated, is almost never followed by infection, even though there is an extensive escape of pus into the pelvis. Hence, abdominal operation for a chronic inflammatory mass in the pelvis should not be undertaken before the period of probable sterilization, except in those rare cases in which, in spite of palliative measures, the patient's life is threatened by the severity of the inflammation, and the infected focus cannot be satisfactorily drained extraperitoneally. The time required for the death of the bacteria or effective attenuation varies greatly in different cases. The persistence of virulence depends largely on the character of the infection. In a case that is clearly streptococcic, abdominal section is never safe. Even when the temperature and pulse are normal and everything quiescent, intraperitoneal operation for the mass is liable to cause the patient's death from streptococcal peritonitis. In a case that is doubtful a most careful study should be made of all the features of the case and every helpful diagnostic method should be brought into use to aid in reaching a positive conclusion. No intraperitoneal operation should be undertaken until the streptococcus is excluded with reasonable certainty. In a doubtful case in which the abdomen is opened on the supposition that the mass is tubo-ovarian and it is found, before adhesions are much disturbed, that the mass is principally in the connective tissue, the route of attack should be changed to extraperitoneal and the adbdominal wound closed. Such a lesion probably contains streptococci, and the adhesions of omentum and bowel, which caused the deceptive mass high

in the tubal region, constitute Nature's barrier between the virulent bacteria and the peritoneal cavity. When this barrier is broken down, the way is opened for a fatal peritonitis.

Atlanta Journal-Record of Medicine

September

90 Study of Three Hundred Cases of Smallpox. M. Crook, Columbus, Ga.
91 Symptoms of Hydrophobia as Presented in Domestic Animals and Man. J. N. Brawner, Atlanta.
92 Surgical Treatment of Prostatic Hypertrophy and Abscess. G. Torrance, Birmingham, Ala.
93 Case of Systemic Blastomycosis. J. L. Campbell, Atlanta.
94 Kidney of Pregnancy. J. B. Cranmer, Wilmington, N. C.
95 Angioneurotic Edema. W. J. Love, Opelika, Ala.

Journal Kansas State Medical Society, Kansas City

October

96 *Injuries of the Spinal Cord Due to Accident. O. D. Walker, Salina.
97 Treatment of Heart Disease. R. C. Lowman, Kansas City.
98 The Air as a Carrier of Infection. I. H. Hyde, Kansas City.
99 *Peliosis Rheumatica. F. W. Shaw, Kansas City.

96. **Injuries of Spinal Cord.**—Walker reviews the clinical history of spinal cord injuries and reports four cases.

99. **Peliosis Rheumatica.**—The following was the course of the disease in the case reported by Shaw: March 22, 1909, a hemorrhage appeared over the dorsal surface of the left index finger at the distal articulation. At the same time, there developed an edema of both hands and arms. The elbow joints, wrists and joints of the hand became painful. March 23, other hemorrhages, in the form of purpura, appeared over all the joints of the right hand, the larger number of hemorrhages appearing on the palmar surface. A few hemorrhages appeared over the wrist-joint and one over each elbow. March 25, the hemorrhage became bullous and the tissue at the site of the first hemorrhage became necrotic. April 2, the edema began to disappear from the hands and arms, and it was noticed in the feet and legs. April 3, hemorrhages appeared over the small joints and outer aspect of the feet, and over the tarsal articulations; also a hemorrhage over the coccyx, three inches in diameter, one over the calf of the left leg, two inches by five inches, and one into the left side of the tongue, uvula and soft palate.

At this period, swallowing became so painful that it was very hard to get the patient to partake of liquids. The pain in the joints, especially the larger ones, was so acute that he could not be moved without crying out. During the first two weeks the temperature ranged between 99 and 104 F.; it dropped to normal on April 5. The throat symptoms disappeared, and the patient began to eat heartily. April 5, the hemorrhages of the feet became bullous, the largest being on the outer aspect of the right foot, involving about half of the upper and lower surfaces. This began to slough on April 17, and the edema to disappear.

A line of demarcation had formed on April 23, and the edema had disappeared entirely from the left foot and leg, the skin being very dry and hard. A small portion of the tongue and uvula sloughed away. The pains and the swelling of the joints began to diminish about April 20, and had disappeared almost entirely by May 1. At this time there remained the large slough, which was gradually healing on the right foot. Large numbers of eosinophilic leucocytes were found in the blood from the bullæ. Albumin appeared in the urine, but there was no blood. Sodium salicylate was given in the early stage of the disease but, on account of the throat symptoms, it was discontinued. The only other remedy given was sherry.

Journal New Jersey State Medical Association

October

100 *Indications for the Induction of Labor, Instrumental Delivery Through the Vagina and Cesarean Section. E. P. Davis, Philadelphia.
101 *Indications for Interference During Labor. S. Marx, New York.
102 Pyelitis and Allied Conditions in Children. L. C. Ager, Brooklyn.

100, 101. Abstracted in THE JOURNAL, Aug. 21, 1909, p. 649.

Ameican Journal of Orthopedic Surgery, Philadelphia

August

103 *Use of Animal Membrane in Producing Mobility in Ankylosed Joints. W. S. Baer, Baltimore.
104 Arthrotomy in Treatment of Tuberculous Joints, Particularly the Knee-Joint. V. P. Gibney, New York.
105 *Simple Dressing for Treatment of Tuberculous Disease of Shoulder-Joint. A. J. Gillette, St. Paul.
106 Bismuth Paste Treatment of Tuberculous Sinuses. J. Ridlon and W. Blanchard, Chicago.
107 Toxic Arthritis of the Hip-Joint in Children. M. Hoke, Atlanta, Ga.
108 Congenital Dislocation of the Hip. E. H. Bradford, Boston.
109 Joint Cartilage in Its Relation to Joint Pathology. P. W. Nathan and W. W. Strang, New York.
110 Modified Whitman Brace for Calcaneus. H. O. Feiss, Cleveland.

103. Abstracted in THE JOURNAL, Aug. 7, 1909, p. 478.

105. **Dressing for Tuberculous Diseases of Shoulder Joint.**—The principle of Gillette's dressing is simply placing a roll of cotton in the axilla large enough to make outward pressure on the upper end of the humerus, and securing it there by the use of a spica bandage. This acts as a fulcrum, so that the weight of the arm and the forearm relieves the intra-articular pressure. The advantage in using this dressing is that it permits of use of the arm in almost any occupation, except, possibly, in very acute stages, is comfortable for the patient, and meets every indication so far as relief of pain is concerned, and relieves intra-articular pressure. While it does not assure continuous rest, the patient is able not only to dress and undress himself without causing pain, but can execute almost any movement.

Buffalo Medical Journal

October

111 Referee Board on Benzoate of Soda. C. A. L. Reed, Cincinnati, Ohio.
112 Surgical Treatment of Cancer of the Rectum. C. H. Leaf, London, England.

Quarterly Bulletin Northwestern University, Chicago

September

113 Investigations on the Irritating Effects of Cathartic Drugs. I. A. Abt, Chicago.
114 Differential Diagnosis of Pathologic Conditions of the Bones and Joints by the Roentgen Rays. B. C. Cushway, Chicago.
115 Calculus of the Ureter. C. M. Fox, Chicago.
116 *Experiments with "Graupner's Test" for Estimating Functional Power of the Cardiovascular System. L. J. Osgood, Chicago.
117 Case of Leontiasis Ossea. J. J. Cole, Chicago.
118 Case of Trifacial Neuralgia. D'O. Hecht, Chicago.
119 *Preputial Frenum; Its Surgical Importance. V. D. Lespinasse, Chicago.

116. **Graupner's Test.**—Osgood believes that Graupner's test would be of great assistance in estimating the functional power of any heart muscle. It would have to be limited in its use, however, to cases in which compensation was not too bady broken. It would be of value in cases in which one was not able to demonstrate any gross lesion, but in which there seemed to be some degree of cardiac weakness. The blood pressure is of just as much clinical importance in treating a case of cardiac or renal disease as is the pulse rate or any other data which can be obtained by physical examination, and, therefore, a blood-pressure reading should be taken every day in order to treat scientifically any case of cardiac or renal disease.

119. **Preputial Frenum.**—Lespinasse holds that the preputial frenum has no physiology, but that it plays an important rôle in the pathogenesis of penile disease. He advocates its removal as a routine in all circumcisions and other penile operations when it can be done easily and without increasing the risk.

Denver Medical Times and Utah Medical Journal

October

120 Etiology of Trachoma. E. O. Sisson, Denver.
121 Mobility and Malposition of the Heart. C. B. Van Zant, Denver.
122 Antepartum Hemorrhage. M. D. Healy, Denver.
123 *What the Physician who has no *X*-Ray Should Know About It. N. M. Eberhart, Chicago.
124 Treatment of Goiter. W. S. Yates, Capron, Okla.
125 Venereal Diseases. F. Clift, Provo, Utah.

123. This article has been published in the *Medical Fortnightly*, August 25, the *Medical Summary*, September, and the *Milwaukee Medical Journal*, September, 1909.

American Medicine, New York

September

126 The Postoperative Patient. J. F. Erdmann, New York.
127 Early Diagnosis of Gall-Stones and the Importance of not Postponing Surgical Interference Until Serious Pathologic Changes Have Taken Place. J. E. Summers, Omaha, Neb.

128 Rectal Examinations. C. J. Drueck, Chicago.
129 Muscle Anomalies. H. E. Radasch, Philadelphia.
130 Timidity and Insanity (concluded). M. K. Isham, Columbus, Ohio.
131 Diagnosis of Adenoids in Children and Adults. H. Hays, New York.
132 Eye Changes in Bright's Disease. R. Kalish, New York.
133 The Doctor in Politics. T. H. Dexter, Brooklyn.
134 *An Easy and Efficient Method of Treating Carbuncles and Furuncles. J. A. Keown, Lynn, Mass.

134. **Treating Carbuncles and Furuncles.**—For the smaller carbuncle Keown applies a drop of liquefied carbolic acid, about 95 per cent. strong, to the very top of the carbuncle in its early stages. After a few moments it is washed off with water or alcohol. For the larger carbuncles the carbolic acid is pricked into them with a wooden toothpick. For the still larger ones, with considerable swellings, redness and induration, a crucial incision is made in the carbuncle under cocain and not extending more than from one-quarter to one-half inch in either direction. The carbolic acid is applied on a toothpick with a small amount of cotton and the whole inside of the carbuncle painted with the 95 per cent. carbolic acid. This is washed with a corrosive sublimate solution and a corrosive dressing applied. The patient is given corrosive sublimate tablets and directed to dress the whole surface of the neck two or three times a day, being very careful to destroy all the old dressing and to wash the hands before and after each application.

The patient is directed to return the next day, but if any new carbuncles appear they are to be treated as above directed. In the course of a few days the carbuncle stops forming and the old ones rapidly improve and the patient is well in a short time. Explicit directions are given to the patient to guard against reinoculation of various parts of the body by the fingers. The patient is ordered nourishing diet, is directed to stay in the sunshine, to avoid work, and to practice other hygienic methods. He is also directed to take, if in a very run-down condition, the compound syrup of hypophosphites. In no case has Keown met with any poisonous effect from the use of carbolic acid applied in this way.

Ophthalmology, Seattle

October

135 Requirements and Regulations of Signalling by Color. C. A. Oliver, Philadelphia.
136 *The Expression of Cataract in its Capsule. H. V. Würdemann, Seattle.
137 Capsule Forceps in Cataract Extraction. F. Tooke, Montreal.
138 Unusual Complications Occurring During and Following the Extraction of Cataract. C. A. Veasy, Spokane.
139 The Surgical Treatment of Strabismus. H. F. Hansell, Philadelphia.
140 Genesis of Conjugate Deviation of the Eyes. H. Rönne, Copenhagen, Denmark.
141 Etiology of Iritis. C. W. Jennings and E. Hill, Philadelphia.
142 Value of the Ocular Reaction to Tuberculin. C. Zimmermann, Milwaukee.
143 Spontaneous Serous Cyst Floating Free in the Anterior Chamber. J. N. Roy, Montreal.

136. See Abstract No. 69.

West Virginia Medical Journal, Wheeling

October

145 Water-Borne Diseases. S. L. Jepson, Wheeling.
146 Cardiac Asthma: Cheyne Stokes Respiration, Bradycardia, Adams-Stokes Syndrome. L. D. Wilson, Wheeling.
147 Fractures. A. P. Butt, Davis.
148 Deformities of the Bones of the Face. J. C. Archer, Wheeling.
149 The Nose and Throat, in Relation to Tuberculosis. M. O. Fisher, Parkersburg.

Louisville Monthly Journal of Medicine and Surgery

October

150 Acute Cardiac Dilatation. J. G. Cecil, Louisville.
151 Duty of the Surgeon in Apparently Hopeless Cases. A. M. Vance, Louisville.
152 Carcinoma of Uterus; Renal Calculus. L. Frank, Louisville.

New Orleans Medical and Surgical Journal

October

153 Dietetic Management of Tuberculosis. G. M. Niles, Atlanta.
154 Pneumococcus Empyema. J. F. Oechsner, New Orleans.
155 Purpura Rheumatica with Angioneurotic Edema and Visceral Crises. I. I. Lemann, New Orleans.
156 Case of Pellagra. R. M. Van Wart, New Orleans.
157 Emergency Operation in the Country. L. D. McGehee, Hammond, La.
158 Goiter. G. Dock, New Orleans.
159 Experiences in Staining Bacteria in Fresh Blood. M. P. Burnham, Harrisburg, Va., and R. Lyons, New Orleans.
160 Therapeutics of High-Frequency Currents. A. Henriques, New Orleans.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

October 9

1 Experimental Research and Medical Progress. Sir J. Tweedy
2 Complement Fixation. J. F. Flashman and A. G. Butler.
3 *Alcohol in Relation to Multiple Neuritis. J. S. Bury.
4 *Paroxysmal Tachycardia Disappearing After an Attack of Herpes Zoster. A. C. Turner.
5 Traumatic Rupture of the Small Intestine; Suture and Appendicostomy; Recovery. F. Radcliffe.
6 The Treatment of Endometritis. E. H. Tweedy.
7 Ovarian Tumor. Clinically Malignant, Arising from the Overgrowth of Lutein Cells. S. Savage.
8 Treatment of Contracted Pelvis. Prof. Fehling.
9 Dystocia Due to Ventrofixation of the Uterus. M. Cameron.
10 Development of the Epithelial Elements in the Ovary. A. L. McIlroy.
11 Treatment of Graver Forms of Puerperal Sepsis. T. Wilson.
12 Midwifery in Private Practice. J. J. Austin.
13 Uterine Cancer Complicating Pregnancy. C. Lockyer.
14 Inoculation Treatment of Tuberculous Arthritis. M. Smith.
15 *Treatment of Bronchial Asthma by a Vaccine. D. W. Carmalt-Jones.
16 *Treatment of Pneumonia by Inoculation. W. H. Willcox and W. P. Morgan.
17 Autoinoculation in Pulmonary Tuberculosis. M. Paterson.
18 Typhoid Carriers. T. Houston.
19 The Antitryptic Index. F. L. Golla.
20 Genesis and Treatment of the Malignant Tumors. Prof. Sanfelice.
21 The Microbe of Whooping Cough. Prof. Bordet.
22 Treatment of Club-Foot. R. Jones.

3. **Alcohol and Multiple Neuritis.**—Whether the neuritis is a direct or an indirect result of the poison, there is in Bury's opinion ample evidence to justify the view that well-marked cases of multiple neuritis (although not common) are produced more frequently by alcohol than by other poisons.

4. **Paroxysmal Tachycardia.**—Turner's case in most of its features agrees with one or other of the recorded cases, the variations being chiefly in minor and unessential details. The termination of the original attacks in vomiting and the artificial cutting short of subsequent ones, by the administration of emetics, is interesting. The feature which in this case seems most unusual is the coincidence of an outbreak of herpes zoster of the left second dorsal area with complete cessation of the heart attacks. Turner suggests that possibly it is no more than a coincidence in the popular sense of the word. Cases of paroxysmal tachycardia do cease spontaneously, and it is possible that in this case the cessation may only be a temporary one and that further attacks may occur later. On the other hand, the fact that the second left thoracic nerve is very closely associated with the nerve supply of the heart, and particularly with its accelerator fibers, and the fact that previous to the outbreak of zoster the heart attacks had recurred fairly regularly every two months for ten years, seem to suggest that the two things are related.

15. **Treatment of Bronchial Asthma by Vaccine.**—Carmalt-Jones suggests that one cause of spasmodic dyspnea in chronic bronchitis is a specific bacterial toxin, the result of a definite infection and amenable to treatment by the corresponding vaccine. In 1907, while making some investigations into the bacteriology of chronic bronchitis, he isolated a certain organism in nearly pure culture from the sputum of a female patient. He took her opsonic index to this, and finding it low, suggested inoculation, to which she agreed. She was given a dose of 25 millions hypodermically, and was instructed to come back in two days. She suffered severely from bronchial asthma. On her return she said that though her cough was no better her breathing had been much relieved. Carmalt-Jones used the same vaccine extensively among patients suffering from bronchial asthma, in about 70 cases in all, and of these he has collected 52, who gave the experiment a fair trial, that is, who attended for inoculation at least twice. Taking results as a whole, 31 patients have found some degree of improvement in the frequency, and 39 in the severity of their attacks; 26 have improved in their powers of taking exercise, and 29 have slept better. In some cases improvement has been slight and in others temporary. In 4 patients no improvement at all has resulted.

16. **Treatment of Pneumonia by Inoculation.**—Willcox and Morgan report two cases in which they studied the clinical effects of inoculation. They found that there was a definite

improvement in the clinical symptoms of the disease, thus there was often an immediate fall in the temperature, and the dyspnea and delirium became less after a dose of vaccine. The duration of the disease appeared in some cases to have been shortened; thus in one case the crisis occurred on the second day, in one on the third day, in one on the fourth day, and in 3 cases on the fifth day after the onset. In some cases, instead of a fall in temperature by crisis, the fever subsided by lysis; this happened in 8 cases, a rather larger proportion than would have been the case without vaccine treatment. The most striking and convincing evidence of the benefit derived from vaccine treatment was shown by those cases which ran a protracted course. The beneficial effects of vaccine were most striking, and these results could have been due to no other cause, since all the usual therapeutic measures had previously been adopted with no result. In two of their cases, while the ordinary stock vaccine gave no benefit, an autogenous vaccine almost immediately produced most striking effect, the symptoms rapidly clearing up.

Lancet, London

October 9

23 Causation in Health and Disease. F. Moulton.
24 Theories. H. A. Miers.
25 Importance of Athletic Games in the Formation of Character and the Advantages of Anatomy as a Disciplinary Study. Sir T. C. Allbutt.
26 Progress in Education. I. Owen.
27 Progress in Medicine. Sir J. Tweedy.
28 Walking the Hospital. J. S. Goodall.
29 *Clinical Significance of Albuminuria. N. Tirard.
30 *Investigation into the Etiology of Erysipelas, and Allied Infections. P. N. Panton and J. E. Adams.
31 Syphilitic Reinfection Nine Years After; Syphilitic Immunity. H. Dardenne.
32 *Corneo-conjunctival Bridge; New Method of Cataract Extraction. N. G. Cluckie.
33 The Poor-Law Medical Service; Coming Legislation. W. Holder.
34 Vaccination Acts and the Growth of Conscientious Objection. L. B. Cane.

29. **Clinical Significance of Albuminuria.**—According to Tirard, a large amount of albumin, without blood or pus, may generally be taken to indicate chronic tubal nephritis, and this can be confirmed by a high specific gravity, by microscopic examination, and by the appearance of the patient. A very small trace in an elderly or middle-aged man will probably indicate chronic interstitial nephritis: confirmatory evidence can be found in the aspect, the history, the pulse tension and tracing, the outward displacement of the cardiac impulse, the accentuation of the systolic apical sound, and the accentuation and reduplication of the second sound at the base of the heart. These indications may be further supported in some cases by the pale color and low specific gravity of the urine; less frequently information may be gathered from the presence of casts and from their predominant characteristics. The absence of casts is not, however, to be regarded as an indication that the case is not one of chronic interstitial nephritis. In a young man a mere trace of albumin may be the only evidence of a functional albuminuria, and the diagnosis must then rest on negative evidence to a large extent, one of the most important factors being the relatively high specific gravity, unless this has been influenced by nervousness or by the recent consumption of a large quantity of liquid. With the same limitations the deep color of the urine will lend confirmatory evidence. After all, albuminuria is merely an indication of an abnormal condition, it is not a disease.

30. **Etiology of Erysipelas.**—Panton and Adams define erysipelas as an acute inflammation of the epidermis due to the presence of one of the organisms of the streptococcus class, of which the *Streptococcus pyogenes* is the most frequent example. Cellulitis appears to be a strictly comparable inflammation of the cellular tissues, and when the inflammatory processes involve both the epidermis and the cellular tissues the condition of cellulo-cutaneous erysipelas results. Acute lymphangitis would seem to be a less virulent infection, due, as a rule to organisms of the staphylococcus class, with a greater tendency to spread, as its name implies, by the lymphatic system. Erysipelas is not, in the true sense of the term, a specific disease, since it may be produced by a variety of organisms, and these organisms are capable of producing other diseases in other parts of the body.

32. **New Method of Cataract Extraction.**—The modification to which Cluckie directs attention consists in performing von Graefe's operation up to a point that leaves a connecting flap between the cornea and the conjunctiva about four millimeters broad. Instead of completing the corneal section in the usual fashion the Graefe knife is carried further up under the bulbar conjunctiva for from 10 to 12 millimeters and is then withdrawn without cutting through the conjunctiva. There is thus a corneo-conjunctival bridge, which may be broad or narrow, but the broader and longer the conjunctival attachment to the cornea, the greater the chances of success and speedy recovery. Cluckie claims that by means of this corneo-conjunctival bridge, the continuity between the cornea and the conjunctiva being maintained, the nourishment of the cornea is not interfered with to the same extent as in the usual method, where complete division is carried out. Moreover, the parts are kept in more accurate apposition, thereby favoring rapid and certain union. From this it follows that the anterior chamber will be re-established in a shorter period.

Bristol Medico-Chirurgical Journal

September

35 Referred Cardiac Pain. F. G. Thomson.
36 Tuberculosis of the Colon. E. W. H. Groves.
37 Theoretical Considerations of Pulmonary Percussion Notes G. H. Almond.
38 Technic of the Radical Operation for Chronic Purulent Otitis-Media. P. W. Williams.
39 Sleep and the Modern Hypnotics. J. M. Fortescue-Brickdale.
40 Safety of the Patient in Anesthesia. J. Freeman.

The Journal of Hygiene, London

September

41 House-Flies as Carriers of Disease. J. T. C. Nash.
42 The Bleaching of Flour. W. D. Halliburton.
43 Evolution of Immunity in Disease. L. Noon.
44 *Absence of Respiratory Disorders in Those Inhaling Starch Dust Over Long Periods. W. P. Kaufmann.
45 *Influence of Heating on the Nutrient Value of Milk as an Exclusive Diet for Young Animals. J. E. Lane-Claypon.
46 Multiplication of Bacteria and the Influence of Temperature and Some Other Conditions Thereon. J. E. Lane-Claypon.
47 Physiologic Effect of Cobalt Carbonyl Vapor. H. W. Armit.

44. **Starch Dust.**—It is evident from Kaufmann's observations that while protracted inhalations of flour dust induce morbid changes in the respiratory system, those of starch granules (maize) practically in a pure state appear to exert no such adverse influence, *per se*. However, in cases in which an illness is not completely recovered from, a depression of vitality is maintained, and other intercurrent diseases may supervene as a result. The reason for this is strongly indicative that flour dust, on account of its glutinous content, and the nature of the gluten, forms an intractable dough with the body juices, and is converted into a mass which, not being amenable to lysis, remains behind, and becoming a "foreign body," sets up irritation of the parts. On the other hand, starch granules, *per se*, as in relatively pure maize starch granules, or even admixed with a very large preponderance of maize, "gluten," not tending to form a dough, are easy of access to, and are rapidly removed by some agency, and are not given the opportunity to become a foreign body and to set up irritation.

45. **Nutrient Value of Milk.**—Lane-Claypon found by experimentation that when the milk of another species is used, there is no marked nutritional difference between raw, boiled, or even sterilized milk.

British Journal of Children's Diseases, London

September

48 Congenital Heart Affections, Especially in Relation to the Diagnosis of the Various Malformations (continued). G Carpenter.
49 Irreducible Intussusception in the Infant Treated by Ileocolic Anastomosis. H. Rutherfurd.
50 Hyperpyrexia Occurring in Childhood. J. Burnet.
51 The Differences Between the Sexes in the Development of Speech. E. Jones.
52 Existence and Results of Treatment of Pulmonary Tuberculosis in Children of School Age. E. G. H. Williams.

Archives Générales de Médecine, Paris

July, LXXXIX, No. 7, pp. 385-570

53 *Radioactivity. Matout.
54 *Radium Treatment of Cancer. Dominici.
55 *Radium in Treatment of Nervous Disturbances. P. Touchard.
56 *Radioactive Mud in Therapeutics. (Application des boues radioactives en thérapeutique.) O. Claude.
57 *Radium in Gynecology. Fabre.

58 *Radium in Treatment of Cancer of the Esophagus. Guisez.
59 *Radium in Treatment of Skin Diseases. (Applications du radium au traitement des maladies cutanés.) O. Claude.

53-59. **Medical Application of Radium.**—This number of the *Archives* is devoted to ten monographs on the application of radium in the treatment of nervous and skin affections and cancer and in gynecology. They are profusely illustrated and were presented at a series of conferences on radium held at the Museum of Natural History, Paris, where Becquerel first discovered the radiographic properties of the salts of uranium in research on phosphorescence; this was soon followed by the discovery of radium by the Curies. The first radiographic impression of the kind is reproduced, with Becquerel's memoranda on the margin. Touchard reviews his experience with radium treatment of various organic nervous affections, the effect, he says, being like that of "an intelligent bistoury which makes its way to the lesion and attacks it directly, without violent traumatism and without disturbing the sound tissues." Its special field seems to be in affections of a neoplastic origin, lesions in which embryonal tissue predominates. The rays from radium seem to display much greater penetrating power than the Roentgen rays, he remarks, the interposition of bones not interfering with their penetrating power to the same extent. Among the patients treated were two with sciatica or tabetic pain in the pelvis, both of whom had been much improved by application of the radium. In some cases of syringomyelia also, the applications of radium seemed to have a favorable influence on the gait and power of movement generally, while trophic disturbances retrogressed and the patients gained in strength. Favorable experiences with radium in treatment of gynecologic affections are reported by Fabre, who ascribes the benefit to the relief of the congestive inflammation and promotion of absorption and transformation of effusions. The radium rays seem to have an elective action on gonococcal ovarian, tubal and joint affections, and do good service when operative measures are contraindicated or to supplement them. Guisez has had occasion to treat with radium a number of patients with cancer of the esophagus out of nearly 500 whom he has examined with the esophagoscope during the last six years. He applied the radium tube directly to the inoperable cancerous growth and found that the cancer shrank under the influence of the rays, restoring partial permeability and affording great relief. The radium treatment must be energetic, using 8 or 10 cg. of radium bromid, introducing it into the esophagus for direct contact with the growth, controlled with the esophagoscope.

Archives des Maladies du Cœur, etc., Paris

September, II, No. 9, pp. 499-544

60 *Case of Chloroma. L. Stiénon.
61 *Acquired Pulmonary Stenosis. (Rétrécissement pulmonaire acquis.) V. Courtellemont.

60. **Chloroma.**—Stiénon's patient was a young man of 22, with symptoms for two years, first merely vague pains in the left hypochondrium and then enlargement of the spleen, which subsided to normal size for a brief period under radiotherapy, but then enlarged again. Extreme weakness and emaciation were the main symptoms when the patient entered the hospital; autopsy revealed multiple chloromas in the heart, pleura, kidneys, meninges and brain. Study of the case and comparison with others on record confirm, he thinks, the assumption that chloroma is a pigmented leucosarcomatosis which at any moment may entail a subacute leucemia from invasion of the blood by the lymphoid elements.

61. **Acquired Pulmonary Stenosis.**—No symptoms on the part of the cardiovascular system had been noticed in the case reported except that running, as a child, had been impossible on account of the speedy "loss of breath." The stenosis was an accidental discovery, and certain features of the case suggest that an attenuated tuberculous infection was responsible for it. The patient was a young woman of 24, supposedly healthy.

Lyon Chirurgical, Lyons

October, II, No. 5, pp. 523-650

62 *Inflammatory Stricture of the Pylorus. (Des rétrécissements inflammatoires du pylore et spécialement des formes tuberculeuses.) E. Villard.
63 Surgical Treatment of Adherent Pericardium and Mediastinopericarditis. R. Leriche and G. Cotte.

62. **Inflammatory Strictures of the Pylorus.**—Villard has encountered during the last few years seven cases of a tuberculous affection of the pylorus assuming the form of hypertrophy of the tissues in one instance, of infiltration in two, and of sclerosis in the others. It is possible, however, that these different forms are merely different stages of a single process. Gastroenterostomy is the only treatment, he says, or possibly subpyloric gastroduodenostomy in case of a merely fibrous stricture with limited and retrogressing lesions. It is possible that other infections may be responsible for the inflammatory stricture in some cases, but this has not been proved to date. The curative effect of simple gastroenterostomy renders more extensive intervention superfluous, the prompt recovery after diverting the course of the chyme shows that simple gastroenterostomy answered all the indications in the cases reported. In one case a large inflammatory tumor at the pylorus simulated malignant disease and what was supposed to be merely a palliative gastroenterostomy was done, but the tumor then subsided entirely. Two years later, the patient returned with another tumor in the laparotomy wound which proved to be merely an inflammatory reaction around some suture threads left from the gastroenterostomy. A year later a similar tumor developed again, and the operation revealed that it was due to the same cause, an inflammatory reaction to the suture thread of the second operation. The tumor masses both times were merely secondary inflammatory processes which simulated actual neoplasms. It is reasonable to assume that a similar process might develop from similar causes in the pyloric region and elsewhere without the intervention of the tubercle bacillus or its toxins. In two other cases, nervous symptoms predominated—daily vomiting resisting all medical measures. Laparotomy revealed slight anatomic changes in the pylorus and the disturbances subsided after the gastroenterostomy.

Lyon Médical, Lyons

September 19, XLI, No. 38, pp. 461-500

64 Scarless Healing of Suppurating Glands. (Guérison sans cicatrice des adénites suppurées.) Biot.

Presse Médicale, Paris

September 29, XVII, No. 78, pp. 681-688

65 *Early Diagnosis of Congenital Dislocation of the Hip-Joint. (Diagnostic précoce de la luxation congénitale de la hanche chez le jeune enfant.) J. Gourdon.

65. **Early Diagnosis of Congenital Dislocation of the Hip.**—Gourdon protests against the term "congenital dislocation" as he believes that there is no dislocation until the child begins to use its limb. The child is born, he asserts, with factors that entail dislocation later. He gives two illustrations of a simple test by which it is possible to detect the presence of these factors before there is any actual dislocation, their discovery pointing the way to effectual prophylaxis. As the child lies on the sound side, the affected thigh is flexed on the pelvis and the leg flexed on the thigh, the knee being in contact with the table. By grasping the knee as it touches the table on which the child lies, the normal thigh can be twisted inward only a certain distance, not more than 60 degrees from the plane of the table. When the head of the femur is abnormally movable, it is possible to twist the thigh over to an angle of 90 degrees from the plane of the table. This sign of the exaggerated inward rotation of the femur is useful not only for forewarning of congenital malformation in the hip, but it also reveals disturbances in the joint resulting from other affections, such as infantile paralysis, etc., before there is any sign of displacement of the femur. Bade's sign of congenital malformation of the hip joint is the lack of symmetry between the folds in the inguinal region on each side, and Hoffa regards certain cracking sounds sometimes heard in the joint as suggestive of congenital malformation.

Revue de Gynécologie, Paris

August, XIII, No. 4, pp. 563-752

66 The Normal and Anomalous Hymen in Virgins. (La forme de l'hymen chez la fillette et la vierge adulte. Les fossettes hyménales. Les brides hyméno-vaginales.) F. Jayle.
67 Ovarian Fibroma. Vautrin and Hoche.
68 Para-appendiceal Pseudocyst in Broad Ligament. M. Froget.
69 Abnormal Blood Vessels in the Kidney in Relation to Hydronephrosis. (Les vaisseaux anormaux du rein et l'hydronéphrosé. E. Papin and F. Iglesias.
70 *Acute Hemorrhagic Pancreatitis. R. Leriche and L. Arnaud.

70. **Acute Hemorrhagic Pancreatitis.**—Leriche reports two new cases and adds comprehensive summaries of the cases that have been reported since 1906—a total of fifty-three. In his first case there was no trace of fat tissue necrosis observed at the laparotomy done on account of supposed peritonitis and occlusion; the pancreas was not examined. The true source of the acute hemorrhagic inflammation was not discovered until autopsy. The fat tissue necrosis in the second case attracted attention to the pancreas at once when the abdomen was opened. The pancreas was dilacerated and drained. but the patient succumbed the third day to hematemesis. The lessons that may be drawn from the entire material of 53 cases are to be presented in a later article for which this communication forms the basis.

Revue de Médecine, Paris

September, XXIX, No. 9, pp. 673-752

71 *Regional Atrophy of the Kidney. (L'atrophie scléreuse régionale du rein par thrombose artérielle.) W. Alexieff.
72 *Pathogenesis of Orthostatic Albuminuria. G. Turrettini.
73 Thirty-five Years in the Vaccination Service. Goldschmidt.
74 *Influence of Tincture of Cantharides on Permeability of Kidney in Epithelial Nephritis. Macaroff.

71. **Regional Atrophy of the Kidney.**—Alexieff describes a typical case of circumscribed sclerous atrophy of the kidney, of arterial origin, independent of any chronic inflammation of the organ. He discusses the points that differentiate this from regional atrophy due to an embolic infarct. Thrombosis of the renal arteries causes great variability in the amount of urine voided in the twenty-four hours; sometimes the amount drops to a fourth, and this oliguria persists for about four days, after which the amount of urine rapidly increases to the preceding quantities. In the case described, the amount of urine dropped abruptly to less than a quart and kept at this point for four days, after which it increased to the preceding average of two or three quarts. During this interval, the patient felt about as usual. There was no disturbance in the general health, except possibly a slight tendency to unusual nervousness, but there was considerable retention of chlorids during this period of oliguria. While the density of the urine increased, the chlorids dropped from 11.63 gm. to 3 gm. In a test of the permeability of the kidneys the elimination of the methylene blue was abnormally retarded; it did not commence until after ten hours, then continuing for six hours, after which all trace of the stain vanished from the urine for eighteen hours. Then elimination recommenced and continued strong until all the stain had been eliminated after another brief interval of suspension. Patients with this form of kidney disturbance usually present other signs of atheromasia of arteries of a certain size, especially those at the base of the brain, in the limbs, possibly also in the coronary or gastric arteries. A sudden decline, therefore, in the amount of urine voided, unaccompanied by uremic symptoms or signs of asystoly, should suggest the possibility of a focus of thrombosis in one or both kidneys. It is not accompanied by acute phenomena, sudden pain in the lumbar region or transient hematuria; the thrombotic process develops slowly without signs of insufficiency on the part of the kidney.

72. **Orthostatic Albuminuria.**—Turrettini noted albuminuria in four girls between 12 and 16, nervous and anemic, but the albuminuria disappeared when the girls remained in bed. There was nothing but the albumin to indicate anything wrong in the kidney or circulation. The albuminuria could be induced at will by inducing lordosis. During the years of most active growth the vertebræ are not supported so firmly as later in life, and the physiologic curve of the spine becomes exaggerated by the laxness of the ligaments, etc. This interferes with the circulation in the kidneys, the same causes operating, perhaps, to render the latter also abnormally movable. The patients with this form of albuminuria are generally inclined to nervousness and anemia—all probably the result of the excessive and possibly inharmonious growth of certain parts during these years.

74. **Treatment of Nephritis with Cantharides.**—Macaroff expatiates on the stimulating action of tincture of cantharides on the functioning of the kidney, enabling the organ to throw off the substances which in case of nephritis are usually retained in the organism. Very small doses, not over 4 or 5 drops of the tincture of cantharides, during the twenty-four hours, were given during seven or eight days, and the results in the eleven cases of subacute or chronic epithelial nephritis reported and two of interstitial nephritis, encourage, he thinks, the more general adoption of this method of treatment. The specific elements of the kidney tissue feel the effects of the cantharides most; this influence is manifested in an increased diuresis and increased elimination of chlorids and urea if the specific elements of the kidney are still capable of responding to stimuli. Of course this treatment is contraindicated in an acute process with much irritation, but in the subacute and chronic atrophic cases, when the permeability is becoming impaired, this treatment stimulates the torpid epithelial and interstitial cells to more active functioning. Small doses of the tincture, not more than from 1 to 5 drops a day, have no injurious action on the kidney tissue in these conditions.

Semaine Médicale, Paris

October 6, XXIX, No. 40, pp. 469-480

75 Gaseous Abscess Extending in Front of and Behind the Sternum, with Positive Agglutinating Findings for Anaërobes. (Abcès gazeux présternal et rétrosternal par infection anaérobique. Sérodiagnostic anaérobique.) A. Chauffard and J. Troisier.

Beiträge zur Klinik der Tuberkulose, Würzburg

XIV, No. 1, pp. 1-96. Last Indexed October 9, p. 1240

76 Experiences with the Intracutaneous Tuberculin Test. (Zur Verwertung der intrakutanen Reaktion auf Tuberkulin.) P. H. Römer and K. Joseph.
77 *Tuberculin Test by the Mouth. (Zur Diagnostik der Tuberkulose durch innerliches Einnehmen von Tuberkulin.) T. Sato.
78 *Hypersusceptibility Induced by Cutaneous Tuberculin Test. (Ueber Sensibilisierung bei der kutanen Tuberkulinreaktion.) V. Ellermann and A. Erlandsen.
79 Diagnostic Value of Various Early Symptoms of Tuberculosis. (Kritische Betrachtungen der Symptome der Lungentuberkulose, vorwiegend der Frühsymptome.) F. L. Baumann.
80 The Complement-binding Substance in the Serum of Tuberculous Children. (Zur Kenntnis der mit Tuberkulin komplementbindenden Stoffe im Serum tuberkulöser Kinder.) R. Fua and H. Koch.
81 *Agglutination Test on Tuberculous Children. (Ueber Agglutination bei tuberkulösen Kindern.) O. Grüner.

77. **Tuberculin Test by the Mouth.**—Sato reports the results of the tuberculin test by ingestion of the tuberculin, as applied to 12 healthy persons, 10 patients with phthisis, 1 with tuberculous peritonitis, and 16 with some non-tuberculous affection. He gave the tuberculin between 4 and 5 p. m., to ensure that the stomach was comparatively empty, commencing with 0.001 gm. "old" tuberculin in a capsule, and increasing the dosage as for the subcutaneous test. If no reaction is observed even with 0.01 gm. tuberculin, he regards tuberculosis as excluded. Among the various advantages of this technic are that the test can be made without the patient's knowledge. Positive findings were never obtained in the non-tuberculous, but, with two exceptions, constantly in the tuberculous. He gives a typical curve to show how the reaction to the ingestion of the tuberculin, paralleled to the smallest details the curve obtained by subcutaneous injection of tuberculin in the same patient during the following month. The only difference was that the febrile reaction to the largest dose was a little more pronounced by the mouth than by the subcutaneous technic.

78. **Hypersusceptibility Induced by Cutaneous Tuberculin Test.**—Ellermann and Erlandsen have called attention to the difference in the local response to different concentrations of tuberculin in proportion to the difference in the intensity of the tuberculous process. The technic of their graduated quantitative tests was mentioned in The Journal, May 15, 1909, page 1634. They here call attention to the change in the results obtained in some cases with these tests repeated after a certain interval, the change suggesting that the organism had acquired a special hypersusceptibility under the influence of the tuberculin used in the first tests. This anaphylactic action of the tuberculin was not manifested in the tuberculous-free organism. It was not confined to the part involved, but seemed to be a universal sensitization. It was pronounced in 84 per cent. of the 50 cases while a tendency was perceptible in 8 per cent. more. The degree of sensitization ranged from 10 to 1,000 per cent. An interval of a few days was required for its development, but the interval is shorter than that required for development of serum-anaphylaxis. The particulars of the comparative tests are tabulated.

81. **The Agglutination Test in Tuberculous Children.**—Grüner reports extensive research which shows that agglutination of killed and ground tubercle bacilli by diluted human serum must not be regarded as a specific phenomenon in the sense that it is dependent on the presence of some tuberculous lesion in the organism. But, at the same time, it cannot be a merely casual occurrence, as the agglutinating property can be enhanced by injection of bacillus substance in the form of "new" tuberculin or "bacillus emulsion." The fact of this influence maintains the interest for this agglutinating test although it has as yet no practical importance for the diagnosis and treatment of tuberculosis.

Berliner klinische Wochenschrift

September 27, XLVI, No. 39, pp. 1757-1796

82 *Cleft Palate. (Meine Erfahrungen bei 53 Gaumenspalt-Operationen mit technischen Mitteilungen.) C. Helbing.
83 *Deep Application of Heat by Electricity. (Zur Verwendung der Wärmedurchstrahlung; Thermopenetration.) V. Klingmüller and F. Bering.
84 *Hygroma of the Shoulder Bursa. (Zur Klinik der Reiskörperhygrome der Schulterschleimbeutel.) K. Hirsch.
85 Displacement and Transformation of Epithelium. (Epithelheterotopie und -metaplasie.) Munter.
86 Composition of the Opsonins. (Zum Bau der Opsonine.) H Reiter.

82. **Operation for Cleft Palate.**—Helbing's article was presented at the recent international dental congress at Berlin; it reviews his experience in fifty-three cases, with success in 75 per cent. He has found that the speech seems to be better the younger the patient at the time of the operation, while the technic is no more difficult in children under three months if correspondingly small instruments are used. By an early operation the child escapes many dangers to which it otherwise would be exposed, defective feeding, choking, infections in the respiratory and digestive organs, and otitis. The mortality of young infants with cleft palate not operated on is extremely high. As a rule, he operates at two sittings.

83. **Deep Application of Electric Heat.**—In order to obtain the benefits of "thermopenetration" without burning the skin. Klingmüller interposes a sponge moistened with salt solution between the electrode and the skin. It is thus possible to pass a current up to 1 ampere through a joint. The results were not satisfactory in recent gonorrheal epididymitis, as the heat seemed to mobilize the gonococci, but gonorrheal joint affections seemed to be favorably influenced. The pain vanished in two sittings and the joint became more movable. Similar benefit was observed in old rheumatic joint affections.

84. **Rice-Body Hygroma of the Shoulder Bursa.**—In the case discussed by Hirsch the hygroma protruded both front and rear; the process was further remarkable by the lack of any fluid with the rice-bodies.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

September 25, XII, No 17, pp. 641-688

87 *Intermittent Limping. (Ueber intermittierendes Hinken. (Claudication intermittente Charcot's.) R. Köhler. Commenced in No. 15
88 *Flatfoot in Its Relation to Nervous Affections. (Der Plattfuss in seinen Beziehungen zur nervösen Erkrankungen.) Muskat.

87. **Intermittent Limping.**—Köhler summarizes the conclusions of 149 articles from the literature, discussing the pathologic anatomy and differential diagnosis in particular. A number of terms have been suggested since Charcot borrowed from the veterinarians the new term "intermittent claudication," but later discarded it for "intermittent ischemic obliterative painful paralysis." Erbs calls it "intermittent angiosclerotic dysbasia;" Manteuffel prefers the term "arteriosclerotic rheumatism;" Grassmann "intermittent arteriosclerotic muscular paresis;" Higier "paroxysmal angiosclerotic myasthenia;" Determann "intermittent akinesia or dyskinesia," and Paul "angina cruris." Nineteen different affections with which it might be confounded are compared with it. The lack of the pulse in the arteries of the foot or leg should suggest this disturbance, confirmed by Roentgen findings of changes in the arteries of the foot, but the principal feature of this affection is the complete subsidence of disturbances during rest and their periodical return after exertion. In treatment, potassium iodid on suspicion of syphilis, and regulation of the diet to avoid foods that act on the vasomotors are important. Special attention should be paid to avoidance of cold-water "cures," overexertion and worry. Alcohol and tobacco should be avoided; some accept nicotin as the direct cause. Similar disturbances may be observed in the intestines and heart; when in the legs, there is intermittent limping; in the stomach and intestines there are paresis and meteorism; in the heart, sudden insufficiency or paralysis—all organs capable of sensory phenomena showing such in connection; cramps in the muscles, paresthesia in the skin, sense of oppression in the heart region, with more or less pain. Wagenmann has reported a case of what he called intermittent claudication of the retina, and Ortner one of transient paralysis, pain and meteorism in the small intestine and ascending colon, evidently connected with an affection of the superior mesenteric artery.

88. **Flatfoot in Relation to Nervous Disturbances.**—Muskat has frequently found that symptoms of neurasthenia vanished when existing flatfoot was corrected, and he urges neurologists and others to record the proportion of neurasthenics who have flatfoot and the number relieved of their nervous disturbances on correction of the foot trouble. He gives the anatomic reasons why the disturbance in the foot may entail sciatica and joint pains, their connection with the foot trouble being confirmed by the reappearance when the flatfoot recurs. He also frequently found that beginning flatfoot causes subjective disturbances for which no objective symptoms can be determined; many discouraged neurasthenics can be restored to health and happiness if it becomes the routine practice to examine the feet, even eventually with the Roentgen rays, to detect a tendency to flatfoot. Certain women of the upper classes who are a torment to themselves, their physician and their family by their never-ending complaints of indigestion, pains, etc., frequently suffer from flatfoot, and the correction of this disturbance frees them from all their other troubles. Ehrmann in the course of fifteen years encountered 120 patients with neuralgiaform pains in the pubic and inguinal regions, accompanying flatfoot. In the effort to step with as little pain as possible, the thigh is thrown into adduction, which pulls on the tissues and drags on and irritates the nerves. The flatfoot is readily recognized by the patient's gait and the convex inner outline of the foot. In normal conditions this forms a straight or concave line. In Austria, 33 per thousand of the recruits have to be rejected on account of flatfoot. Muskat does not discuss the treatment except that he warns that it is not enough to refer the patient to a shoemaker for an ordinary flatfoot insole. In sciatica, special attention should be paid to a possible flatfoot. On the other hand, incipient tabes may be mistaken for flatfoot, or vice versa. In differentiating this condition it is important to bear in mind gonorrheal joint affections, deforming arthritis, periostitis, gout, arteriosclerosis and intermittent limping, in addition to the affections already mentioned.

Correspondenz-Blatt für Schweizer Aerzte, Basle

October 1, XXXIX, No. 19, pp. 649-688

89 Transplantation of Bones and Organs. G. Hotz.
90 *Etiology of Hernias. C. Widmer.

90. **Etiology of Hernias.** Widmer protests against the current household practice of applying an inelastic band to the infant's abdomen as it tends to push the viscera downward and to produce a tendency to hernia. Normally, the infant abdomen forms an inverted cone, as it were, with the largest circumference near the costal arch; the inguinal region is comparatively empty of contents; the walls are depressible. With the tight "belly-band" the viscera are forced down into this region and the abdominal wall here is stretched taut and offers resistance to the finger. He does not accept the possibility of a truly congenital hernia; the hernia is always acquired later, he asserts, and the conditions produced by the traditional "belly-band" favor its production when the region is exposed to mechanical stress in later life.

Deutsche medizinische Wochenschrift, Berlin

September 30, XXXV, No. 39, pp. 1681-1728

91 *Thrombotic Obliteration and Transformation of Portal Vein. (Zur thrombotischen Obliteration und kavernösen Umwandlung der Pfortader.) W. Risel.
92 Goiter Operations Under Local Anesthesia. (Kropfexzisionen unter Lokalanästhesie.) Hackenbruch.
93 The Trachoma Corpuscles. (Die "Trachomkörperchen.") B. Heymann.
94 Atypical Bacillary Dysentery in an Insane Asylum (Atypische Bazillenruhr in einer Irren-,Heil- und Pflegeanstalt.) K. Heuser.

95 Importance of Wassermann Reaction in Rhinology and Laryngology. J. Weinstein.
96 Serodiagnosis of Syphilis in Prostitutes. Dreyer and Meirowsky.
97 Differential Diagnosis Between Wandering Kidney and Movable Intra-abdominal Tumors. Kudlek.
98 Influence of Roentgen Rays on Lung Tissue. (Einfluss der Röntgenstrahlen auf das Lungengewebe.) F. Wohlauer.
99 *Case of Glycerin Addiction. (Fall von Glyzerinzucht.) F. Schmey.

91. **Obliteration of the Portal Vein.**—Risel describes in detail a case of fatal hemorrhagic infarcts and gangrene of the small intestine from recent thrombosis of the mesenteric vein. This was probably the result of an old change in the portal vein, the result of thrombotic occlusion of the vein trunk with subsequent organization and tunneling of the thrombus. This process had caused no symptoms unless possibly in early childhood a transient enlargement of the abdomen following scarlet fever can be regarded as such. The patient was a childless woman of 34, and four dermoid cysts were found in the ovaries.

99. **Glycerin Addiction.**—Schmey reports a case in which a young man was in the habit of drinking large amounts of glycerin every day, up to about 33 ounces. He had commenced the practice about four months before, having been told that "glycerin was good for the nerves." Some writers have mentioned that glycerin produces a kind of exhilaration like alcohol, and this intoxication was probably the incitement to the addiction. After drinking the glycerin he said his head felt heavy and he had to lie down. The family complained of his growing irritability and his demands for or stealing of money to buy the glycerin. The man was pale and slightly jaundiced, somewhat languid, with distinct dermography; the left knee jerk was normal, the right attenuated: the liver extended below the costal arch but was not tender; the urine was normal and the appetite fair. He refused to see the physician further after the first examination.

Medizinische Klinik, Berlin

September 26, V, No. 39, pp. 1466-1500

100 Treatment of Infected Wounds. (Behandlung infizierter Verletzungen.) A. Most.
101 What Characterizes Hysteria? S. Meyer.
102 *Etiology of Intercostal Neuralgia. H. Bach.
103 *Treatment of Lupus. (Behandlung des Lupus vulgaris.) E. Finger. Commenced in No. 38.
104 *The Mind of Anthropoid Apes. (Zur Frage des Geisteslebens der Menschenaffen.) A. Sokolowsky.
105 Terminal Nerve Organs and Muscle Fibers. (Nervenendorgan und Muskelfaser.) F. B. Hofmann. Commenced in No. 38.
106 *Lessons from the Cholera Epidemic at St. Petersburg. (Die Cholera indica in St. Petersburg 1908-9.) V. R. Stuhlern. Commenced in No. 38.
107 Paracelsus and His Conception of Diseases, etc. (Ueber Paracelsus und die tartarischen Krankheiten.) P. Richter. Commenced in No. 38.

102. **Etiology of Intercostal Neuralgia.**—Bach reviews the various theories in regard to the origin of intercostal neuralgia, but does not accept any of them unreservedly. On the other hand, his clinical experience suggests that mechanical conditions are mainly responsible. In six rather corpulent women, none held herself erect, the stooping attitude pressing the ribs on the intercostal nerves or exerting traction. This assumption was confirmed by the benefit realized when the patients learned to stand straight. Prophylaxis and treatment should thus be directed against the spine.

103. **Treatment of Lupus.**—Finger concludes this review of what has been and can be accomplished in the treatment of lupus with the statement that it is unwise to try to establish special lupus institutes. The money which such would cost would better be applied to provide a number of hospitals with the Finsen apparatus, etc., so that patients can be treated near their homes

104. **Mental Operations of Anthropoid Apes.**—Sokolowsky has devoted considerable attention to study of the ape mind. Animals communicate with each other by movements, and he has been much interested in this subject as investigated in a large enclosure containing 700 monkeys. He is convinced that study of the anthropoid apes might lead to valuable discoveries for science, and suggests that those best fitted for this task are persons accustomed to training the deaf and dumb. This language by gestures might also be interestingly studied in the primitive races, bushmen, etc.

106. **Cholera in Russia.**—The various experiences with different preventive and curative serums and therapeutic measures during the epidemic of cholera that has been prevailing in Russia for over a year are reviewed. None seems to have displayed striking efficiency.

Münchener medizinische Wochenschrift

September 28, LVI, No. 39, pp. 1985-2040

108 *Bacteriolysis of Tubercle Bacilli. G. Deycke and H. Much.
109 *The Wassermann Reaction in Internal Medicine. L. Saathoff.
110 Albumin in Infant Feeding. (Rolle des Eiweiss in der Säuglingsernährung.) P. Grosser.
111 End-Results of Radical Operation of Inguinal Hernia According to Girard's Technic. (Dauerresultate bei Radikaloperation der Leistenhernien nach Girard.) Heinzmann.
112 Presenile Gangrene from Obliterating Arteritis. Schümann.
113 Psychogenic Etiology and Psychotherapy of Painful Spasm of the Vagina. (Vaginismus.) M. Walthard.
114 Direct Sunlight in Therapeutics. (Neuere Erfolge und Erfahrungen aus den Gebiete der Heliotherapie.) C. Widmer.
115 Treatment of Pain in the Arch of the Foot. (Behandlung des Metatarsalschmerzes.) H. v. Baeyer.
116 *Conservative Treatment of Severe Injury of Limb by Incision and Suction Hyperemia. (Zur konservativen Therapie schwerster Extremitätenverletzungen und drohender Gangrän.) Knoke.
117 Syphilitic Polyneuritis. H. Steinert. Commenced in No. 38.

108. **Bacteriolysis of Tubercle Bacilli.**—Deycke announces that two elements of the brain tissue, cholin and neurin, are able in a 25 per cent. solution to destroy tubercle bacilli in a few minutes. He was unable to discover any strain of tubercle bacilli which could not be destroyed by cholin or neurin. The bacilli thus dissolved form a vaccine with which he is now experimenting, the results to date surpassing all his expectations, he declares.

109. **The Wassermann Reaction in Internal Medicine.**—Saathoff insists that the greatest value is when the findings can be compared step by step with the clinical picture and postmortem data. In his extensive experience he has never encountered a case of active syphilis with a negative reaction, so that he is inclined to exclude syphilis entirely when the reaction is negative and there are no clinical manifestations. In a recent case a papulous exanthem had begun on the genitals and the patient was sent to the syphilis ward, but the Wassermann reaction was negative and the course of the case differentiated the affection as lichen ruber. It is easy to imagine the possible consequences of such a mistaken diagnosis which only the Wassermann reaction can prevent. With aneurism of the aorta, the Wassermann reaction has also nearly as decisive importance. In a recent case of aortic insufficiency the reaction was negative, but the lack of other factors had led to the diagnosis of a syphilitic origin. Autopsy, however, failed to disclose any evidence of syphilis; the aorta was absolutely smooth. In liver and kidney affections the test is also a useful guide; the findings were positive in 6 cases of liver affections, in 10 cases of nephritis, as also in 3 cases of paroxysmal hemoglobinuria. The reaction, he adds, can also be a guide into an unexplored region in which clinical diagnosis fails us. For instance, an apparently healthy young woman had been suffering from headache daily for a year, with recurring subfebrile temperature. There was nothing to indicate tuberculosis or syphilis, but a positive Wassermann reaction threw light on a certain liver affection in the husband several years before, which had roused suspicion of syphilis. The reaction was also positive in a case of a supposed tuberculous bone affection for which the patient, a young man, was just commencing a course of tuberculin. The strong positive reaction was explained later by the discovery that the father had had a syphilitic spinal affection. The pupils confirmed the diagnosis of inherited syphilis. Saathoff is now making a practice of applying the test to all the patients in his service, and has been amazed at the frequency of the positive reactions which threw light on a number of previously obscure affections. The Wassermann test not only elucidates old problems, but reveals new ones where none was suspected. It begins to be most interesting where clinical investigation has previously reached its limits.

116. **Treatment of Threatening Gangrene.**—Knoke has applied the Noesske technic described in Abstract No. 124, below, for preventing gangrene after serious injury of the fingers. The finger in this case had been cut off and was

hanging merely by a strip of skin; he replaced it, incised down to the bone over the tip of the finger and applied the suction apparatus as Noesske directs. The finger healed promptly in place.

Wiener klinische Wochenschrift, Vienna

September 30, XXII, No. 39, pp. 1323-1358

118 Varicella and Herpes Zoster. (Aetiologischer Zusammenhang der Varizellen mit gewissen Fällen von Herpes zoster.) J. v. Bokay.
119 Multiple Cartilaginous Exostosis and its Connection with Rachitis. A. Flinker.
120 Bacteriologic Research on Poliomyelitis. (Heine-Medinsche Krankheit.) K. Potpeschnigg.
121 *Form of False Dyspnea. (Seufzerkrampf.) M. Herz.
122 *Experiences with Spinal Anesthesia. (Ueber 1,100 Falle von Lumbalanalgesie.) F. Colombani.
123 Chronic Polyserositis and Gram-Positive Diplococci in the Effusion. O. Lonhardt.

121. **Sighing Spasm.**—Herz has encountered several cases of a pathologic exaggeration of sighing which simulates dyspnea of organic origin. He describes four cases in detail to sustain his assumption that the spasm in question is a psychogenic neurosis. In three cases the attacks occurred in women over thirty; one had been under great emotional stress. In all these cases the neurosis was superposed on an actual heart affection, but he was able to separate the syndrome of the two. One patient had an attack in his office: the sighing increased in intensity, the head was thrown back, the entire body shaken by the intensity of the inspirations, the attack ending with a tremendous yawn, after which there was no further trouble. There was no change in complexion or pulse; the affection had been diagnosed previously as the Cheyne-Stokes' syndrome. The case was interesting further on account of the wide difference between the patient's account of the attacks and what Herz saw with his own eyes. One of the patients was a man of 40, suffering from dread of a septic affection of the heart, as he had a feeling of oppression in the heart region several weeks after a slight wound on his hand; yawning and sudden gasping for air were the symptoms in this case, soon cured by change of scene, valerian and hydrotherapy. Mere emotions are often able to exaggerate the contractions of the diaphragm to a fatiguing extent; in some persons this occurs with every exciting conversation.

122. **Spinal Anesthesia.**—Colombani reports 1,100 cases of spinal anesthesia without any serious mishap, except that sciatica developed afterward in a man operated on for bladder stone, although a rheumatic origin for the pains was possible. In two cases a psychosis developed later, paranoia terminating in suicide in one and depressive mania in the other. The psychiatrists consulted did not consider the spinal anesthesia responsible for the mental trouble, as there was an inherited tendency, but these cases alarmed him so that he now draws the line of indications very closely. It is possible that mental disturbances may develop a long time afterward, and the connection with the nerve trauma of the spinal injection be quite overlooked. He warns against this method of anesthesia unless the general or local technic is inadvisable, and he would never use it for children under 17, nor for operations above the umbilicus or extensive laparotomies. The patient should lie horizontal, with head slightly raised. He warns against this method also for patients with septic processes, for syphilitics, as the injection might make a point of lowered resisting power, and for nervous patients.

Zentralblatt für Chirurgie, Leipsic

October 2, XXXVI, No. 40, pp. 1377-1400

124 *Conservative Treatment of Severe Injuries of the Limbs and on Suspicion of Gangrene. (Zur konservativen Behandlung schwerer Extremitätenverletzungen und gangränverdächtiger Glieder.) H. Noesske.
125 Free Transplantation of Dead Bone. (Zur Frage der freien Transplantation toten Knochens.) W. Kausch.

124. **Conservative Treatment of Severe Injuries of Fingers and Limbs and Impending Gangrene.**—Noesske attributes the gangrene after severe injury of the limbs to the lack of fresh arterial blood and the insufficient drainage away of the venous blood. The venous stasis is often the most prominent symptom of severe injury and freezing of fingers, hands or feet. None of the means used to date combats this effectually in all cases, especially when it is desired to replace a severed finger. The arterial blood-stream is unable to overcome the resistance of the venous congestion, particularly as the veins are partly collapsed, thrombosed, the sides stuck together or the lumina clogged. If it is possible to overcome this venous stasis rapidly and permanently, and to increase the supply of arterial blood, the tissues in the region become well nourished and are kept from decay. All this can be accomplished, he has found, by a deep incision down to the bone, then tamponing the wound with gauze dipped in camphorated oil to prevent its sticking together, and then covering the part with a suction bell, connected with a hydrant to maintain the vacuum, with a negative pressure of from 12 to 15 cm. mercury. This aspiration is repeated two or three times a day for eight or ten minutes for about a week. The application of the suction alone does not answer the purpose; the incision is the main thing. In one case of freezing of both thumbs and in one of threatening gangrene in Raynaud's disease, he made the incision over the tip of the finger, cutting down to the bone both front and back. Sensibility returned in a few hours and the finger was saved, while the incision healed smoothly. The conditions for success are early incision, absolutely open treatment of the wound, and refraining from any suturing for several days to prevent any opportunity for retention and infection. His experience to date has been limited to fingers, but he suggests that it is possible that this same technic might render good service in threatening gangrene or loss of vitality in tissues elsewhere.

Zentralblatt für Gynäkologie, Leipsic

October 2, XXXIII, No. 40, pp. 1385-1416

126 *Comparison of the Results of Various Methods of Surgical Treatment of Uterine Cancer. (Vergleichende Schätzung der verschiedenen Methoden chirurgischen Behandlung des Gebärmutterkrebses.) D. v. Ott.
127 Spontaneous Tearing Out of the Umbilical Cord. (Spontane Zerreissung der velamentös inserierten Nabelschnur.) M. Semon.

126. **Comparison of the Various Methods of Surgical Treatment of Uterine Cancer.**—Ott compares the statistics of Wertheim, Staude and Schauta with the enlarged methods and his own simple vaginal method, the outcome apparently speaking in favor of his technic. The primary mortality was only 2.1 per cent., and 36.2 per cent. of his 191 patients operated on more than five years ago are still free from recurrence. This is a smaller proportion than other surgeons show, but it is much larger when the difference in the primary mortality is taken into consideration: 2.1 per cent. in his 191 cases, while it ranged from 15.5 per cent. to 23.3 per cent. in the 116, 58 and 47 cases of the other surgeons. In order to insure one and one-half times better promise of radical cure, he asks, is it wise to advocate other technics with eleven times greater direct danger?

Gazzetta degli Ospedali, Milan

September 30, XXX, No. 127, pp. 1233-1240

128 Pathogenic Connection Between Polymorphous Erythema and Tuberculosis. G. Alessandri.

October 3, No. 118, pp. 1241-1256

129 *Protrusion and Depression of Chest with Pneumothorax. (Un nuovo segno fisico dello pneumotorace.) G. Spadaro.

129. **Sign of Pneumothorax.**—Spadaro noted a protrusion of the chest wall in the lower region in front, which appeared as the patient reclined and vanished as he stood erect, leaving a depression in its place, as he shows in two illustrations. He accepts this as a sign of an enclosed pneumothorax, and discusses the points which differentiate it from a subphrenic pyoneumothorax, etc., with which it might be confounded.

Policlinico, Rome

October 3, XVI, No. 40, pp. 1253-1284

130 *Carcinoma of the Male Breast. (Contributo alla casistica del carcinomi della mammella maschile.) D. Ottolia.

130. **Cancer of the Male Breast.**—Ottolia has encountered in the last five years three cases of carcinoma in the left male breast and twenty-seven cases of cancer of the female breast. In one year one man and three women comprised the patients in this class, so that the male cancers formed 25 per cent. of the total encountered; in the total five years the proportion was 11 per cent. His male patients were between 55 and 75

years old, and one of them was in good condition a year later; one has been lost sight of; the third succumbed to thrombosis of the mesenteric vessels two weeks after the operation.

Hygiea, Stockholm

August, LXXI, No. 8, pp. 769-878

131 Myoma Complicating Pregnancy and Delivery. (Om myom som komplikation under hafvandeskap och förlossning.) L. Lindquist.

132 Mechanism of Constipating Action of Morphin and Opium. (Om mekanismen af morfinets och opiets stoppande verkan.) C. G. Santesson.

133 Two Cases of Twins with Single Amnion. (Två fall af enäggiga tvillingar med gemensam amnion och sammanknutna nafvelsträngar.) G. Pallin.

134 *Diabetes Mellitus in Early Childhood. (Diabetes mellitus i tidigare barnaåreo.) P. Landahl.

135 Menstruation During Lactation. (Menstruationens förhållande under digifningen.) O. Sundin.

134. **Diabetes in Children.**—Landahl has encountered six cases of diabetes in children from 10 months to 16 years old. In four the children were not seen until the disease was in such an advanced stage that death soon followed. In a fifth case a female child of 14 months presented considerable glycosuria, the exact proportion not determined. There had been no preceding infection except influenza a few weeks before, and the child was brought for medical advice merely on account of bilateral cataract. On a diet free from carbohydrates the sugar disappeared permanently from the urine in a few weeks and the child has been in good health for thirteen years to date. The sixth little patient was a male child nearly 2 years old who had been kept in fairly good condition for three years by regulation of the diet. When the proportion of sugar is high the child feels sick, but the subjective health improves parallel with the reduction of the amount of sugar in the urine. In treatment of juvenile diabetes he warns that the cocoa on the market is liable to be mixed with carbohydrates and consequently should be selected with care; pure cocoa with cream can generally be allowed. He emphasizes the necessity for routine examination of the urine of children as this will reveal many unsuspected cases of diabetes, and the chances for a complete cure are better the earlier treatment is commenced. Children in families with a tendency to diabetes should be supervised with exceptional care and warned against sweets. Even in the healthy, he says, ingestion of 100 gm. of sugar on the fasting stomach will induce glycosuria; it soon subsides unless there is a predisposition to diabetes, in which case it is liable to persist and induce diabetic symptoms. Consequently families with a history of diabetes should be warned against sweets, especially on an empty stomach. If a reducing substance should be found in the urine after eating a sweet article of food, all sweets should be forbidden and the diet carefully regulated. The general measures found useful in tuberculosis should be applied also in juvenile diabetes, especially abundance of fresh air day and night and avoidance of all mental and physical effort. In his sixth case the child's maternal grandfather and great-grandfather had been diabetics, but the infant had developed normally until the twenty-first month, when it began to pine and 1.5 per cent. sugar was found in the urine and the acetone reaction was positive. Everything that contained sugar was excluded from the diet and sodium bicarbonate given. The specific gravity of the urine ranges from 1.020 to 1.032, but there has never been excessive thirst or polyuria. The child is now approaching the age of 5; the tolerance for carbohydrates is still very low, although higher than formerly. Glucose appears in the urine if the limit of tolerance for carbohydrates is overpassed, and sometimes then, especially if the child is tired, he vomits. The boy is now 43.3 inches tall and weighs about 37 pounds. He can play out of doors for hours at a time and take walks without much fatigue. Landahl's fifth case resembles that reported by Schmitz in which the wife of a diabetic feared that her little son might have inherited the tendency, and she had his urine examined frequently, but always with negative findings until the child had an attack of "gastric fever," when 5.8 per cent. sugar was found in the urine. On a strict antidiabetic diet the glycosuria subsided in less than a month, and there has been no recurrence during the twenty years since, with unrestricted diet

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Studies on Leprosy. V. A Report on the Treatment of Six Cases of Leprosy with Nastine (Deycke). By Walter R. Brinckerhoff, S.B., M.D., Director Leprosy Investigation Station, Public Health and Marine-Hospital Service, and James T. Wayson, M.D., Member of the Board of Health of the Territory of Hawaii Honolulu, Hawaii. VI. Leprosy in the United States of America in 1909. By Walter R. Brinckerhoff, S.B., M.D., Director Leprosy Investigation Station, Public Health and Marine-Hospital Service. Paper. Pp. 24, with illustrations. Washington: Government Printing Office, 1909.

Beiträge zur Photographie der Blutspektra, unter Berücksichtigung der Toxikologie der Ameisensäure. Von Reg.-Rat Dr. med. E. Rost. Mitglied d. k. Gsndhtsamte. und Dr. med. Fr. Frantz, ständ. Mitarbeiter im k. Gsndhtsamte., und Dr. phil. R. Heise, technischem Rat im k. Gsndhtsamte. Paper. Pp. 304, with 15 illustrations. Price, 9 marks. Reprint from Arb. a. d. k. Gsndhtsamte, XXXII, No. 2. Berlin: Verlag von Julius Springer, 1909.

Atlas of External Diseases of the Eye. By Dr. Richard Greeff, Professor of Ophthalmology in the University of Berlin and Chief of the Royal Ophthalmic Clinic in the Charité Hospital. Only Authorized English Translation by P. W. Shedd, M.D., New York. Half leather, with 54 plates and 84 figures in color. Pp. 135. Price, $10. New York: Rebman Co.

The Enzyme Treatment for Cancer. By William Seaman Bainbridge, A.M., Sc.D., M.D., Scientific Report on Investigations with Reference to the Treatment of Cancer. Paper. Pp. 34. Published with the Authority of the Committee on Scientific Research of the New York Skin and Cancer Hospital. No. 1.

Renal, Ureteral, Perirenal and Adrenal Tumors and Actinomycosis and Echinococcus of the Kidney. By Edgar Garceau, M.D., Visiting Gynecologist to St. Elizabeth's Hospital, and to Boston Dispensary, Boston, Mass. Cloth. Pp. 404, with 72 illustrations. Price, $5. New York: D. Appleton & Co.

Chemical and Microscopical Diagnosis. By Francis Carter Wood, M.D., Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University, New York. Second Edition. Cloth. Pp. 725, with 192 illustrations and 9 colored plates. Price, $5. New York: D. Appleton & Co.

Diseases of the Ear. By Edward Bradford Dench, Ph.B., M.D., Professor of Diseases of the Ear in the University and Bellevue Hospital Medical College. Cloth. Pp. 696, with 158 illustrations in text and 9 plates. Fourth Edition. Price, $5. New York: D. Appleton & Co., 1909.

Pye's Surgical Handicraft. Fifth Edition. Revised and Largely Rewritten by W. H. Clayton-Greene, B.A., M.B., B.C., F.R.C.S., Surgeon-in-Charge of Out-Patients, St. Mary's Hospital. Cloth. Pp. 576, with 343 illustrations. Price, $4. net. New York: E. B. Treat & Co., 1909.

Ueber das Wesen der formativen Reizung. Von Jacques Loeb, Professor of Physiology in the University of California, Berkeley. Read before the Sixteenth International Medical Congress in Budapest, 1909. Paper. Pp. 34. Price, 1 mark. Berlin: Verlag von Julius Springer, 1909.

Klinik der Missbildungen und Kongenitalen Erkrankungen des Fötus. Von Professor Dr. R. Birnbaum, Oberarzt der Kgl. Universitats-Frauenklinik zu Göttingen. Paper. Pp. 274, with 49 illustrations. Price, 12 marks. Berlin: Verlag von Julius Springer, 1909.

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Original Articles

THE ADVANTAGE OF USING POTASSIUM IODID UNTIL WE HAVE SOMETHING BETTER *

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NEW ORLEANS

Potassium iodid is a striking example of the uncertainty, unrest and dissatisfaction so characteristic of therapeutics at the present time, and, as I have long had some convictions on the subject, I accepted with pleasure the invitation of the Section officers to present them at this meeting. There can be no objection to therapeutic unrest in the sense of an intelligent striving for something better than we have, with the actual and known base as a point of departure, and the problems of the future clearly stated. But in this instance, as in so many others in modern practical therapeutics, the movement is hampered by ignorance, obscurantism, fallacious statements as to the old, and questionable, if not actually misleading assertions as to the new.

I shall not speak of the theoretic knowledge of the subject, including, as it does, the knowledge of iodin and all its combinations. All that is accessible, and whether the theories are true or not does not enter largely into the present discussion. On the other hand, I wish to rely chiefly on clinical experiences, believing that we have here a good example of the use of empiricism as a guide to wider knowledge, as well as a refuge and comfort in time of trial. Potassium iodid has not been used as long as many other drugs, but it has, rightly or wrongly, been used to an enormous extent. That sort of experience, whether individual or collective, contains many sources of error, but in this particular case I think that the errors are adventitious, and I intend to speak about some phases of the subject from the empirical standpoint. Potassium iodid is used by many, probably by the majority of physicians, with a confidence equal to that of the Eddyite in a mystic formula, or of the disciple of the Emmanuel movement in the unconscious conviction of the omnipotence of the subliminal self. In strong contrast, we find others who may not be able to formulate definite reasons, but who are uncertain, and so much so as to keep them using substitutes, grasping at every innovation, but rarely making any addition either to their own or the common knowledge. It will perhaps be more useful to take up certain phases and discuss them.

A knowledge of how much of a remedy to give is essential in practical therapeutics, and potassium iodid is a frequent example of imperfect preparation as regards dosage. I do not hold teachers of materia medica or therapeutics responsible for this, because I think any one fit to practice medicine should be able to find out for himself what a little consideration will indicate to be an elementary fact. If there is one fact in therapeutics that is well founded it is that certain syphilitic lesions and their symptoms are frequently capable of relief by large doses of potassium iodid. It is almost as well established that to be called large in this sense the dose must be more than fifteen grains, and may be many times that; and yet one can often see syphilitics who have been warned that more than five or ten grains at a dose are dangerous. Anyone with such an obsession can hardly be likely to be a competent judge of the qualities of a new preparation.

One of the greatest difficulties of the beginner in medical practice is in regard to getting the drug, of which he knows so little, into the body of the patient, which he should, according to current criticisms of teachers of therapeutics, know so well. Even if he has been taught that the simplest way is the best, a line of medical exemplars and mentors and the columns of the leading medical journals suggest that complexity is imperative, and, as so often happens, increased knowledge leads quickly to doubt and uncertainty. My own experience has been useful to others, and may be again. As an undergraduate, I received an impression from my teacher of materia medica, to whom I have never ceased to be grateful for his instruction in dosage, that compound syrup of sarsaparilla was the only good vehicle for potassium iodid. On the other hand, the professor of surgery, about whom hung the glamor of being even a better physician than surgeon, and therefore far above the limitations of knowledge of the combined chairs of practice and therapeutics, held that cinnamon water was the only thing that would enable one to give iodid and to get the desired result. This sort of conflict is thought by many pedagogues to be undesirable, and some would prevent it by codifying information and delimiting the instruction of various teachers in a medical school. I have never thought so, but, on the contrary, was stimulated by the divergent views of two men of experience to try some other vehicles. Having accessible a considerable number of patients whose systems seemed to require iodid, and an obliging hospital pharmacist, I was able to learn that many other liquids in the Pharmacopeia were equally useful. Fortunately for me, about that time some one whom I cannot name, but to whom I owe grateful thanks, suggested giving the drug in a grain-to-the-drop solution in water, and administered in milk. Since then I have never used any other way when giving iodid for a marked effect, and I have not found any patient who could not take it, or who had any difficulty from the local effect on the stomach.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Here I wish to digress in order to speak of the taste of medicines. When I was trying various vehicles for iodid, one of my desiderata was a less unpleasant taste. About the same time, however, I learned that a bad taste did not necessarily discourage patients from the use of medicine, a fact that is easy to confirm by tasting any of the popular remedies consumed so largely by people of all classes. So far as potassium iodid is concerned, however, milk does seem to prevent any complaint on the ground of unpalatability.

Not less certain am I of the freedom of the method from gastric irritation, and when the detail man begins his work by stating, as he often does: "Doctor, you always have trouble getting your patients to take iodid," I reply that I have many therapeutic troubles, but not that particular one. In order to show that small dosage is not the explanation of the absence of unpleasant symptoms, I can instance a non-syphilitic (as certainly as one can be of that) who took 80 grains (5.3 gm.) a day for more than a year, and of others who have taken as much as 500 grains (33.3 gm.) a day for many weeks. I am not advocating doses like the latter, but doses of 30 to 45 grains (2 to 3 gm.) three times a day often seem distinctly desirable.

The therapeutist often has another fear before him when he wishes to give iodid—that of iodism. This is most frequently seen in patients who are taking small doses, such as one or two grains at a time, and in the form of inflammatory lesions of the skin and mucous membranes. On the former, it depends largely on lack of cleanliness, and in the mucous membranes also it may be supposed that local infections play an important part. The iodin "drunk" and iodin mumps I have never seen. Edema of the glottis occurring in patients taking iodids should be borne in mind, but it is probable that in some of the reported cases there were other factors more important than iodid. In rare cases iodid causes symptoms as the result of idiosyncrasy, and some of the cases of iodid coryza, with headache, may well belong to that class. The more general symptoms spoken of even now as "iodism," with nervousness, emaciation, tachycardia, etc., are really not due to iodids or even iodin directly, but, as Lebert showed in 1855, are due to thyroid intoxication. They are more common in patients with hyperthyroidism, but do not occur invariably in patients with simple goiters, even when large quantities are ingested.

Having learned a satisfactory method of giving iodid, I have used the potassium salt almost exclusively. The tincture, or more frequently the compound solution, I use in certain goiters, but find the iodid of potassium better for the constitutional effect, or what local one we seem to get in certain diseases, such as bronchitis, certain asthmas, etc. Such a statement may suggest a certain narrowness, or lack of inquiry, but I think not justly. I have had many opportunities of seeing other preparations used, and used under conditions that made comparisons possible.

I have been especially interested in seeing sodium iodid tried. That salt should be better, for some reasons, than the potassium one. Not having seen a deleterious effect from the latter, I am not able to speak on that point, and believe that only minute investigations can settle the question. But I have been convinced that the sodium iodid has no decided advantage so far as taste and effect on the stomach are concerned. Hydriodic acid also has been disappointing.

Recently a number of preparations have been put on the market and advertised in the manner of such substances in general. The alleged advantages have to do with such qualities as organic combination, insolubility in the stomach, either rapid or slow absorption from the intestine, and certainty of action. Always the uselessness if not harmfulness of the inorganic salts is emphasized. But, as we can see in the case of iron, organic preparations are not necessarily superior, and in the present case it is interesting to see that actual pharmacologic facts in proof of this contention are conspicuous by their absence. I shall not enter into details of the various preparations and their recommendations, but urge that, while all may be worth investigating, those who wish to do so might begin by a careful and unprejudiced study of a simpler remedy and one that has much evidence in its favor.

Potassium iodid illustrates another common but unnecessary difficulty in practical therapeutics. It is usually named when incompatibilities are considered, and the student, in being warned against the dangers of combining iodid with some other preparation, is often led to think that some combination is necessary. Just why one should wish to combine iodid with strychnin, for instance, I cannot understand, and the simple rule to give a medicine singly if possible may here be followed with great advantage.

In conclusion I would say:

Potassium iodid can be taken easily and safely and in adequate quantities by most patients who need it.

Other preparations of iodin may prove to be better, but need to be tested, and recommendations based on the inferiority of potassium iodid should be looked on with suspicion.

124 Baronne Street.

BICHLORID OF MERCURY IN THE TREATMENT OF IDIOPATHIC MULTIPLE HEMORRHAGIC SARCOMA

WITH THE REPORT OF TWO CASES

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So much has been written regarding this interesting condition that anything further from a clinical standpoint would seem superfluous; but, on account of the rapid disappearance of the growths under treatment by bichlorid of mercury, a few words regarding their malignancy will not be out of place.

From an experience of twenty-five cases, Kaposi gives an unfavorable prognosis. Extirpation, local or constitutional treatment having been of no avail in preventing the course of the disease to a fatal termination. Death followed metastasis to internal organs, accompanied by fever, bloody diarrhea and hemoptysis, the disease usually running a course of from four to eight years.

Since Kaposi's description appeared, over a hundred cases have been recorded, opinions as to malignancy, however, being generally less gloomy than Kaposi's. Deductions from reported cases show that the disease may disappear spontaneously or continue from fifteen to twenty-five years without causing any apparent constitutional symptoms. A few patients treated with arsenic, either by mouth or hypodermically, showed improvement, as reduction in swelling and disappearance of growths. A few recovered completely under this treatment, while others did not respond at all. Local treatment has been limited mainly to the relief of pain by the application of soothing ointments, pastes, baths, compresses and bandages, the ulceration and necrosis receiving treatment according to surgical principles.

Recently the *x*-ray has been employed, and, while improvement was noticed after long exposures, treatment by this means has not been successful in causing disappearance of the growths. With the idea of adding to what has already been done, in advancing the treatment of this disease, the following cases are presented; and, since I am not unmindful of the danger of drawing positive conclusions from a limited number of cases, I hope that others will employ bichlorid of mercury or other antiseptics, and prove or disprove their worth.

CASE 1.—*Patient.*—A woman, aged 46, born in Hungary, came under observation, Oct. 22, 1904. About eight months previously a swelling had appeared on the outer side of the right foot, accompanied by considerable pain. This was followed, at irregular intervals, by the development of small tumors on various parts of the foot. The patient was apparently in good health except that she became tired easily, and complained of the severe pain accompanying the condition of the foot. The pain was greatly increased by exercise, so that the patient was compelled to remain in bed at times with the leg elevated, which afforded some relief.

Examination.—Beginning a little to the right of the median line and extending to the sole, the skin was hard and thickened, the surface uneven, tense and glistening, and of a peculiar purplish color with a bluish cast. Within the infiltrated area, and scattered on various parts of the foot were numerous tumors, in size varying from slight papular elevations to extensive tumor growths. The smaller were circular or oval in outline, of a bluish-black color. A few had ulcerated superficially, bleeding on the slightest touch. The larger growths were more firm, of a dirty gray color; the surfaces were uneven, nodular, and the color was somewhat darker than at the base. The growths overlapped the skin to an extent generally depending on the size of the growth, the smaller appearing as though simply constricted, while the larger extended over the skin about 4 mm. Sections of a small growth were made. The findings were similar to those in Case 2, reported below, regarding cellular infiltration, changes in the vessels, presence of blood pigment, etc.; but as the deeper corium was not included in the biopsy in Case 1, detailed description is omitted here. A description of the microscopic findings in Case 2, in which a better opportunity was afforded of obtaining material for examination, is given in the report of that case.

Treatment.—A solution of bichlorid of mercury, 1 to 2000, was applied to overcome the offensive odor of the discharge. After several weeks it was noticed that the larger tumors had perceptibly diminished, and several small pea-sized tumors had disappeared. The strength of the solution was then gradually increased to 1 to 500 and applied as wet compresses.

Course of Disease.—At the end of four months all growths had disappeared. Patient was seen two years later, at which time she was in good health, and no recurrence of the disease had taken place.

CASE 2.—*Patient.*—A widow, aged 50, native of the United States, was admitted to the Newark City Hospital, Jan. 20, 1905, with the following history: Six months previous to her admission, she scratched the dorsum of her right foot with a pin. The injury, though slight, healed very slowly; shortly afterward a small oval "blood-blister" appeared in the site of the scar. On account of the seemingly trivial nature of the condition nothing was done; several weeks later similar growths appeared on various parts of the foot, accompanied by severe pain and swelling. The patient's family physician, thinking that the growths were of a warty nature, removed several with a pair of scissors and cauterized the base, but they recurred and others gradually appeared, until the entire sole and dorsum of the foot were involved, at the time she came under observation.

Examination.—The clinical picture was somewhat different from that of Case 1, lacking the broad infiltrations, but the primary growths and their development were unmistakably the same. Irregularly scattered over the dorsum and sole of the right foot were numerous firm tumors in various stages of development varying from the size of a lentil to that of a walnut. The color of the smaller or beginning lesions was a dark purplish red, while those that had developed to bean size or larger had a grayish base and purplish brown or black surface, the dark color usually becoming more intense toward the apex of the growth. Located on the dorsum of the foot, several large irregularly oval, firm masses were developed by coalescence of a varying number of the primary growths, forming lobulated tumors which overlapped the skin; the surfaces were dotted with numerous dark oval rounded elevations, some of which had ulcerated superficially. Many of the tumors on reaching the size of a pea or larger, became depressed in the center or ulcerated superficially and gradually disappeared, leaving variously sized pigmented areas. In some locations the pigment disappeared, resulting in whitish spots, which were quite pronounced in contrast to the increased pigmentation of the surrounding skin.

Treatment.—All the larger masses, including those on the dorsum of the foot, were injected with cocain, and with a pair of scissors cut off down to the base. The bleeding, though considerable, was readily controlled by compresses and a tight bandage, which was allowed to remain several days. The foot was then enveloped in wet dressings of a 1 to 2000 solution of bichlorid of mercury. This treatment was continued for about six weeks, when all wounds had cicatrized and the smaller tumors were decreasing. The bichlorid solution was then gradually increased to 1 to 500, and applied as wet compresses of absorbent cotton and bandaged rather firmly. The dressings were changed once a day; after several weeks a slight dermatitis developed, which rapidly subsided under a soothing ointment. A milder solution of bichlorid was then substituted. At the end of six months, all lesions had disappeared, leaving only the increased pigmentation and a few areas of white slightly atrophic spots, the result of previous tumors, otherwise the skin appeared normal, and the patient was discharged apparently cured.

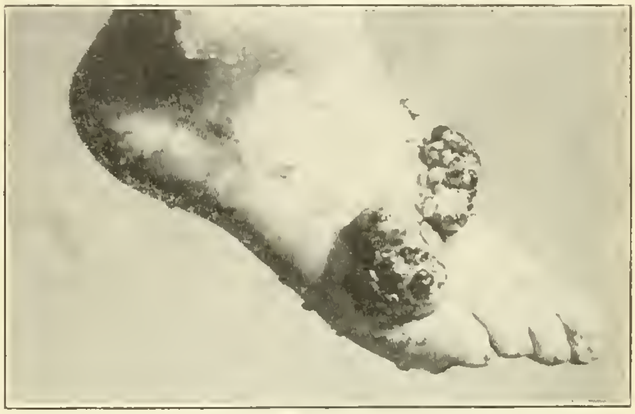

Fig. 1.—Foot of Patient 2, showing multiple growths.

Course of Disease.—One year later the patient was admitted to the hospital for alcoholism, at which time there was no return of the disease. On Nov. 27, 1908, she was again admitted; she had lived a precarious life since leaving the hospital, and in consequence was greatly reduced in weight and general health. Physical examination was negative. Urine contained a slight trace of albumin with a few casts. The blood examination did not reveal anything abnormal, except a slight anemia. Examination of the previous site of the disease showed only the white areas and increased pigmentation surrounding the location of former lesions. On the middle third of the inner side of the thigh a new growth was present similar in general character to those removed but somewhat more extensive, measuring about 10 cm. in diameter. The thigh was swollen, stiff and very painful. The slightest movement caused intense lancinating pains. According to the patient's statement this tumor had appeared about six months previous to her present admission. A plan of treatment to improve her general health was instituted, but she never rallied, gradually passing into a state of coma preceding death, which occurred on Dec. 23, 1908, about three years after the primary growth appeared.

Autopsy.—I am indebted to Dr. H. S. Martland, pathologist of the hospital, for the following brief synopsis of the autopsy findings. Body was that of a woman aged about 60, showing marked emaciation. Rigor mortis was present in the smaller joints, and there was marked postmortem lividity in the dependent portions of the body. The skin was very pale, and no superficial lymphatics were felt. The left leg presented at the thigh a clean, oval wound, about 8 by 12 cm. This represented the area from which the large growth had been removed. The leg presented, on its lower third and on the dorsum of the foot, numerous irregular, white areas, around the margin of these, there was an increase in pigment. The visceral lesions found were the following: Fatty infiltration and degeneration of the heart muscle, hypertrophy of the left ventricle, atheroma of the coronaries; senile emphysema, healed apical tuberculosis, anthracosis, generalized pulmonary edema; chronic interstitial splenitis; hyperplasia of the medullæ of adrenals; chronic interstitial nephritis (small granular kidney); atrophic gastritis, healed peptic ulcer; fatty infiltration of the pancreas; atrophy and stasis of liver (atrophia rubra); senile atrophy of the genital organs, causa mortis, chronic interstitial nephritis. There was no evidence of metastasis from the growth on the thigh.

Microscopic Examination.—The corium was densely infiltrated by variously shaped cells; a few were spindle-shaped, while a large majority appeared round or oval. They were usually more densely packed around the capillaries. The endothelium of the blood-vessels showed proliferative changes presenting several rows of nuclei. The walls were thickened and the lumen narrowed. Situated between the cells were vascular spaces; the smaller were rounded or oval and a single layer of endothelial cells could be seen lining the cavities. The larger were irregular in shape and seemed to be situated within the cellular infiltration without limiting membrane. In some locations interstitial hemorrhages had occurred between the cells. The fibrous tissue of the corium was pushed up against the epithelium, appearing as a narrow band, the papillæ having entirely disappeared. The changes in the epithelium consisted of a gradual thinning, resulting from pressure of the growing mass beneath. If a nodule were examined, nothing unusual in the epithelium was noticed, except a slight hyperkeratosis until about midway between the beginning of elevation and apex of growth, when the papillary processes disappeared and a gradual thinning of the rete occurred, the stratum cylindricum was maintained as a wavy line of cells that appeared normal. In some nodules the stratum cylindricum disappeared near the apex, and a few layers of flattened cells with indefinite nuclei remained, which gradually disappeared as the top of the growth was reached, resulting in superficial ulceration. The multiple growths due to a varying number of separate foci producing lobulated tumors showed the epithelium continued between the lobules and the fibrous tissue pushed to one side, appearing on section as narrow bands surrounding the cellulo-vascular infiltrations. The epithelium varied in thickness in different parts of the tumor, and in some locations had disappeared, developing actual coalescence. Section of a pigmented lesion, the result of involution, showed the papillæ reformed. The collaginous bundles in the lower part of the corium were separated by spaces running parallel with the fibers, but otherwise appeared normal. In the upper part of the corium immediately beneath the papillæ were seen large particles of blood pigment, and a few foci of cells with spindle-shaped nuclei indistinguishable from those of connective tissue. Some of the capillaries in the lower part of the corium were still widely diluted, while those of the upper part were about normal; a few disorganized vessels showing as narrow bands of nuclei were seen in the cellular foci.

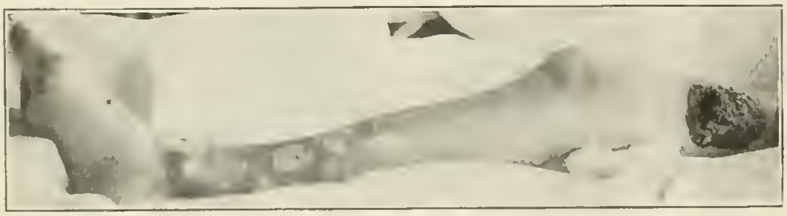

Fig. 2.—Foot and leg of Patient 2, three years later, showing loss of pigment in location of previous tumors and infiltrated areas, also recurring growth on thigh.

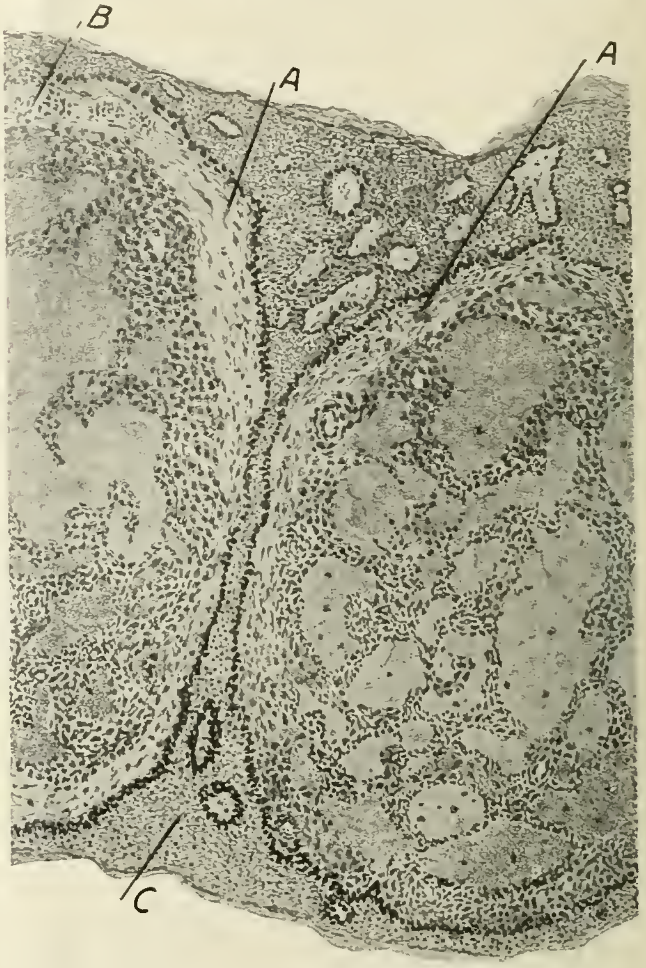

Fig. 3.—Microscopic section of multiple tumor, Case 2; A, fibrous tissue of corium pushed aside by cellular infiltration; B, particles of blood pigment; C, epithelium continued as narrow bands between separate foci of development.

From a study of the histopathology, the exact nature of this condition still seems doubtful. It is quite generally accepted that it is of vessel origin, or that the vessels play an important part in its production. The findings in the two cases described would certainly bear out these deductions. The primary changes apparently take place in the deeper corium, as evidenced by proliferative changes in the vessel walls; the vessels, gradually losing resistance, become dilated, appearing on section as the oval blood-filled spaces with a single layer of lining cells. The endothelium gradually disappears in the larger spaces, resulting finally in interstitial hemorrhage.

Whether it is sarcomatous or granulomatous is also in doubt. Each extreme is claimed by many able observers, while a few, who have studied it more recently, place it in a position between the two with marked characteristies of its own. While this seems to be evading the question, it is the best solution to the problem at the present time. That the constituents of the tumor may vary in different cases is more than probable, as there is so much difference regarding the form and character of the invading cell. Originally Kaposi stated that the type was mostly round or oval with a few of the spindle shape. More recently observers are inclined to accept the spindle cell only, explaining the difference in contour as due to their peculiar irregular arrangement in bundles, so that sections show various forms according to the angle at which the cell is viewed. However this may be, this question can not be regarded as settled for the entire group of cases described.

Clinically, we are about in the same uncertain position in judging the course of the disease. It is only by long observation, or by instituting treatment, that anything at all tangible is offered of value in giving a prognosis. The slow progress and recession of lesions responding to some plan of treatment as disappearance of tumor growth would certainly point to a favorable issue, as against the more steady advance and early involvement of the glands seen in sarcoma. In other words, from a study of the reported cases, it is not necessarily a fatal disease, and it is reasonable to presume that a successful plan of treatment will ultimately be found.

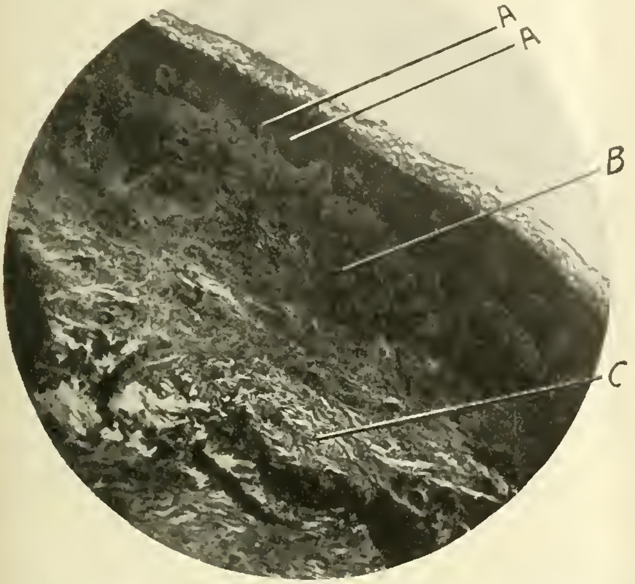

Fig. 4.—Section of pigmented area (Case 2), the result of involution of a small tumor; aa, reformed papillæ; b, pigment deposit in upper corium; c, separation of collagenous bundles.

I take this opportunity of thanking Dr. R. C. O'Crowley for the photographs of Case 2, and Dr. August A. Strasser for the drawing of the microscopic section of the multiple growth.

47 New Street.

Differentiating Sign with Kidney Tumors.—When the tumor is merely the displaced kidney, it may respond to light massage with merely albuminuria, and this differentiates a wandering kidney from tumefaction of other origin. A. Jeremitsch has recently reported in the Russian *Journal Akuscherstwa*, 1909, No. 6, 2 cases in which this "palpatory albuminuria," as it has been called, differentiated the cause of the disturbances and permitted effectual treatment. One patient was a young man, and catheterization of the ureter on the side of the tumor proved impossible. About 0.5 per thousand albumin persisted in the urine for ten hours after light massage, these findings recurring at three applications of the test.

ELECTRIC SLEEP

AN EXPERIMENTAL AND CLINICAL STUDY *

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AND
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In the numerous electric experiments on the brain that followed the epoch-making discoveries of Fritch and Hitzig relative to the excitability of the brain, the electric current was invariably applied to the surface of the brain within the trephined skull; it is to Professor Leduc, of Nantes, that we must give credit for having first demonstrated the passage of electric currents through the unopened skull. As early as 1893 W. F. Hutchinson stated that induced current vibrations of extreme rapidity possessed anesthetic properties, but his experimental and clinical findings were far from convincing, although the idea seems to have met with acceptance in some circles. Leduc, in experiments performed in 1902, again called attention to the subject, having, as he stated, produced "instantaneously and without pain complete inhibition of the cerebral centers, leaving the respiratory and circulatory centers intact, thus causing a condition characterized by the loss of voluntary movements and the presence of general anesthesia." To this condition, strongly suggestive of drug narcosis and demonstrably of central origin, Leduc gave the name "electric sleep."

The greater part of our observations were made with the apparatus perfected by Gaiffe, of Paris, in 1908, an apparatus vastly superior in accuracy and safety to any of the crude instruments used by previous experimenters. It consists essentially of a system for rapidly interrupting a current of low tension flowing in one direction, measuring the number of such interruptions a minute and regulating the ratio of the current's active period to its passive period (Fig. 1). This is accomplished by a wheel interrupter, a principle which has for

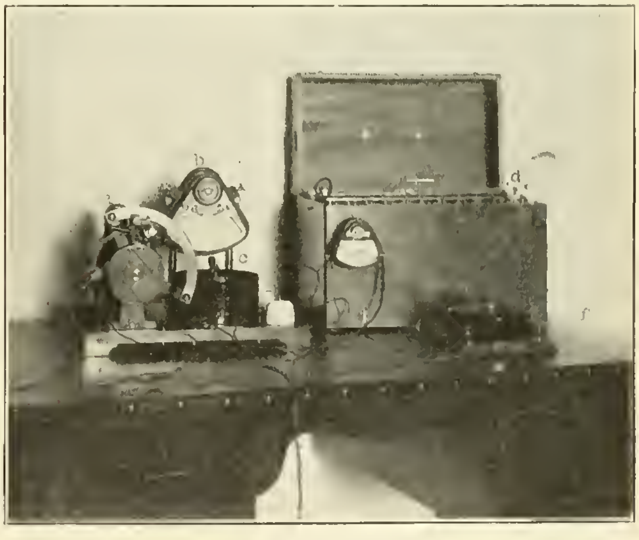

Fig. 1.—Apparatus made by Gaiffe of Paris, 1908: a, wheel interrupter with calibrated scale above it; b, speed indicator; c, rheostat for motor; d, 40-cell galvanic battery; e, milliampère-meter; f, MacLagan wire rheostat.

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* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

* From the Laboratories of Experimental Research, Medical Department, University of California.

many years been employed in electric work. This wheel is revolved very rapidly by means of a motor connected with the indirect lighting current, the number of revolutions being controlled by a rheostat and registered by a speed indicator. A careful examination of the structure of this wheel is important. It consists essentially of four segments, each being insulated from its neighbor. Opposite segments are connected by conducting wires. On the brass rim of these segments play two brushes, carefully adjusted, which deliver to and receive the current from the interrupter. When these brushes are directly opposite each other—that is, 180° apart—there will be four slight interruptions to each complete revolution of the wheel, each interruption occurring as a new segment presents itself. Our half-circle is divided into one hundred parts, and these are calibrated on a scale above the wheel. One of the brushes is fixed, while the other can be moved at will over this arc. Thus, if the movable brush is set at ten on the scale, it means that, instead of the current passing for the whole time to every complete turn except for four slight interruptions, it is only passing for one-tenth of that time and that there is a passive time of nine-tenths for each segment. Thus, if our speed indicator shows a rate of revolutions of 1,500 turns a minute, we know that four times this many segments will pass a minute or 100 a second. If, now, our movable brush is set at ten, the actual time over which the current is active is 1/1000 of a second, each active period being followed by a passive period of 9/1000.

Over this brief time the current rises instantaneously to its maximum and as quickly falls, so that our interrupter delivers a known number of successive shocks a second, the length of time of each shock being regulated and also the period between shocks over which the current is not active. A current of perfectly steady flow is absolutely essential, and for this purpose we have used a forty-cell galvanic battery, also made by Gaiffe, of Paris. We have found the direct lighting current most unsatisfactory, and the indirect lighting current, employed with a transformer, also useless for our purpose.

The arrangement of the apparatus needs a few words of description. We have passed the current from our battery directly through a MacLagan wire rheostat, and it has answered our purpose very well. From the rheostat the positive current traverses the interrupter, then an accurate milliampère-meter and finally a terminal electrode. We have not employed a volt-meter and do not consider it essential. The current from the negative electrode passes directly to the patient; a little experience will show the superiority of interruption on the positive over that on the negative. The application of the electrodes to the subject is at times a matter of great difficulty, and it is here that we believe our technic is most faulty. It is essential to success that the resistance in circuit be as low as possible.

Two areas on the animal are denuded of hair: one large space on the head, just above and between the eyes, and the other, as large as the palm of the hand, on the back a little above the point where the large nerve trunks to the hind legs emerge from the spinal canal. If, in removing the hair, any abrasions result they should be immediately covered with collodion; otherwise they will receive the full force of the current. Our electrodes are thin copper discs to which the conductors are tightly fastened. The interrupter must revolve steadily and the milliampère-meter must show a constant registration on the closed circuit. Any sudden and rapid deviation in current strength may mean the death of the animal. The electrodes should be exactly in the median line; if the current is thrown transversely through the skull, vertigo will result. The brass rim of the wheel becomes worn by its constant contact with the brushes and it should be polished from time to time with emery paper. As the experiment progresses, the animal's resistance to the current decreases, so that the same effect may be produced with a lower voltage. A sudden break in the circuit will mean great shock to the subject, and for this reason we have always been careful to lower the potential slowly. The size of the electrodes varies with the animal employed; in rabbits they are about 3 cm. in diameter. We believe that it is important that the two electrodes should contain approximately the same surface area. The head electrode should always be applied just above and between the eyes.

In reporting our findings we shall consider separately the rabbit, the dog and finally man.

THE RABBIT

When the current is turned on, the rabbit generally shows signs of surprise, and, as the potential increases, a variable degree of excitability is noticeable, as in ether narcosis, followed by rigidity of the neck and tremor of the limbs; then, without a cry or movement, or the least sign of pain, the rabbit falls on its side in the condition previously described as electric sleep. The eye reflexes are the first to disappear; the pupils are unchanged; the cutaneous reflexes are highly exaggerated, especially in the rear limbs. As the experiment continues, these cutaneous reflexes may disappear over the path of the current, but always remain marked in the rear limbs. The animal remains limp and senseless and can be pinched, pricked or cut without any reaction on its part; if the experiment has been carefully conducted, the rabbit will awake immediately as soon as the circuit is opened without showing any after-effects.

There is always some slight respiratory disturbance on raising the potential, and, if this be done suddenly, the rabbit will fall into a heap, the diaphragm become rigid, the thorax immobile, respiration cease and a generalized tremor occur. Habitually, breathing is soon resumed and, like the cardiac pulsations, remains regular during the remainder of the experiment, although the tremor persists until the proper conditions are fulfilled. The latter brusque method of inducing sleep is occasionally fatal, owing to the fact that no two animals react alike to a given dose of electricity.

THE DOG

The phenomena in the dog differ considerably from those in the rabbit. Here we have found it best to use a head electrode the size of a dollar. Two rubber bands are attached to the edges of this head piece and these terminate in long tapes. A thin layer of modeling clay, quite wet, is placed on the shaved surface just above the eyes, and over this the electrode, which is connected with the negative, is placed and held in position by crossing the tapes under the jaw and tying them securely at the back of the neck. The positive electrode is applied over wet cotton and is held tightly in place by an Esmarch bandage. As the current increases, the facial muscles contract, the animal lies down or falls on the side, fecal and urinary incontinence ensue and generalized tremor occurs. This agitation generally subsides as the current continues and, if our application is correct and our wheel is running steadily, the current may be pushed to loss of eye reflex.

The constancy of spasticity and respiratory inhibition caused several (Tullier, Brewer) to abandon the use of this current in canine surgery as originally advocated by Dr. Louise Robinovitch. We have succeeded, however, in totally eliminating these factors by reducing the resistance in circuit, perfecting the contacts and carefully varying the rate of interruptions. Under these conditions we have invariably avoided the fatalities so frequently noted by previous experimenters. We wish to emphasize one point which we have fully demonstrated. In the dog, unlike the rabbit, there is a complete analgesia over the whole body when a comparatively small amount of current, two or three milliampères, is employed. This is well away from the danger-zone and at this stage any operative interference may be done without the animal experiencing pain. We have repeatedly tested this by cutting down on the large nerve trunks and clamping them with hemostatic forceps, believing this to be the supreme test for analgesia. Of course, a little more current is required here than for the skin incision. If the experiment has been properly conducted, recovery will be immediate, no effect from the application remaining. During the entire experiment, with or without operation, the dog is conscious of its surroundings, the eyes remaining open, the sense of hearing intact.

MAN

Sensations.—We have applied the Leduc current centrally twenty-four times in man, making our first experiments on ourselves. In this work the negative electrode, measuring 11.5 by 4.5 cm., is applied over moist modeling clay just above the eyes and the positive electrode over wet cotton to the nape of the neck. A few tests with large and small positive electrodes applied over the thorax and abdomen showed their danger early in our work, for respiratory failure due to contraction of the diaphragm and chest wall quickly resulted. We have carried the current to five and one-half milliampères without producing loss of eye reflex. The sensation, as we have tried it on ourselves, is not at first disagreeable; a whirring through the brain as of a vibrator, but, as the ampèrage has been raised, the sensation through the head has become so painful that it has caused us to desist. Severe headache was experienced by one of us for twenty-four hours.

Analgesia.—We can report positive results as to analgesia in only one individual. In this case the results have been constant over many trials: A general superficial analgesia is quickly established even at a very low milliampèrage (1½ to 2 milliampères). We have tested this by sticking needles deeply into the arms and legs, even making an extensive skin incision for a phlegmon of the hand, and have made many experiments for ruling out the psychic factor, of which we were at first extremely suspicious. This we have been able to do to our entire satisfaction, adjusting our current so that the slightest increase we were capable of producing on our rheostat would mark a change from cutaneous sensibility to pain to insensibility.

Rapidity of Revolution.—During our experiments it was noted that the more rapid the revolutions of the wheel the less were the disagreeable sensations experienced. We were also impressed with a remark of Butcher in his comment on Leduc's work. "The inhibition is produced," he says, "by an electric stimulation of the nerve cells with a rhythm which is incompatible with their physiologic activity." Believing that the number of revolutions we had used were too low, we had constructed the cylinder interrupter shown in Figure 2. This interrupts the current eight times to each revolution, the period being regulated by setting the brush marked A at various points on the scale. It may be stated that this interrupter gave no better results and that with greater rapidity of revolution and increase of period the current tends to assume more and more the characteristics of the galvanic current.

Regional Anesthesia.—Leduc and Robinovitch claim to have obtained regional anesthesia with a mild current, one electrode being placed on a superficial sensory or mixed nerve (median, at the wrist), while the indifferent electrode is in contact with the body. Our numerous experiments in man show only a slight numbness in several subjects, absolutely nothing suggestive of analgesia in many others.

RESUSCITATION

An animal electrocuted by the Leduc current may be resuscitated by provoking rhythmic muscular contractions with the same current that caused the animal's apparent death. A low voltage of very short duration should be used and the normal respiratory rate followed. We have found this measure of great value in respiratory and cardiac disturbances and have repeatedly operated on dogs after having resuscitated them from what seemed certain death. Dr. Louise Robinovitch claims to have rendered this method of resuscitation absolutely safe and trustworthy, both in animals and in man, by increasing the voltage and applying the cathode to the upper dorsal region, thus excluding the central nervous system. Whether or not the current thus applied differs in effect from the well-known faradic application we are not prepared to state.

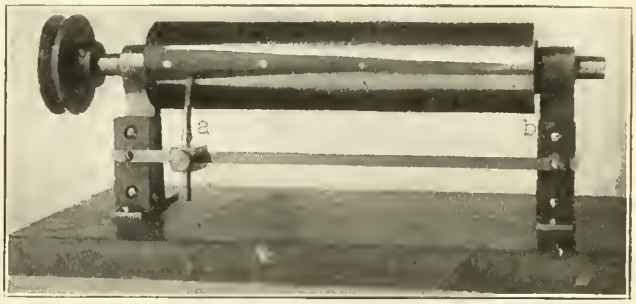

Fig. 2.—Authors' cylinder Interrupter. Eight triangular steel plates are fastened to an insulating surface and turned to a perfect cylinder. The fixed brush is placed at b. In the position of the movable brush (a) the current is active over a period of 1 and passive over a period of 9.

CONCLUSIONS

According to the potential used and the position of the electrodes, the Leduc current may produce three different conditions, which appear in the following order:

1. Analgesia, superficial, deep, or both.
2. Respiratory and cardiac inhibition. Epilepsy.
3. Electrocution.

The close interrelation of these conditions constitutes the element of danger in Leduc's current.

From our experiments on rabbits we cannot agree with Leduc that the condition here described should be classed as sleep in the generally accepted sense, and we offer as arguments the following: the frequent rigidity and tremor in the limbs, the increase in blood-pressure, and the absence of pupillary contraction.

The multiplicity of factors involved in the application of the Leduc current easily accounts for the inconstancy of experimental results. Its practical value in canine or experimental surgery is consequently almost *nil;* and, unless the technic is thoroughly understood, its use as an analgesic agent may not be devoid of danger. It will require a vast amount of investigation before we may hope to find in electricity a safe and reliable agent, capable of replacing chemical narcosis or reinforcing "Nature's soft nurse," sleep.

ABSTRACT OF DISCUSSION

Dr. Louise G. Robinovitch, New York: In repeating my experiments on electric anesthesia, Drs. Tait and Russ unfortunately used the wrong electric source, the wrong motor and the wrong interrupter. They used mercury batteries, whereas I pointed out, in 1905, the necessity of using accumulators of large capacity—200 amperes. The interrupter they used I discarded three years ago as a dangerous instrument; the only safe interrupter for this work is the one I have perfected in every detail. The motor they used is a dangerous motor for this work. The instrumental technic is fully presented in my latest papers on the subject. I was the first to apply electric anesthesia in laboratory surgery for major operations on dogs (exposing the carotid artery, laparotomy, etc.), and for the last three years I have utilized this method of anesthesia instead of ether and chloroform. In clinical work I utilize this current with gratifying results, in various neurologic and psychiatric affections. Two years ago I stated in my contribution to the "Reference Handbook of Medical Sciences" that a physician was not qualified to practice electric anesthesia on man unless he had had two years' daily experience in this work; let me mention now an additional requirement: at least some elementary knowledge of the fundamental principles of electricity.

On resuscitation of subjects in a condition of apparent death caused by chloroform, ether, electrocution, morphin, drowning, etc., experimenters in this work have been committing two errors: they included the victim's head in the circuit, and the current used was of dangerous quality and voltage. Professor Battelli uses the alternating current and high voltage. I exclude the head from the circuit and use a low potential, from 15 to 70 volts (for dogs), and currents less destructive to cellular life than is the alternating current. While experimenting on the cerebral circulation in epilepsy I saw that every closure of the circuit caused profound cerebral anemia at the moment of closure; hence, during resuscitation the medulla oblongata with the cardiac and respiratory centers should be excluded from the circuit during the rhythmic excitations practiced for the purpose of causing artificial respiration and blood pressure. Duration of closure is from 1/3 to 1/2 second; that of opening of circuit from 1 to 1 1/2 seconds; the cathode is at the back of the chest, the anode is at the loins. The artificial heart beats and respirations are regulated at will in amplitude by the voltage used. Strict economy should be observed or the useful and respiratory excitability may be exhausted prematurely. For hospital work I use the current applied for anesthesia. But for emergency resuscitation in the street, I use an induction coil of my own model made for this purpose. No other method of resuscitation presents the facility of causing artificial heart beats and respirations. I have revived a patient in profound syncope caused by chronic morphin poisoning, after fruitless efforts of my colleagues during a period of twenty minutes to revive the patient with the usual methods. My work on resuscitation after chloroform poisoning, electrocution, etc., will appear shortly; an abstract of it appeared last November.

Dr. George Emerson Brewer, New York: I did not intend to speak of electric anesthesia because the limited experimental work I have done in that direction has been unsatisfactory, but I agree largely with the work of Drs. Tait and Russ. The method was tried in the experimental laboratory of the College of Physicians and Surgeons two years ago for several months. It was found that in a very large number of cases in which we applied this treatment to dogs, the results were, first, a period of excitement; second, a period of muscular spasm; third, often complete surgical anesthesia; and in a certain number of cases death. The period of excitement seemed to depend on the resistance of the animal to the current. Two dogs of the same weight reacted differently to the current applied in exactly the same manner. We were led to believe that there is a very decided difference of resistance in dogs of the same weight. However, this may or may not be true, but without going into the details of the experiments, in which we lost many dogs and produced evidence of a good deal of suffering in others, I will say that we did produce profound surgical anesthesia in a certain number of cases, almost perfect surgical anesthesia, and we were able to perform a number of operations, such as thyroidectomy and enterostomy, but these cases were the exceptional ones. The great majority of the animals were either in a constant state of excitement or spasm, the anesthesia was imperfect, or the animal died. We concluded that whereas perfected methods and better technic might in the future give a current which would produce anesthesia and be of value, up to the present time our experiments were so unsatisfactory that we did not feel justified in applying the method to the human being.

ACHONDROPLASIA *

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PHILADELPHIA.

Achondroplasia, a chondral dystrophy, has been known under the synonyms of "chondrodystropia fetalis," "fetal rickets," "fetal cretinism" and "micromelia." Sommering first described it in 1791. Achondroplasia is of great antiquity. Pernet draws attention to the fact that at the British Museum there are a number of glazed earthenware images, which are unquestionably models of achondroplastic individuals. They were represented as dwarfs with big heads, crooked legs, very long arms, etc.

The pathology was not understood until Parrot differentiated achondroplasia from syphilis and rickets in 1878.

Innumerable writers have considered the subject since that time. Schirmer[1] gives 110 references. To this article and to the earlier article of Porak published in 1889, the reader is referred for a full exposition of the entire subject. It would appear to us that Porak's article and Schirmer's are the ones on which the entire literature of the subject is based, little new having been added since they wrote, though many cases have been reported. Of the articles in the British language, perhaps Rankins and Mackey's[2] article is the fullest and most satisfactory.

The characteristics of achondroplastic individuals are:

1.—Short stature of adult achondroplastics. The average height, according to Schirmer, is from 38 to 53 inches. The patients here reported have the following height:

Boy 1 year old	23	inches
Boy 16 years old	36½	inches
Woman 57 years old	48	inches
Skeleton	45	inches

2. Normal length of the trunk as compared with the short limbs (Fig. 1). The measurements in our cases are as follows:

	Height sitting	Length of legs.	Length of arms.
Boy 1 year	16	8	7
Boy 16 years	22½	15	10
Woman 57 years	33	20½	14½
Skeleton	27	18	12½

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909. Because of lack of space, the article is here abbreviated by the omission of part of the case reports, but the complete article appears in the Transactions of the Section and in the authors' reprints.

[1] Schirmer: Centralbl. f. d. Grenzgeb. d. Med. u. Chir., 1907, No. 10.

[2] Rankins and Mackey: Brit. Med. Jour., June 30, 1906.

3. Marked bowing of both upper and lower extremities. The humerus, the ulna and the radius, the femur and the tibia and fibula in all of our cases are remarkably bowed. The femurs are unusually straight in the skeleton (Fig. 2).

4. Unusual prominence of the points of attachment of the muscles on the bones of both upper and lower extremities. This is well seen in the radiographs, and in the photograph of the skeleton.

5. All the fingers are relatively of the same length. There is a peculiar separation of the second and third fingers at the second phalangeal joints, causing the fingers to spread out the so-called trident hand (Fig. 3). This may be seen in the accompanying illustrations, and by these measurements:

	First finger.	Second finger.	Third finger.	Fourth finger.
Boy 1 year	1½	1½	1½	1⅜
Boy 16 years..............	2⅛	2⅛	2⅛	1¾
Woman 57 years............	3	3⅛	3⅛	2⅞
Skeleton	2½	2½	2¾	2½

It will be seen that the little finger in all of the four patients is slightly shorter than the others.

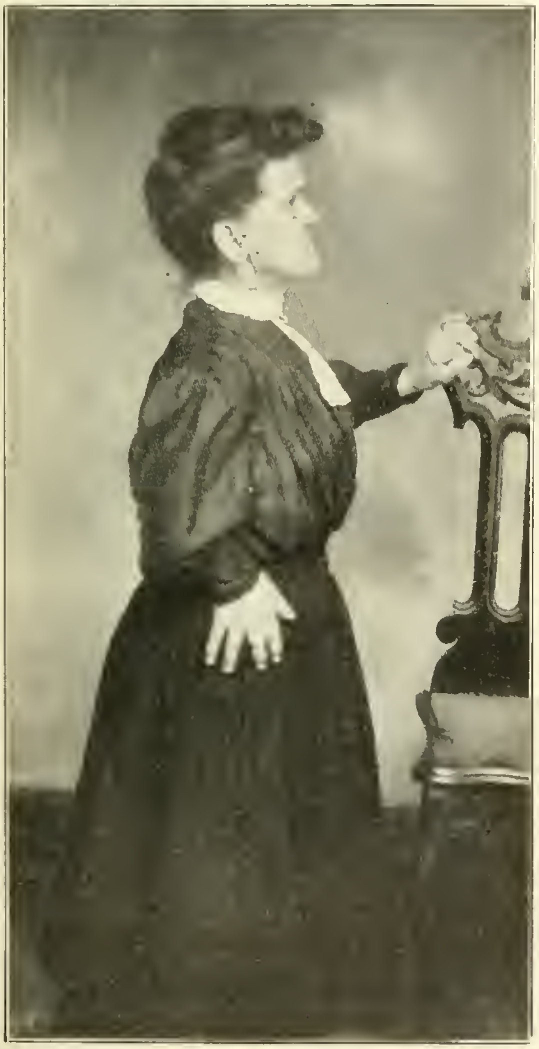

Fig. 1.—Achondroplastic. Woman with characteristic deformities; height 48 inches, age 57 years.

6. Depression of the base of the nose, "pug-nose." This was formerly thought to be due to congenital syphilis, but Virchow pointed out that it was due to a premature union of the bones at the base of the skull, or as it is put, a premature synostosis tribasilaris.

In the normal individual there is no bony union in this situation until early adult life, but in achondroplastics the union is complete at birth. These features are well shown in our photographs, and are particularly well marked in the comparative photographs of the skulls (Fig. 4).

7. The vault of the cranium is unusually large, as compared with the base of the skull and the face. The narrow base of the skull is shown by the measurements from mastoid to mastoid around the back of the head.

Child 1 year..........................	4¾ inches
Boy 16 years..........................	5½ inches
Woman 57 years......................	6 inches

8. The pelvis is small. Porak has cited many measurements of pelvis, and several instances in which the small pelves required Cesarean section when achondroplastic women were pregnant. The measurements of our skeleton's pelvis are:

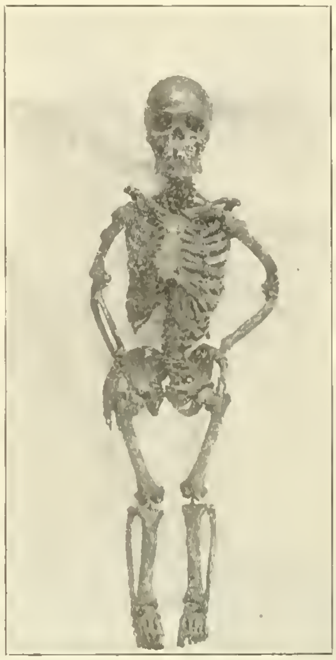

Fig. 2.—Skeleton of an achondroplastic; height 45 inches.

Internal conjugate	1½ inches
Transverse	3½ inches
Oblique	3 inches
Circumference of crest of ilia...........	30 inches

9. Lumbar lordosis is present without exception, as is the protuberant abdomen (Fig. 5).

10. The hair is soft, and abundant in the normal situations.

11. Normal intellect. These individuals when they reach adult life are often unusually brilliant. Our adult patient has unusual mental development for a woman of her social standing. The infant appears normal. The boy of 16 has the mentality of a young child, but this is doubtless due to the hereditary lues.

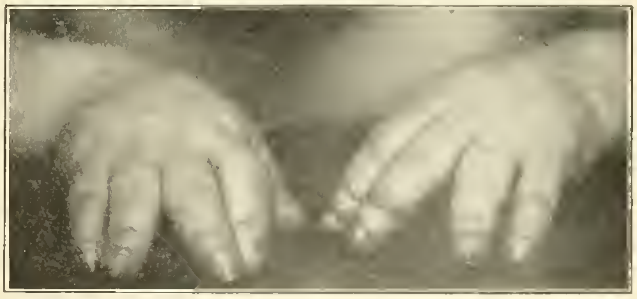

Fig. 3.—The "trident hands."

12. The genitalia and sexual instincts are normal. The disparity in size between the penis and the body has often led to ludicrous mistakes by the uninitiated.

13. There is a tendency to superabundance of fat. This is marked in our two young patients, but is absent in the woman.

14. The deformity is congenital. In all the cases reported the condition was present at birth. In our own young child

it was observed soon. The deformities however, become more apparent as the individual grows. Many instances of premature infants are on record in which the lesions are well marked.

15. There is a marked decentralization of the body. The umbilicus is always below the middle, while in normal individuals over one year, it is above the middle point. Our measurements are as follows:

	Crown to umbilicus.	Umbilicus to soles of feet.
Boy 1 year	14 inches	9 inches
Boy 16 years	19½ inches	17 inches
Woman 57 years	25 inches	23 inches

One of us (McCombs) made measurements in sixteen children. In all the children (five) under one year the distance from the crown to the umbilicus was greater than from the umbilicus to the soles of the feet. From eleven of one year and over, the normal relations of greater length from umbilicus to soles obtained.

16. The tendency to hyprocephalus, to visceral weakness, and prolapse of the umbilical cord is apt to cause a premature birth and consequent death of the fetus. After birth at term the fetus is so handicapped with grave nervous diseases and lack of general nutrition that early death is common; hence relatively few achondroplastics reach adult life.

The pathology of the condition is now well understood. The primary condition is a disturbance of the cartilage formation, while the periosteal growth is not interrupted. There is a marked interference with the normal rows of cartilage cells. Hence bones laid down in membrane are not involved. Therefore the bones of the vault of the cranium and the bones of the trunk are normal.

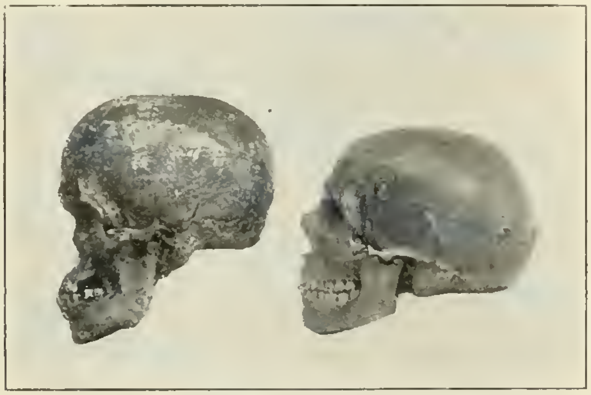

Fig. 4.—Achondroplastic and normal skulls. The skull on the left shows the retraction at the base of the nose (due to premature synostosis of the tribasilaris) and the prognathism.

Kauffmann has studied thirteen cases anatomically, and comes to the following conclusions:

The condition is the result of an interference in the growth of the cartilaginous portion of the skeleton. It is a chondral dystrophy; hence the name "chondrodystrophia fetalis." The interference in growth can begin at different periods of intrauterine life. The earlier the beginning of the disease, the shorter the bones remain. He distinguishes the following types:

1. Chondrodystrophia fetalis hypoplastica. In this the epiphyses are of normal size and consistency, and there is an interference in the growth of the cartilage cells.

2. A hyperplastic form, in which the epiphyses are somewhat lengthened, of variable consistence, and there is an increase in the cartilage cells.

3. Chondrodystrophia fetalis malacia, in which the intercellular substance is softened and rich in vessels.

All recent observers are agreed that the first or hypoplastic form is the most common.

Turner has found that at the junction of the epiphysis and the diaphysis the cartilage cells are abnormal in their size and form and arrangement, and that there is an absence of the primary bony areola, which is usual in the axis of the bone. The diaphysis, therefore, can not grow

There is an insertion of the periosteum between the epiphysis and the diaphysis, so that the ossification of the cartilage cells in the primary areola is hindered. The epiphysis and the diaphysis are sometimes ununited. The periosteum is thickened in points along the shaft so that these form bosses or exostoses along the shaft. The enlargement at the epiphyseal ends of the long bones is due to a cup-like formation of the diaphysis around the epiphysis, the epiphysis itself not being enlarged. This is well shown by x-rays, autopsies and the skeleton herewith presented.

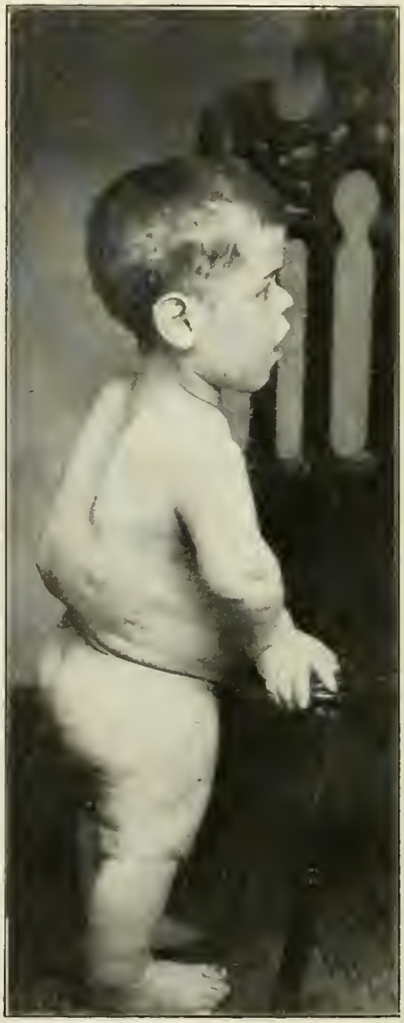

Fig. 5.—Side view of boy. Curvature of spine, shortness of the extremities and curvature of bones shown.

The etiology is obscure. The disease appears to be hereditary in certain instances, many cases being cited. In none of our cases can heredity play the slightest rôle

It has been suggested that the condition is due to the disturbance of some internal secretion. So far, however, we are in the dark on this subject.

Syphilis was supposed to be a cause, but Parrot's work put this question at rest. While syphilis and achondroplasia may occur in the same individual, as in our Case 2, the syphilis is not the cause of the achon droplasia. A case is quoted in which two normal parents had an achondroplastic child. Both parents contracted syphilis after the birth of the achondroplastic child, and the wife then gave birth to a syphilitic child, which was free from achondroplasia.

DIFFERENTIAL DIAGNOSIS

The conditions with which achondroplasia can be confounded are rickets, cretinism, congenital syphilis and osteogenesis imperfecta. Achondroplasia is a congenital disease. The lesions are complete at birth. The deformities present are but exaggerated with the growth of the individual. Rickets is a postnatal disease. The lesions are entirely different in the two affections, and may at once be differentiated by the *x*-ray. In achondroplasia, the lesion is in the cartilage; the epiphyses are about normal; the enlargement at the ends of the bone is due to cup-like projections of the diaphyses. In rickets the enlargement at the ends of the bones is in the epiphysis itself. There are enlargements forming bosses at the muscular attachments in achondroplasia. These are absent in rickets. In achondroplasia the bones are hard. In rickets they are soft. The chest and trunk are normal in achondroplasia; they are affected in rickets. There is pug-nose in achondroplasia, which is absent in rickets. The vault is normal in achondroplasia and bossed in rickets. The bones affected in achondroplasia are those laid down in cartilage, while any of the bones may be affected in rickets. Achondroplasia is a permanent lesion. A patient with rickets may recover. Apert says, "An individual is born achondroplastic and remains achondroplastic, but an individual may become rachitic and recover."

The differential points from cretinism are the following: A cretin lacks intelligence. Achondroplastics are of normal or unusually bright intellect. The hair of cretins is scant and coarse; that of achondroplastics abundant and normal. The tongue of a cretin is protruded, and there is drooling; this is absent in achondroplastics.

The bone lesion in cretinism is simply an underdevelopment. This is well seen in our *x*-rays. Cretins recover under thyroid extract when treated early. This material has no effect on achondroplastics. Umbilical hernia is the rule in cretins, but absent in achondroplastics.

Achondroplasia may be mistaken for congenital syphilis. In syphilis the pug-nose is due to actual bone disease; in achondroplasia it is due to a premature union of the bones at the base of the skull.

The *x*-ray will always make the diagnosis, as is shown in our Case 2, in which both diseases exist in the same individual.

To quote Schirmer in regard to achondroplasia and osteogenesis imperfecta: "In spite of the analogous clinical symptoms, the anatomic substratum of the two affections is entirely different. Achondroplasia is permanently a defect in the cartilage, while osteogenesis imperfecta is a functional disturbance of the periosteum and the bony tissue."

TREATMENT

No known substance has yet been found to affect achondroplasia. Extract of thymus gland has been tried, but found wanting. Perhaps later experiments with some internal gland may be found of value, but, as the disease is practically complete at birth, there is little hope of this.

Courtin (quoted by Schirmer) attempted surgical interference with what he believes to be of some value, but this is also problematical.

OCULAR EXAMINATION BY DR. G. L. DE SCHWEINITZ

The eye condition observed by Dr. de Schweinitz in Case 2 is as follows:

Right Eye.—Vision equaled no light perception. Cornea nebulous down and in. Pupil round, unresponsive to all stimuli, 8 mm. in diameter. The ophthalmoscope revealed a nearly round, greenish-white atrophic disc, with a shallow atrophic excavation, but no displacement of the vessels toward the edge of the excavation. There were no signs of previous inflammation in and around the disc. The vessels were small, but apparently carried normally tinted blood. Throughout the eyeground there were numerous yellowish areas about the size of a large pin-head, lying beneath the plane of the retinal vessels and apparently situated in the chorioid.

Left Eye.—Vision equaled doubtful light perception; that is, the boy occasionally turned his head toward a strong electric light. The pupil was slightly oval, 4 mm. in diameter, and unresponsive to stimuli. There were delicate strings of grayish lymph along its lower margin, indicating the presence of former inflammation in the iris, but there were no distinct synechiæ. The details of the fundus were seen only with difficulty, but the disc apparently was as atrophic as it was in the opposite eye.

The eyes were divergent, prominent, and their refraction myopic. There was no lack of rotation in any direction, and the associated movements were perfectly performed except in the act of convergence, which was entirely absent. There were no active inflammatory lesions in any of the coats of the eye, but at times the conjunctiva was congested, and for periods had presented the ordinary symptoms of catarrhal conjunctivitis. The tension of the ocular globe was normal. There was no anesthesia of the cornea or the conjunctiva.

Diagnosis.—This case is a peculiarly difficult one. The first impression is that of a cretin, but the soft skin and the lack of supraclavicular pads and the absence of umbilical hernia are against this diagnosis, while the pug-nose, the bowed extremities, the large cranial vault, the trident hand, support the diagnosis of achondroplasia, which is made certain by the *x*-ray. The mental condition of the patient can be readily accounted for by the hereditary lues. Schirmer in his article says that achondroplastics are without exception of normal mental caliber. Here unquestionably the achondroplasia has nothing whatever to do with the mental defect.

CHARACTERISTIC RADIOGRAPHIC FEATURES OF ACHONDROPLASIA, CRETINISM AND RICKETS.

BY HENRY K. PANCOAST, M.D.

ACHONDROPLASIA

The experience derived from *x*-ray examinations of three cases of achondroplasia for Dr. Fussell during the past three months, and the unusual opportunity thereby offered for a radiographic study, have convinced me that the radiograph is both an easy and a certain method of diagnosis in this condition, provided a few characteristic appearances corresponding to certain of the essential clinical and pathologic features of the disease are carefully observed. Case 2 was the first of the kind I had ever had the privilege of examining, or had ever seen in fact. It was referred with a provisional diagnosis of cretinsm, and yet so prominent were certain peculiar features observed in the pictures that I had no hesitation in suggesting an *x*-ray diagnosis of achondroplasia simply by identifying these striking appearances from a knowledge of the condition limited to its essential characteristics a based solely on their graphic descriptions.

An *x*-ray diagnosis can be readily made at any age, except possibly in infancy, before ossification is normally far advanced at the knee, upper end of the femur and both ends of the humerus. It is easiest during childhood, when these epiphyses are well developed, but again it requires more careful observation in adults, after these epiphyses have united, and there are to be found only the results of the abnormal processes of development in these regions. At any age, however, separate and distinctly typical features are to be observed in the appearances of the shafts of the long and the short long bones and also in the cancellous structure.

The more important characteristic radiographic appearances can be classified conveniently in three groups as follows:

A. EPIPHYSES OF THE LONG BONES

1. A moderate delay in the beginning of ossification.
2. A moderate delay in the progress of ossification, which tends later to an actual deficiency in development rather than to delayed union.

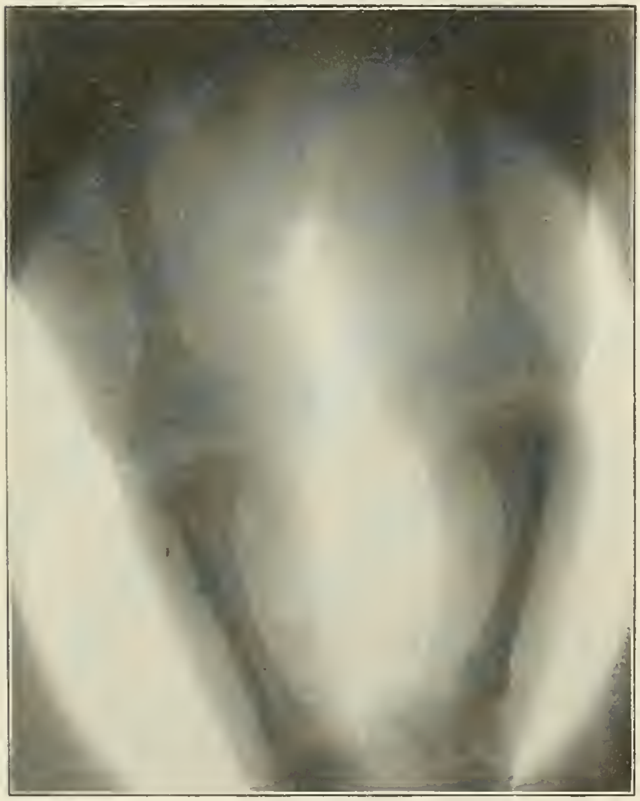

Fig. 6.—Radiograph of achondroplastic (Case 2).

3. Although actually deficient in development, the epiphyseal ends in children and fully ossified ends in adults are relatively far better developed than the shafts of the bones.
4. Deficient and irregular ossification of the ends of the diaphyses of many of the bones is very evident, especially in early childhood or infancy, and particularly at the knee.
5. The bones of the carpus and tarsus and the patella exhibit a corresponding delay in ossification and resulting deficiency in development.
6. The long bones appear to manifest a relatively greater degree of development in the immediate neighborhood of epiphyseal centers, whether their growth is largely dependent on the latter, as at the knee, or is entirely independent, as at the olecranon and lesser trochanter. In the latter instance this is manifest even before epiphyseal ossification begins.

B. SHAFTS OF THE LONG BONES

1. These are much shorter than in normal individuals of the same age. This is characteristic of all of the long and the short long bones of the extremities.
2. The same bones are relatively thick for their length.
3. There is a tendency toward the growth of exostoses from the long bones of the upper extremities, with rather symmetrical arrangement on the two sides, but such growths are noticeably absent in the lower extremities.
4. There is decided bowing of many of the long bones, especially the tibia, femur, and those of the forearm. In the two first mentioned this is most marked near or at the epiphyseal ends, and is there shown to be largely a result of deficient and irregular development and ossification (Fig. 6).

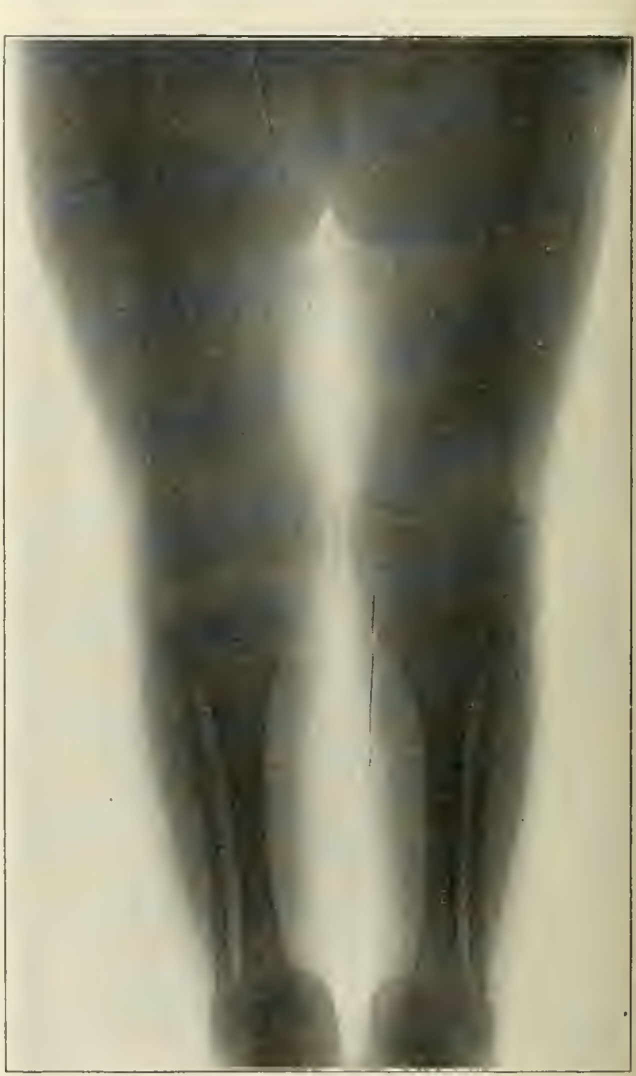

Fig. 7.—Radiograph of cretin.

5. All of the long and short long bones of the extremities present an abrupt expansion at the epiphyseal ends of the diaphyses and to a width corresponding to that of the epiphysis.

C. STRUCTURE OF THE BONES

1. There is a noticeable deficiency in development of the cancellous structure at the ends or epiphyses of the long bones and in those of the carpus and tarsus. It may be observed to best advantage perhaps in the os calcis. The appearance is characterized by relatively few walls and resulting large Haversian spaces. The walls are usually more noticeable or better developed in one general direction. The appearance is quite different from that of the rarefaction so frequently seen in such conditions as chronic arthritis, and in which the walls have been absorbed and rendered thin and the spaces correspondingly large, without reduction in the number of spaces.

2. The medullary canals of the relatively thick bones are apt to appear too wide and the compact walls too thin for the diameter of the bone.

CRETINISM

The *x*-ray diagnosis of this condition is by no means as easy or as certain as is the case in connection with achondroplasia, for the reason that there are fewer striking peculiarities and characteristic appearances to distinguish it from other conditions aside from achondroplasia. A similar and comparative summary of the case of cretinism follows:

A. EPIPHYSES OF THE LONG BONES

An exact comparison is difficult because of the difference in ages of this one patient and the other three, and the normal individual has been used as the basis of the comparative data in this condition. The epiphyses appear to be generally deficient in size and development, and ossification is correspondingly delayed.

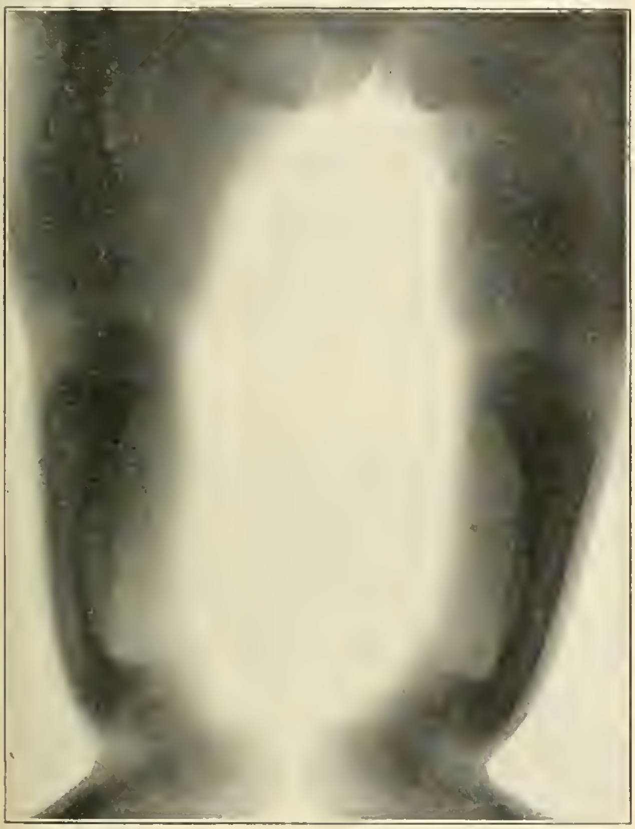

Fig. 8.—Radiograph of patient with rickets.

There is a very noticeable delay in ossification of the carpal bones. There is not the relatively greater degree of development in the immediate regions of epiphyseal centers which is so noticeable in achondroplasia, and the ends of the diaphyses do not expand abruptly (Fig. 7).

B. SHAFTS OF THE LONG BONES

The shafts are deficient in length actually, but not so relatively short as in achondroplasia. Moreover, the diameter or thickness is about right for the length. Exostoses are not present. Bowing is not a feature of importance in this condition.

C. STRUCTURE OF THE LONG BONES

The deficiency in the development of the cancellous structure so characteristic of achondroplasia is not a feature of this condition, in which this structure is not distinctly abnormal in appearance.

RICKETS

The radiograph of the lower extremities in a typical case of rickets and showing the characteristic appearances and deformities have been employed for the purpose of comparison.

A. EPIPHYSES OF THE LONG BONES

1. The extent of ossification does not indicate a delay in the process for the age of the individual, although the amount of calcification may be deficient.

2. Ossification and development of the epiphyses is far more extensive than in the extreme ends of the diaphyses, where the greatest resulting deformities exist, although calcification is deficient.

3. The ends of the ossified portions of the diaphyses are wider than the ossified centers in the epiphyses, indicating a wide zone of cartilage at the epiphyseal lines, which is typical of rickets.

4. The ends of the diaphyses show a decidedly irregular line of ossification resulting from temporary absorption of trabeculæ and failure of ossification, but the appearance is quite different from that seen in achondroplasia at the same age.

5. The carpal and tarsal bones and patella do not share in the process to any extent, and do not exhibit any delay in ossification or deficiency in development.

6. There is no apparent relative overdevelopment in the regions of epiphyseal centers as in achondroplasia, especially in such regions as the trochanters.

B. SHAFTS OF THE LONG BONES

1. The long bones of the lower extremity are not actually so much shorter than normal as in achondroplasia, though they may appear so because of resulting deformities. The short long bones are not affected noticeably.

2. Their thickness is not distinctly abnormal for their length.

3. There is no special tendency toward the growth of exostoses from the bones of the upper extremities.

4. Bowing is common in both conditions, and in itself is of no value in diagnosis. In achondroplasia it is largely developmental, while in rickets it is largely the result of deficient calcification.

5. The apparent expansion of the ends of the diaphyses presents an appearance somewhat similar to that seen in achondroplasia, but in reality it is quite different. The ends of the diaphyses are not ossified or the ossification is very irregular at the exact locality in which the abrupt expansion occurs in achondroplasia (Fig. 8).

C. STRUCTURE OF THE BONES

The trabeculæ of the cancellous structure may become thinner or entirely disappear in rickets, but when visible the peculiar appearance seen in achondroplasia is not evident.

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ABSTRACT OF DISCUSSION

Dr. R. S. McCombs: Achondroplasia is not particularly rare, but it is not generally recognized, the majority of these patients being taken for rachitic dwarfs. The dwarfs of Philip the Second's court have been recognized as achondroplasiacs, and records of achondroplasiacs have appeared in history from the earliest times, very good representations having been discovered carved on the tablets of ancient Egypt. The literature in English on this subject is not exhaustive, the best articles having been written by Rankin and Mackey which appeared in the *British Medical Journal* during 1906-07. In a paper written about three years ago by Dr. D. J. Milton Miller, and published in the *Archives of Pediatrics*, can be found a very clear description of the histologic changes which prevents the normal growth of the cartilage cells. Dr. Fussell mentioned this. In regard to the treatment, all measures will probably fail, as the process, according to practically all observers, is complete at birth, the subsequent growth being periosteal and not from the epiphysis. The most important points about these cases in particular are the three signs described by Dr. Pancoast, which have not been mentioned so far as we know, and that the boy is the only case we have been able to find on record in which there are evidences of hereditary lues. This disease has often been suggested as an etiologic factor, but never proved. The presence of the hereditary syphilis in this case is so apparently accidental that it is mentioned as being of interest, but of no importance in throwing light on the etiology.

Dr. D. J. M. Miller, Atlantic City: The affection is not uncommon. In my paper mentioned by Dr. McCombs, I spoke of the fact that I had seen several individuals on the streets of Philadelphia, who, although I had never examined them, bore all the earmarks of achondroplasia. Before I had read the account of the disease written by two Englishmen, whose names I do not recall, I thought one case that I had seen in Philadelphia was a case of fetal rickets, but their papers led me to recognize the condition. Another thing peculiar about these people is that they are always particularly intelligent, and in this respect achondroplasia differs from other forms of dwarfism. There is really no treatment, for this condition takes place in early fetal life. Those bones that ossify after birth are not affected; only those beginning in cartilage, during early fetal life, are the ones principally involved. When the child is born, the damage has been done.

Dr. C. P. Emerson, Clifton Springs, N. Y.: I have had opportunity to study this condition in more than one country, and I think it is pretty certain now that this is not always a disease of fetal life, but in some cases one of infancy, and that it may be developed as late as puberty. I have such a case now in Baltimore. Very often we see the statement made that the mother was so stupid that she did not recognize anything abnormal in her baby. I do not think that it is a case of stupidity on the part of the mother in this instance, but that the baby was probably normal. The patient to whom I refer had when a baby an acute illness, sweated at night, fretted and disliked to be touched. It was after this attack of illness that the condition apparently developed, and he is now a typical achondroplasiac. Recently a case was reported in which an infant had been pronounced normal at birth by both mother and grandmother. At least forty examinations had been made by different physicians, none of whom reported anything abnormal, and later achondroplasia occurred. Recently an Austrian has reported some investigations showing that this condition does develop after birth. It is possible that these are the children who show the abnormal mental development. To say that all achondroplasiacs are mentally deficient, is not true. It is true that the boys and girls with achondroplasia do not stay in school because they are made unhappy by their schoolmates, but those children who do go to school, or who have special tutors, develop well.

Dr. L. T. Royster, Norfolk: I have some pictures here that may be of interest. This child is now about 14. The pictures were taken when it was about 6½ years old. This case had its amusing side, for the accompanying hydrocephalus was such that when the child was on the floor and desired to get up it would first elevate its hips and then lift its head with its hands.

Dr. G. L. de Schweinitz, Philadelphia: A complete report of the ocular symptoms of the case presented will be found in Dr. Fussell's paper. It is interesting to note that the patient shows a complete optic atrophy in both eyes due, not to the achondroplasia, but in all probability to an accompanying hereditary luetic condition.

Dr. M. H. Fussell, Philadelphia: I made the distinct statement that achondroplasiacs are particularly bright mentally. They are not deficient mentally. I have particular knowledge of one individual who was always at the head of his classes. In regard to its development in infancy or at puberty, I believe all authorities are agreed that that is not a fact, and that once an achondroplasiac, always an achondroplasiac. There are many premature fetuses in which an examination has been made showing typical achondroplasia. I would suggest that when cases are reported as having developed in infancy that they are typical achondroplasiacs, but were not recognized early. After I had seen one case and failed to recognize it, it so impressed itself on me that in future I was more careful. As the children grow the deformity increases, and then it is easily noticed. It has been said that the treatment is *nil*, and so it is. The condition is complete at birth, and hence treatment would be useless. This little infant could not sit up at six months, but after massage he is now able to sit up and appears as a child of fourteen months should appear except for the shape of his limbs.

SOME REASONS WHY A SCHOOL OF TROPICAL MEDICINE SHOULD BE ESTABLISHED IN THE UNITED STATES

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While secretary of the state for colonies the late Joseph Chamberlain, of England, with the object of affording instruction in tropical medicine to medical officers in the colonial service, caused to be established in London a special school of tropical medicine. Previous to its inception there was no adequate means whereby private practitioners or medical missionaries about to proceed to the tropics could acquire special information concerning, or obtain practical instruction in, an important section of the diseases they would be called on to treat. Had the school been confined to the training of those about to enter the colonial government service, the scheme would have been bereft of much of its usefulness, and the natives and European residents in the colonies and dependencies would have suffered accordingly.

As I write these lines there lies before me the prospectus of the Liverpool School of Tropical Medicine and the syllabus of the London School of Tropical Medicine for the current year. The perusal of these respective booklets can not fail to convince one of the wisdom and foresight of the founders. These schools are now in their tenth and eleventh years of existence, respectively, are in a flourishing condition, and are splendidly fulfilling the object for which they were established. This statement is fully verified by the fact that they have enrolled on their registers as students medical practitioners from many parts of the world, including a number of civilian practitioners from the United States and medical officers of our army and navy.

A decade and a half ago the United States was not a colonizing power. Immigration from countries where tropical diseases prevail was far less than now, and therefore the need of a school of tropical medicine, established on lines similar to those of England and Germany, was much less marked than at the present time. It may truthfully be stated that within the last decade this country has stepped out from her solitude to take the place which rightly belongs to her among the great peoples. By acquirement of her colonial dependencies, still more by the inevitable exigencies of her commerce, she has chosen (as she had no other choice) to make herself an interested party in all parts of the world. Our colonial dependencies now include the Territory of Hawaii, the Philippine Islands, Guam, Porto Rico, the Panama Canal Zone, and this country practically exercises a health protectorate over the seaports of the island of Cuba and of those of the Central American states. In all of the above-mentioned dependencies and countries tropical diseases prevail extensively. And, indeed, we do not have to go as far away as the tropics to find many of the so-called tropical diseases. In the Southern states are found all varieties of malaria, amebic dysentery, hookworm disease, and others of the tropical diseases in goodly numbers. The present position, then, of the United States may be likened, in this particular respect, to that of England some years ago, when Mr. Chamberlain, in spite of opposition, established the nucleus of what is now known as the London School of Tropical Medicine.

Germany, about the same time as England, in order to provide a proper course of instructions in tropical diseases for her colonial medical officers and other civil practitioners, established a school similar to the London school; and this school has likewise supplied a much felt want by affording special instructions in diseases of the tropics. This school has also been well patronized and has proved highly successful in every way.

Our country, while occupying the front rank in all else that appertains to the advancement of medical knowledge and science, lags behind her sister countries of Europe in this particular. In taking a survey of this matter, the question arises, Why are we so tardy in recognizing the great importance to the profession at large of the United States in establishing a special school for the teaching of tropical diseases? Surely this can not be owing to the lack of interest we have in the diseases of the tropics, for as practitioners we are daily brought in contact with an ever-increasing number of these most interesting conditions. Again it can not be for the want of material, which is to be had in great variety. Again, we have available as teachers and instructors in such a school professional men of wide practical experience in these diseases, as also in the study and observation of them.

But this country has changed much in late years. She is a growing commercial power. The maritime trade of the United States with the countries situated to the southward and westward in the tropics is increasing by leaps and bounds, and is as yet only in its infancy. As the facilities for travel between our seaport cities and these countries become more improved and we are brought into closer touch with them, so will the travel to and from them increase proportionately, and therefore will expose an increased number of our people to the existing diseases of these countries. Our intercourse with tropical regions is rapidly growing. The great increase of immigration to the United States from these countries will bring the diseases fast enough.

The force of the above argument was convincingly demonstrated during and after the late Spanish-American war in Cuba, and especially since our occupation of the Philippines. Discharged and invalided soldiers returning from these respective countries to the United States scattered far and wide, and the burden of treating those ill fell chiefly on the general practitioner. For this reason alone, if for no other, every practicing physician in the United States should be as familiar with tropical diseases as he is with the more commonly prevalent ones which he is called on to treat every day.

The important discoveries that have been made in the past decade through the study of tropical diseases, and the great scientific as well as commercial value attached to them, have brought these diseases into a prominence heretofore unknown, before both the profession and the public. To enunciate but a few of these diseases would be, first and foremost, to mention the relation which the mosquito (*Stegomyia calopus*) bears to the transmission of yellow fever, as was announced to the world by Reed and Carroll; the cause of the deadly sleeping sickness (trypanosomiasis) of South Africa, and its transmission to man by the bite of the stinging fly, *Glossina palpalis*, so patiently worked out by Bruce; the etiology of dysentery and its differentiation into two varieties, the bacillary and the amebic; and the relation of the hookworm to the anemias of the tropics. Other instances similar to the above might be cited, but it is unnecessary to proceed further.

Our American people are fast becoming great travelers, for both pleasure and business, and are to be found in all accessible parts of the globe. For this reason also the subject of tropical medicine is every day growing of more importance to the general practitioner, whether his practice be in the city or in the country.

While England has two schools, and Germany and France one each, where the teaching of tropical medicine is made a specialty, the United States has not a single one. It is true that four or five medical schools give special instructions on tropical medicine during the term, but, as the subject is divided among the various departments of the schools, it always will lack the thoroughness and completeness which is so essential to success. These courses consist chiefly of a few optionally attended lectures. So far as I have been able to ascertain, attendance on these courses as provided in our medical schools is not compulsory. Again, the lectures are often given by instructors who have not seen tropical diseases or if so only to a limited extent, and who therefore could have but little, if any, interest in the subject, and whose lectures could not be conducive to the stimulation of the lively interest so necessary on the part of the student.

Within the past few years there has been organized the American Society of Tropical Medicine. Let us hope that the day is not far distant when there will be found everywhere throughout the United States branch societies of this organization, at which the practitioners of the country as well as of the city may attend, hear papers read, see and examine exhibited cases and enter into the discussions; all of which would be of incalculable benefit to them in the absence of a centrally located school where special instruction may be had on the subject. There is a well-equipped school of this kind in Manila, but it is too far away to be of any benefit to the general practitioner of the United States. The schools in England and Germany are much nearer home, but even these, owing to the cost of travel, etc., can be reached by only a limited number.

The army and navy medical schools and the Hygienic Laboratory of the Public Health and Marine-Hospital Service in Washington give courses in tropical medicine, but in all of these the subject of tropical medicine is only one of the subjects studied and not the main subject, and, therefore, they could not be called, as they at present exist, schools of tropical medicine. The courses given on the subject of tropical medicine are intended mainly for the instruction of the medical officers of the respective medical corps, and if they are available at all to the general practitioner, in the present limited condition of these schools, it would be possible for only a limited number to receive instruction. These medical corps, through their officers, have done and continue to do remarkable and important work in the field of tropical diseases. What is needed is a special school, whether under government control and support or otherwise maintained, where tropical medicine is taught solely and exclusively.

It might not seem amiss to advance the argument that the American Society of Tropical Medicine might well take up, along with the other closely allied work, the cause of fostering and encouraging the speedy establishment of a school of tropical medicine in one of our large seaport cities. Of the cities that would be considered, New York would doubtless be the most practicable in point of location and desirability. This conclusion, it may be stated, is arrived at from several points of view. This city may truthfully be stated to have steamship and other communications with practically every seaport in the tropical and subtropical countries. The number of cases of tropical diseases seen in New York is much greater than one would suppose. A residence of about six years in and about New York convinces one of this fact. Within the past few months there were seen a number of cases of beriberi removed from one vessel in New York harbor. There were also seen in one hospital there (the United States Marine Hospital) several scores of cases of malarial fever, consisting of the tertian, quartan, estivoautumnal and pernicious types, a goodly number of cases of amebic dysentery, and several other rarer varieties of tropical diseases. The nearness of New York to the Southern states and its greatness as a business, industrial and social center make it admirably adapted to be the place of first choice.

When this school has been established, then and only then will all of our civil practitioners have placed at their disposal the means of obtaining thorough instruction in this most important branch of medicine. The demand for such a school is growing more pronounced each day. Let us, then, have a school of tropical medicine and satisfy this most worthy demand.

TRANSITORY URINARY FINDINGS ASSOCIATED WITH SOME DISEASES OF CHILDHOOD *

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There are few practitioners of medicine who neglect acute changes that occur in the kidneys as complications or sequelæ of such diseases as scarlet fever, diphtheria, pneumonia, and acute arthritis. As the pathologic processes in these acute diseases are fairly definite, albumin and casts are easily detected on routine examination. Failure to watch the urine in such cases is unusual because text-books call attention to its importance and insist on the necessity of comparative analyses in making a prognosis.

There is, however, another class of diseases in which complications referable to the kidneys are less common and consequently more often neglected. This oversight may be, in part, because we have not had our attention directed to nephritic changes in the diseases referred to in this paper with any insistence as to their significance; or it may be that while the kidneys are diseased in some cases the urinary findings will be negative in a great many examinations. These negative results will no doubt be fewer when careful routine examinations are made in all diseases incident to childhood.

It may be well to premise by recalling to mind that the urine in early infancy is of low specific gravity (1004 to 1008), although the percentage of uric acid and urea is relatively high. Albumin and sugar may be found in the urine of apparently healthy infants, and the latter may be detected from time to time in the urine of babies fed on patented and oversweetened food. Hyaline casts and epithelial cells are not infrequent during the first few weeks.

As the kidneys have to remain functionally active during life, it is essential for us to discuss changes in their condition as shown on urinalysis. Not all the acute processes produce severe and lasting nephritic disease, but it is important that our examinations should detect all changes, no matter whether of the so-called functional type or of the slower and more insidious degenerative form. Jacobi, Koplik, and Morse in this country have directed attention to the necessity for frequent urinalyses in diarrheal and other intestinal disturbances.

The diseases in which urinalysis is often omitted are gastroenteric disorders, influenza, tonsillitis, and also in defective metabolism. Under the term "gastroenteric" I would include not only the acute infections of the summer weather, but also chronic or recurring gastric and intestinal indigestion.

Chapin found albumin in 75 out of 86 cases in which there was some disturbance of the gastroenteric tract. The albumin was recorded as a trace in 29; faint trace in 31; heavy trace in 15. Casts were found in 37 cases. In this group of cases there were 16 deaths, and, of these, 14 had albumin present, and 10 both albumin and casts. Thirty cases were examined for indican, and it was found in 22 cases.

Mason Knox and Meakins[1] found urine of abnormal character in 22 out of 53 cases of intestinal infection in infancy. The urinary changes were more frequent in ileocolitis than in dyspeptic or fermented diarrhea. These observers studied the infections occasioned by the colon bacillus with consequent pyelitis, etc.

Observations made by these and other clinicians show that, although the kidneys frequently escape injury in enteritis, they may become the seat of extensive secondary changes in this as in other forms of infection.

Jennings[2] states that acute degeneration of the kidneys is a common condition in acute gastroenteric diseases. In addition to the specific intestinal infection it may be caused by the various toxic products of erroneous metabolism occurring during a diarrhea.

Pyelitis from the colon bacillus or one of its associates may have its origin by invasion from the infected intestine, or through the blood stream or lymphatic structures. Pyelitis may cause delayed convalescence in enterocolitis or lengthen the period of weakness that follows an intestinal infection.

Herter, in the Carpenter Lectures before the New York Academy of Medicine, in 1898, states that the colon bacillus reaches the kidney through the blood stream by reason of some breach in the mucous membrane of the intestines. The symptoms of such an invasion are frequently indefinite, although fever and intestinal symptoms occur. Albumin may be absent from the urine, and pus cells few, but bacteria with the cultural character of the colon bacillus are found. Neglect to recognize pyelitis may result in exhaustion and death or cause tardy convalescence.

In influenza there may be changes of an acute degenerative type in the kidney, namely, urine of higher gravity than normal, with albumin in small amount, a few hyaline or hyalo-granular casts, without pus or blood, and with a normal urea excretion. More sever infections may cause an acute hemorrhagic nephritis

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Knox, J. H. M., and Meakins, J. C.: Urinary Findings in Series of Infants suffering from Intestinal Infection, Arch. Int Med., October, 1908, ii, 241.

[2] Carr's Practice of Pediatrics p. 780.

or the influenza may develop symptoms of acute renal involvement in children who have a record of previous disease of the kidney.

Spiegelberg states[3] that albuminuria appears in 6 to 10 per cent. of influenza cases in children. Hemenway, in a recent contribution,[4] reports a case of acute hemorrhagic nephritis in a girl of 4 in whom the influenza bacillus was cultured from the throat. The patient recovered.

In numerous examinations made of cases of vomiting known as cyclic or recurring, the urine is found to be of high specific gravity, and shows indican, acetone, and diacetic acid. In some patients the vomiting has partially yielded to treatment, but with an inherited lithemic history of gouty and rheumatic outbreaks in the patients and with albumin and casts occasionally present, I cannot feel that the non-persistence of casts is of no significance, for even if there is no definite nephritic and no cardiovascular changes are determinable I believe that the intestinal changes incident to lithemia are perhaps beginning but by regimen and diet may be retarded. One little girl under my care has a record of indican, acetone, occasional traces of albumin, and once in a great while of hyaline casts. I have been unable to find circulatory changes, but in view of a gouty family history and dry skin I am sure that the administration of alkalies and the free use of water are as important as if the patient were older and with definite interstitial processes in liver, kidneys, and heart.

After reviewing the literature and studying individual cases, there is every reason to believe that the majority of children who show albumin and hyaline casts in the urine during or after gastroenteric diseases and influenza recover. As, however, this belief in recovery is based largely on ignorance of the state of the kidney for the period following the acute disease or degeneration, I urge a routine examination of the urine of all children who have had indigestion, gastroenteritis and disturbances of metabolism. We should make every effort to watch such cases both during the time of the acute symptoms, and also for a number of months, possibly years, after their subsidence, to record the processes incident to kidney defects.

In closing, I wish to call attention to the need of examining the centrifuged sediment of urine, as casts may be detected in the sediment of urine that has not given the reaction for albumin.

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ABSTRACT OF DISCUSSION

Dr. John Lovett Morse, Boston: In conjunction with Mr. Crothers, I have recently summarized the results of the analysis of the urine of 700 consecutive babies at the Infants' and Floating hospitals in Boston; 300 were suffering from diseases of the gastrointestinal tract. In only 13 was the renal condition the cause of admission to the hospital and in 11 of these it was a pyelonephritis. Albumin was found in about 10 per cent. of all the cases. This shows how frequent renal complications are and how important it is to examine the urine. Outside of the gastrointestinal diseases, albuminuria was found most frequently in pneumonia and meningitis. These results did not confirm the common statements as to the frequency of renal complications in otitis media or eczema, in neither of which was albumin common. If an infant was edematous, we found that it was pretty safe to assume that the edema was not due to a nephritis, but to something else. We came to the conclusion that albumin was to be regarded merely as a manifestation of toxemia. In general, albuminuria showed a greater absorption of toxins and that only indicated a greater severity of the disease. There was no direct relation between the presence of albumin and casts in the urine and such symptoms as vomiting and restlessness. We had very few autopsies, but from what we had and from the examination of the urine afterward in the infants who recovered, we came to the conclusion that the condition in the kidneys very seldom went beyond an acute degenerative nephritis and that parenchymatous and interstitial changes were very unusual.

Dr. Frank S. Churchill, Chicago: Dr. Carr, in his paper, referred especially to the occurrence of renal complications in scarlatina, measles and whooping cough, but I think that we are not sufficiently alive to the frequency of these complications in other conditions, especially in acute gastrointestinal diseases. I refer particularly to the frequency of pyelitis in babies. Dr. Morse has referred to an otitis media as a cause of an obscure temperature in babies. Next to that I would put pyelitis, i. e., a temperature having a wide range from normal up to 104 or 105 F. within a few hours. If, after a careful examination, including an examination of the ear, no cause for this temperature is found, it behooves us to examine very carefully the urine, and we will often find the trouble there. In such examination it is too often the custom to make a chemical examination alone. That is not a safe thing to do. If one follows this up he will be surprised to note how often he will find from an examination of the sediment indications that will not be found from a chemical examination of the urine. I do not mean that the albumin will be constantly absent, but occasionally one will find a case in which he will detect things in the sediment indicative of serious trouble. Etiologically, one of the most common things discovered in these cases is a previous history of constipation. Then, on the examination of the urine, will be found this condition of the kidneys when nothing else can be found to account for the state of the child.

On the other hand, pyelitis may be merely a complication of some other acute condition. I have more often found it in cases of tonsillitis, and there it seems to be a manifestation of the general infection. In several such cases in which there had been also an otitis and I had found a pyelitis, after the throat cleared up and the otitis cleared up, there was an obstinate rise of temperature due to the kidneys. Too much care and attention can not be given to the examination of the urine of every child brought before us.

Dr. W. L. Carr, New York: I wish to emphasize the necessity for a routine examination in these cases, a class of cases that we see every day. On the way here I asked a prominent physician how often the physicians in his neighborhood examined the urine of the babies brought to them, and he said probably once in a hundred times. Certainly, since attention has been directed to this complication of gastrointestinal disorders and other infections, we are neglectful if we fail to make such an examination. We are unable to state how far the influence of these early infections on the kidney may extend. I have found in many of these cases traces of albumin and casts in patients having a family history of gout and nephritis. How progressive this may be, I can not say, but I think that in recognizing the first class of cases we may be able to prevent the second class and prevent renal disease in children having had gastroenteric disorders or having a family history of gout or rheumatism.

Nitrogen Excretion in Eclampsia.—Many of these patients are starving individuals, living on a low and nearly proteid-free diet, and much of the nitrogen found in the urine is not the result of faulty liver action, but is derived from combustion of the tissues of the body. In starving adults, in plethoric individuals and in the cyclic vomiting of children, this high percentage of ammonium nitrogen may be found in the urine wholly independently of toxemia. Cases of high ammonia percentages are reported in which a non-operative treatment was carried out, and the patients recovered. On the other hand, it has been necessary to terminate gestation in several instances because of threatening clinical symptoms when the nitrogen percentage was below ten.—H. M. Stone, in *Interstate Medical Journal.*

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[3] Pfaundler and Schlossmann, vii, 450.

[4] Hemenway: Arch. Pediat., 1909, xxvi, 223.

POST HOC, NON ERGO PROPTER HOC

CASES IN CHILDREN ILLUSTRATING CONDITIONS MISTAKENLY ATTRIBUTED TO INJURIES *

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The cases I have to report do not bear on the symptomatology or treatment of any one disease, but are merely interesting examples of the ease with which symptoms, purely medical in nature, may take on a surgical aspect and may lead one readily to assume the etiologic relationship of trauma. In some of them a fatal ending could easily have drawn the physician into the unpleasantness of a witness in an inquest, or even in a suit for damages against some individual or corporation. They are renewed instances of the old proverb, in which I have inserted the negative, "Post hoc, non ergo propter hoc." Some of them are warnings, too, against the vice of asking leading questions, and show how careful a physician should be to preserve his judgment unbiased.

The following case illustrates the possibility of confounding cerebrospinal fever and trauma:

Case 1.—*History.*—R. J., aged 4, was brought by the police to the Children's Ward, Hospital of the University of Pennsylvania, March 12, 1907. The history given was that, March 10, as the mother and child were about to step on the platform of a trolley car, the car had started and in some way had thrown them to the ground. There was apparently no immediate bad result. On the following day, the 11th, both were attacked by vomiting. The mother passed quickly into coma and died on the 12th, the child being admitted to the hospital a few hours later. The opinion of all those acquainted with the circumstances appeared to be unanimous that the condition of both mother and child was the result of injury. This was certainly, at least, the lay belief. So decided was this that postmortem examination of the mother was ordered by the coroner, but nothing was found beyond slight congestion of the cerebral meninges.

Examination.—On admission the child appeared extremely ill; the pulse was rapid and feeble; the skin cold and pallid; the eyes sunken; there was great restlessness; the neck was slightly rigid and was somewhat tender on being moved. In view of the history given, a careful examination was made for injury, but none was discovered. Heart, lungs, abdominal viscera and eyes appeared normal. The child was unconscious and very weak.

Course of Disease.—Vigorous stimulation was required; this was followed by improvement, but without return of consciousness. In a few hours obstinate vomiting began. Not to prolong the story, I may say that the patient remained extremely ill and the diagnosis was at first most uncertain, until an examination of the blood showed a leucocytosis of 24,200, and finally typical symptoms of cerebrospinal fever developed. After a long illness she made a complete recovery.

Comment.—One can see how readily a mistake in diagnosis could have been made in this case. Undoubtedly the association of the fall from the trolley-car and the development of the disease was purely a coincidence. Had the attack commenced slightly earlier, however, the possibility of the influence of trauma would have been even more marked than it was. The autopsy on the mother showed merely the congestion which is characteristic of the malignant cases of cerebrospinal fever. The fact that both mother and daughter were affected indicated strongly at first the possibility of accident. On the other hand, it seemed unlikely that both of them should have suffered from the result of the injury in much the same way twenty-four hours later.

The following case illustrates an apparently close connection between trauma and a convulsive condition. The association even yet is not absolutely clear, and I believe that in reality there was none.

Case 2.—*History.*—Jean J., colored, aged 10, brought to the Hospital of the University of Pennsylvania on Nov. 6, 1908, was entered in the surgical ward. This history was given: The boy had been in a fight with a much older child on the day before, on the way home from school, and was knocked down and kicked in the abdomen and perhaps elsewhere. He was able, however, to reach home, and said nothing at the time about the injury. Later in the afternoon he walked to the place where his father was working, several squares away, and while walking home together the father noticed that the boy lagged behind. He ate little at supper, was restless during the night, and on the next morning, the 6th, was found unconscious. There appeared to be some tenseness of the abdomen on the right side, and the attending physician ordered an ice-bag. The boy's pulse grew weaker, unconsciousness persisted, and he was brought to the hospital in the afternoon.

Examination.—The surgeons on the evening of the 6th found the child in a stuporous condition, and lying on his side with his legs drawn up. Pressure on any part of the body caused pain; the pupils were normal and reacted to light; the heart sounds were weak; the abdomen sometimes soft, sometimes rigid; ankle clonus was present, most marked on the right, and there was some stiffness of the neck. There was no evidence of paralysis, the urine was normal; leucocytosis 27,000.

Course of Disease.—The surgeons were unable to find any positive evidence of injury and were inclined to the diagnosis of cerebrospinal meningitis, and transferred the patient to the Children's Medical Ward, under my care, on the morning of the 7th. There was still entire unconsciousness, and there had now developed a decided hemiplegia, involving the right side of the face, right arm, and, to a less extent, the right leg. Sensation of the face and arm appeared to be lost. While under examination the patient had a general convulsion. Finding him in this condition, and it being the hour for my lecture, I exhibited him to the students. Without being able to make any positive diagnosis I said that although the leucocytosis pointed to an inflammatory condition, possibly cerebrospinal fever, the fact that a hemiplegia had occurred so soon after the onset was much against this diagnosis since paralysis is nearly always a late symptom or a sequel in this disease. I mentioned, too, the possibility of the boy having received a kick on the head as well as on the abdomen, and of the condition being perhaps one of ingravescent cerebral hemorrhage, in which there had occurred a very slow and rather late effusion of blood. On the following morning we were surprised to find the patient entirely conscious, without pain, no longer with any rigidity of the neck, and able to move his right arm and leg. The leucocyte count had fallen to 11,400. Examination of the eyegrounds revealed nothing abnormal. Showing the difficulty of diagnosis, he was kindly examined for me on the 8th, separately, by three members of the neurologic staff of the hospital, and three different diagnoses were made: first, meningoencephalitis; second, slight cerebral hemorrhage; third, exhaustion-paralysis. By November 9 all symptoms had disappeared, except that the child did not seem very bright, which was probably his natural condition.

Comment.—As to the real nature of this case I am still in doubt. It does not seem to me at all likely that the injury had any etiologic connection with it. Fights are common among boys and the negro's head is proverbially hard. There was no bruise or cut to be discovered on the body. I can not see any sufficient reason for the development of an exhaustion-paralysis. The recovery was remarkably prompt and complete for meningoencephalitis; and hemorrhage, even though minute, would hardly have been followed by such rapid improvement.

I may say that, of course, the finding of hemiplegia on the 7th of the month brought up the question of operative interference, to which the attending physician was much opposed, lest it should bring us all into the unpleasantness of a coroner's inquest in case of death and the existence of trauma having been proven. The parents, too, were opposed to the operation even had we felt that the symptoms warranted it.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

In many respects the following case is strongly like the last, showing the association of a disordered cerebral condition with a supposed injury:

CASE 3.—*History.*—Joseph S., Italian, aged 5, was brought to the Children's Medical Ward of the Hospital of the University of Pennsylvania, Dec. 16, 1908. I happened to be present at the time and was able to interview his mother and obtained the following history: About 10 o'clock that morning he was led into the house by another boy who said that the child had been hit by a street car. At that hour he could not talk, but could walk; seemed bewildered, and vomited several times. He was immediately brought to the hospital.

Course of Disease.—He was only semiconscious on arrival, and developed a convulsion in the right foot, leg, arm and right side of the face while being helped into the ward. The convulsion was severe, lasting ten or fifteen minutes and requiring an anesthetic. He had four convulsions later in the day, and finally was relieved by chloroform inhalations and by morphin. By late afternoon he was conscious and rational. He was slightly dull, showed some loss of power on the right side and a slight ataxia in the hand. Two days later, on the 18th, motion appeared unaffected, except for a possible diminution of grip in the right hand and some uncertainty in reaching for a cent when the eyes were closed. The leucocyte count was 18,000. On the 19th his condition was entirely normal and the leucocyte count was 10,000.

Comment.—The resemblance of this case to the last is striking and the diagnosis equally uncertain. The loss of power seemed perhaps no greater than one could expect after the severity of the unilateral convulsive condition. I may say that further inquiry, including questioning of the boy who brought the child to his home, failed to confirm any history of accident. It is apparent how easily the case could have involved the trolley company in difficulties and the hospital physician in unpleasantness had the child died.

As the subject is such an important one, I may give briefly the outline of a case which I published some years ago. It illustrates the danger of drawing conclusions based on leading questions, and shows how readily trauma of some kind may be assumed when no such thing has existed:

CASE 4.—*History.*—William B., 21 months old, was brought to the Children's Out-Patient Department of the Hospital of the University of Pennsylvania, Nov. 8, 1895, suffering from a cough of a very stenotic nature. There was some dyspnea, which was worse at night. Examination of the throat and larynx was negative.

Course of Disease.—A diagnosis of stenosis of the trachea of unknown origin was made, and under my advice the patient was entered at the Children's Hospital of Philadelphia. Four days later I was asked to attend a tracheotomy on him. I found that the resident physician, who was a very bright man but whose judgment was not always equal to his brightness, had by questioning elicited from the mother a history of the child choking over a piece of celery. This was said to have occurred four weeks previously. She had made an effort to get the celery from his mouth but had failed, and the cough and dyspnea were said to have dated from this time. Tracheotomy was to be done in order to prevent suffocation, should the cough drive the celery upward and close the rima glottidis. Forceps were passed downward through the tracheotomy wound but no foreign body could be discovered. Bronchopneumonia developed and the child died a few days later.

Autopsy.—This showed a retrosophageal abscess, with erosion of the first dorsal vertebra, the abscess having undoubtedly pressed against the trachea and the left bronchus. No evidence of any foreign body could be discovered. Further questioning of the parents elicited a vague history of stiffness of the neck and awkwardness of carriage existing for two months previous to the onset of the cough and dyspnea. The parents seemed, however, extremely susceptible to suggestion, and it is perfectly possible that leading questions had developed an erroneous history in this respect just as they had done in the matter of the celery.

Would time permit I might go on with illustrative cases. I have seen, for instance, appendicitis attributed to the kick of another child, and pain in the side supposed to be due to falling from a second-story window, but really depending on a tuberculosis of the pleura and probably of the peritoneum. But perhaps one of the most misleading of diseases is infantile scurvy. Repeatedly I have seen the sudden development of pain in the limbs in this disease attributed to trauma. In one case, observed several years ago, the mother felt certain that the nurse must have dropped the child. The later development of other symptoms, especially of hematuria, and the rapid improvement following the use of orange-juice settled the matter. In the autumn of last year I saw the following two interesting cases, which, curiously enough, came under my observation within four days of each other.

CASE 5.—Katherine C., 14 months old, was brought to my office on November 5, 1908. She had been entirely well until four weeks previously. She was in bed early in the morning, sitting between her mother and father and playing happily. Her father, who was still asleep, threw out his arm unconsciously and struck the child with such force and in such a manner that she was partially turned about and fell against her mother, the back of her head striking the mother's chin. The child cried vigorously and a few hours later the head exhibited contusions caused by the accident. Later in the morning she seemed unable to crawl, and before the day was over was unable to walk, the left ankle being tender when handled. The child rapidly grew worse and for two weeks had scarcely moved the leg at all, while passive movement was extremely painful. The week before her visit to me the arm had been painful also, and for the last five days the child was only comfortable when absolutely still.

On hearing the first part of the history the connection of the condition with trauma seemed very probable. Indeed, the parents were thoroughly convinced of it and a physician might readily have added to the father's self-reproach by the hasty expression of an opinion. It seemed odd to me, however, that the ankle could have been injured in such an accident as was described to me, and that the arm should not have suffered until two weeks later was still more curious. By the time the mother had reached this stage of the history the true nature of the case had become probable, and the finding of swollen, purplish-red gums and of red blood cells in the urine made it certain that we were dealing with infantile scurvy, and that the accident was merely a coincidence.

The other case of scurvy has a somewhat similar history, although the diagnosis was less easy:

CASE 6.—*History.*—Cyrena S., aged 7 months, was in fair health when, some weeks before I saw her, on Nov. 1, 1908, an older child of 4 years fell on the infant's leg. This appeared to give pain, not only at the time but on passive movements for some days afterward. Pain then disappeared, but within the last few days had returned, although it seemed to be intermittent.

Examination.—This showed that both legs were tender on passive movement. This in itself was suspicious, as only one leg had appeared to be injured by the accident. There was no scorbutic involvement of the gums; yet as this often fails to develop when the teeth have not erupted, and as the infant was markedly rachitic, I believed that I was dealing with scurvy, and that the supposed injury was merely a coincidence.

Course of Disease.—The therapeutic test of orange-juice was made and the mother later reported with delight that in two days the pain had nearly disappeared, and soon thereafter entirely and permanently so.

As I have said, the list of such cases might readily be increased, but I have thought that these few might be of interest as striking examples of the caution which we must use in making a diagnosis of any supposed injury, particularly in children who are too young, or who are unable for other reasons, to give any satisfactory account of their condition.

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ABSTRACT OF DISCUSSION

Dr. P. J. Eaton, Pittsburg: Last year I saw in consultation three cases that had been diagnosed as traumatism, and each was a case of scurvy. If we will bear in mind that infantile scurvy is a cause of many of these apparent injuries, we shall clear up many cases much more rapidly.

Dr. Theodore Le Boutiller, Philadelphia: I had a patient who for two months had been under treatment in one of the hospitals of Philadelphia for caries of the spine, said to be due to a fall. When seen by me there was no increase in the reflexes, but there was complete paralysis of the legs. We found on examination that there was no loss of power in the legs but that the child was unable to stand on account of the pain; the gums were spongy and red. Being put on orange juice and beef juice, the child recovered within two weeks.

Dr. George F. Little, Brooklyn: It is well to bear in mind that when there is scurvy there may be separation of the epiphyses and symptoms of fracture. Recently I had a case in which there was a swelling at the lower end of the femur: a grating sensation could be elicited on movement. There were no clear signs of scorbutus. *X*-ray pictures were taken, but the plates showed nothing in either the front or lateral views. Within a few days redness and swelling of the gums was noticed. I then put the child on orange juice in addition to diet and in a few weeks it was in good condition. There was undoubtedly a separation of the epiphyses, caused by the scurvy, too slight to be apparent in the radiograph.

Dr. J. P. Griffith, Philadelphia: We are all waking up to the fact that scurvy is liable to simulate trauma. The other cases I reported are, to me, at least, more strange, and two of them are still far from clear. One of these children was examined by three different neurologists and I received three different diagnoses. Clearly what the actual condition was we do not know.

PROBABLE SPINAL CORD LESION FOLLOWING THE PASTEUR TREATMENT

REPORT OF TWO CASES *

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MINNEAPOLIS

The two cases herein reported were referred from the Pasteur Institute of the State Board of Health in Minnesota.

Case 1.—*History.*—The patient, E. N., was a man aged 38, married, carpenter, referred by Dr. J. P. Barber. Father died at 65 of grip and heart trouble; mother living at 70 and well. There were seven brothers and three sisters. One brother died in infancy and one of mountain fever. One sister died of some trouble incident to labor. One brother is insane and one sister is very nervous. The patient is married but has no children. The family history is negative except as above. The patient's general health had been good, and he insisted that he had never been seriously ill. He admitted an attack of gonorrhea seventeen years before the present illness; he denies syphilis. He used no liquor and had never been seriously injured.

Present Illness.—On March 26, 1908, he was bitten on the thumb by a small pet dog. The wound was small and bled slightly. The dog was acting peculiarly at the time, and subsequently bit another dog which afterward became rabid. On March 28 the patient went to the Pasteur Institute of the State Board of Health Laboratory, where treatment was begun. The wound was cauterized at that time and subsequently healed nicely. Daily treatments were given. The patient said that he had dreaded the injection a great deal, and had been much more nervous than usual since it was begun. On the morning of April 14 he noticed that the entire left leg felt numb. He did not feel very well during the day; the left leg continued numb, and the right felt tired when he walked. He did not sleep well that night on account of pains over his entire body and especially in his chest. In the evening he consulted Dr. Barber. His temperature was then 100 and his pulse 88. He had been able to work during the day. On the 15th he could not work. The left leg was still numb and he gradually lost power in the right but had no feeling of numbness there. He slept better the night of the 15th but only after taking a sleeping-powder. He still complained of the pain in his chest, which, he said, seemed like a worm boring its way through.

First Examination.—On April 16 the patient came to the office and was examined. He was chilly and said that when at home he sat most of the time by the stove. He was constipated, though he had taken a laxative. He had a little headache. There was some stiffness in the muscles of the right leg, but none elsewhere. In standing, he was stooped forward with a rather wide base. He complained of numbness in the penis and scrotum, and of a "heavy" pain in the right lumbar region. He had no trouble in urination. He was moderately well developed and well nourished. Pulse was 72, full and regular; temperature, 98 3/5; arteries considerably thickened. Heart and lung examination was entirely negative. The pupils were equal and reacted normally to light and distance. The ocular movements were normal; vision, hearing, taste, articulation and swallowing all normal. The left patellar reflex was increased. There was no ankle clonus and no plantar reflex on that side. The right knee-jerk was increased more than the left, and there was ankle clonus and a normal plantar reflex on this side. The reflexes of the arm were practically normal. Pain and temperature sense was lost on the left side of the body from the seventh dorsal nerve downward, including penis and scrotum and perineum. Tactile sense was retained in this area but was diminished in intensity. There was distinct tenderness in the neighborhood of the spinal process of the seventh dorsal nerve. There was also complete loss of power in the right leg but no disturbance of sensibility for pain, temperature or touch.

Second Examination.—The patient was seen again on May 15. He said that after the last examination he had been in bed with complete loss of power in the right leg for two weeks. As near as could be learned, there had been no loss of power in the left leg. His pain had largely disappeared in three days after going to bed, but at times, if he became cold, he would have an aching pain under the arms and in the dorsal region. On first going to bed he had been given a laxative and stated that after three or four days he had no control at all of his bowel movements, and had some disturbance in urination. At the time of his second examination he had been able to get about for a little time and was doing light work. He said that he felt fairly well, but complained of loss of feeling in the left leg. He said that the seventh dorsal spine was still tender. When examined, there was found to be partial loss of sensibility for temperature and pain on the left side below the seventh dorsal nerve, but much less marked than on the previous examination. Tactile sense was practically normal throughout the body. Muscular power was practically normal in the left leg, and very much improved in the right. Both patellar reflexes continued increased. There was no ankle clonus and no Babinski. The left plantar reflex was somewhat diminished. Sensation was entirely normal in the face and arms. The scrotal reflex was present on both sides.

Subsequent to this date there is no definite record of the patient's condition. He continued to improve and worked for some time, but there is a report of uncertain value that he had a subsequent relapse, the nature of which is not known.

Case 2.—*History.*—The patient was a man aged 28, single, traveling salesman, referred by Dr. J. A. Crosby. His father was living at about 50; temperate and well; mother living at 45; well. One sister died at 6 of "spasms," which she had had all her life. One brother and one sister were living and well. The maternal grandmother died of tuberculosis. Aside from the above, there is no nervous or mental trouble, or tuberculosis anywhere in the family. The patient's general health had been good. At 1 year of age had a very severe illness of uncertain character and suffered infection following vaccination at 15; no other serious illness and no injury. He drank moderately. He had had gonorrhea seven years previously; was fully cured; he denied syphilis. He had had psoriasis since 6 years of age. His appetite was generally very good. He had rather a nervous temperament, and had been troubled somewhat with insomnia for six months on account of engaging in a line of work which had not been very profitable.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Present Illness.—On June 26, 1908, the patient was bitten in the arm and leg by a large Newfoundland dog, receiving some badly lacerated wounds. The wounds were cauterized immediately with carbolic acid, washed with bichlorid solution and dressed. The patient returned at once to Minneapolis. The dog was killed one day later, and there is no positive evidence as to whether it was rabid. It had not previously been known to be vicious. Three days after the patient was bitten, treatment was begun at the Pasteur Institute at the State Board of Health Laboratory, and was continued every day thereafter. The wounds healed well, and, when seen on July 16, there was only a small crust covering the wound on the leg. The patient did not think that he was specially nervous during treatment. After the sixth injection, he had considerable swelling and edema on the abdomen, which was painful and tender. About July 8 he began to feel "flashes of numbness" starting in his heels and traveling over the entire body, lasting but a moment. The next morning, on walking, he found himself tender to the touch all over the trunk. The flashes continued. July 10 he felt about the same. July 11 the tenderness continued, and he also had a sense of prickling in his chest and abdomen; he was more nervous on this day than previously; that night he sweated freely. On July 12 he began to feel pains in his abdomen, irrespective of the areas of induration, and also over the kidneys. The next morning, Monday, July 13, he felt very bad and took no treatment that day. In the evening his pain seemed concentrated in the bladder region. He passed urine twice that evening, and once at 2 a. m. on Tuesday. All day Tuesday he felt a sense of weakness in the abdominal muscles in trying to pass urine, which he was compelled to do frequently. Toward evening he had great trouble in getting the flow started; used a hot compress externally and turpentine internally. He also had a sensation of weakness in the abdominal muscles in trying to have a bowel movement. On account of the pain, he slept very little either Monday or Tuesday night. Tuesday morning there was some numbness to touch over the abdomen, and on Wednesday the numbness had extended half way down the thighs. Wednesday evening he noticed that there was a diminution of the sensibility for touch and pain to a point below the knees. He felt no loss of power in the legs or arms; no double vision. Hearing was normal. He had considerable perspiration. On the 10th and 11th he had severe pains in the occipital region. His temperature is said to have been slightly above normal on the 14th. He was seen July 16.

Examination.—The patient was a fairly well-developed and well-nourished man; height, 5 feet 11 inches; weight, 168 pounds; temperature, 97 2/5; pulse, 93. His head and face were well formed. His eyes were bluish gray and vision was good. Ears were normal in appearance and his hearing was good. There were well-marked lesions of psoriasis at various points over the body. The examination of the heart and lungs was entirely negative except for a blowing mitral systolic sound. Both radial arteries were considerably thickened. The temporals were normal. The tongue was moist, but considerably coated. Aside from this, the gastro-intestinal apparatus was normal. The patient was extremely nervous, and trembled and perspired excessively throughout the course of the examination. He complained of some pain still in the occipital region and of slight bladder pain; said that he had a "goose-pimple" feeling over both sides, occurring alternately in the chest, abdomen, and legs, and that his abdomen felt as if it were full and had a lump of dough in it. He stated that he was dizzy during the last days of treatment, but had not been so since. The expression of his eyes, and the movement of the lids and eyeballs were normal. There was no arcus senilis, ptosis, lagophthalmos, nystagmus, strabismus or double vision. The pupils were equal and reacted equally, readily, and together for light and distance. Taste and smell were normal. Sensibility for touch, pain, pressure, heat and cold was much dulled from the seventh rib to the pubes. At other points it appeared normal. There was a well-marked *tache cérébrale*. The patellar and Achilles reflexes and the deep reflexes of the arm were much increased. Ankle clonus was very slight, if present at all. Gait and station were normal. Abdominal reflexes were very faint; cremasteric considerably impaired; facial reflexes increased; muscular power in the hands, feet, arms and legs normal. There was considerable loss of power in the abdominal muscles; no fibrillary twitching; marked tremor in practically every part of the body when brought into use. Tongue was protruded straight, but very tremulous. There were no contractions and no convulsions. Goose-pimples appeared promptly everywhere on the patient's skin when he was touched in any way. There was no special irritability in muscles or nerves; no speech disturbances. There was no sensory disturbances in the thighs or legs at the time of the examination, though the patient had noticed these things subjectively, and said that he had demonstrated them objectively. He had fair control of his bladder and bowels.

Course of Disease.—July 17: The patient was evidently much less worried this day than the day before. Tremor was much less marked. The deep reflexes were only moderately increased and there was no ankle clonus. Both the abdominal and cremasteric reflexes were more pronounced. The sensory disturbances were about the same. Temperature was 98 3/10; pulse, 87.

July 25, 1908: In three days after the last note the patient was able to pass water normally. The goose-pimples and the "flashes" also disappeared at about the same time. The patient was not nervous now, or at least not more than was usual with him. He slept well. Wounds were all healed. His deep and superficial reflexes were all absolutely normal, but the left pupil was about one-quarter larger than the right. There was still slight sensory disturbance over the abdomen and lower chest; not other abnormality found in a careful examination. The patient said that he felt perfectly well.

About one month after the above date this man was seen on the street. His pupils were then equal and he said that he was perfectly well in every way.

When Patient 1 presented himself I was at a loss to interpret the condition and was inclined to consider it something altogether independent of the rabies or of the serum treatment. Shortly afterward, however, Eduard Müller's article[1] describing an identical case and other literature on the subject has been unearthed. Up to the present, however, there has been no record of any case from the United States, though there are over twenty Pasteur institutes in this country.

As early as 1891 cases similar to the above were reported from French sources, and in 1905 Remlinger,[2] the head of the Constantinople Institute for Rabies, was able, by searching the literature and by questioning different institutes, to gather reports of forty cases in which well-marked symptoms, similar to the above, were observed. Müller has found references to sixteen more in addition to his own case, and these, with Pampoukis'[3] three and the two here recorded, make a total of sixty-two cases.

Letters were sent to thirteen Pasteur institutes in the United States asking for information concerning similar cases, but, though nine responded, none reported any cases. Seven contented themselves with merely reporting the absence of cases; two, however, insisted that when such conditions were present, they were the result of the use of improperly prepared serum. and not a necessary result of the treatment. The director of one institute had seen no cases such as described, but had had a number of patients who complained of "nervous conditions."

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[1] Müller, E.: Deutsch. Ztschr. f. Nervenh., April, 1908, xliii, Nos. 3 and 4.

[2] Remlinger: Ann. de l'Inst. Pasteur, 1905, p. 625.

[3] Pampoukis: Deutsch. med. Wchnschr., Nov. 28, 1908, p. 2076.

That a condition similar to that mentioned does occur in connection with the Pasteur treatment of rabies, as ordinarily administered, however, can scarcely be doubted. Several foreign authors speak of it as a well-established condition to be expected in a certain proportion of cases. and there is no reason why it should not appear in this country as well as abroad. The appearance of certain definite symptoms, coming on at a certain period in treatment, running an almost uniform course, and ending in almost every case in recovery in spite of the apparent seriousness of the condition, and the failure to identify these symptoms with any other known form of nervous trouble. makes it almost certain that we are dealing with a definite pathologic condition associated, in some way, with antirabic treatment. It has been urged that the symptoms are merely the manifestations of a modified form of rabies, but the lack of similarity between the symptoms of rabies and those under discussion, and the great suffering and high mortality in rabies, render this very unlikely; and. besides, the condition has been found in those who, having taken the antirabic protective inoculation, have been proved later never to have been infected with rabies. Moreover, the condition has been found repeatedly in individuals when there was no evidence of general infection following the inoculation, and when there was no reason to suspect the presence of syphilis. The exact nature of the pathogenesis of the condition up to the present is undetermined. A fatal result is rare, only two deaths occurring in the sixty-two cases given. But one autopsy has been performed, so far as can be learned, and, even in this instance, the results were rendered uncertain by the presence of a secondary infection of a different type.

About the only thing certain in the etiology of the condition is that it follows the use of the antirabic serum and occurs independently of rabic or ordinary septic infection. That the injected material contains a bound *Wuttoxin* which is the cause of the condition, is rather widely believed, but this can not be absolutely proved.

The symptoms, as they present themselves, especially in the severe cases, are not unlike those of Landry's paralysis, or severe multiple neuritis, and it is worthy of note that the initial symptoms appear in that region of the body where the inoculation is given, and later spread to other parts, indicating that, as is true with the rabic infection, the poisonous material follows along the nerve trunks until it reaches the spinal cord, where a myelitis is probably set up. In the very favorable prognosis, however, the cases are very dissimilar to Landry's paralysis.

Why the condition occurs relatively frequently at some institutes, and rarely or not at all at others, is without satisfactory explanation. Puscarin and Lebell[4] report seven cases. Gonzales[4] says that the cases occur frequently, while some institutes, especially those of this country, report none at all. At the Pasteur Institute of the Minnesota State Board of Health there have been 360 patients treated up to date. Out of this number, in addition to the two cases here reported, three others, according to reports sent to the director of the institute, showed symptoms very similar, though in milder form. Among the nine institutes that responded to inquries four reported a total of 7.080 patients treated, with no cases of the sort here described.

Though desiring to make full acknowledgment to the courteous responses received to my inquiries, I can not but believe that one factor, at least, in the scarcity of cases in some institutes is due to a failure to carefully follow up and study the patients subsequent to their treatment.

Note.—Since this article was prepared, I have learned that a patient with symptoms very much like those reported above was some time ago under the care of Dr. W. S. Thayer, of Baltimore, who very kindly sent me the following notes of the case, dictated from memory:

Case 3.—The patient had just left the institute and was returning from dinner when she felt nauseated. The next day had a little fever and within, I think, forty-eight hours of the first symptom, became completely paraplegic below a point in the upper dorsal region. There was almost absolute loss of sensation, increased reflexes with dorsal flexion of the toes on plantar stimulation and ankle clonus; incontinence of urine and feces. The outlook seemed to me as bad as could be. In a week or ten days the patient began gradually to improve and eventually recovered completely. . . . The patient, who was a woman of about 40 years of age, has remained perfectly well, and I have heard from her within three or four months.

Dr. Thayer also informs me that a number of similar cases have occurred in the Pasteur Institute at which the above patient received treatment.

In the April, 1909, number of the *Archives of Diagnosis*, ii, No. 2, I have found a second case reprinted by Dr. J. R. Fabricius, which is evidently of the same sort as those described. I give herewith a brief summary:

Case 4.—The patient, 62 years old, had had good general health. On May 31, 1898, he was bitten by a five-months-old bull terrier. The animal, which had been sick for half a day, was eventually siezed with convulsions, and directly after biting the patient it was shot. The patient's wound was cauterized with pure phenol and treatment was later begun at the health department. After the second injection the patient complained of pain in the abdomen at the site of the injection, of general weakness, and of restlessness at night. Eleven days after the first injection, and sixteen days after the bite, the patient complained, among other things, of numbness of the fingers and pain and weakness in the legs, along with considerable incoordination on walking. Later there was marked prostration with a flaccid paralysis of the upper and lower extremities. Reflexes were practically abolished. There was no disturbance of the sphincters. The paralysis extended rapidly, and death took place twelve days after the first injection of the serum. An autopsy was performed by Dr. Van Giesen, but unfortunately the body had been embalmed, and the examination was more or less unsatisfactory. So far as anything positive could be stated, the result of the examination was wholly negative, and it was specially stated that Negri bodies could not be found. Emulsions of such portions of the brain as had escaped injection were injected into guinea-pigs, which remained healthy for four months. An examination of the brain of the dog failed to show Negri bodies, and emulsions made from the brain tissues of the animal also failed to produce any symptoms when injected into guinea-pigs. This case, therefore, among others, seems to point conclusively to the fact that the condition here reported is at least independent of rabic infection produced by bite, and that the pathologic condition is due to something introduced at the time the injections are given. The two together constitute conclusive evidence that the condition described in this paper is not confined to the patients from one Pasteur institute in the United States.

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[4] Quoted from Eduard Müller: Deutsch. Ztschr. f. Nervenh., April, 1908, xliii, Nos. 3 and 4.

ABSTRACT OF DISCUSSION

Dr. Arthur S. Hamilton, Minneapolis: In connection with these interesting cases of Dr. Jones, I wish to refer to a patient of whom Dr. J. Clarke Stewart of Minneapolis told me recently. The case may have no essential relation to these just reported, but there is at least an apparent resemblance. The patient, a middle-aged man, was being treated for a condition of multiple sarcomata. He had not done very well under the treatment and the injections were discontinued for a period of two weeks. Shortly after their renewal the man developed symptoms of myelitis in the region of the sixth thoracic segment and died within a period of ten days from the gradual extension of the process upward. Dr. Stewart told me that he had written to Dr. Coley who reported that he had never heard of a similar condition in connection with the use of the fluid in any other patient. Whether the case is one similar in origin to those described or whether it is an ordinary myelitis, probably of septic origin, or possibly even the extension of the sarcomatous process, it would be difficult to say.

THE LOWERING OF BLOOD-PRESSURE BY THE NITRITE GROUP *

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Since Brunton's successful employment of amyl nitrite in a case of angina pectoris, some thirty years ago, the nitrite group has obtained a fixed place in therapeutics. The members of the group stand out pre-eminently as drugs from which a definite result may be obtained, and which are the only available therapeutic agents in the treatment of certain conditions. There exists, however, a certain lack of detailed knowledge concerning the pharmacologic relationship between the different members of the series, and among some at least a belief that a complete lack of action often follows their administration. For these reasons it seemed to us desirable to make a comparative study of the group.

We have selected as typical members those most commonly used, amyl nitrite, sodium nitrite, nitroglycerin and erythrol tetranitrate. The work to be reported was done in part on animals, in part on normal individuals and hospital patients. In the latter the blood-pressure determinations were made by means of the Janeway sphygmomanometer. Since the completion of our work a paper has been published by Matthew[1] in England, covering a certain amount of the ground gone over by us, with very similar results.

We began by determining the rapidity, duration and degree of action on a number of normal individuals, with the idea of comparing these with determinations made on patients with abnormally high blood-pressures. To obtain uniformity of results, amyl nitrite was given in dosage of 3 minims by inhalation, nitroglycerin 1½ minims of a 1 per cent. solution, sodium nitrite 1 grain in solution, and erythrol tetranitrate 1½ grains in chocolate tablets. The latter three were given by the stomach.

Our results briefly tabulated on the basis of averages are given in Table 1.

In comparing these figures it is seen that 3 minims amyl nitrite, 1/60 gr. nitroglycerin, 1 gr. sodium nitrite and 1½ gr., erythrol tetranitrate are practically equal as far as strength of action on normal individuals is concerned. With such dosage a fall in systolic pressure of 14 to 16 mm. Hg. is obtained, or a percentage fall of 11 to 14 per cent. The chief difference lies in the duration of action, which averages seven minutes with amyl nitrite and about three hours with erythrol tetranitrate.

TABLE 1.—Average Blood-Pressure Results from Administration of Nitroglycerin, Sodium Nitrite, and Erythrol Tetranitrate to Normal Persons

	Time of			Maximum extent of action.	
Drug.	Beginning action. min.	Maximum effect. min.	Duration of action. min.	mm. Hg.	%
Amyl nitrite, 3 minims..	1	3	7	15	11
Nitroglycerin, 1½ minims, 1 per cent. sol........	2	8	30	15	11
Sodium nitrite, 1 gr.....	10	25	60	14	13
Erythrol tetranitrate, ½ gr.	15	32	120-240	16	14

Another point brought out clearly is the quickness of beginning action and of the return to the normal level after nitroglycerin. The action begins within two minutes and is over within thirty minutes, when this drug is given by the stomach. There would seem to be no reason, then, for giving nitroglycerin by subcutaneous injection with the idea of getting the quickest results.

In considering the individual variations which go to make up these averages it is found that in general the higher the beginning pressure the greater is the actual fall. The percentage fall, however, remains fairly constant. This same result is seen in animal experiments when the drugs are injected intravenously. The actual fall in pressure varies considerably, while the percentage fall shows remarkable uniformity.

Increase in dosage produces an increase in degree and duration of action which is, as a rule, fairly proportional to the dose. With amyl nitrite we have not infrequently seen a rise instead of a fall of pressure. This occurs if the dose is small, and is to be explained by a greater action of the heart and probably some constriction of the splanchnic vessels. It means a marked capability of the vascular system to retain its equilibrium.

One common symptom in normal individuals is headache. It may occur after each member of the group, but is especially severe after erythrol tetranitrate. Here it may last for many hours after the pressure has returned to its original level.

In studying the effects on abnormally high pressures, we have taken hospital patients with pressures varying from 172 to 265 mm. Hg. All had a perceptible degree of arterial thickening; in some the sclerosis was very marked. Two of the patients suffered from locomotor ataxia; a number had chronic nephritis; one a marked aortic regurgitation; another chronic lead-poisoning. As a rule each patient was given each of the drugs studied. Taking these cases as a group and calculating the average of the results, the figures shown in Table 2 are obtained.

TABLE 2.—Average Blood-Pressure Results from Administration of Nitroglycerin, Sodium Nitrite and Erythrol Tetranitrate to Patients with Arteriosclerosis

	Time of			Maximum extent of action.	
Drug.	Beginning action. min.	Maximum effect. min.	Duration of action. min.	mm. Hg.	%
Nitroglycerin 1/30 gr....	2	8	35	32	17
Sodium nitrite 2 gr.....	15	45	120	53	25
Erythrol tetranitrate 2 gr.	30	60	180	60	30

Considering the individual variations which go to make up these averages, our figures compare fairly well with those of Matthew. The nitroglycerin results are practically identical. With the sodium nitrite, we have found the fall in pressure slower in coming on, the maximum fall less quickly reached and the extent of fall greater than his figures show. The same applies to our results with erythrol tetranitrate, although here the dose

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Matthew: Quart. Jour. Med., 1909, p. 261.

was considerably larger than the one employed by him.

Comparing these results with the ones obtained by us on normal individuals, no very great differences are seen as far as the time element is concerned. The action of nitroglycerin is practically the same in both series. The other two begin to act a little less quickly, the maximum effect comes a little later, and the duration of action is slightly longer. This is to be ascribed undoubtedly to delayed absorption and excretion. The extent of action shows greater variation, when compared to that in normal individuals, than the difference in dosage would seem to warrant. If the percentage fall is taken, however—and this is a much better index than the fall in millimeters of mercury—the extent of action is seen to be practically the same in the two series. We have noticed also that headache is rarely induced by these drugs if the beginning pressure is abnormally high. In fact, an existing headache not infrequently disappears as the pressure falls.

We have not used amyl nitrite in our cases. It has been tested quite carefully by Rzentkowski[2] in a number of cases of arteriosclerosis. He finds in such cases that an effect of greater extent and longer duration is obtained than in normal individuals.

In a few cases we have given unusually large doses. As has been pointed out by Brunton, this may be done without any especial danger. One patient was given 1/8 gr. nitroglycerin. The pressure dropped from 210 mm. to 60 mm. in ten minutes, a fall of 150 mm. Hg., or 71 per cent. Four minutes later it was up to 168 mm., and within fifty minutes after the glonoin was taken the pressure was back to its original point. The only symptom was a faintness of a few minutes' duration. To another patient 6 gr. sodium nitrite were given. The pressure fell from 210 to 100 mm. Hg., a fall of 52 per cent. These and other determinations made show that the fall in pressure is rather directly proportional to the dose taken.

In none of our cases was a lack of effect observed from any of the group used. We are aware that many failures to lower arterial tension with these drugs have been reported, but are inclined to believe that if active drugs are used refractory cases are somewhat exceptional. It is certain that arteriosclerosis of a high degree does not prevent the group from exercising its usual action, and, in fact, it seems conceivable that only in cases in which the splanchnic vessels are no longer capable of dilatation will a fall not occur.

That the flow of blood through the cerebral vessels is largely governed by the flow through the splanchnics is generally accepted by physiologists. So a splanchnic constriction means a greater amount of blood flowing through the brain, a splanchnic dilatation a lessened cerebral blood-supply. The nitrite group lowers blood-pressure chiefly through a splanchnic dilatation, and hence a lessening in the cerebral circulation should occur which would be in proportion to the fall in general arterial pressure. We have endeavored to prove this by animal experimentation, using as methods direct observation of the exposed brain, the rate of flow through the cerebral branch of the jugular vein, and measurements of changes in brain volume. Our results as yet have not been satisfactory enough to allow of a positive statement, but, as far as they go, they indicate that the brain circulation follows quite closely the general pressure changes as measured from the carotid artery. We have seen no particular differences with different nitrites in this connection, although when the pressure fall is very slight, especially with amyl nitrite, the cerebral flow may be increased.

A question of much practical importance is in regard to the best form in which nitrites should be given and whether they deteriorate in activity in keeping.

Amyl nitrite, as usually supplied in glass pearls, keeps well if not exposed to the light. The slight decomposition occurring, as evidenced by the change in color, makes practically no difference in activity. Tablets of nitroglycerin, containing 1/100 gr. each, may retain their activity for a year or more. On the other hand, it is a common experience that comparatively fresh tablets are often inert. This is to be explained, in part at least, by improper manufacture, chemical analysis having shown that the content of nitroglycerin may vary enormously in comparatively freshly made tablets. Owing to their uncertainty in dosage, therefore, it would seem advisable not to employ tablets, but to make use of solutions. A 1 per cent. solution keeps fairly well. If diluted, however, it may weaken markedly. This was shown quite clearly in one of our cases. A 1 per cent. solution was diluted to ten times its volume. Five c.c. of this diluted solution, containing 1/12 gr. nitroglycerin, produced a much less fall of pressure than half as much of the 1 per cent. solution from which it had been made two days before. The 1 per cent. solution of nitroglycerin, then, as represented by the pharmacopeial spirits, is the best form in which glonoin may be administered.

We have found also that solutions of sodium nitrite deteriorate quite rapidly. A solution should not be used which is over a week old.

Finally, with regard to erythrol tetranitrate, Matthew states that ordinary tablets are usually quite inert, but that the full activity may be retained if chocolate-coated tablets are used. We have employed such tablets and have found that even after keeping for one year they retain their full activity.

ABSTRACT OF DISCUSSION

Dr. Oliver T. Osborne, New Haven, Conn.: The testimony in this paper is exactly in line with what we have learned clinically, and I am glad that the laboratory of experimentation carries out what we know clinically. I do not think Dr. Wallace intended us to think that the nitrite should be taken internally, but that it should be put up in capsules and inhaled. I think there can be no doubt that the administration of nitroglycerin hypodermically is not at all necessary. Solution on the tongue gives almost instantaneous action.

Dr. Reid Hunt, Washington, D. C.: Does Dr. Wallace think the headaches caused by erythrol-tetranitrate are sufficient to interfere with its use?

Dr. George B. Wallace, New York: They have not been so in cases of high blood-pressure. They are intensely diagreeable.

Dr. Reid Hunt: Is it a drug sufficiently well tried to go into the Pharmacopeia, for example?

Dr. Wallace: Yes, I think it is.

Thyroid Suppuration in Typhoid.—Suppuration of the thyroid is a rare complication of typhoid. Prior to 1907, 20 cases had been reported. In 19 cases typhoid bacilli were isolated from the pus. In 8 cases, a Widal reaction confirmed the diagnoses. In most cases there was an already hypertrophied thyroid, and in one case the thyroid seemed to be primarily infected. A mortality of 40 per cent. is reported by Keen. Incision and drainage are indicated. Removal of a complicating goiter is of questionable feasibility at that time.—W. D. Haggard, in *Southern Medical Journal.*

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[2] Rzentkowski: Ztschr. f. klin. Med., 1909, lxviii, 111.

THE RELATIONSHIP OF THE MEDICAL PROFESSION TO PREVENTIVE MEDICINE*

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To discuss preventive medicine without giving medical men a leading place would be a strange proposition, and yet there is danger of the medical profession losing its leadership in this great work. Should that day ever come it would be one of the greatest misfortunes conceivable. Medical men are able to weigh the pros and cons in dealing with the problems involved in the prevention of disease. A disease may be recognized as transmissible, yet physicians will not know how to prevent its transmission from person to person until its cause is known. After this the method of prevention is easily determined upon.

Dr. J. S. Fulton, in his address as president of the Conference of State and Provincial Boards of Health in 1905, said:

> The people have thrust on us the most tremendous task ever proposed in the history of preventive medicine, the extinction of tuberculosis. They are sure it can be done, because we, they say, have told them so. The conquest is so magnificent that they propose to have a share, and as large a share as possible, for themselves.

But it was not till Koch pointed out the cause of tuberculosis that any intelligent action could be taken looking to the suppression of this disease, and even with this knowledge as to the cause the people can accomplish but little in their movement against this great foe of the human race without the leadership of the medical profession. The history of smallpox, typhus fever, yellow fever, plague, etc., is a tribute to the medical profession in its relationship to preventive medicine.

Is the medical profession performing its full duty at the present time in dealing with these problems? Without question this Association is the leading medical society in this country. What is it doing for preventive medicine? It has a weakly Section on Hygiene and Sanitary Science. This Section does not come into intimate contact with the profession at large. It represents a mere handful of men which meets once a year in some church basement to discuss topics that are thoroughly familiar to every worker in hygiene, be he medical man, sanitary engineer, sociologist, or layman.

It is not conditions, but the methods of dealing with conditions, that should be studied. This can be done through existing sanitary associations, such as the American Public Health Association, with an unlimited membership; the Conference of State and Provincial Boards of Health, representing those only who are actively engaged in public health work, and the Conference of State Sanitary Executives, which meets from time to time with the Surgeon-General of the Public Health and Marine-Hospital Service.

But these agencies are not enough. We should have a strong section on preventive medicine in this Association; a section that would bring together the leaders in preventive medicine from the profession at large—the laboratory workers, the clinicians, etc. —and from the sanitary workers—engineers, bacteriologists, health officers, etc. Preventive medicine should have a strong representation in this Association during the entire year—something comparable with the work of the Committee on the Pharmacopeia or of the Council on Medical Education. If the Association is not ready to create and maintain such a section, and to carry on such a line of work, then matters pertaining purely to sanitation might as well be dropped and the present Section on Hygiene and Sanitary Science discontinued.

It is not for this Association to devote a large amount of time to the study of economic problems relating to preventive medicine, but it should state the case and give its members who are interested in such problems an opportunity to work them out. Dr. Fulton, in the address already referred to, states:

> The sociologists have acquired a fund of knowledge concerning tuberculosis, which is quite as scientific and as useful as that possessed by hygienists and medical men. They believe that the methods, which have been developed in the remarkable history of organized charity, may be successfully used in the campaign against tuberculosis. The particular utility of the sociologist in this campaign will be to spread among the people a knowledge of the nature and cause of tuberculosis, and to supply the kind of information not obtainable through the channels which hygienists are accustomed to use. That these lay students can collect useful data, such as physicians rarely obtain, I have been convinced by experience in my own state.

But the responsibilities connected with the control of transmissible diseases can not be turned over to the sociologists. The medical profession must bear a part of the burden. An alliance between the medical profession and the sociologists is most desirable. Assuming that such an alliance will take place, Dr. Fulton says:

> We shall appropriate their information certainly, and their methods as far as they prove adaptable. Meanwhile, our new allies will no doubt learn something from us, and will perhaps think better than we do of our efficiency in this line.

This last is most desirable, for it seems at times that the sociologic leaders are in danger of misbranding the conservatism of the better element of the medical profession, in its dealings with preventive medicine, as narrow-mindedness. It would seem from close observation that the sociologists are in danger, at times at least, of looking to the faddist or the demagogue for leadership in sanitary matters. That we need the best aid of the conservative sociologist in dealing with preventive medicine is beyond question.

We can not make our appeals against disease sufficiently forceful when they are based purely on humanitarian grounds, but when we talk to people in dollars and cents then the arguments count. This is disgraceful, but it is nevertheless a fact. It is also a disgrace to our country that more is done for our animals than for our people. It is not the animal, however, that appeals to our national legislators; it is only the animal product. The animal has a tangible value; therefore, it is not difficult for Congress, in session, to set aside that great American bugaboo, states' rights, and appropriate hundreds of thousands of dollars to suppress an outbreak of foot-and-mouth disease among the cattle of a single state, while not a cent has thus far been procured through this august body to deal with human tuberculosis. It would certainly seem that if an epidemic disease among animals was an interstate problem a transmissible disease in man would be far more so. A diseased animal rarely travels from state to state unless compelled so to do, but human carriers of transmissible diseases are ever on the move from state to state. If human tuberculosis, smallpox, typhoid fever, diphtheria, and, in fact, every form of human transmissible disease, are not interstate problems, it surely will be difficult to find such problems.

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Meat has been made such a prominent interstate topic that millions of dollars are spent annually to carry out federal inspection, and yet the dangers of transmitting disease by this product to a human being is as nothing compared with the dangers through the daily contact of the traveling public, for which not a dollar of national money has been spent.

Dr. Charles Harrington, in his able oration on state medicine,[1] before this Association in 1908, pointed out that "every attempt thus far made to confer on the national government any real power to supervise the national public health has found the Constitution in the way." Perfected "in an age which knew not steam and electric power and rapid transportation, which knew nothing of the causes of disease and the methods of their spread, which could not foresee the boundless possibilities of the growth and development of the medical sciences, and which could have no conception of the relation of public health to national prosperity," that instrument decreed that "all powers not delegated to the United States or prohibited by the Constitution to the states should be reserved for the states." Further Dr. Harrington states:

> From 1700, when Pennsylvania adopted "an act to prevent sick vessels coming into this government," the several colonies had at various intervals adopted their own laws relative to quarantine, and were not in 1796, or later, willing to allow interference with their foreign commerce; for, in addition to their jealous regard for states' rights, there existed then that same spirit of commercialism which seems to outweigh all consideration of individual and collective health. By lax enforcement of quarantine restriction, a port could attract trade that otherwise would have gone to another, where the laws were enforced with strictness, just as within very recent times we have seen local authorities as mindful of the destructive influence of quarantine on trade, that the existence of pestilential diseases has been denied, in the hope that the outbreak would die out before attracting outside attention.
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> The law of 1796 was repealed in three years in favor of another, which, while providing for assisting the states in enforcing their own laws, empowered the Treasury Department to make rules and regulations concerning the unloading of cargoes of infected vessels at places other than ports of entry, and provided for the storing of cargoes in government storehouses, in accordance with the health laws of any state. This law, it will be noted, related to commerce rather than to public health. Repeated outbreaks of yellow fever led to repeated demands for a national quarantine, but they were always foredoomed to failure on account of the jealous regard for states' rights; and even after the widespread, disastrous and enormously costly epidemic of yellow fever, of 1878, a most reasonable bill to empower the government to act in emergencies beyond the ability of the states to control failed of passage.

It thus appears that it is a simple matter for the federal government to control commerce by interstate laws. Such being the fact, public health officials, with the aid of the medical profession and the sociologists, should endeavor to bring the welfare of human beings under the head of commerce. A move in this direction was made, I believe—whether intentionally or not I can not say—when it was recently suggested that the existing Public Health Bureau should be transferred from the Treasury Department to the Department of Commerce and Labor.

Dr. Harrington further says:

> For a nation that is pre-eminently commercial, this country is singularly blind to the necessity of conserving that which has been well defined as our greatest national asset, namely, the national health. It is useless to attempt to determine the pecuniary loss which the nation suffers annually through sickness and death from preventable diseases, for apart from the mathematical difficulties in the determination of the money value of human life—for human beings are cast in many molds and from different materials, some being parasitic and of a negative economic importance, others of enormous value, and each according to his present and prospective capacities for usefulness—we have but a small proportion of the items necessary for our calculations, which even a moderately good system of sanitary bookkeeping could place at our disposal. The statutory value of five thousand dollars set on a single human life is no more than a guess, and even though it should be determined to be a fairly accurate one, based on the average of a large number of investigated individual cases, the lack of adequate mortality statistics in a large number of our states would render futile any attempt to express the nation's pecuniary loss during any given period from deaths alone. Equally futile, with absolutely nothing more in the line of morbidity statistics than a mere compilation in a minority of the states of the number of persons stricken with certain of the transmissible diseases, and even then with no data as to the number of days lost, would be any calculation of the national sickness account. We can say only that with our great and growing population the annual waste from avoidable diseases must be prodigious. It is true that in a number of our states the state and municipal authorities, fully alive to the importance of protecting the public health, spare no efforts to restrict this loss within their respective jurisdictions, though in many but little is attempted, while the nation as a central authority does practically nothing, states' rights or no states' rights, except in so far as it maintains quarantine and the service for saving lives from the perils of shipwreck. It spends not a dollar to check the ravages of the leading causes of death, excepting the amount used in salaries and running expenses of the Bureau of Public Health and the Hygienic Laboratory, which in comparison with the older laboratories of some of the European governments is not yet of great importance, though growing. . . . In 1905, for example, the nation contributed officers' services, but not one cent of the quarter million dollars spent by New Orleans and not one cent of the expenses incurred by Louisiana, Mississippi and Florida to wipe out yellow fever and prevent its spread to other infectible areas, although the insect that carries the infection disregards states' rights, state lines and interstate quarantine.

From the foregoing it must be apparent that there is a great task before those who are interested in public health, and this Association, if it will take hold of the matter wisely, can be of much service. A great wave of public sentiment, in the form of public health legislation, is passing over the country, but without material effect thus far on either nation or many states. Unless something far-reaching is soon accomplished, the pendulum will be apt to swing back and public health problems will then be in a worse condition than at present.

What the future of the American Medical Association is to be in this great work is for you of the Association to determine, and the work can not be begun too soon. As already stated, instead of a weakly Section, which brings together only men who are already working on sanitary problems through the agency of sanitary organizations, we should have in this Association a strong Section dealing with preventive medicine from all points of view. We should have a permanent Section with the distinct function of bringing before medical men, through The Journal of the American Medical Association, all important matters pertaining to the control of disease. Is the Association ready to begin this new organization of its work pertaining to sanitary problems? If so, why not take up the question at once through the proper official channels?

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[1] Harrington, Charles: States' Rights and the National Health, The Journal A. M. A., June 13, 1908, l, 1953.

Clinical Notes

CEREBRAL ARTERIOSCLEROSIS WITH FOCAL SYMPTOMS CONSISTING OF SENSORY CHANGES AND JACKSONIAN EPILEPSY

A REPORT OF A CASE

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History.—The patient, J. F. W., was aged 67, male, white, married. His father had died, aged 73, of Bright's disease; mother, aged 50, from pleurisy. The patient had had scarlet fever, mumps, and measles when a child. He was a very healthy lad and only recalled one disease, malaria, from which he suffered repeated attacks. He denied all venereal diseases.

Present Illness.—Early in the winter of 1905, patient noticed that it was with effort that he rose from sitting postures. He tired easily and could not walk as far as he could a year previous. When walking he would often strike the right heel on the ground. The length of the stride had diminished. The steps were short and quick, and the patient felt as if he would fall forward. Frontal headaches were frequent. There was no dizziness or vomiting. Patient complained much of a dull pain in the lumbar region. Memory was poor for recent events; patient often very low-spirited, crying easily, not irritable. No paresthesias were complained of. There was no difficulty in passing urine, but urination was frequent, patient getting up three or four times during the night. Bowels were regular; patient slept well.

Examination.—This showed a well-developed man, nutrition good, skin oily and of pasty color. Eyes: Pupils were equal, reacting to light, direct and consensual, contracting to accommodation. Tongue was protruded in mid-line and freely moved in all directions. Sensation was everywhere normal; muscle strength good save in right lower extremity, where definite weakness was noted, especially in muscles of the thigh. Gait was slightly spastic, uncertain, accompanied by a tremor of the muscles of the right lower extremity. The steps were short, quick, the leg barely flexed at the knee. The right foot often scraped along the floor. The tendon reflexes were everywhere active, the right patellar reflex exaggerated; clonus obtained at the right ankle. Plantar stimulation caused plantar flexion of the toes. Pulse was 78 to the minute, regular in force and rhythm, tension plus. Heart: Point of maximum intensity of apex beat in fifth interspace, three and one-half inches from midsternal line. At the apex a loud muscular first sound, and at the base an accentuated aortic, which was clear and ringing, were heard. Urine for twenty-four hours measured from 4 to 6 pints with a specific gravity of 1012, clear, pale, occasional hyaline and granular cast. No albumin. All the arteries palpable were hard and tortuous.

Course of Disease.—A diagnosis of general arteriosclerosis was made and the patient put on treatment. His condition remained practically the same until April 3, 1906. At 7 p. m. on this date he complained of a queer feeling in the head—no pain. This feeling was accompanied by an inablity to use the left hand. He said that it felt dead. He noticed no trouble in the lower extremity. He was somewhat apprehensive but cheerful. I found the patient resting in a chair, with the left hand bent under him in an unnatural position which seemed to give rise to no discomfort. There was partial paralysis of the left upper extremity. He was unable to raise this hand to his head; had no power to resist efforts of flexion or extension of forearm or hand. There was some power in the shoulder group but all movements were definitely weak. In the same extremity there was loss of muscle sense, the patient being unable to detect position of fingers, hand and forearm, or to recognize objects placed in left hand. Touch was lost over hand and forearm. There was no disturbance anywhere of pain and temperature sense. There was some weakness in the left lower extremity but no loss of sensibility. Patient was able to walk but there was a tendency for the left knee to give away. Reflexes were active on this side but no clonus; pulse 100. At 3 a. m. the following morning the patient had a definite convulsion beginning in the left arm, involving the leg and face of the same side. He was thoroughly conscious; expression was anxious. The twitching of the arm and shoulder muscles was almost continuous. Now and then the contractions would become more severe, spreading to the facial group and the muscles of the leg. At 3:30 a. m. the patient had a severe convulsion without loss of consciousness, in which the head and eyes were strongly deviated to the left. Between 3 a. m. and 6:30 a. m. the patient had seven convulsions, always beginning in the shoulder and arm, spreading to the face and leg. The third convulsion became general, the left arm being carried above the head. Consciousness was retained. The fourth was severe, with loss of consciousness, the duration about one hour and thirty minutes. The pulse had progressively increased in rate, being 180 to the minute. The breathing was deep and rapid. The above symptoms pointed to some trouble in the region of the Rolandic fissure. The loss of muscle, joint and stereognostic senses of the left upper extremity suggested trouble posterior to the fissure on the right. The muscle twitchings pointed to irritation in the precentral convolution. The patient appeared to be getting progressively worse, the convulsions being more severe and the intervals between shorter, so without much hesitation I suggested an operation as a possible means of relief for the intercranial pressure which I thought existed. Dr. Harvey Cushing, who kindly saw the patient with me, agreed to the advisability of the operation.

Operation.—Three hours later, the patient having been removed to the Union Protestant Infirmary, the operation was undertaken. Dr. Cushing opened the skull under the right temporal muscle and the Rolandic area was exposed. We expected to see the brain bulging through the opening under increased tension when the bone flap was raised, but no such thing occurred. The brain surface was wet but otherwise normal to all appearances. A simple subtemporal decompression was accomplished and the patient put to bed in good condition.

Postoperative History.—Except for some slight twitching in the left shoulder, recovery was uninterrupted. Examination nine days after the operation showed the patient resting comfortably in bed, extremities in a natural position, perfect symmetry of the face. Eyes showed nothing abnormal. Facial movements were performed well. The left arm, forearm and hand showed definite weakness. The lower extremities were the same as before the operation, with the exception that plantar stimulation of the left sole caused dorsal flexion of the toes. The tendon reflexes were more active in the left arm and now clonus was obtained with difficulty on both sides. Tactile sense was impaired over the left upper extremity, elsewhere normal. As to localization, etc., the patient's mental state was such as to preclude a detail examination; he localized very poorly, however, over the left arm and trunk. Pain and temperature sense were not affected; muscle sense normal save in the left arm, forearm and hand. The patient could not recognize any position of the fingers, hand or forearm. Sensation was impaired in the left leg to less extent. The patient was unable to recognize any object placed in the left hand. The patient gradually improved so that he could walk from one room to another. He made almost no use of his left hand, although when instructed he could grasp the observer's hand with fair strength. The movements were ataxic. On May 5 it was noticed that he could not use his right hand as well as he could a week previous, and in walking the right foot was dragged along the floor. It was noted that the tongue protruded toward the right, and that there was definite weakness in the right arm and leg. Patellar reflex and ankle-clonus were present, and now plantar stimulation caused dorsal flexion of the toes on the right as well as the left. The patient was very forgetful, not remembering happenings within the hour. There was mental confusion as to time, place, etc. From this time the course was progressively downward, the mental symptoms increasing. Late in August the patient developed a very quick pulse and Cheyne-Stokes breathing. He became very stupid and finally unconscious, in which condition he remained several days. He rallied and improvement was noted for several weeks. From the middle of September his mental state became much worse. For days he was in a state of anxiety often apprehensive, not recognizing those about him. This apprehensive state merged into delusions of persecution. During this time he refused food and medicine, imagining that his daughter was trying to poison him. His memory for faces was for a time abolished. He would follow with his eyes any persons entering the room inquiring what they wanted, and why should they want to harm him, his facial expression all the while showing great anxiety. If one attempted to change the patient's position in bed he would declare that such person had some evil intention, and he would endeavor to resist, at times becoming quite violent. Then again, at periods, he would imagine that he was young again—that he was fishing, riding, or in the army—that he was taking long trips by rail. It was only at brief intervals during the last month of his life that he recognized those about him. Three days before the end Cheyne-Stokes breathing developed, the heart became rapid and weak, and hypostatic pneumonia developed, ushering in the closing scene.

This case appears to be a very typical example of cerebral arteriosclerosis, showing the characteristic mental and physical symptoms. I think it probable that there had been some softening of the left hemisphere before I saw the patient, which accounted for the weakness of the right leg and exaggerated reflexes noted at my first visit. The attack, ushered in by weakness, loss of muscle sense and astereognosis in the left hand and followed by Jacksonian convulsions of the left side, indicated a fresh lesion on the right side of the brain. This was in all probability due to a thrombosis of vessels supplying the posterior Rolandic cortex. The improvement, apparently due to the operation, is remarkable in light of the fact that no increased intercranial pressure was discovered.

The subsequent course of the disease was typical of a progressing cerebral condition due to the gradual closing of the vessels with the resulting softening.

613 Park Avenue.

EMPYEMA

REPORT OF TWO CASES WITH SOME UNUSUAL FEATURES *

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ROSWELL, N. M.

The following case of empyema seems worth reporting because of the unusual amount of pus evacuated and the fact that its removal caused so little disturbance to the circulation:

Case 1.—*Patient.*—About noon on January 4, there came into my office a young man aged 21. He was able to say but one or two words and then was obliged to stop to get his breath.

Examination.—I found that the left side of the chest was greatly distended and that there were three large, flat, tumor-like masses almost covering it. I made a diagnosis of empyema. I supposed that the pus had forced its way through the intercostal fascia and therefore that these projections were abscesses in the soft tissue of the chest wall. The heart occupied about the same relative position on the right side that it normally does on the left. The stomach and intestines were pushed down so that the abdomen projected like that of a very corpulent man. The limbs, arms and face were emaciated so that the patient's appearance was almost grotesque.

He told me that this condition had lasted about three months and was slowly getting worse. He walked out of my office, got into the buggy and I took him at once to the hospital where I left orders to have him prepared for an operation at 8 o'clock the next morning. I returned to the hospital at 8 that evening and the nurse met me with the statement that the patient was dying, and so it looked to me.

First Operation.—I inserted an aspirating-needle, applied a pump, and began to draw the fluid into a graduated bottle. After obtaining a quart of pus, I stopped to examine his pulse and chest and found him breathing evenly; in fact, he said he was very comfortable. The odor from the pus was so bad that one of the sisters, who was holding a kerosene lamp, was obliged to leave the room and we had to change assistants several times. The patient himself volunteered to hold the lamp, but instead I allowed him to hold the needle while I did the pumping. I continued this for an hour and a half, the patient at no time feeling faint or dizzy, and when I had drawn out 188 fluidounces or almost six quarts of pus, I stopped, not because the pus gave out but because I had never heard of this amount of fluid being taken from the chest cavity at one time and I feared that there might be much shock. When I began aspirating the pulse was 130, the respiration 50 and the temperature 100. When I finished the pulse was 108, and the respiration 20. On drawing out the needle more than one-half pint of pus ran out through the puncture.

The patient expressed himself as feeling better than he could remember to have felt ever before. He lay down, went to sleep and slept all night. The next day his appetite was good, almost ravenous. His bowels moved more freely than they had for months.

Second Operation.—Five days later Dr. Phillips administered chloroform and I resected a part of the eighth rib, turned the patient over on his side and poured out more than a gallon of pus, filling to overflowing a large surgical basin. I inserted two large drainage-tubes and put on a large dressing.

Postoperative History.—The odor was so extremely offensive that I always changed the dressings myself, and irrigated the wound daily with a solution of permanganate of potash. The soft swellings and great distention of the bony wall of the chest rapidly disappeared, but there was not the slightest tendency shown by the heart to return to the left side, nor was there any evidence of lung tissue in the left side of the chest, the cavity remaining to the end apparently as large as it was two or three weeks subsequent to the operation. The heart seemed firmly fixed in its new position. The remains of the left lung, if there were any, took the form of a small, solid mass in the upper part of the cavity. The patient was reasonably comfortable for some time, but tuberculosis had attacked the other lung, and the man died five months after I first saw him.

Case 2.—*Patient.*—P. F., a young man aged 26, born and raised in Texas, came to me Jan. 21, 1909. He had had typhoid fever at 14 and again at 15; at 16 he had typhoid and pneumonia, being laid up for forty-nine days. As soon as that attack was over he contracted measles, then smallpox and then scarlet fever. He had a rise of temperature in the afternoon and on any exertion. Following the pneumonia a cough and an abscess of the lung developed and for ten years the patient had expectorated great quantities of very offensive pus, sometimes as much as a pint a day.

Examination—Patient was emaciated, with sunken cheeks; pulse was 110, temperature normal, apex of heart two inches inside of the left nipple and on a level with it. The left side of the chest was dull below the fourth rib. There was a tumefaction in the left side of the abdomen, reaching to the umbilicus and to the spine of the ilium. The dulness of this tumefaction was continuous with the chest dulness. The patient had not been able to do any work for ten years.

First and Second Operations.—I recommended an exploratory laparotomy, which was performed on Feb. 17, 1909, after which it was intended to resect a rib and try to drain the abscess. The tumefaction proved to be a greatly enlarged and displaced spleen. The notch could not be palpated before operation. Much difficulty was found in closing this wound and, the patient's condition being bad, the operation on the thorax was abandoned for the time. The patient rallied well from this operation and on Feb. 23 he was again anesthetized for the resection of a rib. The eighth rib was resected at a point just anterior to the axillary line. The rib was so hard that it required all my force to sever it with an 8-inch heavy bone-cutting forceps. With this piece of rib removed I was unable to introduce the end of my index-finger in the space between the ribs above and below the one removed, so that a second had to be resected and a portion of a third. The distance from the skin to the walls of the pus cavity was over two inches. When the cavity was opened a quart of extremely offensive and thick pus was removed. Two large drainage-tubes were introduced.

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* Read before the Pecos Valley Medical Society, Aug. 31, 1909.

The patient made a good recovery from this operation, and all of the symptoms began at once to improve. The cavity was irrigated every day with a solution of permanganate of potash and occasionally a watery solution of iodin. An electric light introduced into the cavity about two weeks after the operation showed the walls to be covered with what looked to be healthy granulations. On filling the cavity with a fluid it was found to hold eight ounces. The patient left the hospital on March 21. On March 25 the cavity would hold two and one-half ounces; on May 12, one and one-half ounces. The patient went home, dressing the wound himself. A few days later he wrote me that the tube had come out and that he was unable to replace it. He called on May 29, when the wound was completely closed. He had gained in weight and was able to work every day, driving a mail wagon. On June 1 he had a slight chill, with pain in the right side of the chest and fever.

Third Operation.—On June 4, I opened the sinus without anesthesia, going in about one inch and getting two or three c.c. of pus. Strange to say, this pus had practically no odor.

At this date, September 1, there is a sinus about two inches deep and one-eighth of an inch in diameter. So far as I can determine, there is no cavity at the end of the sinus. The man is now doing regular farm work and is able to do as much or more than the average farm hand.

A NEW METHOD OF STAINING MOTILE ORGANISMS, RENAL TUBE CASTS AND FIXED SMEARS OF SPIROCHÆTA PALLIDA

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The ease with which motile bacteria may be seen with the dark-field apparatus led me to investigate the feasibility of staining the germs while alive and motile; the results have been so satisfactory that I desire to describe the following simple technic of staining specimens without fixing the smears: One drop of the fluid to be examined and one drop of a 1 per cent. solution of dahlia are mixed on a clean slide and a thin cover-glass is placed over it; the specimen is then ready for examination with the low power, high power or oil immersion lens. When too much fluid is placed on the slide a drop of it may be transferred with a platinum loop to another slide after an equal amount of stain has been mixed with it. When using the oil immersion lens it is important to have only a very small quantity of the secretion under the cover-glass. The dahlia should be used in an aqueous solution, but unless freshly prepared this may become infected; to prevent this I have made a 10 per cent. solution of the stain in 90 per cent. alcohol; I dilute one part of it with nine parts of water just before using it. This amount of alcohol does not affect the motility of the germs for a considerable time.

The clearness and facility with which motile organisms may thus be observed is more satisfactory than in the ordinary fixed smears or by the dark-field illumination. Tube casts are immediately stained, and in this way may be rendered less likely to be overlooked, even the hyaline ones being stained, as are the pus cells, epithelial cells and mucus.

While using the Reichert dark-field illuminator I was astonished at the frequency and enormous numbers of motile organisms found in the secretion expressed from the prostate glands of patients who had mild but persistent irritation around the neck of the bladder, or slight urethal discharge. These observations have been confirmed and the technic simplified by the above method of staining, and I feel sure that a further development of the subject will throw much light on this rather large class of patients with which we so frequently come in contact, and probably on the etiology of prostatic hypertrophy in elderly men. The small amount of pus present is often misleading. In hyperacute or complicated gonorrheal urethritis an excess of infecting organisms other than gonococci have been frequently observed, and, as they often preponderate in numbers, they may be found to be the cause of the unusually severe inflammation. A further report will be made on the rôle played by organisms other than gonococci in genito-urinary affections.

Fixed smears of the *Spirochæta pallida* are more clearly stained by dahlia than by any of the other stains I have used (Giemsa, Goldhorn and the modified Romanowsky) and are then more easily seen than with the dark-field illumination; about 5 or 6 per cent. aqueous solutions will stain them in 5 to 8 minutes. While the spirochetes may be seen when alive and motile, I have been able to demonstrate them more clearly in the fixed smears when deeply stained with the strong aqueous solution.

Dahlia is an intense stain and has a remarkable affinity for germs and for pus cells; when a weak solution is added to purulent secretion or urine nearly all of it is quickly taken up by the organic material and the field is left clear enough for delicate observations. The amount of the stain to be used, accordingly, varies with the amount of the pus and bacteria present; very little stain is required in staining clear urine for tube casts. If the staining of a specimen is too feeble a drop of the stain may be placed just at the edge of the cover-glass; enough of it will be drawn under it to bring out more clearly the organic substances.

It was found that the other stains tested in working out the above technic must be used in such strength, to stain the germs sufficiently, that the field is made too dark for a satisfactory examination.

From my experience during the last few months, since this method has been in use, it seems that it should have a distinct place in the laboratory of every physician who does microscopic work. Since its adoption the Reichert dark-field illumination has been entirely discarded except in verifying some of the results. As far as I can find, such use has not been made previously of this or other stains.

1013 Century Building.

How to Crank the Car.—Though cranking a motor seems a matter concerning which no particular instruction is required, remarks the *Cooperator*, there is a right and a wrong way of cranking. The novice will invariably grasp the starting handle as he would a club, so that his fingers envelop the handle in one direction and his thumb in the other. This method should be avoided by every one who does not desire to suffer the consequences of a back-kick. The thumb should not be used, but should be folded up against the fingers. A back-kick will then do no harm, but simply will open the fingers. This is particularly true when the left hand is used in starting, because then the operator's arm is extended on the upward pull of the handle and the back-fire will open the hand and throw it out of the field of rotation of the crank.

EYE SYMPTOMS OF PELLAGRA

PRELIMINARY REPORT OF EXAMINATION OF EYES OF FIFTY-FIVE PATIENTS

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The fifty-five patients were examined at the Illinois State Hospital for the Insane at Bartonville. Ill. The psychoses of these patients showed such types as epileptic insanity, dementia præcox, manic depressive insanity, imbecility, puerperal mania, paranoia, senile dementia, and a few unclassified conditions. An equal number of patients displaying psychoses of the same classes, but having no symptom of pellagra, were examined and used as controls.

The ages of the patients with pellagra varied from 22 to 70 years, with an average age of 48 years, and of the 55 patients there were 9 males and 46 females. Seventeen showed no abnormality of the eyes, either in the muscular apparatus, lids, pupil reactions or the fundus.

The only symptom that I found involving the lid was ptosis, which was present in one case, but Manson[1] states that this is not an uncommon sign. Paralysis of the external eye muscles occurred in 3 per cent. of these patients, with no cases occurring in the controls. Bellamy[2] states that, after the third recurrence of pellagra, palsy of the motor oculi nerve may be found, though it was not present in the seven cases reported by him. Von Neusser[3] noted diplopia with negative optic muscle condition, but his patients were not among the insane, and his observations obviously could not be verified in this class of patients. He also noted nystagmus, which was not found among my cases.

Conjunctivitis was found in 10 per cent. of the pellagrous patients whom I examined. In no case of pellagra was there found involvement of cornea. The vision of twenty-two of the patients with pellagra was examined: it was impossible to determine the vision in thirty-two cases on account of the degree of dementia present. One patient was blind and two showed only quantitative vision. Six had vision of 15/30, five had 15/40, nine had 15/50 or less. In these patients taken as a group, the visual acuity was less than in the patients not affected with pellagra. Reduction of vision is also reported by von Neusser.

In the pupillary changes the light reflex was diminished or abolished in 12 per cent. of the cases of pellagra. The Argyll-Robertson phenomenon was present in two of these, and neither of these patients had tabes or paresis: these two conditions were not present among any of the fifty-five patients with pellagra. The Argyll-Robertson pupil, however, cannot be considered a symptom of pellagra unless the latter is proved to be a parasyphilitic disease. Among the patients showing pupil changes were found three with diminished light reaction, with the same condition present in three of the controls.

Two cases are also included in which all the internal muscles of the eye were paralyzed (internal ophthalmoplegia): but in the controls five such cases were found. Therefore the pupil changes were not found as frequently in the pellagra cases as in the control cases, and from my observation cannot be regarded as a symptom of the disease. In this respect I cannot verify the statements of von Neusser and Zanon, who report the diminution or loss of light reflex in all cases.

An interesting fact, though not symptomatic of pellagra, was noted in these two groups of insane patients. Of the 110 patients 41, or 37 per cent. of them, presented inequality of the pupils, it being found in 22 of the patients with pellagra and in 19 of the control cases. The right pupil was larger in 29 and the left larger in 12. Bach[4] states that about 10 per cent. of normal individuals show inequality of the pupils, so that the insane, according to this observation, show over three and a half times that number.

Cataractous lenses were found in 12 per cent. of the patients with pellagra, whereas only 3 per cent. of the controls showed changes in the lens. The ages of the pellagrous patients showing lenticular changes ran from 40 to 69 years, with an average of 52 years. The urine in these cases was negative to tests for albumin and sugar. Von Neusser also noted frequent early-forming cataracts in his cases, but he gives no percentage in number found. In looking over the clinical histories which were compiled by Captain Siler of the U. S. Army service, the blood pressure in these cataractous cases averaged 137 mm. Hg., the lowest being 125 mm., the highest 155 mm. This would not substantiate the view that a high blood-pressure accompanies cataractous conditions of the lens—at least not in pellagra. A number of traumatic cataracts were observed in the examination, but, of course, were not included in the statistics given above.

Five per cent. of the pellagrous patients showed vitreous opacities; there was no case of this kind among the controls. Optic neuritis was present in 5 per cent. of the pellagrous patients, and one presented a secondary atrophy of the papilla. Some cases of primary atrophy were noted among the patients with pellagra, but primary atrophy was also found in the controls.

In the retina, retinitis or retinal atrophy was observed in 10 per cent. of the cases, complete atrophy of the retina being present in one case. Diffuse chorioretinitis was found in one case and retinal hemorrhages noted in one case. The examination of the urine in these cases showing retinal changes was negative for albumin and sugar. Arteriosclerotic changes in the retinal vessels were present in 7 per cent. of the pellagrous patients, and the ages ranged from 45 to 69 years, the blood-pressure running from 125 mm. to 190 mm. Hg.

The choroid was involved in 10 per cent. and to a marked degree, while no changes were found in the controls. In going back over the cases that showed marked lesions of the choroid the asylum records show that five of these patients have died since the examination was made, only one surviving. These patients showing choroidal lesions all displayed severe types of pellagra, except one living now, who had a moderate degree of the disease.

Dividing the 55 cases into three classes—severe, moderate and mild—4 of the mild cases show eye changes and 15 show none, with no deaths in this class. In the moderate cases, 6 show eye changes and 8 show none, with one death among the ones having eye symptoms. In the severe type of the disease, 13 show eye changes, and out of these 13 there have been 9 deaths. Nine of the severe cases show no eye changes, with 4 deaths among them. This shows a mortality of 43 per cent. in the cases of pellagra presenting eye symptoms.

CONCLUSIONS

The conclusions that I have reached from a study of these cases are the following:

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[1] Manson: Tropical Diseases, 1907, p. 339.

[2] Bellamy, R. Harllee: Pellagra; Its Occurrence in This Country; Report of Cases, The Journal A. M. A., Aug. 1, 1908, li, 398.

[3] Von Neusser: Verhandl. d. Gesellsch. deutsch. Naturf. u. Aerzte, 1906, Part 1.

[4] Pupillenlehre, 1908.

1. Paralysis of the eye muscles is found in the later stage of the disease in a small percentage of cases: conjunctivitis is not an uncommon symptom. Early-forming cataracts are frequently noted, and the theory of the metabolic nature of pellagra is supported, because cataract is generally considered as an altered state of the nutrition of the lens when occurring in normal individuals. Inflammation of the optic nerve and retina is observed in a relatively large percentage of cases. Common, and most pronounced of all the eye changes, is involvement of the choroid.

2. In none of the cases presenting eye symptoms could the character of the eye changes be regarded as pathognomonic of pellagra.

3. The severity of the eye symptoms runs parallel with the severity of the general manifestations of the disease and that the finding of marked eye changes adds to the gravity of the prognosis in pellagra and indicates, in a large percentage of cases, an early fatal termination.

237 Woolner Building.

AN INEXPENSIVE SUSPENSORY APPARATUS FOR POTT'S DISEASE

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ASHEVILLE, N. C.

The general practitioner, who has but an occasional case of Pott's disease to treat, frequently finds the expense of a suspensory apparatus, as supplied by the manufacturers of deformity appliances, prohibitive. The following device which I have employed has the advantages of cheapness and availability:

A large screw-hook and a cleat may be purchased for a few cents. The hook is screwed into the top of the doorway, and to this is fastened a set of three pulleys and rope (an old "exerciser" can be used); to the lower pulley is attached an ordinary wooden coat-hanger. A Barton's head-bandage is firmly applied to the child's head and a roller bandage is passed through the center of this and made fast to the coat-hanger above. The length of this bandage is determined by the length of the child's arms, the hands grasping the ends of the coat-hanger or being thrust through loops attached to it.

The apparatus is easily adjusted by means of the rope and pulleys, and when the heels are elevated to the desired height the free end of the rope is made fast to the cleat, which should be fastened to the door-case a foot or two above the floor.

Medical Building.

Frequency of Antitoxin Accidents Increases with Age.—Marfan and Oppert state that the percentage of cases in which serum accidents were observed after injection of diphtheria antitoxin in 2.682 children in their service during the last three or four years increased from 4 per cent. of 26 children under six months and 5.8 per cent. of 68 under a year to 13 per cent. of 1,519 children between 2 and 6, while the proportion is 40 per cent. in adults. About 44 per cent. of 134 persons inoculated with antiplague serum at Frioul quarantine displayed serum accidents. In the dyspeptic the disturbances were digestive, while those predisposed to joint affections developed painful and tenacious arthritis, some exhibiting an actual infectious pseudorheumatism and others more or less well-defined neuritis. Leroux who reports these disturbances remarks that the antiplague serum seemed to rouse old taints, and some of the patients did not regain their previous health for several weeks. The communications on the subject were published in the *Bull. de Pédiatrie de Paris,* April, 1909.

THE TREATMENT OF TUBERCULIN REACTIONS

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It is now certain that tuberculin has entered our materia medica to remain. Not only is it being used for diagnostic purposes, but it is also gaining ground, slowly but surely, as a therapeutic agent in the treatment of tuberculosis in all of its forms and manifestations. There is hardly a sanatorium for the treatment of tuberculosis where it is not considered the diagnostic agent *par excellence* in obscure cases, and in many sanatoriums it is used for immunizing purposes. All this is due to the fact that the action of tuberculin has been carefully observed, so that its great potency has been appreciated, and doses that some eighteen years ago would have been scoffed at as homeopathic, if employed as initial doses, are now considered dangerous.

Pulmonary tuberculosis is now being treated with tuberculin, and, owing to cautious use, almost, but not entirely, without reactions.

From observations in my own practice and in that of others I must state that tuberculin reactions are of common occurrence in practice. There are only a few patients, if any, who have been brought up to a considerable dose and who have passed their course of treatment without any reactions. In some cases the reactions were at times mild, often overlooked; at other times they were violent.

I am as cautious in my use of tuberculin as it is possible to be; still I have seen a good many reactions, even in cases in which the increase of the dose was only 4 per cent., and also from such small doses as 0.00000015 of the B.E. and 0.00002 of the O.T.

Tuberculin is a very treacherous agent, and it will probably remain such until its action is better understood than at the present day. Until that time we must be prepared for reactions, at times violent ones; and therefore the treatment of reactions is an important problem in the treatment of tuberculosis by tuberculin.

The reaction usually manifests itself within six to eight hours after the administration of the tuberculin; sometimes its prodroma begins as early as an hour after the injection is made; sometimes it may be delayed for thirty-six hours. It is usually accompanied by a feeling of oppression in the chest wherever the foci of the disease may be situated. There is pain in almost all the bones of the body; a patient of mine has said that he felt as if he was "pounded up in a mortar and all joints made loose;" there is a feeling of nausea; sometimes emesis ensues; there is often a high fever; temperature will rise at times rapidly, at others slowly; sometimes there is no temperature rise at all. With the nausea and vomiting there is also pain or tenderness in the epigastrium, but the latter may also be present without the former. A cold perspiration often covers the patient's body; the skin sometimes becomes cold and clammy, but at times it is hot and dry; the face is at times flushed and at times cyanotic or of an ashen color. Chills and rigors may also sometimes be seen during a strong reaction.

When one looks at the patient overcome by the tuberculin reaction, one is often struck by the similarity of the clinical picture of the tuberculin reaction to the one of a ptomain poisoning, or of a toxemia in general.

The train of symptoms in a tuberculin reaction is caused in two ways:

1. By the action of tuberculin as a toxin in general.

2. By the action of the tuberculin in the foci of the disease.

The general toxemia element is usually more predominant, in the reaction from the diagnostic use of tuberculin, when the increase of succeeding doses is fivefold the preceding ones. In the reaction from the use of therapeutic doses the focal or specific phenomena in the diseased area are more prevalent.

The reaction from therapeutic doses gives also the same train of symptoms as that from diagnostic doses, but with less severity. These symptoms are usually the accompaniment or the result of the formation of the autoprotective elements, the disintegration, and are sometimes due to the process of absorption of the diseased area. These reactions are evidences of the fact that immunity is being created; they are to an extent beneficial, and to interfere with them or to stop them would mean to lose ground, gained by active immunization, through the administration of tuberculin.

From the foregoing it can easily be deduced that the treatment of the reactions must vary. In cases of reactions from diagnostic doses, in which the general toxemia is the dominant feature, eliminatives may and sometimes must be resorted to, but such treatment in reactions from the therapeutic use of tuberculin would be contrary to the purpose of producing immunity.

In treating reactions produced by diagnostic doses the symptomatic treatment is advisable. First of all, perfect rest is of utmost importance; not only should noise be kept away from the patient, but light is often irritating, and the room of the patient should be therefore somewhat darkened.

The nausea and vomiting are often relieved by an icebag over the epigastrium; should this be insufficient, bismuth subnitrate in combination with cerium oxalate in medium doses may be administered. But if the pain in the epigastrium, the nausea and the vomiting should still continue, drop doses of phenol may be given, and in very severe cases doses of 1/10 grain of cocain or ½ grain doses of extract of opium may be employed.

For the headache and fever an ice-cap was a sufficient remedy in my hands; still men of such wide experience as Dr. Bandelier of Görbersdorf and Dr. Roepke of Melsungen go further, and advise the use of phenacetin and migrainon and in very severe cases pyramidon in repeated doses of 1½ grains. These antipyretics, however, should not be given until the temperature shows a tendency to decline.

For the toxemia proper, eliminatives should not be forgotten; a five-grain dose of calomel should be administered as soon as temperature reaches 102 F., or as soon as the specific reaction has been established and the foci of the disease located. Treatment should never be begun before the specific and focal reaction have been established, as the fever and other toxemic symptoms are not sufficient evidence of the presence of a tuberculous process. It must be remembered that toxemic symptoms may be manifested in cases in which no tuberculous process is present, and if fever has reached 102 F., with no manifestation of the evidence of a specific focal reaction, the diagnosis should be considered as a negative one, and the treatment of the reaction as a toxemia in general should be begun at once as outlined above; with it, stimulation by strychnin should be employed.

In reactions from therapeutic doses of tuberculin the indications are different. The reactions are usually milder, as some immunity to tuberculin has been established by the preceding treatment; still there may be sometimes violent reactions. The eliminative treatment, which is the most important in the reaction from the diagnostic use of tuberculin, should be here entirely omitted, as with the elimination of the toxins the autoprotective elements will also be removed from the system, and the patient will have another reaction from the next dose, not only when slightly increased or repeated, but even when diminished. Instead of eliminatives, stimulants are here strongly indicated and are of paramount importance. The stimulants not only support the heart and stimulate the nervous system, but they also stimulate the adrenal system, and thereby assist in the richer and more rapid production of autoprotective elements, which in themselves cut the reaction much shorter.

I used eliminatives principally in my first experiences with the reactions, and the result was that the succeeding doses had to be decreased; and not only this, but the rate of progression as well. Instead of going on with an increase of 50 per cent. the increase had to be dropped to 20 per cent., and even to 10 per cent. This certainly delayed the process of immunization to a great extent. Since eliminatives have been discarded in reaction from therapeutic doses and stimulants relied on, not only did I not have to reduce the dose, but I could slightly increase it even after a reaction, and after three slight increases I would return to the former progression, increasing the succeeding doses by 50 per cent. and 25 per cent., according to the size of the doses administered.

84 Academy street.

SARCOMA OF KIDNEY

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NEW ORLEANS

Because of the small number of patients with sarcoma of the kidney who have survived operation three years, I think it worth while to publish the following additional case:

Harold B., aged 2½, of excellent family history, was found in May, 1906, to have an abdominal tumor on the right side; this extended from the costal arch to near the brim of the pelvis, measuring about 10 by 5 inches; it was movable from side to side. Nothing abnormal was detected in the urine.

About ten days after the discovery of the growth I was called to the boy's home, Mansura, La., where, on May 16, I operated with the assistance of Drs. E. Regard, T. A. Roy and G. L. Drouin. The usual technic of transperitoneal nephrectomy was followed. Recovery was uneventful.

The tumor was submitted to Dr. O. L. Pothier, pathologist of the Charity Hospital, a summary of whose report follows:

Description of gross specimen: This is a large, round tumor involving part of the kidney; measures 11 by 9 cm.; is of a white color on section, rather juicy and gelatinous. A portion of kidney not involved. Pelvis and ureter seem free from infiltration.

Gross pathologic diagnosis: sarcoma. Microscopic diagnosis: Myxosarcoma.

When last seen, Oct. 6, 1909, the boy was in excellent health, nearly three years and five months after the nephrectomy.

1209 Maison Blanche Building.

Immunization.—Typhoid immunization by Wright's vaccine has not yet reached the stage where it can be said to be of practical use, except in armies where the men are under the control of their superiors. The reaction from the inoculation is sometimes severe, and the inoculations have to be repeated several times for the immunity to be of sufficient duration to make its employment worth while.—S. Harris, in *Southern Medical Journal*.

THE TRANSMISSION OF ACUTE POLIOMYELITIS TO MONKEYS *

SIMON FLEXNER, M.D., and PAUL A. LEWIS, M.D.
NEW YORK

Poliomyelitis or infantile paralysis prevailed in epidemic form along the Atlantic seaboard in the summer of 1907. About that time it appeared in Austria and Germany. In the summer of 1909 the disease reappeared as a focalized epidemic in Greater New York and had, by that time, spread widely throughout the United States and Europe.

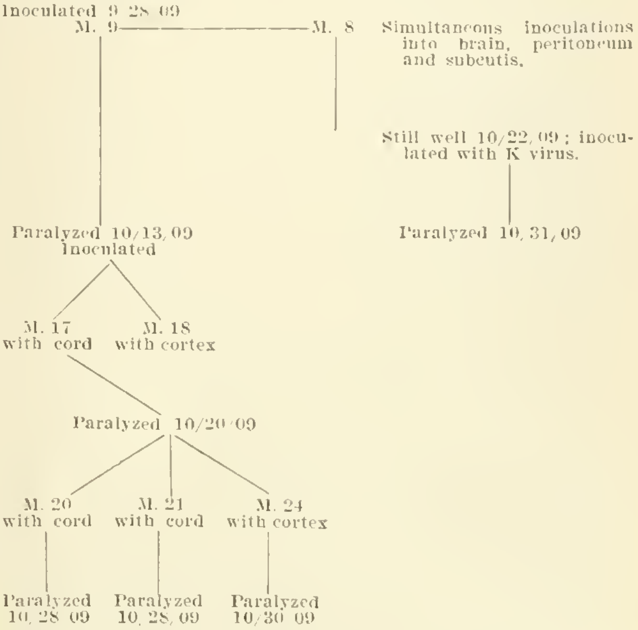
The cause and mode of dissemination of the disease are unknown; and hence there exists no intelligent means of prevention. While the severity and fatality of the disease fluctuate widely, its effects are always so disastrous as to make it of the highest medical and social importance.

In spite of many thorough studies of the spontaneous disease in man, our knowledge of causation and prevention has not been advanced; it may be hoped that it will be advanced by the opportunity for fundamental study opened up by the successful transmission of the disease to lower animals.

In May, 1909, Landsteiner and Popper[1] published a report of two successful inoculations of monkeys with the spinal cord obtained from two fatal cases of poliomyelitis. The injections were made into the peritoneal cavity. One monkey became paralyzed in the lower extremities and died on the sixth day after inoculation; the other was killed on the nineteenth day. In both, lesions of the spinal cord similar to those in man existed. The disease could not be transferred to other monkeys. Our efforts to transmit the disease to lower animals were first made in 1907, at which time cerebrospinal fluid obtained by lumbar puncture was introduced into the spinal canal and peritoneal cavity in monkeys and other animals. We were limited to this fluid, as we did not secure material from a fatal case. The results were negative. Since September of this year we have secured suitable material from two cases of poliomyelitis in human beings. For the material from one we are indebted to Dr. Ridner, of Lake Hopatcong, N. J., and for the other to Dr. Le Grand Kerr, of Brooklyn.

Dr. Ridner's patient died on the fifth or sixth day after the appearance of the paralysis, which affected the lower extremities. The lumbar cord was obtained in a sterile condition, twenty-six hours after death, and a portion was inoculated into monkeys about twelve hours later.[2] The entire spinal cord was obtained from Dr. Kerr's case twelve hours after death, and inoculation into monkeys was made four hours later. In Dr. Kerr's case, in which death occurred on the fourth day, the lesions were diffuse throughout the cord. Paralysis had been very extensive. The gross and microscopic lesions were characteristic in both cases.

In order to favor the transmission of the disease to monkeys, the brain was chosen as the site of inoculation, which was made under ether anesthesia through a small trephine opening. After the operation, the animals were at once lively and normal. The injected material consisted at first of emulsions in salt solution of the spinal cord from the children and later of emulsions of the spinal cord of monkeys developing the paralysis. An effort was made to enrich the inoculating material by incubating it in celloidin sacs placed in the peritoneal cavity of monkeys and rabbits. At the present time we wish merely to record the series of successful experiments which we have conducted with the spinal cord obtained from the case of Dr. Ridner and designated M. A. The accompanying chart will show at a glance what has been accomplished up to date with the M. A. virus. We may mention here that the microscopic study of the spinal cord from the affected monkeys has shown, without exception, lesions similar to those of poliomyelitis in man. In some cases the lesions in the cords of monkeys could be detected by the naked eye.



Transmission of M. A. virus through monkeys. The virus is being transmitted further. The abbreviation M. signifies monkey.

The chart shows unmistakably that by employing the intracranial method of inoculation it is possible to carry the virus of epidemic poliomyelitis successfully through a series of monkeys. It is highly probable that the transmission may be carried on indefinitely. Should this expectation prove well founded, the outlook for securing a fuller understanding of the nature of this disease will be immeasurably improved.

It should incidentally be mentioned that not only is the spinal cord active, but the cortex of the brain also (Monkey 24). A delayed or unsuccessful inoculation may be converted into a successful infection by reinoculation with an active virus (Monkey 8).

It has long been supposed that epidemic poliomyelitis is an infectious disease. Its mode of spread certainly points to that view. A single successful inoculation with human virus could not establish the view, because the result might be due to a transferred toxic body. But now that successive transfer of the active agent of the disease has been accomplished, any doubt of its infectious origin can hardly be longer maintained.

The experiments with the virus of poliomyelitis are being continued, as is the search for additional evidences of its micro-organismal nature.[3] The complete protocols of the experiments here summarized and still other experiments will be published in a forthcoming issue of the *Journal of Experimental Medicine*.

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* From the Laboratories of the Rockefeller Institute for Medical Research.

[1] Landsteiner and Popper: Ztschr. f. Immunitätsforsch., Orig., 1909, ii, 377.

[2] No reference will be made in this preliminary report to other varieties of animals employed.

[3] A thorough search for bacteria by cultural and other methods was made in 1907, and again this year, but none that could be viewed as the causative agent has been discovered.

RUPTURED EXTRA-UTERINE PREGNANCY

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This case is deemed worthy of record for four essential reasons:

1. It emphasizes in a most striking manner the importance of delaying operation until reaction from shock has occurred in critical cases of ruptured tubal pregnancy.

2. It calls attention to the fact that simple means can often be utilized to promote this reaction.

3. It presents an example of the grave complications that may be encountered in operating in such cases.

4. It further illustrates the wisdom of not irrigating or flushing out the peritoneum with water or salt solution in severe hemorrhage, reliance being placed simply on the non-toxic properties of serum, after the rapid removal of the blood-clots.

History.—The patient, Mrs. G., aged 28, the mother of one child 7 years old, had had one miscarriage after exertion four years before the present illness. On March 3, 1909, I was hastily called by the attending physician (Dr. George C. Mosher) in the evening. While quietly seated at the table two hours before, the patient had been suddenly seized with great pain in the abdomen, and immediately fainted. No pulse was perceptible at the wrist. The patient was barely conscious and almost exsanguinated. Cold perspiration covered the face and her appearance was that of one moribund. The family fountain-syringe was at once scalded out; the tip of a glass pipette used in filling a fountain pen was boiled, also one dram of salt and a few pocket instruments. Two quarts of hastily made physiologic salt solution were thrown into the basilic vein of the arm. Strychnin and atropin were given hypodermically. Improvement was immediate. After twelve hours, normal saline enemas were begun every four hours. Nothing could be retained by the mouth on account of the great nausea. The patient continued to improve in the quality and frequency of the pulse for about eighteen hours. Then evidence of fresh hemorrhage appeared, produced probably by a movement of the bowels, the result of an improperly administered nutrient enema. The pulse rose from 108 to 118, and "air-hunger" and restlessness returned.

Operation.—Immediate operation was now decided on, as the pulse, while rapid, was of very fair quality. Operation was performed at the house to avoid the risk of additional hemorrhage incident to the patient's removal to a hospital. Incision was made in median line. An enormous amount of free blood and clots were encountered. This was rapidly sponged away. Clamps at once secured the blood-supply of the gestation sac. This was about the size of an orange, and was in reality a left tubal abortion; the fetus of about one month had been expelled and lay in the abdominal cavity. While there was free and active bleeding at the time of operation, it apparently was the result of the movement of the intestines just prior to operation. After the removal of the sac, blood-clots, and free blood, an examination of the pelvis was made and an enormous cyst of the broad ligament encountered, together with a large hydro- and hematosalpinx of the right tube. The cyst occupied the right broad ligament and completely filled the pelvis. It was probably of several years' standing. Its removal was difficult because of the broad attachment of the base and right side of the cyst to the pelvic floor. The abdomen was closed, with drainage, and without abdominal flushing. During the operation the pulse became imperceptible and one pint of physiologic salt was given by hypodermoclysis and one quart was placed in the rectum while the patient was still in the Trendelenburg position.

Recovery was rapid and uneventful.

Referring briefly again to the treatment of these cases, as exemplified in this report, I wish to emphasize, first, the importance of delayed operation. I am confident many women with ruptured tubal pregnancy have lost their lives because of the wide-spread belief that immediate operation is always necessary in such cases, irrespective of the general condition of the patient. Formerly we have violated every tenet and principle of common sense and surgical judgment in submitting these profoundly shocked patients to the additional depression of an immediate operation.

Nature's method of stopping hemorrhage is clot formation, aided by absolute rest and a depressed circulation even to the point of syncope. Hunter Robb, Simpson and others have recently shown that such patients rarely primarily bleed to death. The latter is convinced that if death is to occur from hemorrhage it will result long before any operation for its relief can be undertaken.

My own experience causes me to hold the same opinion. In the case reported, active bleeding had entirely ceased once and had recurred, I am convinced, only as the result of the movement of the intestines. Also some recent hemorrhage in such cases is undoubtedly produced by the scrubbing preliminary to operation.

It is also evident in many of them (Hunter Robb) that active bleeding during operation is due to the operative manipulation at the time and occurs after the abdomen has been opened.

The second point emphasized is the use of the pipette and fountain syringe for giving intravenous infusion. Such articles can nearly always be found in any home and can be prepared without delay. On several occasions in conditions of great shock I have found their use a life-saving measure, even in cases in which the circulation was so slow that hypodermoclysis was useless.

Every abdominal surgeon of experience has had the fact again and again impressed on him that one cannot tell what is in an abdomen until one looks. The large cyst with its tubal complication in this case furnishes an impressive example. Prior to operation this mass was thought to be the gestation sac. In addition to the use of saline by hyperdermoclysis in this case, the rectum was filled with the same solution (after the manner of Dr. John C. Clark) during the operation, and this measure, I am confident, contributed in no small measure to the fortunate issue.

There is no department of surgery, I believe, that has undergone such a radical evolution in the past ten years as the treatment of peritoneal conditions. Since Murphy's epoch-making paper on the "Treatment of Peritonitis," we have awakened to the realization that lymph means protection rather than infection, and that to remove it whether by gauze or flushing means to remove Nature's protective barrier and to thus open the way for infection.

The practice of flushing the abdomen with quantities of water or salt solution is a thing of the past—certainly in cases of simple hemorrhage—and must take its place in history along with our theories of blood-letting, humoral diseases and "spontaneous generation" of infection.

603 Bryant Building.

Prevention of Infant Mortality.—Every influence which tends to decrease maternal nursing tends to increase infant mortality. For our purposes then it is necessary to seek out and to remove every influence which acts to prevent mothers from nursing their infants, whether that influence be sickness and fatigue; the pressure of poverty, necessitating that the mother return to work at the earliest possible moment; the demands of society; the advice of the ignorant, meddling, busybody neighbor; or whatever other cause may obtain.—J. M. Connolly in *Hygiene and Physical Education.*

ERYSIPELAS AND MENINGITIS IN AN INFANT TREATED WITH HEXAMETHYLENAMIN: RECOVERY

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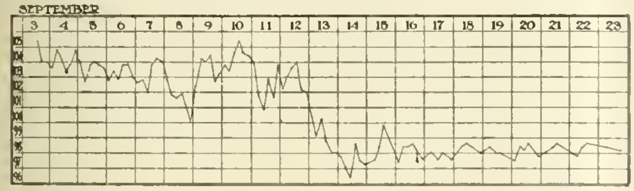
That hexamethylenamin manifests antiseptic properties in the meningeal fluid seems to have been fully demonstrated. Crowe[1] reports a case of cerebrospinal fistula in which, at the suggestion of Dr. Cushing, hexamethylenamin was administered for its antiseptic effect and the patient recovered.

By a modification of Hehner's test it was found by lumbar puncture that hexamethylenamin is invariably present in the cerebrospinal fluid in from one-half to one hour following its administration.

Having this recent discovery in mind, I applied it in the following case:

Betty O., aged 19 months, was first seen August 30, with a small abrasion on the left leg, having the appearance of a bite which had been aggravated by scratching. The following day an erythema occurred, spreading rapidly up the leg and thigh and accompanied by a temperature of 103.5 F. The erysipelatous character of the eruption soon became unmistakable, spreading up the lumbar and dorsal regions crossing over to the right leg and thigh.



Temperature chart of infant, 19 months old, with erysipelas and meningitis, treated with hexamethylenamin.

September 3 (three days later) marked cerebral symptoms developed, the temperature rising to 105.5, and well-pronounced opisthotonos was noted, with rigidity of the cervical region. The pupils were enormously dilated. The picture was a clear one, and Dr. Charles A. Dukes of Oakland was called in consultation, who verified the diagnosis.

Recalling Dr. Crowe's experiment, I ordered hexamethylenamin in one-grain doses every four hours. Its administration was begun September 4, and within twelve hours, as will be seen in the chart, the temperature began to fall.

The spinal rigidity gradually disappeared, and while the erysipelatous process was somewhat prolonged, the meningeal symptoms became less apparent daily until now, October 1, the child, while weak, is keenly alive to its surroundings and walks about the room without assistance.

To us who are accustomed to fatal results in meningitis this case has been thought worthy of mention in its relation to the administration of hexamethylenamin.

Hole-Traps for Mosquitoes.—A French army officer in Africa noticed that numbers of mosquitoes issued toward sunset from the crab-holes in the ground. The only empty ones were those which permitted the entrance of sunshine or the breeze. He consequently made a number of similar holes to attract the mosquitoes and destroy them. The holes must be slanting, forming an acute angle with the surface, nearly half a yard deep, and with a narrow rectangular opening about an inch in diameter, opening directly opposite the prevailing breeze and never getting a ray of sunlight at any moment of the day. The mosquitoes seek these holes after 8 a. m. The success of these hole-traps was so striking that he has made a somewhat similar wooden trap for use indoors.—*Hygiène Générale et Appliqué*, iv, 1909, p. 1511.

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[1] Crowe: Johns Hopkins Hosp. Bull., April, 1909.

Therapeutics

DIARRHEA

It is not proposed in this article to consider the etiology or treatment of a chronic diarrhea that is due to the various forms of enteritis, colitis, ulceration, tuberculosis of the bowels, or of a diarrhea that is caused by or concomitant with chronic organic disease.

A chronic looseness of the bowels cannot be satisfactorily or successfully treated unless its cause has been determined, and a splendid dissertation on the etiology of loose bowel movements was presented by Dr. A. D. Blackader, of Montreal, at the annual meeting of the American Therapeutic Society, held at New Haven in May, and whose paper appears in the *American Journal of the Medical Sciences*, October, 1909. Two or three daily, formed movements of the bowels in a person who has long had this habit cannot be considered pathologic, but unformed, watery movements, even if not more than one or two a day, must be considered abnormal, and such a character of the movements may be caused by a disordered normal function or by an actual pathologic condition.

Blackader tabulates the causes of looseness of the bowels as: "First, excessive propulsive peristaltic action. Second, an abnormal increase in the amount of secretion from the mucous membrane and secreting glands of the canal. Third, defective absorption. These may work in a vicious cycle.

"Increased peristalsis prevents absorption, and is often associated with increased secretion; increased secretion stimulates peristalsis and interferes with absorption; a defective absorption stimulates peristalsis, and is generally associated with some fault in secretion."

Peristalsis is caused by both mechanical and chemical irritation, and the more indigestible and the coarser the food eaten, the more peristalsis will develop. Stomach indigestion, allowing the development of a hyperacidity, or the expulsion of the stomach contents into the duodenum too rapidly or before the peptic digestion is completed, will stimulate peristalsis. Such maldigestion in the stomach will soon produce an irritability and subacute inflammation of the duodenum. This irritability also reflexly causes increased peristalsis.

Blackader well calls attention to the recognized, but often forgotten, nervous element in chronic looseness of the bowels. Nervousness, hysterical excitement, or worry can cause several or repeated watery intestinal evacuations. Fatigue, mental and physical, may cause incomplete normal absorption of the fluid contents of the colon, and the resulting movements will be watery.

Blackader thinks that an excessive amount of normal intestinal secretion is a factor in loose bowel movements. Of course, it is impossible, under the varying requirements to digest varying foods, to determine the exact amount of digestive secretion the stomach, liver, pancreas, and intestinal glands should produce, but normally these secretions are probably sufficient, and perhaps in excess of the amount required. But as the physiologic chemists have shown that one secretion stimulates another secretion, and that the products of one digestion stimulate other glands to produce their secretion, it is probable that over-secretion in one organ may cause disturbance of another. However, it is probable that excessive secretion of digestive fluids is a doubtful cause of watery diarrhea.

Any character of the contents of the intestines that causes the fluids to be unprepared for perfect absorption, or that irritates the mucous membrane of the intestine sufficiently to cause a condition that might be inimical to normal absorption would, of course, be a cause of watery movements.

Certain chemical substances, notably the saline cathartics, tend to cause an excretion of water into the intestines, and the result from gravity alone is watery movements. Certain bacteria also have the power to cause osmosis of water into the intestines and an increased peristalsis, and until such bacteria are evacuated or eradicated the condition will continue.

Certain bacteria normally in the intestine seem necessary for perfect intestinal functions and processes, and they may even be necessary to combat abnormal or pathogenic bacteria that may pass unharmed through the stomach. But even these normally found microorganisms by varying conditions of maldigestion may assume a pathologic rôle, and looseness of the bowels be the first notification of such a disturbance. Probably no one cause is so prominent in allowing bacteria normally in the intestine to cause abnormal symptoms, as serious stomachic indigestion or an imperfect gastric juice.

Another frequent cause of looseness of the bowels is seen in serious organic trouble, most frequently from kidney and liver lesions, caused perhaps by an increased activity of the columnar cells lining the mucous membrane of the lower intestinal walls. These are always excreting cells, but they physiologically assume extra work if the kidneys and liver are unable to function normally. Before attempting to inhibit or stop watery diarrhea, it should be positively determined that such watery excretions are not needed to protect the blood from toxemia. In other words, serious organic lesions should be excluded.

Also, before beginning treatment for chronic diarrhea, not only must inflammatory lesions be excluded, if possible, but the evacuations should be studied macroscopically, and chemically and bacteriologically if the patient does not quickly improve, to determine what intestinal function is at fault and what food is maldigested or acts as an irritant, and hence should be avoided. Imperfect bile secretion should, of course, diminish the amount of fats allowed, and imperfect pancreatic secretion should cause the fats ingested to be reduced to a minimum.

Besides actual circulatory disturbances causing watery diarrhea, a not infrequent cause seems to be vasomotor disturbances or "vasomotor ataxia." In other words, an insufficient surface circulation, insufficient perspiration, and sensations of cold and chilliness may cause what has been termed intestinal sweating, and the patient has, on arising in the morning, one or more large watery stools. This may persist on any diet; in other words, it can rarely be cured by dietetic treatment.

It having been determined that the diarrhea is not due to the conditions mentioned in the first paragraph of this article, the treatment of a chronic looseness of the bowels may be considered as (1) physical, (2) dietary, (3) medicinal.

1. The physical treatment may be subdivided into: (a) Rest, either temporarily absolute, or, certainly, after each meal; (b) change of climate; (c) relief from business or household cares, which often can be accomplished only by sanatorium treatment; (d) the promotion of normal activity of the skin, accomplished by baths, friction, and electricity; (e) increased circulation in the muscles; brought about by massage, passive motion, and, later, by various gymnastic exercises, especially if the patient leads a sedentary life.

These physical treatments need only to be mentioned, and do not require description. Such treatment alone will often cure a diarrhea due to hysteria, neurasthenia, and vasomotor ataxia.

2. A careful study of the individual on ordinary, and then on limited diets, will often determine that there are one or more articles of food which increase indigestion and increase the tendency to loose movements of the bowels. Such articles of food must, of course, be temporarily at least, prohibited. However, under most circumstances it is often best to put a patient on absolute milk diet for a week, and then gradually try the addition of different foods to the diet. Occasionally a strictly milk diet will not be tolerated; often it is advisable to add some alkali, as vichy or lime water, to each glass of milk. Occasionally it is advisable to boil the milk, and sometimes it may be necessary to peptonize it. This, however, is rarely needed. If the patient is an adult and is placed on an absolute milk diet, he should ordinarily not attend to his usual duties, but should be at rest. As above intimated, absolute rest in bed for from one to two weeks, on a corrected diet, will often start the patient toward recovery.

The first addition to the milk diet should be toast, eggs and raw scraped or chopped beef, or, if such uncooked meat is very disagreeable to the patient, the chopped beef may be slightly broiled. The future increase in the diet should be gradual and carefully selected for the individual patient.

3. Perhaps the most useful of all drugs in the treatment of this condition is bismuth, and there is no preparation of bismuth more satisfactory than the subnitrate. The two methods of employing this drug are either by very large doses, given once or twice a day, viz., from 2 to 3 grams (30 to 45 grains) at a dose, or by administering a 0.30 gram (5 grain) tablet, every three hours. If bismuth is used, it should not be continued for more than a week without intermission, as it tends to form scybalous masses in the colon. It should also be carefully decided, during its long administration, if the movements of the bowels are complete and satisfactory, as a diarrhea may still leave masses of this salt in the intestines.

An antiseptic, such as phenyl salicylate (salol) may be given with benefit in doses of 0.30 gram (5 grains) three or four times a day. It may be combined with the bismuth, if desired. It should not be continued, however, more than a week, and if there is any albuminuria it should not be administered at all.

In some instances bicarbonate of soda seems valuable, and the dose would be 0.50 gram (7½ grains) three times a day. Large doses of an alkali are rarely advisable. Sometimes the opposite is indicated, viz., dilute hydrochloric acid. This is especially advisable if it has been determined by examination of the contents of the stomach, or inferentially, that the hydrochloric acid is insufficient. Dilute hydrochloric acid in a dose of ten drops, in water, after meals, will certainly often aid stomach digestion and prevent diarrhea.

The most valuable astringent for the intestines, if one is needed, is a preparation of tannic acid. None of the other vegetable astringents act so well, and most of them are very disagreeable to take and cause stomach indigestion. Tannic acid as such is also irritant to the stomach and, therefore, inadvisable. One of the many organic combinations of tannic acid seems to be the best manner to administer this drug, and the dose of most of them is about 0.50 gram (7½ grains), administered in capsule if desired, and given three or four times in twenty-four hours. These organic preparations do not cause stomach indigestion, and give up the tannic acid gradually throughout the intestines, and the astringent action is the one desired.

Quinin seems to have many times a specific action in the intestine, not only as an antiseptic and tonic, but really seems often to alone inhibit looseness of the bowels. The dose should be fair sized, but not enough to cause disagreeable head symptoms.

As most of these patients are anemic, and as iron is an astringent, iron is certainly indicated in almost every instance. The best preparation is naturally an astringent one, and the sulphate of iron, in capsule, in a dose of 0.20 to 0.25 gram (3 to 4 grains), three times a day, after meals, is the preparation that is the most valuable.

New and Nonofficial Remedies

Since the publication of the book "New and Nonofficial Remedies, 1909," the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections to aid in the revision of the matter before publication in the book are asked for.

The Council desires physicians to understand that the recommendation, but that so far as known it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

(Continued from page 1563)

SULPHURATED POTASH — Potassa Sulphurata — Kalium sulphuratum crudum—Hepar Sulfuris.—Sulphurated potash is a mixture of salts of potassium, of which the chief are potassium sulphides (Br. Pharm., p. 259).

It is prepared as follows: Mix the powdered and dried potassium carbonate thoroughly with the sublimed sulphur, and gradually heat the mixture, in a covered crucible, which should be only about half filled with it, until the mass ceases to foam and is in a state of perfect fusion. Then pour the fused mass on a cold marble slab, and, after it has cooled, break it into pieces, and keep it in a well-stoppered bottle (U. S. P., 1890, p. 313).

When freshly prepared, sulphurated potassa forms irregular pieces of a liver-brown color, which, by exposure to the air, gradually absorb moisture, oxygen and carbon dioxide, and change to a greenish-yellow and finally to a gray mass containing potassium carbonate, thiosulphate and sulphate. The compound has a faint odor of hydrogen sulphide, and a bitter, alkaline taste.

Soluble in 2 parts of water at 15° C. (59° F.), with the exception of a small residue. Alcohol dissolves only the potassium sulphide, leaving the other constituents (thiosulphate and sulphate) undissolved.

The aqueous solution (1 in 10) is of an orange-yellow color, is strongly alkaline to litmus paper, and gives off the odor of hydrogen sulphide.

On adding to it acetic acid in slight excess, an abundance of hydrogen sulphide is evolved, while sulphur is precipitated.

In this liquid, after filtration, sodium bitartrate test solution produces an abundant, white, crystalline precipitate (U. S. P., 1890, p. 213).

On triturating 1 Gm. of sulphurated potassa with 1 Gm. of crystallized copper sulphate and 10 Cc. of water, and filtering, the filtrate should remain unaffected by hydrogen sulphide test solution, corresponding to at least 12.85 per cent. of sulphur combined with potassium to form sulphide (U. S. P., 1890, p. 313).

Actions and Uses.—Externally sulphurated potash acts as an irritant and softens the horny layers of the skin, acting especially on the hairs. Internally, it is a gastrointestinal irritant and is believed to be an alterative. In some cases it has produced severe poisoning from the amount of hydrogen sulphide evolved. It is employed externally[1] as a local irritant in various skin diseases and as a parasiticide.

ETHYL BROMIDE—Aethylis Bromidum.—Aether Bromatus (Pharm. Germanica, edit. 4; Pharm. Belgica, edit. 4; Pharm. Helvetica, edit. 4). Aetaylium bromatum (Pharm. Française, 1908).

Ethyl bromide, C_2H_5Br, is the ethyl ester of hydrobromic acid, containing approximately 1 per cent. ethyl alcohol.

Ethyl bromide is a colorless, strongly refractive, easily volatile liquid, having a pleasant ethereal odor. It is insoluble in water, but readily soluble in acohol and in ether. It boils at from 38° to 40° C (101° to 104° F). Its specific gravity at 15° is 1.453 to 1.457 (Pharm. Germanica).

It is stable when pure but when contaminated with ethyl iodide it becomes colored when exposed to light. It burns with difficulty. It is very difficultly saponified by potassium hydroxide and it is not attacked by sulphuric or nitric acids. Silver nitrate gradually precipitates silver bromide (Pharm. Francaise 1908). If a mixture of 1 Cc. ethyl bromide, 5 Cc. alcohol and 10 drops of (15 per cent.) sodium hydroxide solution is heated to boiling, cooled, acidified with dilute sulphuric acid then shaken with chloroform and chlorine water added a brown coloration will be produced in the chloroform layer. If equal volumes of ethyl bromide and sulphuric acid are shaken together in a bottle previously rinsed with sulphuric acid and closed with a glass stopper, the acid should not be colored yellow within an hour. After shaking equal volumes of ethyl bromide and water, no change of volume should occur in the two liquids, the water separated from the ethyl bromide should not have an acid reaction nor should it become turbid immediately on the addition of a drop of silver nitrate solution (Pharm. Helvetica).

When a small portion is evaporated from a porcelain plate by causing it to flow to and fro over the surface little or no foreign odor is yielded as the last portions pass off, and the plate is covered with a slight deposit of moisture.

1 Cc. of ethyl bromide mixed with 3 drops of anilin and 2 Cc. of alcoholic solution of potassium hydroxide should not give off the odor of isonitrile even after warming. (Absence of chloroform) (Pharm. Belgica).

About 1 Gm. of ethyl bromide accurately weighed added to 30 Cc. of 80 per cent. alcohol containing 2 Gm. silver nitrate will precipitate, after several hours, silver bromide, which when washed and dried should weigh 1.72 for each Gm. ethyl bromide used (Pharm. Francaise).

Action and Uses.—Ethyl bromide is a rapid anesthetic, acting much like chloroform. The anesthesia is quickly and pleasantly induced and the recovery is rapid, but subsequently the patient may have general mild depression. Pain is abolished before consciousness. The respiration is paralyzed at about the same time as the reflexes, so that the zone of safety is very narrow. Tetanic spasms have occurred. Deaths were formerly attributed to impurities, but several have occurred when a pure article was given. It has been recommended for short operations in obstetrics, gynecology and minor surgery, but is not to be used for long operations. It must be regarded as a very dangerous agent in inexperienced hands.

Dosage.—3 Cc. to 12 Cc. (45 minims to 3 fluidrams) is sufficient to induce anesthesia. It should be administered rapidly with little or no air. The administration requires from 20 to 40 seconds; the anesthesia lasts about two minutes. The dose for children should not exceed 1 Cc. per year of age.

It should be protected from the light and a bottle once opened should be used at once as it deteriorates rapidly. (To be preserved carefully in small, opaque bottle containing not more than 50Cc. Pharm. Helvetica edit. 4.) It should not be confounded with ethylene bromide, which is said to be very poisonous. The Sp. Gr. of ethylene bromide is 2.179 while that of ethyl bromide is about 1.45.

(To be continued)

Serotherapy of Metrorrhagia—A Correction.—The bad habit of one journal's "borrowing" an article from another journal without any credit being given to the source, or anything to show that the article is not original, is responsible for a blunder into which The Journal was innocently led in an abstract of an article by E. Nuñez, appearing in the June number of the *Semana Medica*, a Buenos Aires exchange. It commenced with the words: "It is very common in our country to encounter, etc." The Journal naturally supposed the country in question was Argentina, but found later that the article was "borrowed" entire from the *Revista de Medicina y Cirugia*, of Havana, Cuba, where Dr. Nuñez is professor of gynecology. He is also on the editorial staff of our Havana exchange, and his article appeared in its issue of April 10, 1909. The country referred to is therefore Cuba, not Argentina, as erroneously stated in the abstract of The Journal on page 1401.

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[1] In view of the uncertainty of the composition of sulphurated potash and of the fact that it sometimes exerts a poisonous action, it is deemed suitable only for external use

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[*For other information see second page following reading matter*]

SATURDAY, NOVEMBER 13, 1909

CESARE LOMBROSO

There are some men whose task it is to gather, to grind and to sift facts for scientific pabulum; and there are others whose function it is to furnish the leaven. Of the latter class was Cesare Lombroso, who died last month within a few days of his seventy-third birthday.

Lombroso was born in 1836 of Venetian parents. Like most men of genius, he displayed remarkable intellectual power and originality long before his majority, and to the end of his life his mind was in constant ferment with new ideas. His youthful studies ranged over archeology, the natural sciences, poetry and history, and a natural bent carried him into the ranks of students of medicine. In 1859 he became a soldier and later an army surgeon. From the year 1862, while instructor in mental diseases at the University of Pavia, he conducted clinical investigations of insanity and collected materials for a museum. As director of the hospital for the insane at Pesaro he improved the methods and established a journal written and managed by the insane. He returned to Pavia after a time and continued his precise methods of studying the insane, using and even inventing modern instruments for his purpose. He was stimulated and guided by the genius of Broca and Virchow, and the studies of Darwin seem to have suggested his atavistic interpretation of crime. It was in 1859 that the essential ideas of his great work, "L'Uomo Delinquente," came to his mind, but not until 1870, during his examination of the skull of a brigand, that he applied the theory of atavism in explanation. After several years of labor in studying the characteristics of prisoners in Italian prisons he published some of the results in 1876. This epoch-making work has been revised and fundamentally altered in succeeding editions. His book on "The Man of Genius" saw the light in 1889. In his later years Lombroso was a professor of forensic medicine and psychiatry in the University of Turin. His personal appearance, his oddities of manner, his kindliness are topics for gossip or serious biographies; his place and service as a man of science are of chief interest here.

Lombroso approached the study of the criminal as a physician and anthropologist, and it was natural that he should lay great emphasis on biologic factors. Too great praise cannot be given him for his minute and painstaking collection of observations of the anatomic, physiologic and psychical characteristics of offenders. He compelled the world to study the antisocial man with all the methods and instruments invented by modern science. He made it forever impossible to return to the traditional legal attitude toward the criminal. He sought in the phenomena of life, and not in ancient decisions framed in the dim twilight of history, the real facts with which penal law and criminal courts and correctional institutions have to deal. With Lombroso's metaphysical system we need not be concerned; he left the controversy over fate and freedom where it was before. His attempt to identify the "criminal born" with the primitive savage was only partly successful, but it brought one element of explanation into prominence, and no student can henceforth ignore atavism as a probable factor in causation. When the fierce arrows of criticism drove him from his too narrow ground he candidly admitted other factors, as arrested development and degradation of tissue and hence of character. As he poured out monographs, articles and volumes, his own mind traversed wider fields of observation and reflection; his anthropologic discoveries revealed the necessity of studying normal types, and thus he passed over to the ranks of the sociologists. His later writings emphasized the causal factors found in the perverting influences of unfit dwellings, occupational diseases, alcoholism, vice, irrational legislation, defects in penal law, courts and prisons. Among the important services to medicine and humanity which Lombroso rendered toward the end of his life may be reckoned his valuable studies on pellagra and its causes.

Perhaps it is too early to assign Lombroso's true place in history. Certain great lawyers, especially in Germany, deny that he and his pupils have added any knowledge of value to a lawyer. Mantegazza declared that he did not possess any of the qualities of a scientific investigator. Colojanni compares Lombroso's indiscriminate collection of facts to the famous order attributed to Charles IX or some persecuting ecclesiastic: "Kill them all; God will know His own" (Ellis). Perhaps the man of genius is too quickly enchanted by the brilliance of his hypothesis, is invariably urged to establish it at any cost, and is not quite patient enough to wait and to compare facts of a different order.

Grant all that is reasonable to such criticisms, it remains true that Lombroso, by sheer force of scientific investigation and unwearied activity, revolutionized the study of abnormal man, and especially the criminal, and the social treatment of crime will be improved in consequence of his discoveries and even his speculations.

In America these speculations have been received generally in a critical spirit, and have obtained no important following. The criticisms of F. H. Wines and others have had a sobering effect and secured a balanced judgment and wholesome suspense. But the scientific observation of the criminal himself has been quickened, and even in law schools has begun to influence conservative thought. It is now more frequently admitted than formerly that the nature and social attitude of the offender should be made the center of interest rather than statutes made in ages of ignorance and decisions pronounced before the science of anthropology was born. The new society known as the Institute of Criminal Law and Criminology, founded by open-minded lawyers of unquestioned standing and training, bears witness to the practical value of these studies with which the name of Lombroso will ever be indissolubly linked.

Von Liszt[1] may be taken as a type of the progressive jurists who recognize the necessity of individual and social study of crime causes, who reject the notion, on which Lombroso sometimes laid so much stress, that the criminal born constitute, as it were, a separate variety or type of humanity. Von Hamel[2] recognizes the importance of the Italian investigations, but questions the finality of their interpretations and recommendations. No important systematic work on criminology can hereafter ignore the significance of Lombroso's studies. The career of Lombroso shows that the social control of anti-social forces must command the united efforts of lawyers, physicians, anthropologists and sociologists in order to be effective.

THE MEDICAL PROFESSION AND THE PHARMACOPEIA

A thoroughly up-to-date Pharmacopeia—one which will truly reflect the best medical practice of the present time—will contribute more to sane drug therapeutics than any other one thing. It is a question, therefore, that should be considered seriously and without further delay, since the time for the convention that is to decide the policy on which the next revision is to be made and who shall be in control is rapidly approaching. In THE JOURNAL last week,[3] Sollmann put the question squarely before the medical profession: "If the Pharmacopeia is not and cannot be made practically important to the physicians, then let us abandon it altogether." It is needless to say that not many physicians would seriously entertain the suggestion of abandoning the Pharmacopeia; yet the attitude of indifference shown by the profession in general in connection with the last pharmacopeial convention was almost equivalent to abandoning it —so far as medical men were concerned.

In order to make the Pharmacopeia a more useful book, however, it is necessary to break what Sollmann so aptly terms a "vicious circle": "Physicians take no interest in pharmacopeial revision, because the Pharmacopeia does not represent their vital interest: and the Pharmacopeia does not represent their interest because they take no interest in its revision." The question of vital importance now is how can this vicious circle be broken? Physicians who have given the matter serious thought believe that important changes are required; it is necessary, therefore, that the delegates of the medical profession to the next convention should inform themselves specifically as to the needs, direction and aim of pharmacopeial revision. Sollmann makes a number of pertinent suggestions on this subject which should be carefully studied by all, and especially by those who will represent the medical organizations at the next convention.

The carrying out of some of the suggestions (the method of selecting the Committee on Revision, for example) would involve certain changes in the present by-laws of the convention; these should, of course, receive most careful consideration. But the present by-laws state that "the Committee on Revision shall execute such orders or resolutions as have been assigned to it by the convention," and it is in this manner (as well as in the collecting of data for the committee) that the delegates can make their influence felt without any change in the present by-laws. Among the subjects of most medical interest on which the committee might be positively instructed, the following are suggested: standards for admissions, elimination of all secrecy, frequency of revision and the issue of supplements, and the question of doses. It is highly desirable that delegates and prospective delegates pay especial attention to these questions.

Attention may again be called to the conditions of medical representation in the Pharmacopeial Convention of 1910. In addition to the delegates appointed by the Army, Navy, and Public Health and Marine-Hospital Service and by the American Medical Association, incorporated medical colleges and medical schools connected with incorporated colleges and universities, and incorporated state medical associations, provided they "shall have been incorporated within and shall have been in continuous operation in the United States for at least five years before the time fixed for the decennial meeting of this corporation," are each entitled to three delegates, elected in the manner they shall respectively provide. There are also a few organizations not hereinbefore mentioned, admitted to representation in the convention of 1900, which are entitled to send delegates.

We again urge that county and other medical societies should take up the subject, discuss it thoroughly, and make their wishes known by resolutions or otherwise. The U. S. Pharmacopeia was originally created and kept up by physicians. Let us at least take sufficient interest in it to make it as near what we want as is possible under present conditions

THE CONFERENCE ON PELLAGRA

We devote considerable space this week to our report of the Conference on Pellagra, which was held last week at Columbia, S. C. Approximately six hundred physicians from all over the United States attended the meeting, and the manifold aspects of pellagra were discussed at great length. Unusual interest was shown throughout the deliberations of the conference. One striking feature was the purely scientific, humanitarian spirit which pervaded the meetings and which influenced those who took an active part in the proceedings. There was no disposition displayed to seek personal gain or aggrandizement. It seemed that every delegate had come with a desire to learn more about this disease[1] which has been attracting the attention not only of the medical profession of the world, but of the laity.

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[1] Von Liszt: Lehrbuch des deutschen Strafrechts, 1908.

[2] Von Hamel: Inleiding tot de studie von het Nederlandsche Strafrecht, 1907.

[3] THE JOURNAL A. M. A., Nov. 6, 1909, liii, 1543.

The conference assumed both a national and an international character, in that some of the papers read were contributed by distinguished foreign physicians and scientists who are authorities on pellagra. There was an abundance of clinical material presented, but a seeming lack of bacteriologic study of the disease, from which more is to be expected in the future. The federal government, keenly alive to the vast importance of the subject, sent leading men who represented not only the United States Public Health and Marine-Hospital Service, but also the Army and the Navy.

In considering the cause of the disease, the central thought which ran through all the discussions was that the etiology is not known, but that damaged corn or maize is only one factor in the causation of the disease. The prevailing views were presented by Dr. Byrd, of Jacksonville, Fla.: "If there is any one thing that has been impressed on me at this conference, it is that we do not know the etiology of pellagra. . . . Is it a safe thing, in the present state of our knowledge, for us to put ourselves on record that corn is the cause of pellagra? I contend it is not. It is better for us to say, 'We do not know.' This is a scientific question, and we ought not to accept anything short of absolute proof which the most exact science can give. So far as corn as a cause of the disease is concerned, we can say it is unproved." It is hoped that the prosecution of further research in regard to the etiology of the disease will yield such results that this honest confession of ignorance will not have to be made much longer.

Credit is due Dr. J. W. Babcock, superintendent of the State Asylum at Columbia, to the members of the State Board of Health of South Carolina, and to Dr. C. F. Williams, for calling this national conference to discuss this very vital topic.

THE TRANSMISSION OF ACUTE POLIOMYELITIS TO MONKEYS

In a recent comment[2] on the transmission of acute poliomyelitis to monkeys, by Landsteiner and Popper, we stated that, while further experiments were necessary, it seemed that a method had been found by the help of which our knowledge of the cause of poliomyelitis would be advanced. The report by Flexner and Lewis in this issue of The Journal, showing their success in transmitting acute poliomyelitis to monkeys and of maintaining the disease in those animals, is of great interest in this connection. Landsteiner and Popper failed in their efforts to communicate the disease from monkey to monkey, possibly because of the method employed. Flexner and Lewis, using the intracranial method of inoculation, have established that it is possible to carry the virus of epidemic poliomyelitis successfully through a series of monkeys, and it seems likely that the disease may be maintained in this animal indefinitely. This advances greatly the opportunity for successful study of the causation and prevention of epidemic poliomyelitis, which causes much permanent crippling and distress in addition to many deaths. At the same time there now can be no doubt any longer as to its infectious origin, because it is possible to transfer it from animal to animal, a result that could hardly be expected if the disease were due solely to the action of a toxic body, as suggested by some writers.

THE TREATMENT OF LEPROSY WITH NASTIN

Any hopes that were based on the employment of nastin, a bacterial fat recommended by Deycke Pasha and Reschad Bey in the treatment of leprosy,[1] fail to find support from the experiences of Dr. Walter R. Brinckerhoff and Dr. James T. Wayson with six cases, three of the tubercular type and three of the tuberculo-anesthetic type, treated in Hawaii, and reported in a recent brochure[2] issued by the U. S. Public Health and Marine-Hospital Service. The patients were all males between 10 and 40 years of age. The treatment was continued for periods of from five to fifteen months. It was found that the prolonged administration of small doses had no apparent effect on the progress of the disease, while larger doses caused such muscular pain as to necessitate a reduction in dose or discontinuance of the treatment. In three cases studied from this point of view no change was found in the distribution of the acid-fast substance of the bacilli before and after nastin medication. Slightly encouraging results were obtained in two cases, the lesions in one decreasing in extent and assuming a focal character, and a tubercle disappearing in the other. Four patients seemed to be unaffected by the treatment. Constitutional reaction was noted only when the dosage employed was large, but no local reaction or puriform softening of tubercles was observed. It is true that the number of patients treated was small, but the observations were carefully made by competent investigators, and the results must be considered as far from encouraging. It appears, then, that we must be content with present methods of treatment until something more promising is brought forward.

The Up-to-Date Physician.—The up-to-date physician has a mind receptive to truth from any source. He must have the power of exclusion and inclusion. He should be a rational skeptic, believing nothing, and yet believing everything—pessimistic only as to the possibility of failure; optimistic in a degree only limited by the limitations of finite knowledge.—C. D. Mills, in *Ohio State Medical Journal*.

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[1] Those interested in the subject of pellagra no doubt will appreciate having their attention called to the Department of Queries and Minor Notes in this issue, in which we give, in answer to a correspondent, a list of some articles which have appeared on the subject.

[2] The Journal, June 19, 1909.

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[1] Deycke Pasha and Reschad Bey: A Bacterial Fat as Immunizing Substance in Leprosy: Its Theoretic Significance and Practical Application, Therapist, London, 1907, xvii, 49, 67, 79

[2] Brinckerhoff, W. R., and Wayson, J. T.: A Report of the Treatment of Six Cases of Leprosy with Nastin (Deycke) Studies on Leprosy, Government Printing Office, 1909.

Medical News

CALIFORNIA

Tag Day.—October 2. which was celebrated as tuberculosis tag-day in Berkeley, netted the workers $2,900, which will be applied to a fund for the purchase of a site and the building of a hospital in West Berkeley.

New Case of Plague.—The third case of bubonic plague contracted by a human being in the state during the last three months, was reported to the State Board of Health Nov. 6, from Oakland. The victim is a butcher who became infected through eating squirrels.

Health Officers' Meeting.—At the semi-annual meeting of the Southern California Health Officers' Association, held in Hanford, October 12, Dr. Samuel W. R. Langdon, Stockton, was elected president; Dr. Asbury N. Loper, Dinuba, vice-president; and Dr. George A. Hare, Fresno, secretary-treasurer.

Hospital Board Reelected.—At the annual meeting of the Peninsula Hospital, Palo Alto, the following were reelected directors: J. A. Dunker, Alfred Seale and Miss Elizabeth Hogue, and Drs. Thomas M. Williams, Samuel B. Van Dalsem, Harry B. Reynolds and Josiah H. Kirk. Dr. Williams was reelected president of the board.

Oppose Unlicensed Japanese Practitioners.—Plans are being prepared by the State Board of Medical Examiners for the vigorous prosecution of Japanese who represent themselves as physicians and practice without license. Through its secretary, the board has written the Japanese consul and the Japanese Association of America, soliciting their support in the suppression of the alleged frauds.

Lectures on Physiology.—Sir Augustus Waller delivered a series of lectures on the Hitchcock foundation at the University of California, beginning September 18. The subject of his lectures was "Physiology the Servant of Medicine," in which he considered electrical signs of life; the general methods of investigation; the first and last signs of life; electrical action of the human heart; the normal rhythm of the hearts of the canidae; the nervous system; the electrical responses of nerve, of muscle, of the retina, and the brain; the law of sensation; the sigmoid curve; the relation between energy expended and result acquired; vegetable alkaloids; the axiom of general physiology; the application to human life; blaze currents, the retina, green leaves, petals of a flower; our fish supply; awakening of a dormant embryo; blaze current of the egg, of the seed; alcohol, chloroform, and ether, and their physiological equivalents; the price of anesthesia; the lethal chamber in men, and in animals, and the chloroform balance.

CONNECTICUT

Bequest to Yale.—By the will of the late Levi I. Shoemaker, Wilkes-Barre, Yale University is bequeathed more than $500.000 on the death of the testator's wife, for the use of the medical department of the university.

Sanatorium Site Bought.—A site of fifty-five acres in the town of Huntington, near Shelton, for the Fairfield County Antituberculosis Sanatorium, was purchased by the State Antituberculosis Commission, October 14. Plans for the construction of the building are under way. It is believed that accommodation for 200 patients will be ready by the opening of spring.

Report of the Gaylord Farm.—The fifth annual report of the New Haven County Tuberculosis Association shows an extensive growth during the past year. Two new buildings have been added to the Gaylord Farm, the Beebe Memorial, and a residence for Dr. David R. Lyman, New Haven, medical superintendent. During the year the average number of patients was 54. The dispensary of the institution during the year treated 120 patients in New Haven, of whom the majority have materially improved.

Anti-Spitting Law in Effect.—Two laws enacted by the last general assembly, along the line of public health, became effective October 1. The first requires any physician who may discover a case of tuberculosis to report it to the health officer of the town within which it occurs within twenty-four hours. The second provides a fine of not less than $1 and not more than $5 for any person who "shall spit on the paved walk of any public street, park or square, or on the floor of any hall or office in any hotel, restaurant, apartment house, tenement or lodging-house which is used in common by the guests or tenants thereof, or on the platform, steps, or stairs in any public building, church, theater, railway station, store, factory or street-car or other public conveyance."

ILLINOIS

The Red Cross Work this Year.—The Illinois Branch of the American National Red Cross closed for the fiscal year October 31. The report of the treasurer shows that $95,192.72 had been received from the public and used in the charitable work of the organization, and that the total administrative expenses were $126.78.

Personal.—Dr. Elva A. Wright, Lake Forest, has returned after a summer abroad.——Dr. Frank Buckmaster, Effingham, has been made instructor in experimental surgery in Barnes Medical College, St. Louis.——Dr. Clarence W. Chapin, Weldon, has succeeded Dr. Guy D. Dowdall, Clinton, as president, ad interim, of the Dewitt County Medical Society.——Dr. John C. Augustine, Batavia, was operated on in Chicago for the removal of enlarged glands of the neck, November 1.

Free Diphtheria Antitoxin.—The State Board of Health announces that it will furnish diphtheria antitoxin of the highest quality without charge in cases of necessity, the only requirement being that the physician who obtains the antitoxin will give a receipt for it and will furnish the State Board of Health a clinical report concerning the patient to whom the antitoxin was administered. The state distribution was made possible by the appropriation passed by the last general assembly.

Elections.—At the sixty-third annual meeting of the Æsculapian Society of the Wabash Valley, held in Paris, October 31, the following officers were elected: President, Dr. Elmer B. Cooley, Danville; vice-president, Dr. Paul A. Slater, Hindsboro, and secretary-treasurer, Dr. Herbert N. Rafferty, Robinson (reelected).——At the annual meeting of the Elgin Physicians' Club, November 1, the following officers were elected: President, Dr. Edwin A. McCornack; vice-president, Dr. John F. Bell; secretary-treasurer, Dr. Jane C. Trull, and executive committee, Drs. Dwight E. Burlingame, Frederick C. Schurmeier, Elgin, and Harry E. Kerch, Dundee.——The Bushnell Doctors' Club resumed its weekly meetings October 25, and elected Dr. John P. Roark, president; and Dr. Clement J. Rider, secretary-treasurer. The club has taken up the post-graduate course of study suggested by the American Medical Association.

Chicago

Suabian Donation.—Out of the proceeds of the annual volkfests of the Schwaben-Verein, $1,150 has been donated to the various hospitals of the city.

Personal.—Dr. George G. Zoehrlaut has been elected supreme editor of the Phi Beta Pi medical fraternity.——Sir Wilfred T. Grenfell, M.D., of Labrador, delivered an address on the subject "Is Life Worth While" before the Sunday Evening Club, November 7.——Dr. and Mrs. Fenton B. Turck and Dr. Joseph Zeisler and family have returned from Europe.

INDIANA

Hospital Incorporated.—The Kosciusko Hospital has been incorporated at Warsaw with a capital stock of $25,000, with the object of constructing and operating a hospital.

Gift to Tent Colony.—Hon. John W. Boehne, Evansville, has given the Evansville Antituberculosis Society $5,000 toward the establishment of a tent colony for tuberculosis near that city.

Smallpox in Fort Wayne.—On account of the prevalence and spread of smallpox in Fort Wayne, the board of public health has decreed that every public and parochial school child in the city and every employee in the Pennsylvania System shops must be vaccinated immediately.

Personal.—Dr. Francis W. Johnson, Utica, is undergoing treatment in the Jeffersonville Hospital for disease of the throat.——Dr. Samuel E. Smith, Richmond, superintendent of the Eastern Indiana Hospital for the Insane, was elected president of the Associated Charities and Corrections of Indiana, at its eighteenth annual meeting in Columbus, October 26.——Dr. Charles P. Melroy, Otisco, accidentally shot himself in the thumb, October 31.

New Health Board Law.—The new law governing county and city health officers provides that the county health officer shall be elected by the board of county commissioners, and serve for one year, with a salary of $200 per year, to be paid quarterly, with additional payment for attendance on cases of infectious diseases, quarantine, fumigation, etc. In cities of less than 30,000 inhabitants, the office of county and city health officer may be consolidated by agreement.

IOWA

State Sanatorium.—Dr. Harry E. Kirschner, superintendent of the State Sanatorium for the Treatment of Tuberculosis, Oakdale, announces that the new building of the sanatorium, which will be ready for occupancy about the middle of December, will increase the capacity of the institution to 120.

Personal.—Dr. Herbert V. Scarborough, Grand Junction, has been appointed assistant superintendent and physician at the State Sanatorium for the Treatment of Tuberculosis, Oakdale.——Dr. John E. Howe, Greenfield, has been appointed a member of the state board of pardons and parole, vice Dr. Joseph M Emmert, Atlantic, deceased.——Dr. Will Bryan, formerly of Cedar Rapids, has been appointed second assistant physician at the State Institution for the Insane, Clarinda.——Dr. James M. Donelan, Glenwood, was brutally assaulted by a farmer living near that place, November 1. It is believed that the assault grew out of resentment on account of the assailant's house being placed under temporary quarantine for diphtheria by Dr. Donelan, who is township health officer.

MAINE

Personal.—Dr. W. S. Noyes, Saco, was elected surgeon-general and member of the executive committee of the Union Veterans' Union, at its meeting in Washington, October 7.——Drs. Ralph A. Parker and Daniel A. Barrell have been appointed medical inspectors of the public schools of Auburn, and Dr. John F. Hill medical inspector of the public schools of Waterville.

Hurt in Automobile Accident.—Five Augusta physicians, Drs. George R. Campbell, William H. Harris, Wellington Johnson, George A. Coombs, and Albert H. Sturtevant, were injured in an automobile accident September 22, while returning from Belgrade. Dr. Johnson sustained a comminuted fracture of the left arm and a dislocation of the shoulder; Dr. Sturtevant suffered a contusion of the chest and dislocation of both thumbs; Dr. Harris strained his back, necessitating his being taken to the general hospital; Dr. Coombs strained his arm and left leg, and Dr. Campbell sprained his right ankle.

Medical School Opens.—The Medical School of Maine, the Medical Department of Bowdoin College, Brunswick, opened for its nineteenth annual session October 22. Dr. Richard D. Small, demonstrator in histology and instructor in obstetrics, has resigned. The professorship in materia medica and therapeutics, vacated by the death of Prof. Charles O. Hunt, still remains unfilled. The following are the new members of the faculty: Dr. Philip Pickering Thompson, assistant demonstrator in anatomy; Drs. Philip Webb Davis and Alfred William Haskell, clinical assistants in surgery; Drs. Ernest Woodbury Files and Frank Joseph Welch, clinical assistants in medicine, and Dr. William Moran, clinical assistant in diseases of the eye.

MARYLAND

New Head of Visiting Nurses' Department.—Mrs. Reginald Foster, the widow of Dr. Reginald Foster, Boston, has been appointed head of the visiting nurses' department of the Phipps Tuberculosis Dispensary at Johns Hopkins Hospital, Baltimore.

Pure Food Exhibition.—The pure food exhibition in Baltimore closed November 6, after being open two weeks. Great interest was manifested in the exhibition by physicians and the public. The petition presented to the governor, urging the speedy enactment by the state of a pure food law similar to the federal Food and Drugs Act, received many thousand signatures.

Conference of Charities and Corrections.—The fifth annual meeting of the Maryland Conference of Charities and Corrections was held in Baltimore, November 6-8, at the hall of the Medical and Chirurgical Faculty of Maryland. Among the subjects discussed were health and sanitation, education of children, trade schools, care of offenders, dependent children, defectives, care of the insane, alms-houses, their management, etc.

Personal.—Among the Maryland physicians elected to office at the election, November 2, were Dr. Joshua W. Hering, Westminster, comptroller (reelected); Drs. D. Clinton R. Miller Cearfoss District, and Charles A. Wills, Hyattsville, state senators; Dr. Thomas A Ashby, Baltimore, member of the house of delegates; and Dr. George Wells, Annapolis, clerk of the Circuit Court of Anne Arundel county (reelected).——Dr. Harry F. Shipley, Granite, was badly hurt, November 1, in a runaway accident.——Dr F. S. Bootay assumed charge of St. Luke's Hospital, Baltimore, November 4, vice Dr. C. C. McCarthy, resigned.

MICHIGAN

Personal.—Dr. and Mrs. Ovidus A. Griffin, Ann Arbor, have returned from Europe.——Dr. Joseph V. Grahek, Calumet, who was recently elected supreme physician of the National Croatian societies, will make his headquarters in Pittsburg. Dr. Herman H. Ruonavaara, Calumet, succeeds Dr. Grahek as supreme physician of the United Croatian-Slevonian societies of the upper peninsula.

Communicable Diseases of September.—During September the number of cases of pneumonia and the deaths from that disease were more than the average for the preceding month. There were reported 79 new cases of, and 172 deaths from, tuberculosis, the mortality being less than the preceding month, but more than the average for September. Typhoid fever was much more prevalent, being reported from 185 localities, or 32 more than for the preceding month. Diphtheria was reported in 60 localities, or 8 more than for the preceding month. The reports from meningitis show that it was more prevalent than in the preceding month, but less prevalent than in 1908. Whooping-cough was less prevalent; scarlet fever was much more prevalent than in August, 1908, or in September, 1908, the disease being present in 56 localities. A serious outbreak is reported from Bay City, where 115 cases have been reported. Measles was much less prevalent than in the preceding month, but more prevalent than in September last year, and smallpox was less prevalent than in August, this year, or September, 1908.

Elections.—At the fourteenth annual meeting of the Detroit Academy of Medicine, October 12, Dr. Lewis E. Maire was elected president; Dr. Homer E. Safford, vice-president, and Dr. Guy L. Connor, secretary-treasurer.——The Detroit Society of Neurology and Psychiatry, at its annual meeting October 7, elected the following officers: President, Dr. Edmund A. Christian, Pontiac; vice-president, Dr. Albert M. Barrett, Ann Arbor; secretary, Dr. Charles W. Hitchcock, Detroit; and councilors, Drs. Carl D. Camp, Ann Arbor, and David Inglis, Detroit.——At the annual meeting of the Ionia County Medical Society, held in Ionia October 16, the following officers were elected: President, Dr. George A. Stanton, Belding; vice-presidents, Drs. Charles C. Dellenbaugh, Portland, Frances A. Hargrave, Palo, William A. Wilkerson, Orleans, and Frederick L. Morse, Lake Odessa; secretary-treasurer, Dr. Charles S. Cope, Ionia; censors, Drs. Charles B. Ganss, Palo, Joseph F. Pinkham, Belding, and Edwin F. Beckwith, Ionia; delegate to the state society, Dr. Cope, and alternate, Dr. Pinkham.——Physicians of Owosso met October 19 and organized the Owosso City Physicians' Association, and elected Dr. Sam S. C. Phippen, president; Dr. Annis S. H. Gooding, vice-president, and Dr. Arthur M. Hume, secretary-treasurer.——Montcalm County Medical Society, at its annual meeting, held in Greenville October 14, elected the following officers: President emeritus, Dr. John Avery, Greenville; president, Dr. Francis R. Blanchard, Lake View; vice-presidents, Drs. Jay O. Nelson, Howard City, Ernest M. H. Highfield, Edmore, William H. Belknap, Greenville, and Walter A. Lee, Sheridan; and secretary-treasurer, Dr. Horace L. Bower, Greenville (reelected).

MISSOURI

Wins Mandamus Suit.—The mandamus suit brought by Dr. William F. Kuhn, St. Joseph, formerly superintendent of State Hospital No. 2, against the board of managers of that institution, was decided in favor of Dr. Kuhn, October 23, and the board of managers will now be required to pay Dr. Kuhn the salary for July and maintenance money for himself and family for that month.

State Board of Nurses Appointed.—Under an act of the last legislature, the governor appointed the following five women to be known as the State Board of Examination and Registration of Nurses: Miss Maud Landis, Levering Hospital, Hannibal, and Mrs. F. S. Smith, superintendent of St. Luke's Hospital, St. Louis, three years; Miss C. B. Forrester, University Hospital, Kansas City, and Miss Ida Gerding, superintendent of the Lutheran Hospital and instructor in the training school for nurses in that city, St. Louis, for two years; and Miss E. B. Tooker, Springfield Hospital, for one year.

NEW JERSEY

Annual Banquet of Hospital Clinic.—The annual banquet of the Elizabeth General Hospital Clinic was held October 19. Dr. Frederick H. Pierson was elected president; Dr. Horace R. Livengood, vice-president; Dr. Russel A Shirrefls, secretary (reelected), and Dr. John H. P. Conover, treasurer (reelected).

State Board Changes.—Dr. Edmund L. B. Godfrey, Camden, resigned as secretary of the State Board of Medical Examiners of New Jersey November 3, on account of continued ill health, and Dr. Horace G. Norton, Trenton, was elected to fill the unexpired term.

Gift to Hospital.—George E. Pancoast, Mount Holly, has conveyed to the Burlington County Hospital seven of his properties in Mount Holly. For this charitable bequest he gives the following reason: "My love for the aforesaid institution, and hope, wish and desire that said institution shall prosper and be a blessing to wounded humanity."

NEW YORK

Medical Club Changes Name.—At the annual meeting of the Dutchess County Medical Club, October 11, the name of the organization was changed to the Poughkeepsie Academy of Medicine. The following officers were reelected: President, Dr. James E. Sadlier; vice-president, Dr. Nelson Borst, secretary, Dr. John A. Card; and treasurer, Dr. Lewis H. Marks.

Women Incorporate Society.—The Woman's Medical Association was incorporated November 3, with the stated purpose of bringing about closer relations among the alumnæ of the Woman's Medical College, the New York Infirmary and other women physicians holding degrees from medical colleges. Among the incorporators are Drs. Mary B. Jewett, Josephine Hemenway, Eleanor Parry and Alma Vedin, all of New York City.

State Board Election.—At the annual meeting of the State Board of Medical Examiners, held in Albany, October 30, Dr. William Warren Potter, Buffalo, was reelected president, and Dr. William S. Searle, Brooklyn, vice-president. Topics for the coming year were assigned as follows: Anatomy, Dr. William S. Ely, Rochester; physiology, hygiene and sanitation, Dr. William H. Park, New York; chemistry, Dr. Floyd S. Farnsworth, Plattsburg; surgery, Dr. Willis G. MacDonald, Albany: obstetrics and gynecology, Dr. William Warren Potter, Buffalo; pathology, Dr. Lee H. Smith, Buffalo; bacteriology, Dr. Frank W. Adriance, Elmira, and diagnosis, Dr. William S. Searle, Brooklyn.

Society Meeting.—At the fourth annual meeting of the First District Branch of the Medical Society of the State of New York, held in Middletown, October 28, the following officers were elected: President, Dr. Theodore D. Mills, Middletown; vice-president, Dr. W. Stanton Gleason, Newburgh; secretary, Dr. Charles E. Denison, New York City; and treasurer, Dr. James E. Sadler, Poughkeepsie. The next annual meeting will be held in Newburgh.——At the annual meeting of Binghamton Academy of Medicine, held October 26, Dr. John S. Kelley was elected president: Dr. Frederick A. Goodwin, vice-president; Dr. Frank L. Allen, secretary (reelected), and Dr. Harry I. Johnson, treasurer.

New York City

Personal.—Dr. Michael A. Cohn, Brooklyn, was injured in an automobile accident recently, and taken to the German Hospital.——Dr. L. Emmett Holt has been afflicted by the loss of his youngest son, who died at Pleasantville, N. Y., from pneumonia, October 29.

Apartments for Tuberculosis Patients.—Plans were filed November 3, for four model six-story tenements to be used for the accommodation of sufferers from tuberculosis. The tenements are to be erected in the upper east side at an outlay of $650,000, not including site. Roof gardens, open-air balconies and other features designed to aid in the cure and prevention of tuberculosis are planned.

Bequests to Hospitals.—The will of Mitchell Valentine, late of Westchester, N. Y., gives about $500,000 to be divided between the Presbyterian and Hahnemann Hospitals of New York, and the two funds to be known respectively as the Isaac E. Valentine and the Stephen Valentine Memorial funds. The sum of $100,000 is given to the Peabody Home in the Bronx, the income of which is to be used for the general purposes of the home.——By the will of the late John S. Kennedy, banker and philanthropist, who died October 31, $2,250,000 is bequeathed to the Presbyterian Hospital, to which he had already given a million dollars a year ago, and also $400,000 for a nurses' home.

Large Sums for Charity.—The will of the late Jane G. Phelps of Tarrytown leaves $10,000 to the Presbyterian Hospital of New York City, $5,000 to the Tarrytown Hospital, and $5,000 to the Lincoln Home and Hospital, Manhattan. ——The will of Caroline Phelps Stokes, who died on April 26, gives the Peabody Home for Aged and Indigent Women in the Bronx $10,000 for a chapel, and the New York Post-Graduate Hospital and the Women's Medical College Infirmary each $5,000 for free beds to be named the Dorothy beds.——At the celebration of the Twenty-fifth anniversary of the Montefiore Home at the Hotel Astor recently, donations amounting to $101,500 were received. Of this amount Jacob H. Schiff gave $50,000 and Mr. and Mrs. Murray Guggenheim gave $25,000. The new home which was recently completed has accommodations for 600 patients.

PENNSYLVANIA

Personal.—Dr. William S. O. Sherman has been named chief surgeon of the Carnegie Steel Company of Pittsburg. He will appoint twenty-seven additional surgeons, one to be stationed at each plant at a fixed monthly salary.——Dr. Samuel H. Gilliland, of Marietta, has been appointed to take the place of the late Dr. Leonard Pearson as state veterinarian. Dr. Gilliland will take charge of the state live stock sanitary board at once.

Philadelphia

Jewish Consumptive Institute.—The Jewish Consumptive Institute completed its organization November 6 by the election of the following officers: President, Max Eskin; vice-presidents, P. Miller and Abraham Weitzenfeld; treasurer, D. B. Tierkel. The following physicians were elected to the medical board: Drs. Solomon Solis-Cohen, Max Staller and Max Barbour.

Personal.—Dr. Harry Lowenburg has been made instructor in pediatrics in Jefferson Medical College.——Dr. Henry Parrish has been chosen laryngologist to the Kensington Tuberculosis Dispensary.——Dr. Henry W. Cattell has been appointed a director of the Philadelphia County Medical Society to fill an unexpired term.——Dr. Holmes Troutman, resident physician in the Philadelphia General Hospital, has been appointed resident physician at the Queen's Hospital, Honolulu, Hawaii.

Hospital Corner-Stone Laid.—The corner-stone of the addition to Mount Sinai Hospital was laid with appropriate ceremonies, October 27. More than two thousand persons were present. The new building will double the present capacity of the hospital. The building is a brick and stone structure with terracotta trimmings, 90x90 feet. It is hoped to have the two first floors completed by January. The first floor of the building will be used as a dispensary and the second will contain the men's and women's wards and will be provided with 65 beds.

Physicians and Allied Scientists Meet.—The Philadelphia Academy of Medicine and Allied Sciences, an organization of negro physicians, dentists and pharmacists, at its fifth annual meeting, held October 18, elected the following officers: President, Dr. Robert W. Bailey, Germantown; vice-president, Dr. Milton N. White; secretary, Dr. Grace A. Diuguid; assistant secretary, Dr. J. T. Howard; corresponding secretary, Dr. Arthur T. Boyer; treasurer, Dr. Paul J. Taylor; historian and organizer, Dr. C. G. Coates; and executive board, Drs. Nathan F. Mossell, John P. Turner, T. Spotuas Burwell, Arthur T Boyer, and J. Henry Boothe.

Money for Institutions.—Richard B. Westbrook bequeathed $10,000 to the Wagner Free Institute of Science. By the will of his widow, Dr. Henrietta Payne Westbrook, who died October 15, any deficiency in the above bequest is to be made up from her estate, valued at $35,000.——The Federation of Jewish Charities is made the beneficiary of $3,000 in the will of the late Herman Loeb.——The charities to benefit by the annual charity ball, January 3, at the Academy of Music, will be the medical wards of the University of Pennsylvania; the maternity department of Jefferson Medical College Hospital; the Children's Aid Society; and the Polyclinic Hospital.——A provisional bequest of $4,000 to the Norristown Hospital is contained in the will of the late Abraham Wentz.

RHODE ISLAND

New Tuberculosis Hospital.—Mrs. Theodore K. Gibbs has purchased a site at Southwick's Grove, Middletown, on which it is said she will erect a large hospital and home for the treatment of tuberculosis patients from Newport.

Personal.—Dr. Jay Perkins, medical examiner for the city of Providence, has resigned, and the governor has appointed Dr. Clifford H. Griffin to fill the vacancy. Dr. William C. Monroe, health officer of Woonsocket, has returned from Europe.

Fiske Fund Prize Essay.—The trustees of the Fiske Fund propose the following subject for the Fiske Fund Prize Essay for the year 1910: "Classification and Treatment of the Diseases Commonly Known as Rheumatism." For the best essay on this subject, they offer a prize of $200. Dissertations must be forwarded to Dr. Halsey DeWolf, 212 Benefit street, Providence, on or before May 1, 1910. The trustees of the fund are Drs. Eugene Kingman, Providence, Augustine A. Mann, Central Falls, and Frederick T. Rogers, Providence.

Franco-American Physicians Meet.—At the annual meeting of the Franco-American Medical Society of Rhode Island, held in Providence, the following officers were elected: President, Dr. Joseph D. N. Dubeau, Providence; vice-presidents, Drs. Theodule Morisseau, Warren, and J. Edgar Tanguay, Woonsocket; secretary, Dr. Alfred Poirier, Woonsocket; assistant secretary, Dr. Arthur O. Trottier, Providence; treasurer, Dr. Florian A. Ruest, Pawtucket, and librarians, Drs. J. Gaspard Boucher and Walter C. Rocheleau, both of Woonsocket.

TENNESSEE

Personal.—Dr. A. Bennett Cooke, Nashville, has returned after a summer in Europe.——Dr. Benjamin H. Fraysen has left the University of the South, Sewanee, where he has been connected with the department of medicine and pharmacy.——Dr. S. Rush Miller, Knoxville, has returned from Europe.

East Tennessee Physicians Elect.—At the annual meeting of the East Tennessee Medical Society, held in Greeneville, October 1 and 2, Bristol was selected as the next place of meeting. The following officers were elected: President, Dr. McMinn M. Pearson, Bristol; vice-presidents, Drs. George R. West, Chattanooga, Robert O. Huffaker, Chuckey, and John P. Blankenship, Maryville; and secretary-treasurer, Dr. William M. Copenhaver, Bristol.

Colleges Open.—Memphis Hospital Medical College opened for its thirtieth annual session October 1. Dr. Benjamin F. Turner delivered the opening lecture.——Tennessee Medical College, the Medical Department of Lincoln Memorial University, was formally opened October 1, with addresses by Prof. W. L. Stooksbury, president of the university, Cumberland Gap; Hon. Henry R. Gibson, Knoxville; Dr. R. L. Jones, dean of the faculty, and others.

Will Establish Sanatorium.—At a meeting of the Knoxville Association for the Prevention and Relief of Tuberculosis, held October 13, a prospectus was adopted setting forth that the association has in mind the establishment of a sanatorium in Knox county for the treatment of tuberculosis and for the prevention of the disease. The movement is purely benevolent, without any purpose of personal gain or profit. An appeal is to be made for subscriptions, donations, voluntary contributions, funds for endowment, materials, etc., to secure proper location and construct adequate buildings and provide facilities for the handling of patients and the promotion of the cause.

TEXAS

Sanatorium Opened.—The Texas Baptist Memorial Sanatorium, Dallas, which has cost nearly half a million dollars, was opened to inspection October 14. The formal opening will be held some time this month.

Physicians Meet at Brady.—At the annual meeting of the Fourth District (San Angelo) Medical Society, held at Brady, October 12 and 13, Dr. A. Chauncey DeLong, San Angelo, was elected president, and San Angelo was selected as the place for the next annual meeting.

The Prevalence of Hookworm Disease.—Dr. William M. Brumby, Houston, state health officer, on October 23, sent out a letter to health officers of the state, relative to the prevalence of hookworm disease, and the manner in which it may be cured. Microscopic examination of feces for the ova or hookworm will be made by the state bacteriologist free.

Medical Examiners Sustained.—The Third Court of Civil Appeals, on October 13, sustained the right of the State Board of Medical Examiners to refuse to issue licenses on account of grossly unprofessional or dishonorable conduct of a character likely to deceive and defraud the public. The board is said to have refused a verification license to Stephen Alfred Morse of McLennan county on account of alleged unprofessional conduct. Morse instituted mandamus proceedings, but the appellate court sustained the board.

Personal.—Dr. Joseph Gilbert has been appointed medical attendant for the male students of the University of Texas, Austin.——Dr. J. Mark O'Farrell, Richmond, has been appointed a member of the State Board of Health, vice Dr. Edward B. Parsons, Palestine, resigned.——Dr. Joseph R. Ferrell, Waco, has returned from Europe.——Drs. Arthur C. Scott and R. R. White, Temple, chief surgeons of the Santa Fe System, have been unanimously elected chief surgeons of the Gulf and Interstate Railway.——Dr. Samuel C. Broadstreet has been appointed city health officer of Mount Pleasant.

Health Officers' Meeting.—The annual Conference of State and County Health Officers was held in Austin October 7 and 8. A resolution was adopted calling on the governor to make operative at the earliest possible moment the bill providing for the establishment of a leper colony. The association endorsed individual drinking cups in schools. A committee consisting of Drs. Dabney Berry, San Antonio; James M. Loving, Austin; Edward M. Thomas, Georgetown; John M. Johnson, Giddings, and James W. McCarver, Brownwood, was appointed to confer with the State Board of Health regarding further provisions in the sanitary code.

WISCONSIN

Personal.—Dr. Chester M. Echols, Milwaukee, has been elected professor of gynecology in the Marquette University Medical School, vice Dr. Thomas Fitzgibbons.——Dr. John T. Corr, Kenosha, has returned from Europe.

Veteran Physician Honored.—Jefferson County Medical Society, at a special meeting in Jefferson, October 16, gave a banquet to Dr. William W. Reed, Jefferson, in honor of his sixtieth anniversary as a practicing physician in that place. On behalf of the society, Dr. John V. Stevens presented Dr. Reed with a silver loving-cup.

GENERAL NEWS AND COMMENT

Army Sanatorium.—Representatives of the Army and Navy are engaged in selecting a site for an army and navy sanatorium in Baguio, Northern Luzon, 150 miles north of Manila, at a high altitude and with a temperature ranging from forty to eighty degrees.

New Law for Japanese Physicians.—The United States vice-consul general at Yokohama reports that, according to the revised law, physicians may not advertise in any way whatsoever, their ability, method of treatment or previous career, excepting degrees, title and specialties, and shall provide a record book of service to patients which must be preserved for at least ten years.

Uniform Anti-Spitting Sign.—Health Commissioner Dixon of Pennsylvania has succeeded, through correspondence with state boards of health throughout the country, in securing the adoption of a uniform anti-spitting sign to be posted in railway cars that pass through the various states. The sign reads as follows: "The laws of the different states forbid spitting in public places under penalty."

Hospital Buildings Completed.—The two new buildings at Ancon Hospital, Canal Zone, now practically completed, will contain four surgical wards, the largest ward buildings in the reservation. The buildings are two stories in height and are intercommunicable. These wards will be used for the treatment of negro patients, and will give additional accommodation for 150 to the hospital.

Non-Lepers at Molokai.—Press telegrams report that fifty supposed lepers out of the first hundred examined by physicians at Molokai, have been declared non-lepers, and will probably be freed. The reexamination is being made under the resolution adopted by the last legislature, and it is expected that many hundreds of patients will apply for the privilege of reexamination under the law.

Pure Water for Soldiers.—A board of officers has been appointed, consisting of Lieutenant-Colonel Jefferson R. Kean and Major Frederick F. Russell, of the medical corps, and Capt. Bertram T. Clayton, of the quartermaster's department of the army, to visit the water purification plants of many cities and pass on the advisability of the adoption by the war department of plants for purification of water by the so-called ozone process.

Colored Physicians Meet.—At the tenth annual meeting of the Negro Medical, Dental and Pharmaceutical Association of West Kentucky and Tennessee, held at Humboldt, Tenn., October 15, Dr. W. Justin Waytes, Ripley, Tenn., was elected president; S. H. Broom, Savannah, Tenn., vice-president; Dr. John L. Light, Jackson, Tenn., secretary; Dr. S. W. Polk, Milan, Tenn., corresponding secretary, and Dr. E. D. Barnett, Brownsville, Tenn., treasurer. Brownsville was selected as the next place of meeting.

Election of Cotton Belt Surgeons.—The Cotton Belt Railway Surgeons' Association, at its annual meeting, held in Texarkana, Texas, October 26, elected the following officers: President, Dr. William A. James, Chester, Ill.; vice-presidents: for Missouri, Dr. Garnett S. Cannon, Illmo; for Arkansas, Dr. Amos W. Troupe, Pine Bluff; for Texas, Dr. Irvy L. McGlasson, Waco; for Louisiana, Dr. Oscar Dowling, Shreveport; for Tennessee, Dr. John L. Jelks, Memphis; for Illinois, Dr. William F. Grinstead, Cairo, and secretary-treasurer, Dr. Harry H. Smiley, Texarkana.

The Colored Antituberculosis League.—Surgeon Charles P. Wertenbaker, United States Public Health and Marine-Hospital Service, a southern man and thoroughly conversant with the conditions affecting the colored race, deserves great credit for his earnest work in the dissemination of knowledge regarding tuberculosis among the colored people. He has formulated a plan for the organization of colored antituberculosis leagues in each state, with a branch in every colored church. Up to the present time, such leagues have been organized in Georgia, Louisiana, Mississippi, North Carolina, and Virginia. Under the organization of each state league, a committee is appointed to select a president for every county in the state, whose duty it is to organize a branch league in each colored church in the county. Each church league is to appoint four standing committees, on finance, information, sick and sanitation respectively. The work of the third committee is especially important, as it makes out a list of all sick and ailing, whereupon the physician of the organization will visit the patients and decide the nature of the illness. Each member of the league is given a certificate of membership, of attractive appearance and suitable size for framing and use as house decoration, bearing printed information relative to the cause, prevention and cure of tuberculosis. The dues paid into the league go to form a fund to help those of its members who contract tuberculosis. The church league supplies its members with information regarding tuberculosis and sanitation, aids sick members, establishes dispensaries, and ultimately sanatoriums and tuberculosis farms where the patients, while living out of doors and working on the farm, may be under medical supervision; it also helps to provide tents, shacks or sheds, with sleeping-bags, blankets, bedding, etc., and dispenses proper food which indigent patients might not be able to obtain otherwise. As soon as a church league is formed, a physician is secured to examine all members referred to him and to decide if they have tuberculosis. When practicable, a tuberculosis dispensary is to be established at some convenient point where physicians may have certain days and stated hours where they can see consumptives and decide as to the necessary treatment. For the purposes of the league, tuberculosis patients are divided into three classes, the first including those who are in the early stages of the disease and who are able to work while taking treatment; the second, those patients who need to stop work and remain quiet to get well; and the third, cases in which the disease has progressed so far that it is hopeless to attempt a cure, but in which much can be done to make the patients comfortable and to prevent them from spreading the disease. The work of these leagues is at present in the formative stage, but such a scheme appears to be the best yet suggested to meet the problem of tuberculosis among the colored population of the country.

FOREIGN

Congress for Study of History of Medicine.—Italy held at Venice last month the second annual national congress for study of the history of the medical and natural sciences, with Professor Giordano in the chair. A number of unpublished diaries and data were presented throwing light on the history of medicine during the palmy days of Italy and into the sixteenth century. The list included Mercuriale's diary describing the plague at Venice and Padua in 1576, and others showing the high privileges enjoyed by the profession in Venice, exemption from taxation, advantages of organization, and the concerted and effectual action by the local medical association against certain abuses and quack practices. The decision of the board of officers of the local medical association seems to have been accepted by the courts as decisive in all medicolegal questions.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Oct. 30, 1909.

Alarming Increase of the Unvaccinated in England

In a previous letter the disastrous effects likely to result from the relaxation of the vaccination law, made owing to the pressure of the antivaccinationists, has been foretold. In this country extreme ideas as to the liberty of the subject and the rights of parents to forbid an operation on their children which they consider injurious are widely entertained. The legislation of recent years on vaccination consists entirely of concessions to the antivaccinationists who have carried on a persistent agitation against what they call "the disgusting and dangerous practice of inoculating children with matter obtained from sores." In 1853 an act making vaccination compulsory was passed without opposition. It remained in force until 1867, when the first concession was made to antivaccinators. A parent was rendered liable to a penalty of $5 for neglecting to have a child vaccinated, unless he could produce "a reasonable excuse." It was not sufficient for him to have a general objection to vaccination, but he had to satisfy the magistrate by legal evidence that he had good ground for believing that in the particular case vaccination would be injurious. As a further concession an act was passed in 1898 by which all public vaccinators were ordered to use calf lymph and the use of human lymph was abandoned. Previously calf lymph vaccination was only performed by private vaccinators, who charged an increased fee for it. But the act went farther and a parent who failed to have his child vaccinated was exempted from penalty if he could satisfy the magistrate within four months of the birth of the child that he conscientiously believed that vaccination would be injurious to its health. In 1907, by a new act the parent was no longer compelled to appear before a magistrate; all he had to do was to send a declaration to the vaccination officer that he believed vaccination to be injurious. The effects of all these concessions are only now becoming apparent and the first statistics on the subject have been published in the *Lancet* by Dr. L. B. Cane, a public vaccinator. He shows that in his district of Peterborough the percentage of exemptions from vaccination have steadily risen from 0.45 in 1897 (the year before the recognition by law of the "conscientious objector"), to 1.1 in 1899, and 2.2, 2.7, 2.8, 4.2 and 4.2 in the succeeding years. A slight fall followed and in 1907 the percentage was 3.5, but after the passage of the last act, just mentioned, the percentage rose to the enormous one of 28. Moreover this does not express the whole proportion of those unvaccinated, but only those granted legal exemption. Some children are not vaccinated in consequence of ill-health and others escape the notice of the vaccination officers by removal to another district. Finally the figures for Dr. Cane's district are much below the average for the county of Northampton in general, which amounts to 51.1. Thus more than half the children are unvaccinated. Figures for other counties in England are not yet available, but there can be no doubt that, if not so high as those of Northampton, they must be considerable. The present generation has forgotten the horrors of smallpox from which vaccination has rescued it. So rife was the disease in this country a century ago and so universal the pitting of the face produced by it that it is recorded that a girl was considered pretty if she had escaped the disease and was therefore not pitted. The masses know nothing of the scientific basis of vaccination and readily believe the statement of the antivaccinators that the decline of smallpox is due to improved hygiene and isolation hospitals. Thanks to their persistent agitation a suitable soil for a great epidemic is now prepared.

Enormous Infantile Mortality in Alexandria

Beneficent as British rule has proved in Egypt, it does not appear to have had any effect in diminishing an enormous infantile mortality. According to the report just issued by Mr. E. G. Carpenter, health officer for Alexandria, in the years 1902 to 1907 inclusive, 83,404 children were born, of whom 24,948, or 30 per cent., died in the first year of life. Comparing this mortality of 300 per 1,000 births with that of other countries it is exceeded only by Chili, for which the figure is 326; Russia follows with 268; Austria with 224; England with 150, and Ireland with 103. Comparing Alexandria with some of the larger cities of England the figures are: London 141, Manchester 177, and Preston 244. The majority of the infantile deaths in Alexandria are due to the following causes: 1. Prematurity, lack of development and marasmus; 2, diarrhea; 3, bronchitis and pneumonia. Tuberculosis is low, being only about a third of that of England, but there is thrice the mortality from diarrhea, twice as much from marasmus, thrice as much from rickets, and twice as much from bronchitis. The causes of the high mortality from these diseases are ignorance and neglect of the hygiene of pregnancy, the dirty habits of the natives and their fatalism which prevents them from seeking medical treatment in time.

Professor Osler on the Future of Tropical Medicine

The American ambassador, the Hon. Whitelaw Reid, presided at the opening of the London School of Tropical Medicine, at which was present a distinguished audience. An address was delivered by Professor Osler. The American ambassador in introducing him said he was "an excellent example of what America could do with a Canadian when he was caught young. McGill University brought him to some prominence; he reached the climax of his fame at Johns Hopkins, and then retired into his dignified repose at Oxford." In his address Professor Osler insisted on the importance of sanitation in dealing with subject nations. After referring to the great recent advances in pathology and prevention of tropical diseases he said that two things were necessary to those who took up the heavy burden of securing health in the tropics. First they must have organized centers from which the work might proceed; a model of this sort was the sleeping sickness bureau under the auspices of the Royal Society. Similarly organized central bodies had already dealt with plague and malaria. These organizations should be placed on a permanent basis and unified in some way under a central tropical institute, the different departments of which would be in touch with its workers all over the world. By far the most useful work in British medicine during the past twenty years had been the result of carefully planned expeditions sent out partly by the liberality of the citizens of Liverpool and partly as commissions by the government and the Royal Society. The school in which they were assembled was established ten years and had trained nearly 1,000 men for work in the colonies and dependencies. It had fostered original research in tropical diseases and was an important center for the diffusion of scientific knowledge. He was astonished that such good work had been done on a total capital of less than $200,000. Tropical sanitation would loom larger and larger in the future. England had had the start, but the United States, Germany, France, Holland and Japan were in the field and it behooved the country to equip adequately such a school as that, giving it the necessary professorships, a large hospital, museums and libraries. He also recommended the establishment of subsidiary schools in the tropics in connection with the school. This scheme would not require an endowment of more than $10,000,000.

Milton's Blindness

At the recent Ophthalmological Congress held at Oxford, Professor Dufour of Lausanne read a most interesting paper on Milton's blindness based on an account of his symptoms communicated by the poet to a friend, an oculist in Paris, from whom he expected advice. In 1644 his left visual field was encroached on by shadow which gradually extended until the eye became totally blind. Haloes were seen around flames and motionless objects appeared to float about. The right eye then became involved in a similar way but the pall of darkness was never complete. The upper half of the visual field was first lost. In 1654 there were sensations of faint light which Milton compared with early dawn. No shock or injury has been mentioned in connection with the blindness, but Milton admits that from the age of 12 he worked up till midnight. Professor Dufour thinks that the symptoms point conclusively to detachment of the retina.

Deaths from the Dry Shampoo

The case of the young woman who died while her hair was being shampooed with carbon tetrachlorid has been reported in previous letters (The Journal, July 31, 1909, p. 392, and Aug. 28, 1909, p. 726). The evidence went to show that the shampoo was harmless to healthy persons, but the doubts previously expressed regarding this conclusion have been confirmed by an article subsequently published by Dr. Waller, director of the physiologic laboratory of the University of London and Dr. Veley, a distinguished chemist. They show that carbon tetrachlorid is a very deadly substance and more toxic than chloroform. As a sequel to this case questions were asked in parliament and the government instituted a prosecution against the manager of the hairdressing department and the assistant who gave the shampoo. For the defense it was stated that on learning the dangerous nature of the shampoo the proprietors of the hairdressing establishment had ordered that it was never again to be used. Counsel for the prosecution then withdrew the charge of manslaughter, saying that the object of the prosecution was to bring before the public the dangerous nature of the process and that if any deaths occurred in the future a serious charge would be instituted. Probably some legislation prohibiting its use will follow. The result of this case is that the carbon tetrachlorid shampoo has been entirely abandoned. Before the introduction of the tetrachlorid, petrol (a product practically identical with gasoline) was used for the dry shampoo, but owing to its inflammable nature some deaths from burning occurred and led to its use being prohibited. Carbon tetrachlorid was then adopted as it is non-inflammable, but its poisonous properties were not recognized. Now the petrol shampoo has been used again with a dreadful result. At a French hairdresser's in the West End a woman, aged 23 years, was being shampooed with petrol. The daughter of the hairdresser was in the room engaged in drying some false hair which had been cleaned with petrol. Ignition took place from the burner of the dryer and both women were so severely burned that they died. In addition another woman who was in the room was also burned and lies in the hospital in a critical condition.

The Tragedy of the Workhouse Bath

An extraordinary triple tragedy at the Hemel Hempstead Workhouse has been the subject of a coroner's inquest. Three men, aged, respectively, 56, 54 and 68 years, were given on October 4 a bath at a temperature of 88 or 89 F. by a porter acting under the direction of a nurse. One died twenty minutes later, another died on the same afternoon and the third died four days later. In the last case the connection between the bath and the patient's death was not clearly established. The medical officer of the workhouse stated at the inquest that in the second case he was called to the man and found him in a state of collapse, which would be accounted for by the fact that the bath was given at too low a temperature; the temperature ought not to have been under 98 F. The man was in a serious condition before the bath and the nurse ordered the bath without having obtained the physician's sanction. She pleaded that the doctor had ordered a bath two days previously when the patient was in the same condition. The jury found that the deaths in the first two cases were accelerated by the baths. They considered the nurse was culpably negligent in allowing the administration of a bath to a patient in a serious condition without the consent of the physician and that this negligence was exaggerated by the fact that she took no steps to supervise the bath or to see that the temperature was correct. She was taken into custody on the charge of manslaughter.

Unqualified Dentists

In Great Britain the unqualified dentist still flourishes. Forbidden to use the designation "dentist," he resorts to various subterfuges, such as "tooth specialist," "dental institute," etc. One great advantage he possesses over the qualified denist is that he freely advertises, which the qualified dentist, like the physician, is forbidden to do. As he has no qualification to lose, he is not amenable to the discipline of the General Medical Council. Many of these "irregulars" are unskilled charlatans, who victimize those who are unfortunate enough to fall into their hands. A shocking case of malpractice has recently been the subject of legal action. A firm of unqualified dentists trading under the specious name of "The London Hygienic Institute," employed a canvasser to get patients. The agent induced a foreman baker to enter into an agreement that for the payment of $9 his teeth should be completely and properly dealt with. The man went to the defendants' premises where he saw an assistant, who injected some local anesthetic which had no effect. A few teeth were extracted, causing great pain. Then the patient, in a fainting condition, said he could stand no more, but the operator said he had better have the job finished, and proceeded to extract in all twenty-two teeth. The patient bled so much that when he arrived home he passed from one fainting fit into another, and a physician had to be called. The patient's mouth was much lacerated, and he was so weak from loss of blood that without proper attention he might have died. Later a dentist had to be called. He found that the work of extraction had been most unskillfully done, and that there remained fourteen stumps in the patient's mouth which had to be extracted. For the defense, the operator stated that he had never been to a dental school, but had learned the mechanical part of dentistry in the workshop which he entered when he left school sixteen years ago. He alleged that he had had great experience in tooth extraction: he had drawn about 10,000 teeth a year for the last nine years. He denied that the patient suffered much pain, and alleged that after extracting six teeth he recommended the patient to have no more teeth extracted that day, but to come again, and that he proceeded with the extractions only because the patient insisted on it. The judge in summing up said that the agreement of the institute to extract teeth did not imply any contract to provide a legally qualified operator, but one who would use due skill and care in the operation. The jury returned a verdict against the institute and awarded the plaintiff $250 damages.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Oct. 20, 1909.

To Prevent Infection from Medicine Containers

The suspicion has been repeatedly expressed in public that infectious diseases may be communicated by medicine containers, which are returned to the apothecaries and used a second time. These apprehensions have been sustained on the part of the pharmacists, which suggests the idea that the material interests of the pharmacists are involved. The Prussian minister of education has felt himself compelled to request a report from the medical authorities whether such communication of disease has been observed. The report was negative. Nevertheless the minister has notified the district physicians to endeavor to secure, in cases of infectious diseases, the disinfection of medicine containers before refilling, and the burning of covers of wood or celluloid, cork stoppers, powder boxes and other pasteboard articles.

Punishment of Unethical Business Combination by Court of Honor

A large shoe firm of this city engaged a young orthopedist, a former assistant of Professor Hoffa, to give advice to people with diseases of the feet, with the understanding that the physician should be present daily for some hours in the store for the immediate examination of customers, to whom he should give appropriate prescriptions. Naturally the firm made known this engagement with flaring headlines. The Berlin shoemakers' association, which considered its business interests injured in this way, denounced the physician to the Court of Honor and the court reprimanded the doctor and fined him $37.50 (150 marks) on account of his unprofessional contract and his permission of the advertisement of his engagement with the firm.

Relations Between the Size of the Head and the Intelligence of School Children

In the annual report of school physicians of Worms, a nerve specialist, Dr. Bayerthal, takes up the question of the relation between the size of the head and the intelligence of school children. He believes that he has established the fact that excellent intellectual ability accompanies large heads relatively often, less often the small head, and is never found with the very smallest. By very large heads he understands a head of normal shape that measures less than 48 cm. (19.2 in.) in a 7 year-old boy and 47 cm. (18.8 in.) in a girl of the same age, 50.5 cm. (20.2 in.) in a boy of 14, and 49.5 cm. (19.8 in.) in a girl. Among 1,006 children beginning school only 3 boys with circumference of 49.5 cm. and 2 girls with 48 cm. could be regarded of good capacity among a total of 77 children who could be rated in this class. On the other hand an unusually large head is naturally no sign of great intelligence as it is well known that the size of the head is not infrequently increased by rachitis. Bayerthal says that conclusions drawn from the size of the skull are permissible only to this extent, that we may say that with large heads all grades of intellectual capacity may occur, with heads of middle size an ability that is above the average may be found, but a marked development of the intelligence is excluded, as a rule, and that this does not occur with small heads. The reliability of the investigations of the doctor remains to be seen. The experience of other nerve specialists has shown that marked variations and errors may readily occur in tests of intelligence.

The Political Boycott of Alcoholic Liquors

The last convention of the "social-democratic" party at Leipsic on motion of the executive committee adopted a resolution recommending to the members of the party a boycott on alcoholic liquors. While the principal influence leading to this resolution was rather partisan politics and especially the fight against the agricultural distillers, yet a hygienic factor contributed to the adoption of the resolution and the result of such a boycott, if it is actually generally carried out, would surely redound to the benefit of the public. In the circular that has been distributed for this purpose among the German workmen the obvious fact is stated that alcoholic liquors are the most dangerous poison for the people: "Whisky is not a food, not a luxury, not nutritious material. Whisky gives no comfort but only deception and aggravation of misery. Brandy destroys the body and soul of numerous members of our class, destroys the happiness of families and the joy of life, therefore away with spirits!" That the holders of the liquor license are not specially pleased with the resolution of the party is easy to understand; for financial interests overbalance those of party discipline. It remains to be seen what the effect of this action on the consumption of liquor will be in the course of the next year.

Injuriousness of So-called Spotted Eggs

As is well known, fresh eggs are recognized by entire translucency on candling. Spotted eggs show larger or smaller variously colored spots—generally dark or black. These spots are produced in the eggs generally by the development of mold, less frequently by yeast. (Professor Podwyssotzky has claimed that they could be produced also by the development of *Coccidum avium* but this has been disputed.) As these eggs are purchased by dealers in large numbers and sold to bakers and confectioners at a low price, the scientific deputation for medicine, at the request of the chief of police of this city, has investigated the question as to whether eggs of this kind are injurious to health. The report presented by Professor Gaffky and privy councillor Abel, in the name of the scientific deputation, states that spotted eggs without exception must be regarded as spoiled, but there are no reliable observations regarding injury to health following their use. The fact, however, cannot be excluded that under special circumstances, particularly when a lesion of the digestive apparatus is already present, the use of spotted eggs may be injurious to health. The parts that are evidently penetrated by the fungus growth are to be regarded as unusable, the part that appears unchanged or slightly changed to the naked eye cannot be said to be unusable but should always be regarded as inferior and should be excluded from free sale. In case their use for food or the preparation of food is permitted, provision must be made that the buyer shall not be left in doubt as to the character of the eggs and of the food prepared with them. That a question of this sort is of importance for the population of Berlin is shown by the circumstance that in greater Berlin about 35,000,000 dozens of eggs are imported annually. About 95 per cent. of these come from foreign countries, principally from Russia and Galicia, next from Hungary and the Balkan states. Eggs coming from southern Russia and Galicia are at least three to four weeks old and those from the most distant Russian districts must be two or three weeks on the way. Under such conditions it is easy to see that the number of spoiled eggs brought into Berlin must be large.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Oct. 21, 1909.

Relations of Alcoholism and Criminality

The Academy of Medicine resumed its weekly sessions October 5. Dr. Ballon, physician in chief of the Sainte Anne Asylum, read an interesting paper on "Alcoholism as an Etiologic Factor in Criminality." As expert physician to the courts he has had to examine, in the course of the last twenty years, 151 individuals accused of homicide or attempted homicide. Among them there were seven who simulated mental aberration and nine in whose defense mental disturbance was wrongfully pleaded. Out of the 135 accused remaining, there were 120 males and only 15 females. In this number there were 49 cases of alcoholic intoxication (chronic, acute, and subacute alcoholism, pathologic drunkenness, simple drunkenness). The liquor drinkers thus formed more than a third of the total number of those accused of homicide. The influence of alcohol in the production of homicide appears still more considerable if the antecedents of the accused not personally intoxicated by alcohol are examined. A large number of epileptics and feeble-minded are children of alcoholic parents. Dr. Ballon lays particular stress on the fact that acts of violence may be committed not only by chronic alcoholics with or without acute or subacute crises but also by casually intoxicated individuals.

Cold Storage and Refrigeration Congress

The French Association for Refrigeration (*Association française du froid*) held its first congress at Lyons, October 1-3. Various questions were discussed bearing on the extension in France of systems of cold storage and refrigerator cars, which have had such great development in the United States and in England, especially the question of refrigerating food for the army. An army physician, Dr. Vitry, said that attempts at cold storage of fresh meat had already been satisfactorily made in the fortified places on the eastern border. The employment of means for the refrigeration of meat during transportation to the troops in the field has also given excellent results. These attempts deserve to be made on a wider scale in order to lessen the consumption of inferior preserved meats in the army. Dr. Vitry commends the use of frozen meats during war, as it will obviate the necessity of having herds of cattle follow the army. He also recommends brief cold storage for fresh meat for army rations during peace.

French Students in American and English Universities.

Under the title "Should French Students Attend the Universities of the United States or Those of Great Britain?" the *Revue internationale de l'enseignement* published some time ago a series of letters from Oxford, Manchester and Edinburgh professors in answer to an article "French Students in the United States," that M. E. Vigier had previously published in the same periodical. In this article M. Vigier advises French students who desire to complete their studies abroad to go to the American rather than the English universities. The chief characteristic and advantage of instruction in the United States, according to M. Vigier, is the closeness of the relations between the professors and the students. In America, the professors are much more numerous in proportion to the number of students than in the University of Paris and they devote more hours to teaching, which permits them to follow the progress of each student very closely. M. Vigier adds that "a foreigner is received more cordially in the United States than in England, not only in the universities, but everywhere."

This article naturally aroused protests from the English university world. Mr. Hartog, secretary of the University of London, thinks that there are certain advantages in learning pronunciation and style from English rather than from American students; but he says, "There is no doubt that they are intellectual centers of the first rank." The opinion of H. J. Darnton-Fraser, convener of the International Academic Committee of the University of Edinburgh is still more favorable to the American universities. "The advice given to French students to study in some American university has its good side. There are subjects (surgery and the practical sciences in particular) which can be studied nowhere else with so much profit as in certain institutions of the United States. From the point of view of general education, and enlargement of ideas, a sojourn in America presents incontestable advantages to a young European."

Regulations of the Opium Trade in Madagascar

On the suggestion of Dr. Augagneur, the governor-general of Madagascar, the colonial minister, has recently issued a decree for a strict regulation of the importation, the sale, and holding in stock of opium in this colony. A decree of Aug. 31, 1908, prohibited opium dens, but this prohibition would have remained altogether ineffective if the administration had not been able to exercise a very close control over the drug itself from the time of its introduction.

The Second Congress of the White Cross

The second international congress for the repression of adulteration in food, organized by the Geneva White Cross Society, of which I mentioned the general purpose in a previous letter (The Journal, Oct. 9, 1909, liii, 1200), opened October 18 in the buildings of the Paris medical school, under the presidency of M. Ruau, the Minister of Agriculture. About 2,000 members of the congress were present, among whom were fifty-two delegates from the twenty-three countries officially represented.

M. Vuille, president of the society, made the opening speech, saying that it seemed probable that an international understanding might be reached for the protection of foodstuffs, such as had been secured in the case of the Red Cross. Professor Bordas, president of the congress, then explained the program. The congress will take for the point of departure of its labors the academic definition of pure food adopted last year at the Geneva congress. In order to define what is commercially pure food, the executive committee of the congress has asked the various French commercial and manufacturing societies to study carefully various processes that their experience has led them to consider indispensable to the preparation of commercially pure food. All permissible processes once fixed and enumerated, food which has been submitted to other processes will be considered as adulterated.

The congress will then collect data in regard to the required legislation and administration on commerce and production with which the third and fourth congresses will have to deal. These desiderata will be previously examined by the section of hygiene under the presidency of Professor Landouzy, dean of the Paris medical school.

The Minister of Agriculture believes that some years hence all civilized countries will have established identical laws for the suppression of adulteration and the preservation of public hygiene. These international regulations for the repression of adulteration are necessary, in fact, for dealing adequately with cosmopolitan adulterators of food. At present there are in every country unscrupulous manufacturers who prepare adulterated foods exclusively for foreign consumption, knowing that in the absence of international agreement such products can pass the frontiers with impunity. The courts are often helpless and sometimes acquit solely because the undoubted infraction of the law has been committed in a foreign country, and even if the case goes against the defendant, the judgment is without effect because the offender cannot be apprehended on foreign soil. Under the new laws, drawn up under the influence of the congress, no offender will be able to escape; and it is already possible to foresee, as M. Ruau does, the time when an international agreement of the White Cross will protect honest commerce in all countries, just as the Red Cross guarantees that all the wounded on the fields of battle shall be safeguarded by the belligerents.

Criminality and Alcoholism

The *Journal officiel* is now publishing the report of the Minister of Justice in regard to crime in 1907. This report shows a considerable increase in crimes against persons. The total number of cases before the courts in 1907 was 2,357, or 214 more than in 1906. The 2,357 cases in the year 1907 may be divided into 1,395 (59 per cent.) of crimes against persons and 962 (41 per cent.) of crimes against property. The 2,143 criminal cases of 1906 may be divided into 1,187 (55 per cent.) of crimes against persons and 956 (45 per cent.) of crimes against property. Two classes of cases, especially, show an increase in 1907; that of murders, in which the increase is 22.5 per cent. and that of unintentional manslaughter, the total has increased from 162 in 1906 to 190 in 1907, an increase of 17.2 per cent. This increase must be attributed especially to alcoholism. The greatest part of the official report is devoted to the relations between alcoholism and criminality. The statistical results on which this document is based are gathered by the employment of the new system of individual records which I mentioned in one of my letters (The Journal, Jan. 23, 1909, lii, 310) namely, the following: Whenever a crime or a breach of the peace is reported to them, the magistrates have to record on a special report blank (1) if the offense was committed under the influence of liquor and (2) if the accused is a confirmed alcoholic or an occasional drunkard. It appears from the statistics thus gathered that the proportion of crimes against property committed under the direct influence of alcohol is rather small, barely 5.3 per cent. This is not true of crimes against persons, the proportion of which averages 14 per cent. For certain crimes of this category, the percentage is much larger. Thus, the proportion of parricides committed under the influence of liquor is 29 per cent., manslaughter 24.5 per cent., murders 21.9 per cent., etc. If the proportion of alcoholics and drunkards among those accused is calculated, it is found that out of every 100 accused of parricide, there are 31 alcoholics; among those accused of rape or offenses against decency, the proportion is 33.3 per cent., etc.

In studying criminality according to professional groups, one finds that the occupations furnishing the greater number of drunkards show the largest proportion of criminals. Fishermen furnish the largest proportion of alcoholic and drunkard delinquents; then come miners; then the class of day laborers in cities; and then workingmen in various industries. The regions in which crimes of violence most frequently result from alcohol are those of the northeast, north and northwest; those in which alcohol has the least influence are in the center, south and southeast.

Change of Date of International Congress of School Hygiene

The Third International Congress of School Hygiene, the opening of which was set for March 29, 1910 (The Journal, Aug. 7, 1909, liii, 468) will be held in Paris, Aug. 2 to 7, 1910. In view of the impossibility of finding a building large enough to contain the exposition of hygiene to take place at the same time as the congress, the committee of organization was under the necessity of either omitting the exposition entirely or of changing the date of the congress. Believing that the exposition would be of great interest and would give to all those interested in educational hygiene an exceptional opportunity of informing themselves in regard to the various types of educational architecture and furniture, the committee preferred to postpone the congress to the time when vacation begins in France.

Protection of Hands in Surgery.—Some surgeons have advocated protective coatings to the hands, but these coatings encourage and intercept perspiration, and in spite of the thickness they invariably crack or wear off during the operation, unloading an army of virulent organisms fresh from the deeper recesses of the skin, directly into the wound.—C. E. Tennant, in *Denver Medical Times and Utah Medical Journal.*

Pharmacology

RESINOIDS AND CONCENTRATIONS

Report of the Council on Pharmacy and Chemistry

In view of the fact that there is much misunderstanding as to the character of the so-called resinoids and concentrations, and also as to the meaning of the suffix "in," as used in pharmacology, it has been recommended that the following report be published. The recommendation was adopted.

W. A. Puckner, Secretary.

MISUSE OF THE ENDING "IN" AS APPLIED TO SO-CALLED RESINOIDS AND CONCENTRATIONS

The endings "in" and "ine" are commonly used in connection with the names of definite chemical substances. In naming the vegetable principles (substances), the ending "ine" has commonly been used to indicate basic (alkaloidal) substances and the ending "in" to identify non-basic (glucosidal, neutral, bitter) substances, and this system of nomenclature is followed in the U. S. Pharmacopeia. While both endings have thus been used to indicate definite, chemical substances much confusion has been caused by using the ending "in" in connection with a class of pharmaceutical preparations (galenicals) known as "resinoids" or "concentrations." This class of preparations is obtained by preparing an alcoholic tincture of a drug, reducing the tincture to a soft extract and collecting the precipitate which is formed when the extract is poured into water. "Podophyllin" may be taken as the type of this class of preparations. "Podophyllin" is not a definite chemical substance, as the ending "in" would imply, but a somewhat variable mixture of the resinous constituents of the drug podophyllum (Mandrake). The name "resin of podophyllum" applied in the U. S. Pharmacopeia to an almost identical product, is more rational. While the term "podophyllin," therefore, is unscientific and incorrect, it has been established through usage by which the term "in" has come to be applied to non-alkaloidal mixtures known to contain the active constituents of the drug, and in a measure has ceased to be misleading.

There is no justification, however, for a considerable number of titles included with "resinoids" or "concentrations" by some manufacturing pharmacists. While such drugs as juglans (butternut bark), aletris, baptisia, etc., do not contain any appreciable amount of resinous material and do not, therefore, owe to their resin, to any extent, any medicinal activity they may possess, yet the title, "juglandin," "aletrin," "baptisin," etc., are given by the manufacturers to the "concentrations" or "resinoids" of these drugs. From the general descriptions of the "concentrations" or "resinoids" which appear in the catalogs of the manufacturers referred to it is evident that they realize the inconsistency of their position in the matter, for the attempt is made to assign a new meaning to the terms "resinoid" or "concentration." Thus the following description of these products is found in the price list of a well-known manufacturing firm and agrees in general with the descriptions found in the price lists of other manufacturers of this class of preparations: "While some of these (resinoids and concentrations) represent a pure resin and others an impure alkaloid, by far the greater number are a combination of the various active proximate principles contained in the drug which they represent."

When it is considered that the chemical nature of the active principle or principles of the drugs, from which these preparations are made, if they possess any, has not been determined, the reliance which is to be placed on the claims of the manufacturers is obvious. While it is not definitely so stated, it is to be inferred from the descriptions that these products are, in the main, extractive preparations of the drugs. It should be noted, however, that the drug strength (the amount of drug represented by a given amount of the preparation) is not stated: such preparations are thus secret in their composition and should be classed with other preparations of unknown composition that is, as nostrums.

OXYDONOR

A Fake Cure and What the Courts Think of It

Of therapeutic fakes there are, in the main, two kinds—medicinal and anti-medicinal. The individuals who get "bitten" on the former frequently turn to the latter, for credulity must have an outlet. One of the most impudent fakes of the anti-medicinal type is the "Oxydonor," which was foisted on a long-suffering but easily humbugged public by one "Dr." Hercules Sanche. This modern Hercules tackles the Augean stables of disease by means of his newly-discovered "science" of "Diaduction" which is "practiced with Pocket Diaductive Instruments and Devices"—to-wit: the Oxydonor, price $25.

HOW IT WORKS

The "instrument" consists of a cylindrical portion and a disc portion, the two being connected by a flexible wire. Its *modus operandi* is as follows: The cylinder is placed in cold water while the disc is attached to the patient's ankle. Immediately the cylinder begins to "draw the positive fluid from you, thus creating a vacancy in the system. . . ." It would seem that there are then two vacancies, for we must presuppose the presence of one vacancy in any individual who will part with $25 for such a silly piece of charlatanry. When this induced vacancy—as distinguished from the natural—has been secured, it "leaves you 'negative'" (this has no reference to the financial condition). Being thus "negative," the oxygen of the air "has an affinity for the negative state" and immediately you begin to "absorb the oxygen in the skin and tissues." Then, of course, you get well.

So much for the fake itself.[1] It seems incredible that rational human beings would exchange good money for such a self-evident piece of quackery, but its wily "inventor," remembering Barnum's aphorism, knows better. The United States courts have decided that the "instrument" is not of sufficient value to entitle "Dr." Sanche standing in a court of equity.[2] But the crop of "suckers" is perennial and the sale of this nickel-plated fake goes merrily on.

Very recently an attempt was made in New York to invoke the medical practice act of that state against this transparent humbug. The case fell to the ground because (1) Sanche himself does not apply his cure-all to the patient, and (2) his methods "smack more of the retail vendor or of business methods than of the medical practitoner", and (3) because, in the opinion of the court, the framers of the medical practice law did not "intend to inhibit every one but recognized physicians from publicly recommending manufactures or products as beneficial physically or as curatives or correctives of human disease, pain, injury, deformity or physical condition."

WHAT THE JUDGE THOUGHT OF IT

Whatever satisfaction the Sanche Company may get out of the final decision, it will find small cause for rejoicing in reading the judge's summing up. Said the judge in referring to this fake:

"There has been a studied attempt to stimulate sales by fulsome praise, vague explanations of the force and virtue of 'diaduction,' and exuberant representations of the benefits derivable by using the invention . . . all to attract attention of the curious and credulous."

After quoting some of the claims made by the exploiters of this humbug, the judge goes on to say: "From the record evidence we have tried to get some intelligent idea of 'diaduction.' We have failed utterly. Mr. Justice Shiras, now of the U. S. Supreme Court, with the letters patent before him did not succeed any better for . . . he said: 'I am entirely certain that I do not understand the working of this so-called force, if any such exists, and I greatly doubt whether Dr Sanche has any clear conception of the force or principle which he seeks to describe under the name of "diaduction."'"

All of which seems to mean, when summed up in non-legal phraseology, that while the learned judges have no doubt that the oxydonor is a fake, and that Dr. Sanche is a faker, they are unable so to stretch the law as to convict the Sanche Company of the illegal practice of medicine.

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[1] A full description of this article was given by Dr. N. C. Morse, Eldora, Ia., in The Journal, Dec. 1, 1900.

[2] See also The Journal, Jan. 11, 1902.

Hibbard Pleads Guilty

The Boston Medical Institute and the Bellevue Medical Institute were two names used on separate entrances to a single quack concern in Chicago. The institute purported to treat the "private diseases of men," but a federal court decided that the business was a scheme for obtaining money through the mails by means of fraudulent pretenses. E. R. Hibbard—who seemed to be the owner—was sentenced to two years' imprisonment and to pay a fine of $1,500 and costs. He, of course, appealed, and his case was remanded for a new trial. Recent issues of Chicago papers state that, rather than undergo the new trial, Hibbard has pleaded guilty. The government has decided that payment of the fine of $1,500 and costs would be sufficient punishment. Details of this concern appeared in THE JOURNAL, Oct. 17, 1908, and the matter has been reprinted in pamphlet form.[1]

Miscellany

Embryonic Development.—Maximilian Herzog discovered an impregnated ovum in the uterus of a young Filipino woman who met death as the result of an accident. He made a very thorough and painstaking examination of the specimen, which was almost identical in size and type with the Peter's ovum. These findings, as published in the *American Journal of Anatomy*, July, 1909, may be summarized as follows: A human ovum at the earliest stage of normal development hitherto known, a stage which, perhaps, represents one to two weeks after fertilization, was found interstitially embedded in the decidua. It was incompletely separated from the cavity of the uterus, because it was very superficially embedded, and its outer pole was protected by a thin, incomplete decidua capsularis or a coagulum only. The ovum, after having been fertilized, had evidently been transported to or near to the place where it was found embedded. Herzog advances the theory that by the aid of an ectodermal trophoblast shell, which probably secretes an enzyme destructive to the epithelial cells and connective tissues of the uterine mucosa, which is then in a premenstrual condition of congestion and glandular hypertrophy, the ovum produces necrobiosis or coagulation necrosis in the structures of the mucosa. At the same time the trophoblast, exhibiting great proliferative energy, penetrates through the necrotic tissue into the connective tissue of the mucosa. Here the phenomena of edema and of violent hemorrhagic inflammation are now established. Veins and capillaries become enormously dilated, the blood current becomes sluggish, edematous infiltration becomes pronounced. The ovum automatically orients itself, so that the embryo comes to be situated toward the muscularis. The proliferating trophoblast, with its syncytium provided with cilia or rods, at this time begins to break into and open up dilated maternal capillaries. Maternal blood now makes its way into the trophoblast; whether it here finds preformed cavities or whether it forms these cavities in a loose protoplasm in consequence of hydrostatic pressure, is not known. While the trophoblast opens up the enlarged maternal blood lacunae, the hypertrophy of the mucosa, as a whole, goes on. The gland spaces become large and cystic, their ducts lead to the surface in a tortuous manner. A separation into a spongiosa and compacta becomes early established, and in the latter some cells early assume a marked decidual character. The ovum is now interstitially embedded in the mucosa and surrounded by a border zone of an admixture of still attached or detached trophoblast elements, degenerating fixed maternal cells, both connective tissue decidual cells and glandular epithelia. In this zone are also enormously enlarged maternal blood vessels, cystic, blood-filled gland spaces, and free blood. The ovum almost floats, as it were, in a lake of blood partly contained in the trophoblast cavities, partly in the cystic maternal gland spaces, partly freely infiltrating more or less all of the tissue in the direct neighborhood of the growing germ.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: Los Angeles, December 7. Sec., Dr. Charles L. Tisdale, Butler Bldg., San Francisco.

DELAWARE: Regular, Dover, December 14; Homeopathic, Wilmington, December 14. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

IOWA: State House, Des Moines, Dec. 7-9. Sec., Dr. L. A. Thomas.

KENTUCKY: The Armory, Louisville, December 14. Sec., Dr. J. N. McCormack, Bowling Green.

MARYLAND: 1211 Cathedral St., Baltimore, December 14-17. Sec., Dr. J. M. Scott, Hagerstown.

PENNSYLVANIA: Regular and Homeopathic, Philadelphia, December 14-17; Eclectic, Harrisburg, December 14-17. Secretary of the Medical Council, Nathan C. Schaeffer, Harrisburg.

VIRGINIA: Lynchburg, Dec. 14-17. Sec., Dr. R. S. Martin, Stuart.

Cooper Medical College Still Existing

Word from Dr. Henry Gibbons, Jr., of San Francisco, states that although Cooper Medical College will eventually turn over its property to the Leland Stanford Junior University, there are still three classes to be graduated before the final transfer will be made. Therefore, Cooper Medical College will continue to appear in our lists of medical colleges until after the class of 1912 shall have been graduated.

A College That Should Have Been Included

In the list of colleges "recognized as in good standing" by the American Institute of Homeopathy, in THE JOURNAL, Aug. 14, 1909, page 554, the Atlantic Medical College of Baltimore was omitted in accordance with corrected copy received from the office of the secretary, Dr. J. Richey Horner, of Cleveland. A letter recently received from Dr. Horner, however, states that he did not authorize the omission and that the college named should have been included in the list.

A Denver Medical School Closes Voluntarily

At a recent meeting of the board of directors and of the faculty of the Denver College of Physicians and Surgeons, it was decided by unanimous vote to close the college permanently. The reasons given for the action were that standards of admission to medicine were necessarily becoming higher, that to train medical men properly required a large number of skilled instructors, that to equip the laboratories properly was a matter of enormous expense, and that there was no real necessity of maintaining the college.

This is another instance in which the members of a medical college faculty, at both personal and financial sacrifice, have decided to close their school rather than have it continue as a second or third rate institution.

It has also been reported that two colleges, the Sioux City College of Medicine, Sioux City, Iowa, and the Physio-Medical College of Indiana, Indianapolis, have been suspended. This leaves only one existing physiomedical college and reduces the total number of medical colleges in the United States to 141.

Mississippi May Report

Dr. S. H. McLean, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, May 11-13, 1909. The number of subjects examined was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 226, of whom 109 passed, including 52 non-graduates, and 116 failed, including 66 non-graduates. The following colleges were represented:

PASSED		
College	Year Grad.	Total No. Examined.
Univ. of Alabama	(1, 1893) (1, 1894) (1, 1907) (2, 1909)	5
Rush Medical College	(1, 1870) (1, 1908)	2
Chicago Homeopathic Medical College	(1897)	1
College of Physicians and Surgeons, Chicago	(1906)	1
Kentucky School of Medicine	(1908)	1

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[1] A copy of this pamphlet, "The Boston Medical Institute," will be sent, postpaid, for four cents.

Louisville Medical College	(1906)	1
Hospital College of Medicine, Louisville	(1904)	1
University of Louisville	(1, 1908) (1, 1909)	2
Tulane University of Louisiana	(1, 1899) (6, 1909)	7
Woman's Medical College of Baltimore	(1899)	1
Mississippi Medical College	(1, 1903) (2, 1909)	3
Cornell University Medical College	(1900)	1
Columbia University, College of Phys. and Surg.	(1906)	1
University of Pennsylvania	(1907)	1
College of Physicians and Surgeons, Memphis	(1907)	1
University of Nashville	(1, 1906) (1, 1907) (1, 1908)	3
University of the South	(1908)	2
Vanderbilt University	(1909)	3
Memphis Hospital Medical College	(1, 1894) (1, 1895) (1, 1904) (1, 1908) (14, 1909)	18
Meharry Medical College	(1907)	1
University of Tennessee	(1905)	1

FAILED

National Medical University	(1908)	1
Louisville Medical College	(1904)	1
Tulane University of Louisiana	(1908)	1
Mississippi Med. Coll.	(2, 1907) (3, 1908) (9, 1909)	14
St. Louis College of Physicians and Surgeons	(1908)	1
Vanderbilt University	(1908)	1
Memphis Hospital Medical College	(1,1903) (1, 1906) (2, 1908) (8, 1909)	12
University of Nashville	(1,1902) (1, 1903) (1, 1905) (1, 1906) (1, 1909)	5
University of Tennessee	(1909)	2
College of Physicians and Surgeons, Memphis	(1909)	1
Meharry Medical College	(2, 1907) (4, 1908) (3, 1909)	9
University of the South	(1906)	1
University of Virginia	(1908)	1

Georgia October Report

Dr. E. R. Anthony, secretary of the Regular Board of Medical Examiners, reports the written examination held at Atlanta, Oct. 12-13, 1909. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 80. The total number of candidates examined was 13, of whom 12 passed and 1 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Southern Medical College, Atlanta	(1897)	87
Atlanta College of Physicians and Surgeons	(1909)	84
Atlanta Medical College	(1893)	92
College of Physicians and Surgeons, Boston	(1908)	82
Leonard Medical School	(1909)	87
Medical College of Ohio	(1907)	88
Jefferson Medical College	(1909)	89
Chattanooga Medical College	(1901)	82
Meharry Medical College	(1895) 81; (1907)	80
University of the South	(1906)	80
University College of Medicine, Richmond	(1909)	90

FAILED

College	Year Grad.	Per Cent.
Knoxville Medical College	(1908)	75

Association News

NEW MEMBERS

List of new members of the American Medical Association for the month of October, 1909:

ALABAMA

Blackshear, R. D., Dothan.
Cowao, S. C., Union Springs.
Dean, T. J., Union Springs.
Hilliard, C. W., Dothan.
Lay, H. T., Montgomery.
May, W. L., Maben.
Peterson, J. J., Mobile.
Pollard, C. T., Montgomery.
Wood, J. H., Attalla.

ARKANSAS

Baioes, Swartz, Bergman.
Crow, M. T., Ingalls.

CALIFORNIA

Byington, F. S., Los Angeles.
Fairchild, F. D., Los Angeles.
Francis, W. V. C., Los Angeles.
French, J. R., Los Angeles.
Gladding, C. F., Sacramento.
Johnson, P. V. K., Los Angeles.
Newcomb, R. H., Pasadena.

DISTRICT OF COLUMBIA

Schneider, E. C., Washington.

FLORIDA

MacKethan, D. G., Tampa.

GEORGIA

Hawkins, J. S., Savannah.
Kitcheos, T. Neal, Columbus.
Martin, F. M., Shellman.
Thomas, M. R., Savannah.
Walker, Sidney, Dublin.

ILLINOIS

Anderson, S. L., DeKalb.
Boots, F. W., Hanover.
Burgess, C. O., Monmouth.
Culver, D. D., Aurora.
Culver, G. S., Sandwich.
Jones, C. D., Aurora.
Olesoo, R. B., Lombard.
Reder, A. R., Aurora.

INDIANA

Colglazier, G. G., Leipsic.
Marshall, R. E., Elwood.
McFarlin, J. T., Williams.
Wickens, Mary, Richmond.

IOWA

Burke, C. B., Atlantic.
Conrad, Belle, Webster City.
Halstead, F. R., Muscatine.
Hawley, O. E., Corning.
Hoag, H. M., Garner.
Landes, L. J., Grand River.
Lange, A. F., Braddyville.
Leonard, B. B., Holstein.
Mighell, N. E., Marshalltown.
Parker, A. W., Shenandoah.
Rumbaugh, G. T., Villisca.
Thompson, C. E., Marne.

KANSAS

Caldwell, J. S., Kingman.
Emerson, F. G., Wellington.
Gage, G. R., Hutchinson.
McGee, C. J., Leavenworth.
Perkins, Anna, Eldorado.
Thompson, S. H., Kansas City.

KENTUCKY

Daily, H. J., Owingsville.
Haack, O. B., Louisville.
Ott, C. F., Louisville.

LOUISIANA

Pothier, O. L., New Orleans.

MAINE

Haskell, W. L., Lewiston.

MARYLAND

Esker, H. H., Baltimore.
Sanderson, J. W., Baltimore.

MASSACHUSETTS

Cote, H. J., Boston.
Dearborn, G. V. N., Cambridge.
Giddings, H. G., Boston.
Schmidt, R. D., Boston.

MICHIGAN

Baskett, L. W., Ann Arbor.
Chisholm, G. W., Pontiac.
Coffin, L. E., Iron Mountain.
Evans, W. A., Bellaire.
Howe, L. W., Pellston.
Marshall, W. H., Boyne City.

MINNESOTA

Haverfield, A. R., Minneapolis.
Leavitt, H. H., Minneapolis.
Worthing, I. E. M., Austin.

MISSOURI

Neville, E. J., St. Louis.
North, W. R., St. Louis.
Reber, L. W., St. Louis.
Sahlender, O. L., St. Louis.

NEBRASKA

Davies, C. H., Ingleside.
Foster, R. H., Prosser.
Hull, C. A., Omaha.
Wenger, E. S., Lincoln.

NEW HAMPSHIRE

Baker, N. C., Milford.
Fitch, E. M., Claremont.

NEW JERSEY

Cosgrove, S. A., Jersey City.
Faulkner, M. R., Vineland.
Kerns, F. J., Newark.

NEW YORK

Botsford, L. B., Brooklyn.
Bowles, F. J., New York City.
Clarke, L. V., Far Rockaway.
Curry, Stanton, Peekskill.
Holly, I. MacM., Brooklyn.
Potter, J. H., Buffalo.
Smith, L. H., Palmyra.
Trudeau, E. L., Saranac Lake.
Wagner, J. J., Brooklyn.

NORTH CAROLINA

Guerard, A. R., Flat Rock.
Powell, R. A., Caroleen.

NORTH DAKOTA

Law, H. W. F., Hannah.
McKay, J. A., Clyde.

OHIO

Saudoe, DeNevin, Columbus.
Ulmer, C. A., Bucyrus.
VanWinkle, B. L., Belpre.

OKLAHOMA

Antle, H. C., Renfrow.
Swaok, J. R., Coldwater.

PENNSYLVANIA

Brice, P. J., New Castle.
East, A. F., Reading.
Hogue, J. D., Altoona.
Hutt, W. H., Philadelphia.
Keller, A. H., Philadelphia.
Marshall, C. C., Pittsburg.
Roland, Charles, Reading.

RHODE ISLAND

Howe, G. J., Central Falls.

SOUTH CAROLINA

Bailey, T. W., Greenville.
Black, D. S., Columbia.
Wilson, E. R., Sumter.

TENNESSEE

Frayser, B. H., Sewanee.
Jones, D. L., Dresden.
McFall, R. J., Cumberland City.
Pollard, T. G., Nashville.
Robbios, C. D., Gordonville.

TEXAS

Turner, J. S., Dallas.

UTAH

Light, C. A., Salt Lake City.

VERMONT

Wakefield, Alice E., St. Johnsbury

VIRGINIA

Brock, C. W. P., Richmond.

WASHINGTON

Cameron, S. D., North Yakima.

WEST VIRGINIA

McGuire, J. P., Clarksburg.
Rowsey, J. H., Huntington.
Wilson, J. E., Clarksburg.

WISCONSIN

Beech, G. D., Baraboo.
Birkl, J. A., Milwaukee.
Pratt, E. C., Casco.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

LITERATURE ON PELLAGRA

To the Editor:—I desire to refer to the back numbers of The Journal containing articles on pellagra. Not having an index number, I am unable to tell in which numbers these articles may be found. C. R. Bell, Peoria State Hospital.

Answer.—The following articles and editorials have appeared in The Journal:

Searcy, George H.: An Epidemic of Acute Pellagra, The Journal A. M. A., July 6, 1907, xlix, 37.

Merrill, T. C.: A Sporadic Case Diagnosed as Pellagra, ibid, Sept. 14, 1907, xlix, 940.

Bellamy, R. Harllee: Pellagra; Its Occurrence in This Country: Report of Cases, ibid, Aug. 1, 1908, li, 397.

Vienna Letter: Governmental Precautions Against Pellagra, ibid, Aug. 1, 1908, li, 420.

Moore, N. M.: Pellagra; Report of Case, with Remarks on Etiology, ibid, Sept. 26, 1908, li, 1076.

Cole, H. P.: Transfusion of Blood in a Case of Pellagra, ibid, Feb. 20, 1909, lii, 632.

Walker, N. P.: Clinical Features of So-Called Acute Pellagra, ibid, July 3, 1909, liii, 15.

Wood, Edward Jenner: The Appearance of Pellagra in the United States, ibid, July 24, 1909, liii, 274.

Williamson, O. L.: Pellagra in Arkansas, ibid, Aug. 28, 1909, liii, 717.

Vienna Letter: Pellagra in Austria, ibid, Sept. 4, 1909, liii, 808.

Editorial: Treatment of Pellagra, ibid, Sept. 25, 1909, liii, 1033.

Hewitt, J. H.: Pellagra in Virginia, ibid, Oct. 2, 1909, liii, 1085.

Pollock, Lewis J.: Pellagra; Its Occurrence in the Cook County Institutions, ibid, Oct. 2, 1909, lii, 1087.

Editorial: Pellagra, ibid, Oct. 2, 1909, liii, 1106.

Bass, C. C.: Complement Fixation with Lecithin as Antigen in Pellagra, ibid, Oct. 9, 1909, liii, 1187.

Editorial: The Italian Congress on Pellagra, ibid, Oct. 23, 1909, liii, 1405.

Dock, George: A Visit to the Pellagrosarium at Rovereto, ibid, Oct. 30, 1909, liii, 1499.

King, Howard D.: Pellagra, Ancient and Modern, ibid, Nov. 6, 1909, liii, 1556.

The following articles in other periodicals also may be consulted:

Tizzoni, G.: Experimental Study of Pellagra, *Gazz. d. osp.*, 1907, xxviii.

Deiaco, P.: Skin Symptoms of Pellagra (Pellagrösen Hautsymptome), *Wien. klin. Wchnschr.*, 1907, xx; abstr. in The Journal A. M. A., Sept. 14, 1907, xlix, 975.

Babes, V.: Treatment of Pellagra with Atoxyl, *Bull. de l'Acad. de méd.*, July 23, 1907, lxxi, No. 30.

Babes, V., and Vasiliu, A.: Further Experience with Atoxyl in Pellagra, *Berl. klin. Wchnschr.*, Sept. 23, 1907, xliv, No. 38.

Tizzoni, G.: Bacteriologic Research on Pellagra, *Gazz. d. osp.*, Dec. 1, 1908, xxviii, No. 147.

Babcock, J. W., and others: What are Pellagra and Pellagrous Insanity? Does Such a Disease Exist in South Carolina, and What are Its Causes? *Jour. South Carolina Med. Assn.*, February, 1908; abstr. in The Journal A. M. A., April 18, 1908, l, 1304.

Ronzani, E.: Hygienic Care of Grain in Prophylaxis of Pellagra, *Gazz. d. osp.*, July 26, 1908, xxix, No. 89.

Gnyot, G.: Experimental Pellagra, ibid, Aug. 18, 1908, xxix, No. 93.

Saviai-Lojani, L.: The Blood in Experimental Pellagra, ibid, Sept. 6, 1908, xxix, No. 107.

Nicolas, J., and Jambon, A.: The Syndrome of Pellagra, *Ann. de dermat. et de syph.*, 1908, ix.

Watson, J. J.: Etiology of Pellagra—The Italian Maize Theory, or the Theory of Lombroso, *Jour. South Carolina Med. Assn.*, November, 1908; abstr. in The Journal A. M. A., Jan. 9, 1909, lii, 167.

Taylor, J. H.: Protozoan Theory of Pellagra, *Jour. South Carolina Med. Assn*, November, 1908; abstr. in The Journal A. M. A., Jan. 9, 1909, lii, 167.

Wood, E. J.: Pellagra—Problems in the Study of its Etiology, *Jour. South Carolina Med. Assn.*, November, 1908; abstr. in The Journal A. M. A., Jan. 9, 1909, lii, 167.

Moore, N. M.: Etiology of Pellagra, *Journal South Carolina Med. Assn.*, November, 1908.

Thompson, J. L.: Roumanian Theory as to the Cause of Pellagra, ibid., November, 1908.

Babcock, J. W.: Diagnosis and Treatment of Pellagra, ibid, November, 1908; abstr. in The Journal A. M. A., Jan. 9, 1909, lii, 167.

Griffin, H. H.: Pathology of Pellagra, *Jour. South Carolina Med. Assn.*, November, 1908.

McConnell, H. E.: Clinical Observations on Pellagra, ibid, November, 1908; abstr. in The Journal A. M. A., Jan. 9, 1909, lii, 168.

Neuffer, G. A.: Four Cases of Pellagra, *Jour. South Carolina Med. Assn.*, November, 1908.

Taylor, I. M.: Personal Experience with Some Cases of Nervous and Mental Diseases Showing the Pellagra Syndrome, ibid, November, 1908; abstr. in The Journal A. M. A., Jan. 9, 1909, lii, 168.

Whaley, E. M.: Examination of the Eyes in Eighteen Cases of Pellagra; *Jour. South Carolina Med. Assn.*, November, 1908.

McCampbell, J. M.: Theory as to the Cause of the Recent Appearance in this County of Pellagra, ibid, November, 1908, abstr. in The Journal A. M. A., Jan. 9, 1909, lii, 168.

Searcy, G. H.: Pellagra in the Southern States, *New Orleans Med. and Surg. Jour.*, December, 1908.

Randolph, J. H.: Pellagra and Pellagrins, *Arch. Int. Med.*, January, 1909; abstr. in The Journal A. M. A., March, 6, 1909, lii, 801.

Babes, V., Vasiliu, A., and Gheorghus: Treatment of Pellagra with Atoxyl plus Arsenic Trioxid, *Berl. klin. Wchnschr.*, Feb. 8, 1909, xlvi, No. 6.

Sofer, L.: Campaign Against Pellagra in Austria, *Therap. Monatsh.*, April, 1909, xxiii, No. 4; abstr. in The Journal A. M. A., May 15, 1909, lii, 1631.

Thayer, W. S.: Pellagra in Maryland, *Bull. Johns Hopkins Hosp.*, July, 1909; abstr. in The Journal A. M. A., July 31, 1909, lii, 414.

Alsberg, C. L.: Agricultural Aspects of the Pellagra Problem in the United States, *New York Med. Jour.*, July 16, 1909; abstr. in The Journal A. M. A., May 8, 1909, lii, 1537.

Lavinder, C. H.: Etiology of Pellagra, *New York Med. Jour.*, July 16, 1909; abstr. in The Journal A. M. A., May 8, 1909, lii, 1537.

Thomas, J. N: Two Cases of Pellagra, *New Orleans Med. and Surg. Jour.*, July, 1909.

Bondurant, E. D.: Report of Nine Cases of Pellagra, *Med. Rec.*, Aug. 21, 1909; abstr. in The Journal A. M. A., Sept. 4, 1909, liii, 813.

Bass, C. C.: Pellagra; Report of Eleven Cases from Mississippi, *New Orleans Med. and Surg. Jour.*, September, 1909.

Wollenberg, R. A. C.: Pellagra in Italy, *Pub. Health Rep.*, July 23, 1909; abstr. in The Journal A. M. A., Oct. 16, 1909, liii, 1307.

Drewry, W. F.: Pellagra; Report of Fourteen Cases, *Virginia Med. Semi-Month.*, Sept. 24, 1909.

Lavinder, C. H.: Prognosis and Treatment of Pellagra, *Jour. South Carolina Med. Assn.*, September, 1909.

Lavinder, C. H.: Pellagra, *Pub. Health Rep.*, Sept. 1909.

Carter, Marion H.: Pellagra, *McClure's Magazine*, November, 1909, xxiv, 94.

LITERATURE ON ACUTE PURULENT THYROIDITIS

To the Editor:—Please give references regarding the literature on acute purulent thyroiditis. The condition is evidently a primary one, and not the result of a general infection. C. B. O.

Answer.—The following are some of the references to the literature of recent years:

Meara, F. S., and MacGregor, R. S.: Case of Acute Suppurative Thyroiditis with Pressure Symptoms Relieved by Intubation, *Arch. Pediat.*, August, 1906.

Variot and Roland: Un cas de thyroidite aiguë, *Bull. Soc. de pediat de Par.*, 1907, ix, 111; *Ann. de méd. et chir. inf.*, Paris, 1907, xi, 316.

Roger, H.: Thyroidite typhique suppurée à bacille d'Eberth, *Montpel. méd.*, 1907, xxiv, 193-202.

Lamb, S. D.: Case of Acute Thyroiditis, *Wash. Med. Ann.*, 1907-8, vi, 243.

Cepparello, T.: Un caso di flemmone della regione tiroidea. Osservazione clinica, *Riforma med.*, 1908, xxiv, 934.

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CATHARSIS AND DIURESIS IN ACUTE INFECTIOUS DISEASES

To the Editor:—To stimulate elimination by the use of cathartics and diuretics is often advised as part of the treatment in acute infectious diseases, for instance, pneumonia.

1. Is there any proof that elimination through the bowels or kidneys plays any part in the cure of those diseases?
2. Is there any proof that elimination of toxins through the bowels is increased by the use of cathartics?
3. Is there any proof that elimination of toxins or bacteria through the kidneys is increased by the use of diuretics?
4. Have any experiments been made showing that animals injected with bacterial toxins or bacteria do better with the use of cathartics or diuretics? H. Haerem, Story City, Iowa.

Answer.—These questions may be answered in the negative, so far as positive demonstration is concerned. Clinical experience, however, affords many examples of rapid recovery from toxemia or infection after a free evacuation of the bowels. The exact way in which these results are brought about is not known and the question given may stimulate more exact investigation and a rational criticism of our accepted methods of treatment.

"SEMELINCIDENT" AND "IMMUNIFACIENT"

To the Editor:—In offering the new word "semelinicident," referring to the class of diseases which occur once only (The Journal, Sept. 18, 1909, liii, 963), I had also thought of a word similar to your very good word "immunifacient." I cannot think, however, that your word refers quite as directly to the idea as mine. Your word includes also the effects of vaccination, antitoxins and all serum treatment, does it not? Mine, on the other hand, not only directs attention to the one fact that these ailments happen once in a life-time, but emphasizes the fact that it is but once. They are both good words and needed words, but not quite synonyms.

T. L. Hazzard, Pittsburg, Pa.

The Public Service

Medical Department of the Army

Changes for the week ended Nov. 6, 1909:

La Garde, L. A., lieut. col., assigned as president of the faculty, Army Medical School.

Grubbs, R. B., capt., granted an extension of 1 month to his leave of absence.

Harris, H. S. T., lieut. col., ordered to Hawaiian Islands on November 5 transport, to inspect hygienic and sanitary conditions at Hawaiian posts.

Bushnell, G. E., lieut. col., granted leave of absence for 6 months, on account of sickness.

Bartlett, C. J., capt., granted leave of absence for 3 months.

Wilson, Elsworth, M. R. C., Archer, W. M., Jr., and Philips, H. F., M. R. C., relieved from duty at their present stations, and ordered to San Francisco, to sail Jan. 5, 1910, for Philippine service.

Medical Corps of the Navy

Changes for the week ended Nov. 6, 1909:

McCormick, A. M. D., surgeon, detached from temporary duty at the Works of the General Electric Company, Schenectady, N. Y., and ordered home to wait orders.

Kelley, H. L., asst.-surgeon, detached from the First Torpedo Flotilla on board the *Decatur* and ordered to the Naval Hospital, Canacao, P. I.

Higgins, S. L., asst.-surgeon, detached from the Naval Hospital, Canacao, P. I., and ordered to the *Wilmington*.

Koltes, F. X., asst.-surgeon, detached from the *Wilmington* and ordered to the Naval Station, Cavite, P. I.

Huff, E. P., asst.-surgeon, detached from the Naval Station, Olongapo, P. I., and ordered to the *Villalobos*.

Smith, H. L., asst.-surgeon, detached from the *Villalobos* and ordered to the Naval Station, Olongapo, P. I.

Lee, A. E., asst.-surgeon, detached from the *Rainbow* and ordered to the *Albatross*.

McCormick, A. M. D., surgeon, ordered to duty in connection with the fitting out of the *Michigan*, and to duty on board that vessel when commissioned.

Shiffert, H. O., surgeon, commissioned surgeon from April 1, 1909

Wieber, F. W. F., surgeon, detached from the Naval Station, Cavite, P. I., and ordered home, with permission to delay 2 months, en route.

Ledbetter, R. E., surgeon, ordered to the Naval Station, Cavite, P. I.

Butts, H., asst.-surgeon, detached from the Naval Station, Cavite, P. I., and ordered home via the Suez Canal.

Henry, R. B., asst.-surgeon, ordered to the *Rainbow*.

Noble, D. H., asst.-surgeon, ordered to the Naval Station, Olongapo, P. I.

Harlan, T., acting asst.-surgeon, ordered to duty with the First Torpedo Flotilla Pacific Fleet.

Public Health and Marine-Hospital Service

Changes for the seven days ended Nov. 3, 1909:

Carmichael, D. A., surgeon, granted 18 days' leave of absence from Nov. 15, 1909.

White, J. H., surgeon, directed to report at Bureau on special temporary duty.

Woodward, R. M., surgeon, granted 14 days' leave of absence from Oct. 30, 1909, on account of sickness.

Stoner, J. B., surgeon, granted 10 days' leave of absence from Nov. 2, 1909.

Stimpson, W. G., surgeon, relieved from duty on Revenue Cutter *Manning*, and directed to proceed to Philadelphia, and assume charge of the Service, relieving Passed Assistant Surgeon R. H. Creel.

Rosenau, Milton J., surgeon, resignation accepted to take effect Jan. 31, 1910, revoked, by direction of the President, Oct. 29, 1909.

Rosenau, Milton J., surgeon, granted 5 months' leave of absence, without pay, from Feb. 1, 1910.

Foster, M. H., P. A. surgeon, directed to proceed to Antwerp, Belgium, on special temporary duty, and on completion of said duty, report to the medical officer in charge at Naples, Italy, for duty.

Fox, Carroll, P. A. surgeon, relieved from duty on Revenue Cutter *Bear*, and directed to proceed to Washington, D. C., and report to the Director of the Hygienic Laboratory for duty.

Gwyn, M. K., P. A. surgeon, granted 3 days' leave of absence from Oct. 30, 1909, under paragraph 191, Service Regulations.

Roberts, Norman, P. A. surgeon, granted 2 days' leave of absence from Nov. 1, 1909, under paragraph 191, Service Regulations.

Hunt, Reid, chief, Division of Pharmacology, Hygienic Laboratory, detailed to attend the National Conference on Pellagra, to be held in Columbia, S. C., Nov. 3-4, 1909.

Alexander, E., acting asst.-surgeon, granted 15 days' leave of absence from Nov. 4, 1909.

Deerhake, William P., acting asst.-surgeon, granted 1 day's leave of absence in October, 1909, under paragraph 210, Service Regulations.

Gill, S. G., acting asst.-surgeon, granted 21 days' leave of absence from November 9, 1909.

James, William F., acting asst.-surgeon, granted 30 days' leave of absence from Nov. 4, 1909.

APPOINTMENT

Dr. Charles Bell, appointed an acting assistant surgeon for duty at Detroit.

RESIGNATION

Joseph H. Kastle, chief, Division of Chemistry, Hygienic Laboratory, resigned, to take effect Sept. 30, 1909.

Health Reports

The following have been reported to the Marine-Hospital Service, during the week ended Nov. 5, 1909:

SMALLPOX—UNITED STATES

District of Columbia: Washington, Oct. 17-23, 1 case.
Georgia: Macon, Oct. 9-15, 2 cases.
Illinois: Chicago, Oct. 17-23, 1 case.
Indiana: Indianapolis, Oct. 18-24, 2 cases.
Massachusetts: Boston, Oct. 17-23, 1 death.
North Carolina: Charlotte, Oct. 16-22, 2 cases.
North Dakota: Henry County, Aug. 1-31, 5 cases.
Ohio: Dayton, Oct. 17-23, 2 cases.
Texas: San Antonio, Sept. 5-Oct. 2, 4 cases.
West Virginia: Wheeling, Oct. 17-23, 1 case.

SMALLPOX—FOREIGN

Algeria: Algiers, Sept. 1-30, 4 deaths; Bona, Sept. 1-30, 5 cases, 3 deaths.
Brazil, Sept. 11-26, 7 cases.
China: Amoy, Sept. 5-11, 1 death.
Egypt, general, Sept. 17-23, 9 cases, 4 deaths; Alexandria, Sept. 10-23, 2 deaths; Cairo, Sept. 24-30, 2 deaths.
France: Marseille, Sept. 1-30, 2 cases.
Greece: Athens, Sept. 19-25, 2 deaths.
India: Madras, Sept. 18-24, 2 deaths.
Indo-China: Saigon, Sept. 6-13, 1 case, 1 death.
Italy, general: Naples, Oct. 4-10, 6 cases.
Mexico: Veracruz, Oct. 11-17, 4 cases, 1 death.
Portugal: Lisbon, Oct. 3-9, 12 cases.
Russia: Odessa, Sept. 27-Oct. 2, 7 cases, 2 deaths; Moscow, Sept. 27-Oct. 2, 1 case, 3 deaths; Warsaw, Aug. 29-Sept. 4, 1 death.
Spain: Almeria, July 1-Aug. 31, 8 deaths; Barcelona, Oct. 4-11, 3 deaths; Madrid, Sept. 1-30, 109 deaths; Valencia, Oct. 2-9, 2 cases; Vigo, present.
Turkey: Bagdad, Aug. 15-Sept. 18, present; Constantinople, Oct. 4-10, 1 death; Smyrna, Sept. 29-Oct. 5, epidemic.

CHOLERA

Belgium: Antwerp, Oct. 21-27, 8 cases, 6 deaths, in vicinity.
China: Amoy, Sept. 5-18, 39 deaths; Hankow, Sept. 25, present; Shanghai, Sept. 12-18, present.
Germany: Heysenkunig, district, Oct. 20, 1 case; Niederung, Oct. 16-20, 2 deaths; Tilsit, Oct. 11, 1 death.
India: Calcutta, Sept. 11-18, 8 deaths
Java: Batavia, district, Sept. 12-18, 35 cases, 30 deaths.
Korea: Seoul, Sept. 21, estimated 100 cases daily.
Manchuria: Dalny, Sept. 19-25, 5 cases, 7 deaths.
Netherlands: Hattem, Oct. 1-8, 4 cases, 1 death.
Russia: Riga, Oct. 2-8, 16 cases, 4 deaths.
Straits Settlements: Singapore, Sept. 12-18, 1 death.

YELLOW FEVER

Brazil: Para, Sept. 27-Oct. 9, 9 cases, 6 deaths.
Mexico: Merida, Oct. 8-14, 1 case.

PLAGUE

Australia: Brumby, June 4, 1 case, on steamship *Zoroaster*.
Brazil: Rio de Janeiro, Sept. 20-26, 1 case, 1 death.
Chile: Iquique, Sept. 9-22, 2 cases, 2 deaths, Sept. 22, 2 cases in the lazaretto.
China: Amoy, Sept. 5-18, 86 deaths.
Ecuador: Guayaquil, Sept. 19-25, 9 deaths.
Hawaii: Hilo, Pepeekeo, Oct. 4, 1 case, 1 death.
India: Calcutta, Sept. 12-18, 9 deaths.
Indo-China: Saigon, Sept. 7-13, 7 cases, 7 deaths.
Mauritius, Aug. 13-19, 2 cases, 2 deaths.
Peru, general, Aug. 28-Sept. 23, 14 cases, 10 deaths.
Zanzibar, Oct. 20-26, 2 deaths.

Society Proceedings

COMING MEETINGS

American Physiological Society, Washington, D. C., December 28-30.
Hawaiian Territorial Medical Society, Honolulu, November 19.
Southern Surg. & Gynecological Assn., Hot Springs, Va., Dec. 20-21.

CONFERENCE ON PELLAGRA

Held under the auspices of the South Carolina State Board of Health at the State Hospital for the Insane,
Columbia, S. C., Nov. 3-4, 1909

[SPECIALLY REPORTED FOR THE JOURNAL]

The conference met at 2:30 p. m. and was called to order by Dr. C. F. Williams, Secretary of the State Board of Health.

An address of welcome was delivered by Governor Ansel, which was responded to for the conference by Dr. William C. Woodward, Washington, D. C.

Pellagra from an English Viewpoint

Dr. F. M. Sandwith, London, England: Maize (*Zea mays*) was introduced into Egypt as a cereal from Syria about 1840, yet pellagra was not discovered until 1893, though it has, perhaps, been present for years in the country districts. In spite of denial from American authorities on medicine, I have always suspected that pellagra might exist, unrecognized, in the South, and at one time I requested my friends to put me into communication with the poorest folk of the maize-eating districts. I was referred to a settlement in Eastern Virginia for pauper negroes, but, on investigation, I found that the inmates lived in stone houses on pork rations and I came to the conclusion that the word poverty represented no condition in America which could compare with the misery of the impoverished peasants of Italy, Roumania and Egypt. During the South African war I found myself surrounded by poor colored folk living on maize, and I naturally expected to find pellagra among them, but every medical man practicing in the country assured me that no such disease had ever been seen. Yet, in 1900, I saw two cases of pellagra among the lunatics of Robben Island, Cape Town, and had previously recognized a third case at Bethlehem Hospital (London) which had been imported from South Africa.

Now that the diagnosis of pellagra has been firmly established in so many states, it would be well to find out for certain how many people are attacked by the disease in the South. In order to arrive at any correct figures, it might be well to institute compulsory notification of the disease, at least as a temporary measure. In Italy there has been a law to that effect since 1888. The lunatic asylums will continue to yield a certain number of advanced cases, but pellagra should be searched for among the out-patients of general hospitals and in the private practice of country doctors. I would also recommend that agricultural laborers should be examined in the states where pellagra is known to be prevalent, such as Georgia and North and South Carolina. This might be done in February or March, when the eruption is likely to be present.

In 1901-2 I obtained permission to examine 500 Egyptian peasants who were actually at work in the fields; they all stoutly denied that they were ill, and their employers, who worked them, stated that they could all do a fair day's work. Yet in every field I found early stages of pellagra, varying from 15 per cent. in well-to-do districts to 62 per cent. in the inhabitants of the poorest hamlets. If a complete census could be obtained of the pellagrous it might be found that the two sexes suffer equally, unless the women have a less varied diet than the men, and I shall be surprised to learn that the children (after the age of ten) are fairly exempt, as more than one American writer has stated during the last two years. One of the objections to the diseased maize theory of causation is that cases are sometimes reported of pellagra occurring among those who have never eaten maize. In examining more than 1,000 cases of pellagra, I have, of course, often encountered individuals who stated that they were not maize eaters, but on cross-examination every one of them pleaded guilty to having occasionally eaten bread which was partly made from maize flour. I therefore venture to suggest that in any undoubted case of pellagra the patient should be thoroughly questioned, before we inculpate a second cereal or attempt to overthrow the belief that diseased maize is a potent factor in the etiology.

Two cases of pellagra have recently been recorded in patients who had never been out of the British Isles, but the published accounts do not tally with the disease as I know it, though the symptoms were somewhat similar to pellagra. One of the patients had never eaten maize but had devoured raw oatmeal and rice. There are certain general axioms which prove true in Italy and Egypt, and it will doubtless be found that they hold good in the United States also:

1. In districts where no maize is cultivated or habitually eaten, pellagra does not exist.

2. There are many districts where maize has been cultivated for many years and yet pellagra has not appeared.

3. Well-to-do-people in pellagra districts, living on varied diet and consuming maize as an occasional, and not as the staple cereal, usually escape pellagra.

4. It is not good maize or good maize flour which produces pellagra; the disease requires for its production the habitual use of damaged maize in some form.

There is a vast amount of Italian literature dealing with the question of what the damage may be, and there is now a considerable consensus of opinion in favor of incriminating *Penicillium glaucum* or bread-mold in ordinary pellagra.

5. We are constantly being reminded by skeptics that the maize area of the world is infinitely greater than the pellagra area. This is not the point. The question is, does not pellagra distribution correspond very nearly with the areas on which human beings live who eat damaged maize or products made from damaged maize?

Pellagra as a National Health Problem

Dr. J. W. Kerr, U. S. Public Health and Marine-Hospital Service: The disease is serious, and its occurrence in the United States is a matter of grave concern. In Europe an enormous amount of study has been devoted to problems connected with the prevalence of this disease. The problems of pellagra are in some respects analogous to those of beriberi, since both diseases are held to be associated with the consumption of important articles of diet, both are capable of becoming veritable scourges among the people of countries where they become endemic, and in neither case has the etiology been definitely determined. It has not been deemed necessary by the national government to institute quarantine procedures against either disease. The Public Health and Marine-Hospital Service is ever alive to the importance of exotic diseases, and through its officers stationed abroad, and other sources, evidence has been accumulated that neither disease is directly communicable, and that where they prevail, there also must their causes be sought. During the past two or three years the Public Health and Marine-Hospital Service has investigated pellagra and has distributed 23,000 copies of articles on that subject.

A plan of investigations has been submitted to the Advisory Board of the Hygienic Laboratory and the preliminary steps were taken in the Hygienic Laboratory in Washington and the State Hospital for the Insane in Columbia, S. C.

The increasing prevalence of the disease is indicated by records of approximately 1,200 cases scattered over thirteen states up to June last, and conservative estimates that the total number of cases at the present time probably aggregate 5,000. This apparent increase of cases is due not wholly to an increasing prevalence of the disease, but also to the recognition of existing cases as knowledge of the disease spreads and skill in diagnosis develops among a profession hitherto largely unfamiliar with the subject. On account of the apparent increase and because of the lack of definite knowledge as to its etiology, the disease is held to be of national importance; the annual report of the Surgeon-General of the Public Health and Marine-Hospital Service shows that pellagra should receive unremitting study. The Surgeon-General has designated a commission of scientific workers who will concentrate their energies on different phases of the problem with the view to its further elucidation. This commission consists of Passed Assistant Surgeon John F. Anderson, Director of the Hygienic Laboratory; Dr. Reid Hunt, Chief Division of Pharmacology of the Hygienic Laboratory; Surgeon M. J. Rosenau, of Harvard University; Passed Assistant Surgeons C. H. Lavinder and John D. Long, of the Hygienic Laboratory, and Dr. Nicolas Achucearo, of the Government Hospital for the Insane, Washington, D. C. The belief that there is some relationship between pellagra and the use of corn as food, is too universal and too profound to permit of rejection except in the case of demonstrative proof to the contrary. At the same time, the exact nature of this relationship awaits final solution, and as there is evidence that sound corn is a highly nutritive and valuable food, to counsel its total rejection would therefore be inadvisable except for purposes of investigation.

Economic Factors of the Pellagra Problem in South Carolina

Mr. E. J. Watson, Commissioner, Department of Agriculture, Commerce and Industries, Columbia, S. C.: The agitation of the whole question as to whether or not corn is the producing agency of pellagra—indeed the mere discovery of the disease—should admonish our people to do what we have been pleading with them for other economic reasons in season and out of season to do for their own protection, namely: raise their own home supplies. In this climate, corn matures and is liable to be pure, and our people owe it to themselves and their posterity to do their part. Today there is a mere handful of grist mills in operation within the state and their business is purely local. The first step, then, from an economic standpoint, is for the people of the affected states to raise and manufacture for human food purposes their own corn, and the second is, for them to put in full force a complete inspection system with means and men to execute the laws when once enacted.

Pellagra: Its Recognition in Illinois and the Measures Taken to Control It

Dr. George A. Zeller, Peoria, Ill.: To sum up the situation in the Peoria State Hospital on November 1, I will say that since August 10 there have been officially recognized 130 well-defined and diagnosed cases of pellagra with 100 additional patients in the wards with symptoms sufficiently pronounced to warrant their inclusion, but who for the present are suffering no inconvenience. They are being carefully charted and will form the basis of observation for next year. Of the 130 cases, 75 were women and 55 men. Of these, 30 women and 15 men, a total of 45, died since August 10. Postmortem examinations were held in 36 of these cases. Of the living the average age is 51 years; average number of years insane, 16; average period resident in this institution, 3½ years. Of the dead, the average age at death was 54 years; average length of time insane of those who died, 17 years; average period of residence in this institution of those who died was four years. Of the living and dead the average age was 51 years; average period insane of the living and dead, 15 years; average period of residence of the living and dead in this institution, 4 years. Of the total number 12 were received from other asylums within the current year. The death-rate of patients actually transferred to the hospital for treatment has been 34 per cent. The youngest pellagrin was 22 years old; the oldest was 85 years old. Of the total 12 were epileptics and 7 were in an advanced stage of tuberculosis. The list contains but one colored person, a man, who survives with marked dry and thickened palmar tissue. If these are added to the 100 living patients still in the wards, the mortality stands 20 per cent.

Clinical Aspects of Pellagra

Dr. J. F. Siler, Captain Medical Corps, U. S. A., drew the following conclusions: Paralysis of the eye muscles is found in the later stage of the disease in a small percentage of cases. Conjunctivitis is not an uncommon symptom. Early forming cataracts are frequently noted, and the metabolic nature of this disease is supported because this condition is generally considered as an altered state of the nutrition of the lens when occurring in normal individuals. Inflammation of the optic nerve and retina is observed in a relatively large percentage of cases. Common and most pronounced of all the eye changes is involvement of the chorioid. In none of the cases presenting eye symptoms could the character of the changes be regarded as pathognomonic of pellagra. The severity of the eye symptoms runs parallel with the severity of the general manifestations of the disease, and the finding of marked eye changes adds to the gravity of the prognosis in pellagra and indicates, in a large percentage of cases, an early fatal termination. The treatment of the condition is discouraging. Thyroid tablets were administered in a number of cases with no result. Fowler's solution, in increasing doses, was used without any noticeable effect. Atoxyl, in 5 grain doses, was used, one injection every seven days, and in only one or two cases could improvement be attributed directly to medication. Normal saline solution was used in the more severe cases with only temporary improvement. Bulgarian tablets were used in modifying the milk in the hope that improvement in intestinal symptoms might result. This diet had not been given extensive trial, and while no definite conclusions were reached, it is believed to be worthy of further trial.

Mortality.—Of the patients making up this series, 22 per cent. died, 10 per cent. were failing, 17 per cent. were improving, and 51 per cent. had recovered from the acute attack. It may conservatively be estimated that the death rate from pellagra at Peoria ranges between 25 and 30 per cent.

Summary.—1. A large percentage of the patients gave histories of previous attacks. 2. A large proportion of the patients had been insane for many years and gave histories of long stay in institutions. 3. About one-third of the patients showed other organic disease, exclusive of dysentery. 4. All patients showed cutaneous lesions involving back of hands and in a number of cases this was the only symptom noted. 5. Bleb formation occurred in a small percentage of the patients and a large percentage of those showing blebs died. 6. Symptoms involving the mouth and intestinal tract were characteristic in the more severe cases only. 7. The only reflexes of diagnostic value were the patellar and plantar reflexes. These reflexes, in a large percentage of cases, showed departure from the normal. 8. A small percentage of the patients were committed to the institution during the past two years and some of these cases may be pellagrous insanity.

The Etiology of Pellagra

Dr. H. J. Nichols, Captain Medical Corps, U. S. A.: 1. Good corn is injurious in large quantities. This theory can hardly be used to explain the trouble at Peoria because the purchases for 1908 show only thirty-eight pounds a year per patient received, or a little over one ounce a day; as a matter of fact, some classes of patients receive rather more, but not exceeding two ounces a day in a liberal diet. It has been estimated that about sixteen ounces of white rice a day are necessary to produce beriberi. If corn holds the same relation to the disease a much larger amount would have been necessary at Peoria. 2. Spoiled corn is responsible: This is not the case so far as can be told by the senses. The corn used was inspected on the change and at the mill, and it is No. 2, the best that is on the market. Nothing in the way of a "food scandal" could be unearthed. The corn products do not have to be transported far, and if any poisons develop they cannot be told by ordinary means. 3. Toxins may be developed in the intestines by fungi or bacteria on a corn diet. In regard to moulds, several trials were made but no moulds were found that survive the heat of cooking. Of course, this does not exclude them, but it makes them seem less likely as a cause. On the other hand, a spore-bearing bacterium was repeatedly found in corn meal which survived steaming for two hours, and this seems to offer possibilities.

In order to learn something of parasites in corn a trip was made to the University of Illinois and it was found that only in recent years has any definite work been done on this subject, and much remains to be done, especially in regard to bacteria. The most common cause for disease of ears on the stalk has been found to be a kind of diplodia which has been stated by one author to be on the increase in recent years and along with aspergillus, penicillum, etc., has been advanced as a cause of pellagra. The department of botany has agreed to furnish us cultures of the known molds and bacteria, and work will be done with these. The most promising field seems to be along the line of an intoxication produced by toxin of corn products in a damaged intestine and this will be followed up. Several instances have been found of a toxic action for animals, first of an excessive corn diet, also of a diet of corn gluten infected with moulds; and there are, no doubt, several kinds of diseases connected in some way with corn, but pellagra must be due to one, not to several kinds of corn poisoning. The outstanding fact about corn raising in the last fifteen years is that the shelled corn is marketed from four to eight weeks earlier than it used to be; that the time of weathering and drying on the stock is cut short, and that more trouble is experienced in handling the corn and preventing it from going bad. This fact, with the considerable increase of the use of corn products in the past few years may prove to be of significance.

The recommendations respectfully submitted for the Peoria State Hospital are: 1. Cleaning out the pipes of the cold water supply; better protection of the surface tank; regular examinations of the water for bacteria and protozoa. 2. Examination of stools of possible cases of dysentery, especially among the untidy and appropriate treatment of dysentery cases. 3. Elimination of corn from the diet of the more debilitated patients.

Summary.—1. The pellagra patients at the Peoria State Hospital show a very high percentage of protozoal infections of the colon. 2. The study of the patients and diet points to some endogenous intoxication. 3. The protozoa may play an important part in the seasonal production and absorption of an endogenous toxin.

Discussion on Papers of Drs. Zeller, Siler and Nichols

Dr. C. L. Minor, Asheville, N. C.: Of the cases of pellagra observed in Asheville, the first was diagnosed by Dr. W. L. Dunn. Dr. Dunn had two or three cases of the disease during his hospital service, and I had two or three following him in my service. These cases were seen at the end of the season, and left the hospital in very good condition. They were ignorant patients and thought they were well. Of the number seen, one proved fatal; in this case the disease was advanced. In the majority of the cases seen the people have been of the poorer class. One was a watchmaker by occupation, whose case was acute, and he died without the development of mental symptoms. The patients came to the hospital chiefly on account of diarrhea and an eruption on the hands. This eruption had been treated for various skin conditions by different physicians before a diagnosis of pellagra was made. The milder cases of pellagra may be easily overlooked among the farmer class of patients, for the reason that the hands of these patients look like those of a hard-working farmer, cracked and slightly inflamed. The stomatitis in the cases observed, with the exception of one which was severe, was mild. The chief diagnostic feature in every case was the skin condition. Only one patient showed mental symptoms. All had eaten largely of corn meal and lived under miserable conditions.

Dr. C. F. Williams, Columbia, S. C.: I wish to mention a typical case of pellagra which I saw in 1899. The patient became insane a short time before death. The patient had what I and others termed then eczema. There was intense stomatitis, rapid emaciation, and diarrhea.

Dr. L. J. Pollock, Dunning, Ill.: The first case occurring in the Cook County institutions was noted in August, 1909, when the diagnosis was as yet not made. With the subsequent occurrence of three other cases presenting the same symptomatology, course and fatal outcome, and not being familiar with the occurrence of pellagra in the United States, we came to the conclusion that we were dealing with a clearly defined disease with which we were unfamiliar. A clue as to its nature was offered to us in the description of pellagrous insanity in Bianchi's "Psychiatry." From the onset the next case was thought to follow closely the description of Italian pellagra, but it was not until the inquiry of the South Carolina State Board of Health was addressed to us that the diagnosis of pellagra was definitely made. The first public notice of the occurrence of pellagra in the Cook County institutions followed the confirmation of our diagnosis by Dr. C. H. Lavinder on July 18, 1909. The devious route by which we came to the conclusion that we were dealing with pellagra proclaims the necessity for widely distributing literature concerning the nature and prevalence of this condition throughout the United States. This importance is further emphasized by the fact that pellagra has existed in the Illinois institutions for a number of years before its recognition. Dr. Podstata, superintendent of the Northern Hospital for Insane, recalled cases occurring in his service several years ago. The entire number was 26; females, 13, all insane; males 13, 8 insane, 2 in the Poor House, and 2 in the Hospital for Tuberculosis. The duration of the fatal cases averaged thirty-four days. The duration in the remaining cases averaged forty days. The nativity was as follows: United States, 7; England, 1; Ireland, 9; Bulgaria, 1; Germany, 5; Denmark, 1; Austria, 1, and unknown, 1. Of those foreign, the Bulgarian was in this country six months; the others ranged from eight to forty years. They had been confined in the institution from four months to twelve years. The psychoses at the time of admission were as follows: Dementia paralytica, 4; alcoholic, 5; dementia præcox, 5; paranoia, 3; acute confusional, 1; melancholia, 1, and senile dementia, 3. The symptomatology has been, in general, fairly uniform. The course in those patients not dying during the acute exacerbation has been one of uniformly progressing cachexia and weakness, and despite the disappearance of the gastrointestinal lesions and skin disturbance, the patients progressively became weaker and died. Of those who died, numbering 14, one died of apoplectiform convulsions of dementia paralytica; one in a low muttering delirium, with choreiform movements; one of respiratory failure, two of tuberculosis, one of carcinoma of the stomach, the others of exhaustion. The medicinal treatment has consisted of the hypodermic administration of arsenic salts, with no appreciable effects. The pathology, as seen in the post-mortem examinations on four cases, showed nothing distinctive. Besides the findings of cachexia, some fatty degeneration of the liver, heart and kidneys, injection of the large intestines, prominent Peyer's patches showing a shaven-beard appearance near the ileocecal valve, and enlargement of the mesteuric glands were present. In the nervous system there was some edema of the meninges, and microscopically chromatolysis of the anterior horn cells of the cord.

Dr. C. H. Lavinder: So far as the symptomatology of pellagra is concerned, especially with reference to the cases seen at the Peoria institution, I will say that the symptoms of pellagra vary in various sections of the country, and in various seasons of the same sections of the country. Some one particular phenomenon will be prominent in one case, which is not known or observed in others. In reference to Dr. Nichols' paper, working in Columbia with Dr. Babcock, I have not found amebic organisms associated with pellagra as often as he has found them.

Dr. J. W. Mobley, Milledgeville, Ga.: I wish to refer to the complication of enteric ulcer associated with pellagra. As far back as 1897 at the Georgia State Sanitarium, according to the post-mortem examinations that were made, pigmentation of the hands and feet, with skin abrasions and stomatitis were observed, although at that time the cases were not considered pellagrous in character. I made many of these post-mortems myself and frequently found ulcers about the ileum which I have every reason to believe now were pellagrous. Dr. Willits, pathologist, in 500 unselected cases for examination, found parasitic infections in 57 per cent. of the cases, and of these 500 cases, 35 were pellagrous. Of the pellagrous cases, there were four in which there was infection with parasites, but the most important were infections from the strongyloides and hookworm.

Dr. J. W. Babcock, Columbia, S. C.: I know many physicians connected with asylum work, but I do not know of a single one in America or in Europe who would come before an audience like this and proclaim in the way Dr. Zeller has done what he believes to be the truth in regard to pellagra and the condition that prevails at Peoria.

Dr. Julius C. Sosnowski, Charleston, S. C.: I can recall twelve cases of pellagra in Charleston, and of this number six patients were below the age of 14, 1 was 18, 4 were between 20 and 40, and 1 was over 40. Six were white and 6 were colored.

Dr. M. B. Young, Rock Hill, S. C.: Of the cases I have seen, I recall a child of two years and five months that had the disease.

Dr. H. E. Menage, New Orleans: We have had in New Orleans a typical case of pellagra in a girl 4 years old. The child lived four weeks after we first saw the case. The disease had been of two or more years' duration. The pathologic findings in the brain were interesting. The child was idiotic and cried constantly. On opening the skull the brain cavity presented a peculiar appearance. The anterior convolution was large and edematous. The posterior convolution behind the fissure of Rolando was small and vermiform; it looked like a bundle of worms. On either side of the main commissure and back of the fissure of Rolando, bilaterally and symmetrically, there were two large cysts filled with fluid and encapsulated, with rather thick walls.

Dr. John W. Thomas, Pineville, La.: I want to ask Dr. Zeller what rôle corn bread played in the dietary in his institution at Peoria.

Dr. Zeller: A very insignificant part; a little more than an ounce a day on an average for all patients. Corn is not a great factor in our dietary.

Dr. Thomas: My experience is similar to that of Dr. Zeller, except that our dinner meal consists almost exclusively of corn bread. Since I have been convinced from reading the literature that corn bread plays an important part in the causation of pellagra, I have eliminated it entirely from the dietary at the Louisiana Hospital for the Insane. I am convinced that the disease is either due to impure corn meal or to an infection of some kind.

Dr. I. W. Faison, Charlotte, N. C.: The patients with pellagra I have seen have had no skin lesions whatever, and I am fully persuaded that we can have and do have cases of pellegra without any skin manifestations, although the patients may have all the other symptoms. The skin lesions, when they appear, are but one manifestation of the disease.

Differential Points in the Skin Lesions of Pellagra. Report of One Case with Removal of Symptoms

Dr. Isadore Dyer, New Orleans, argued for a more satisfactory definition of the symptomatology in the skin evidences of pellagra. Five cases were related in detail, no two of which presented exactly the same symptoms and none of them having the erythema considered diagnostic of the disease. Differential points were raised showing resemblances to blastomycetic dermatitis, vesicular eczema and pityriasis rubra pilaris. Among the cases reported one was instanced in which the general symptoms of the disease were in evidence and which were controlled with the hydrobromate of quinin. The writer argued the value of large doses of quinin in cases with pronounced symptoms of the disease, to be followed by a systematic course of this drug in the treatment associated with tonic doses of arsenite of soda and nux vomica.

Psilosis Pigmentosa in Barbados

Dr. C. G. Manning, Bridgtown, Barbados: We have had a disease in Barbados for the last fifteen years which the general run of medical men call pellagra. I am sure that it is not pellagra, and my reasons for saying so are: 1. Pellagra is said to be caused by ergotized corn or some other disease in the food we eat. If that proposition is to stand, we would naturally conclude that in an asylum like the one I am in charge of (400 beds), where the maize and other foods are cooked in the same kitchen and served alike to patients and attendants, this disease would spread alike to attendants and patients. We have never had an attendant have this disease, and we have never seen it in patients of the better class, who take pride in bathing frequently and in keeping themselves clean. 2. The dark discoloration and squamous appearance of the skin do not appear over the face, chest and back, nor is it a true pigmentation in any sense of the term. It is a scurvy crust which appears in ninety-nine cases out of a hundred on the elbows, knees, ankles, hands and feet, but specially on the point of elbows and knuckles; very rarely on the chest, back, etc. 3. It often appears and disappears without leaving a mark, and reappears again at varying distances of time, but it is not a true pigmentation, white like a tattoo mark, and never disappears. The disease has the following characteristics: It is essentially a disease of poverty, hunger and dirt. The patient first complains of disinclination to take his food. Soon he positively refuses solid food or highly seasoned food of any kind. On examining the mouth, tongue and pharynx, the cause is apparent. The tongue will be found stripped of its epithelial covering. At first this is most apparent at the tip and along the edges. It will be found that the mucous membrane of the cheeks look red and irritated. Patients prefer milk, and this is the best nourishment for them because it is the least irritating and most nutritious. Very soon attacks of diarrhea set in and often prove intractable. Scurvy patches of dark color will be found over the points of the elbow, knees and knuckles. These generally are the localities first attacked; later the feet and hands become affected, and if the patient wears slippers or shoes the part of the foot which is covered is never attacked. The patient rapidly loses flesh, and this is followed by intense anemia; the brain, like the other organs of the body, is badly nourished, and cerebral anemia causes the patient to become silly and half-witted, sometimes mouthing and garrulous, and it is on account of these cerebral symptoms that the patients are certified as insane and "dumped" in our asylums to save further trouble on the part of the parochial authorities. Under regular feeding and steady treatment these patients do wonders; the scurvy patches disappear, and as the patients become less anemic the cerebral symptoms clear up and they become perfectly sane and rational. They often go on quite well for years, but there is a tendency for the attacks to recur, but with suitable treatment the symptoms again clear up and the patients appear perfectly well and will put on flesh. If the patient is admitted after the above preliminary symptoms have become chronic and have not been treated the disease pursues its headlong course and defies all the skill and attention that we are capable of affording. The diarrhea becomes intractable and frequent vomiting is a most troublesome symptom; sometimes the ejecta from the stomach contains streaks of blood, sometimes clots are thrown up. The diarrhea is also blood-stained, and in one case I have seen true melana, with dark tarry stools passed before the patient's death. The smell of the evacuation is overpowering, and there is a sickening odor never to be forgotten. The patient wastes to a skeleton, suffers intense pain right through the alimentary canal from the mouth to the anus, and dies simply a skeleton with the skin stretched over it. The patches on ankles, dorsum of feet, etc., if the patient is white, soon have a purple blotched appearance. They are a kind of purpura, they form blebs, break down and the epithelium strips off, and this is why I call the disease psilosis, from bare, "stripped." Gangrene invades the discolored area, and the cutis vera is the next to separate and come away "in strips." The muscles follow suit and even the tendons hang in shreds about the parts that break down so rapidly. The buttocks soon have discolored areas, over the trochanters, sacrum, etc., and after a deep burrowing gangrene sets in over the gluteal muscles horribly offensive sloughs separate bit by bit and the patient sinks exhausted a miserable and pitiable object, and death is a welcome visitor.

When I first took charge of the asylum in this Colony there appeared very little hope of doing anything for these poor sufferers, but as I went on patiently studying the progress of the disease to its ultimate and fatal end, I came to the conclusion that the quality of the food had nothing whatever to do with causing it. I soon began strongly to suspect that it might be caused by an insufficient quantity—all the patients I have seen have been absolute paupers, poverty-stricken and dirty in the last degree—and also by being badly cooked, as this colony is bare of forests and firewood is exceedingly scarce all over the island. I am of the opinion that the disease is due to a fungus and as soon as I discovered that patients began to be attacked with this disease who had been in the asylum, in some cases for thirty years, and who suddenly contracted this disease and died from it, I thought that this fungus was not transmitted in the food, but in the clothing. It occurred to me that I would boil foul linen and clothing used and worn by these patients, and there has been a complete arrest of the spread of the disease to the old residents in the asylum; and, furthermore, there has been a marked amelioration in the symptoms of those admitted with the disease since they have been frequently bathed and supplied with clean and sterilized clothing. I have found nothing to compare with 1/40 grain bichlorid of mercury, three times a day, and long continued; and milk diet, and nothing else but milk. When they begin to recover, cod-liver-oil emulsion has given good results, but it must be started with small doses and gradually increased, and it is discontinued if it upsets the stomach. From the success attending our efforts I am strongly of the opinion that this disease, if properly handled in the earlier stages, will in course of time become a matter of history.

Pathology of Pellagra

Dr. H. F. Harris, Atlanta, Ga.: There are few, if any, diseases characterized by perceptible organic lesions the pathologic anatomy of which is so difficult to arrive at as that of pellagra. This is to be accounted for first and foremost by the extreme chronicity of the disease. Up to the present, all recorded postmortem examinations with thorough studies of the tissues have been made without exception on old pellagrous subjects, and we are, therefore, constrained to regard as being typical of this affection those alterations discovered in the terminal stages of the malady. I would have no hesitation, however, in predicting that the future will show that the initial changes are in the central nervous system. A knowledge of the skin lesions in pellagra dates from Casal's observations, which began about the year 1735, although his monograph on the subject was not published until 1762. The tongue undergoes marked changes in pellagra. Similar alterations are found on the gums and on the buccal mucous membrane, and, at certain stages, in many cases in the pharynx. The mucosa of the stomach is often pale, and its walls dilated as a consequence of atrophy of its muscular coat; in some cases its surface is decidedly red in the pyloric region. Anemia or hyperemia is frequent in the jejunum, and ulcers are apt to occur in this situation, and even more often in the ileum. Similar lesions are occasionally found in the large intestines; not uncommonly the walls of the gut are thinned.

The mesenteric glands have been occasionally found hypertrophied. The spleen is usually diminished in size, occasionally hypertrophied. Metastatic foci are sometimes found in this organ. Occasionally the pancreas has been found atrophied. The liver is usually atrophied, though it is sometimes increased in size. In five of my post-mortems the organs weighed only once as much as 1010 grams. The kidneys are usually decreased in size, but are frequently found to be normal. The adrenals are normal. It is curious that tuberculosis is rarely found in the lungs of the pellagrous, but hyperemia, edema and emphysema are occasionally encountered, and pleurisy with effusion is not unknown; all of these changes are evidently in the nature of complications. The bones are often friable. The muscles are usually atrophied, but are sometimes normal. In one instance I encountered a typical "meningomyelitis acuta," such as described by Belmondo. Although the post-mortem was made only a few hours after death, the cord was very soft and on microscopic examination was found to present alterations of a most pronounced kind. The myelin sheaths of the nerve fibers showed marked degenerative changes, and the nerve cells of the gray substance exhibited to a high degree the alteration already described. Corpora amylacea were specially abundant throughout both the gray and white substances. The ganglion cells exhibit changes similar to those found in the central nervous system, though they are not as a rule so marked. From the results of the work of Beitti, it is not improbable that circulatory changes are frequent in the central nervous system in pellagra, as he has shown that in a certain proportion of the cases the retina is anemic, and in about the same percentage the opposite state of hyperemia occurs. It has been asserted by some that the alterations have been found in the peripheral nerves, but this remains without confirmation.

Hematology of Pellagra

Dr. C. H. Lavinder, U. S. Public Health and Marine-Hospital Service, Washington, D. C., reviewed briefly the literature and discussed the white and red cell counts, hemoglobin estimation, differential leucocyte counts, and the bacteriology of the blood. He concluded from the results obtained by others and by himself that there is ordinarily in pellagra a mild anemia of the secondary type, with qualitative changes in the red cells usual in such anemias; that leucocytosis is rare, and in all likelihood this is not a phenomenon of uncomplicated pellagra; that the results obtained in making differential leucocyte counts are too discordant to furnish any conclusions; though a number of workers have reported a relatively large mononuclear increase; that at various times several specific bacteria have been reported as found in the blood; that all of these have been discredited except Tizzoni's *Streptobacillus pellagræ;* that following Tizzoni's technic in several cases he has been unable to isolate his micro-organism; that by ordinary cultural methods and by experimentation on rats, guinea-pigs, rabbits and chickens, he has found the blood invariably sterile and non-pathogenic.

Pellagrous Insanity of the Arabs in Egypt

Dr. A. Marie, Paris, France: Pellagrous insanity is becoming almost unknown in France. It manifests itself there, however, in the form of hereditary insanity, as the recent investigations of Regis have shown. The asylums of Pan and Montpellier are almost the only ones where this affection persists in the statistical tables. Pellagra is only possible where maize is eaten. To be poisoned by the ferments of spoiled corn, it is necessary for this cereal to form part of the prevalent dietary. Such is not the cause in Spain, where this disease persists in certain regions and affects 20 per cent. of the population. In Italy, in spite of the valiant struggle led by Lombroso all his life, the regions of Bergamo, Briscia, Venice and Padua still number from 30 to 50 pellagrins to 1,000 inhabitants. Treviso, Vicenza, Cremonia and Pisa, 10 to 20 per 1,000. At Milan I was able several months ago to examine a number of insane patients of this kind. The total number of pellagrins in all Italy is estimated at 72,000. In the orient pellagra rages in Roumania, Servia, Bosnia, Macedonia, Albania and in the Turkish territory, as well as in Greece. In Egypt, pellagra reigns as in other Turkish countries where corn is largely used. There one may say that almost all the fellaheen are in some degree touched by the pellagrous poison. At the hospital of Kasr-et-Nil, at Cairo, in ten years more than 1,000 pellagrins have been treated. Each year, of this number of cases, forty are complicated with insanity, and the patients are consequently committed to the asylum of Abassia, where I was able to study them.

Outside of the hospitals, the study of pellagra in the country population has been undertaken by Dr. Sandwith. He thinks that on a general average more than 36 per cent. of the Egyptian peasantry are affected. In districts the least poverty-stricken, the proportion may fall to 15 per cent., but elsewhere it rises above 62 per cent. In lower Egypt the average would be highest even with young women. The considerable stillbirth rate would not exist but for this plague. In upper Egypt the greater dryness and the use of millet as food lessen the danger, and probably also the countries remote from the seacoast use less imported maize, which is more dangerous because of the defects of transportation. The number of pellagrous insane, as it appears, is continually increasing, and only those, however, who clearly bear the physical stigma are enumerated, but the hereditary pellagrins do not always present these stigmata thus clearly. The erythema varies in appearance according to the season; although its topography remains the same. From racial characteristics it acquires certain relative pigmentary peculiarities. It is thus that old cicatrices, instead of contrasting by a darker color as with the white race, manifest themselves on the contrary by a gray tint clearer in the men of color in consequence of a squamous thickening of a thick and dry epidermis.

The mental state of the patients is generally characterized by an initial phase of irritable weakness, by an apathy with physical and mental depression and diverse phobias. Sitophobia is frequent and coincides with the gastrointestinal troubles, gastralgia, cramps, nausea, alternating constipation and diarrhea, etc. A certain number of insane paralytics coincide with pellagra and confirm the opinion of Baillarger that the final paralytic phase of pellagra can represent an identical state clinically and pathologically with general paralysis of the insane. These cases do not invalidate at all the other form of general paralysis from which they are distinct, and which I have described as being in relation to syphilis. The two forms can, however, be combined: that is to say, one may observe among the Arabs general paralytics who are at once both syphilitic and pellagrous.

Pellagra in Egypt

Dr. John Warnock, Medical Director, Government Hospital for the Insane, Abbassia, Cairo, Egypt: Pellagra is very common among children in Egypt; apparently this is not the experience in America. I have seen scores of children from 10 to 15, dwarfed, cachectic, anemic, and displaying splendid black pellagrous rashes, and usually insane. The mental symptoms are modified by the age, and the children are mischievous and restless besides being depressed and deluded. Some of them look like little mummies. I think men suffer more frequently from pellagra than women in Egypt, but this is only an opinion; I have no figures to back it. In this asylum no corn is used in any form; all flour is carefully analyzed and the diet is kept absolutely free from maize. Yet pellagrous patients resident here for years and thus abstaining from maize for long periods again develop pellagrous rashes here with acute physical symptoms, sometimes resulting in death. It is noteworthy that the rash and the diarrhea occur simultaneously; the rash is, therefore, not a causal symptom produced by the exposure of a pellagrous person to the sun's rays, but a sign of a general degenerative process affecting the whole organism. Nearly all cases of acute typhopellagra have a very black indurated rash, and there seems to be a correspondence between the darkness of the rash and the acuteness of the general symptoms. Nearly every patient with pellagra suffers from bilharzia disease; very many from anchylostoma also, and very many from extreme favus of the scalp. I have always considered that these parasites have fixed themselves on a decaying organism; but there is something to be said for the possibility that these parasitic diseases account for some of the symptoms of pellagra (anemia, emaciation, etc.). I should like to know whether in America these parasitic diseases are found so frequently (or almost invariably) associated with pellagra?

Gynecologic, Obstetric and Surgical Aspects of Pellagra: A Preliminary Study

Dr. E. B. Saunders, Columbia, S. C., detailed twenty-four cases that had come under her observation, and in summarizing said:

To sum up my observations and reading upon the aspects of pellagra embraced in this paper, of the 24 cases reported, 4 patients are still under treatment, 10 recovered, and 10 died. In America and Roumania the female sex is more liable to pellagra, the periods of greatest incidence being the twentieth to fortieth year. Obstetric pregnant women suffering from pellagra are liable to abortion (17 per cent.), to give birth to still born infants, and at delivery to postpartum hemorrhage. Gestation and lactation, especially when frequent, predispose to pellagra. Parturition is often an exciting cause for the outbreak of the dermatitis. Amenorrhea and leucorrhea occur in 50 per cent. of the cases and dysuria in 57 per cent. Unmarried female pellagrins are more subject to amenorrhea. Multiparous pellagrins are liable to menorrhagia, and present symptoms suggesting cancer. Their subjective symptoms may point to diseases of the pelvic organs and require careful examination for their exclusion. Not uncommon are vulvitis, vulvovaginitis, cervical erosions, endocervicitis and endometritis, ovarian neuralgia and inflammation, maceration and denudation of adjacent skin on the thighs and in perineal and anal regions, especially in "wet" cases. A surgical operation may bring out latent pellagra. Diseases of the kidney are simulated and may be primary or secondary. Stomach symptoms are often so severe as to require attention and rigid diagnostic methods. Care should be exercised to prevent needless surgical or other treatment. Other subjective symptoms may annoy the patient to such an extent as to demand treatment. Pellagrins often complain of symptoms suggestive of hemorrhoids when it is really proctitis, a part of the general inflammation of the intestinal mucosa and adjoining epidermis. In essence, pellagra may be a trophoneurosis, but that in women the pelvic organs are especially subject to the invasion of the unknown poison, is a fact demanding wider recognition as well as further study.

In asylum life we see a few failures among many brilliant surgical successes, but the above surely points to the fact that in the initial stages, especially when the symptoms are not very well marked and when there is much pointing to pellagra as well as to other diseases, a very careful differential diagnosis should be made and care given to other than the pelvic symptoms of these cases. If possible, relieve the primary disorder, pellagra, before resorting to radical operations, which, at best, cannot cure pellagra, and will probably only increase the already lethal tendency. Not much will be lost in waiting for a time, at the expiration of which the symptoms may have been relieved, or the pellagra erythema now so necessary for diagnosis have appeared in full efflorescence. Patients with pellagra, on account of their debilitated condition, are prone to other diseases, and are subject to "incidentals" which require surgical intervention. These demand and should have prompt attention, but after granting all this, I am forced to believe that the majority of such patients should be treated not as having a primary organic pelvic disease, but as suffering from functional or symptomatic disorders, and, furthermore, that the gynecologic, obstetric and surgical aspects of pellagra are factors which not only the general practitioner must consider, but with which specialists of several kinds who live in the pellagra zone must hereafter reckon for the real welfare of their patients.

Pellagra: Its Relation to Insanity and Certain Nervous Diseases

Dr. J. W. Mobley, Milledgeville, Ga.: In considering a specific factor as the sole cause of pellagra, we are brought face to face with many conditions which speak both for and against the theory that the disease is produced by a specific organism and its toxins. Other specific factors are shown in the protozoan theory, which so closely allies syphilis with pellagra as to make the clinical picture at times quite similar. The peculiar cell observed by Cross of Georgia, with a chlorophyl-like content, is on the side of a specific infection. He describes these cells as about the size of hookworm eggs, either round or oval in shape. He suggests that they may have been altered epithelial cells, but their morphology seems to be unaltered. The specific fungus (aspergillus) which grows on corn will also grow on cheese, and may account for the disease in many instances, in which the history of a corn-free menu is obtained. Syphilis and tuberculosis should be considered in relation to pellagra. The records of the State Hospital for the Insane of Georgia show that 10 per cent. of patients dying of pellagra manifested localized or general tuberculosis.

Dr. N. P. Walker, of the Georgia State Sanitarium, reported that out of 89 cases of pellagra among the insane colored females, only 19 or 21 per cent. were infected with the disease at the time of admission. The remaining seventy exhibited the first known symptoms of pellagra after admission.

DISCUSSION

Dr. W. H. Dial, Laurens, S. C.: Is it absolutely necessary for a patient to have a dermatitis in order to make a diagnosis of pellagra?

Dr. J. W. Babcock: Students in the London School of Tropical Medicine are taught that they must make a diagnosis of pellagra regardless of dermatitis. In other words, they must diagnose cases of pellagra without waiting for the skin manifestations. Italians emphasize the importance of obstinate diarrhea, marked mental symptoms, and exaggerated knee-jerks. I think it is up to the general practitioner to emphasize for those who only see this condition in the advanced stage the particular symptoms by which an early diagnosis of pellagra can be made, disregarding the skin manifestations altogether.

Dr. M. B. Young, South Carolina, mentioned the case of a farmer, who had pellagra without any dermatitis when he first saw him. He had increased knee-jerks, stomatitis, but no diarrhea. He was constipated. In working about the store he would pick up an article and then be unable to put it down, so that it was necessary for some one to take it from his hand. Again he would start to walk in one direction, and then go in the opposite direction. He would attempt to sit in one chair in a room, and immediately get into another. Later, when mental symptoms manifested themselves the dermatitis came on.

Dr. B. R. Tucker, Richmond, Va.: I have the histories of nine cases of pellagra, and in eight excessive crying was noted as a symptom.

Complement Fixation with Lecithin as Antigen in Pellagra; Further Observations

Dr. C. C. Bass, New Orleans, referred to his previous publication (The Journal, Oct. 9, 1909) reporting complement-fixation tests with lecithin as antigen in six cases of pellagra. He reported the result of the test in 10 more cases and tabulated and summarized the 16 cases. Four of the cases, all positive, are ruled out because of syphilis, malaria or autopsy blood; 8 of the remaining 12 gave positive reactions and 4 negative. The 4 negative cases were of the severe type; 7 of the positive cases were mild or chronic cases; 1 was severe. He called attention to the fact that the Wassermann reaction and its modifications with lipoid substance as antigen have been found in protozoan diseases and not in those caused by bacteria. The hemolytic unit used is 0.2 c.c. sheep corpuscles. The amount of patient's serum used per hemolytic unit is 0.1 c.c. The lecithin solution is 0.1 c.c. of a 0.3 per cent. solution in equal parts absolute alcohol and salt solution.

The Wassermann Reaction (Noguchi Modification) in Pellagra

Dr. Howard Fox, New York City: Thirty cases of pellagra have been tested by the Noguchi modification of the Wassermann reaction. I would have preferred to have performed both the regular Wassermann and Noguchi tests simultaneously, but owing to the limited amount of time available, it was only possible to employ the more convenient modification of Noguchi. The cases examined included eight white and twenty colored women, one white man and one colored boy. All the patients were from South Carolina except one, and were inmates of the State Hospital for the Insane. All the cases, with perhaps one exception, have shown unmistakable symptoms of pellagra, though at the time of examination some did not present very active symptoms of the disease. The patients which were chosen for examination were those which apparently showed no evidence of syphilis. To have excluded syphilis from the patients' history would have been difficult or impossible from the nature of the cases. The technic was that described by Noguchi and by myself in previous communications. The materials used included 0.04 c.c. of fresh guinea-pig serum. A weak suspension of human corpuscles (preferably washed) in the proportion of one drop to 4 c.c. of physiologic salt solution, one capillary drop of patient's serum (active) and the antigen and amboceptor in paper form. The tubes were incubated for one-half hour for the first and two hours for the second period, after which the results were read. Two different antigens were used in testing every case. One of these consisted of an extract of syphilitic liver; the other (especially prepared by Dr. Noguchi for the present investigation) was a composite extract of syphilitic liver and normal hearts and kidneys. Both had previously been tested by Dr. Noguchi and found to be entirely satisfactory. In performing the reaction, a known negative serum and one or more known positive serums were always used for comparison. The positive serums included five cases of syphilis and two of leprosy which I had previously tested and found to be strongly positive. The entire series of thirty cases was tested four times. With one exception, no strongly marked positive reactions were obtained. In this case it was later found that a previous syphilitic infection was probable. In two other cases there was a positive reaction of moderate intensity, and in five cases the reaction was only weakly positive. Even in the cases giving a moderate positive reaction the inhibition of hemolysis was far from being complete and was very easy to distinguish from the marked reaction given by the syphilitic and leprous serums. While positive reactions are at times given in apparently non-syphilitic cases, there appears to be only one disease, namely, leprosy, in which a strong positive reaction is a frequent occurrence. In an examination of fifteen cases of leprosy during the past few months in New York I found twelve positive reactions, many of them being very intense; somewhat similar results have previously been obtained by other observers. I feel confident that pellagra will not prove to be a disease in which a positive Wassermann reaction will be frequently found. If such a sensitive test as that of Noguchi (and the objection is sometimes made that it is too sensitive) fails to show many positive reactions, it does not seem probable that they will be obtained by the regular Wassermann method. In conclusion: 1. Cases of pellagra do not often give a positive Wassermann reaction. 2. A positive reaction, when obtained, is generally weak and is easily distinguished from the strong reaction found in syphilis and many cases of leprosy. 3. The value of the Wassermann test is not affected by the findings of pellagra.

Transfusion in Pellagra

DRS. H. P. COLE and G. J. WINTHROP, Mobile, Ala., read a joint paper on this subject in which they reported nine cases of pellagrous patients in which they resorted to transfusion.

It must be noted that the only medicinal agents used in the recovered patients were tonics of strychnin, forced feeding, and in some cases carbonate of iron. In every patient benefited by transfusion the improvement was immediate as shown by a marked gain in weight within the first week, in one instance as much as eight and a half pounds. All the patients, two months after transfusion, are either apparently cured or markedly improved and have gained from five to thirty pounds in weight. Of the fatal cases, one patient was moribund at the time of operation and died three hours after transfusion; one received no appreciable amount of blood on transfusion; another received practically no blood at the first operation and at the second transfusion, when a pellagrous donor was used, while a good flow of blood was received, the condition, we felt, was hopeless. We suggest the following conclusions: 1. Transfusion offers a means of combating the anemia, stimulating the recuperative functions, and perhaps of furnishing antitoxic substances to pellagrins. 2. The lessened mortality and marked improvement in transfused pellagrins leads us to anticipate the establishment of a serum therapy in the disease. 3. Transfusion may be offered as a surgical therapeutic procedure in pellagrous cases pending the perfection of a successful serum therapy.

Etiology of Pellagra

DR. J. H. TAYLOR, Columbia, S. C.: In the case of pellagra there is irresistibly borne in on us some as yet intangible relationship between corn, especially spoiled corn, and the development of the disease. Now, knowing what we do of the quiescent phases of certain protozoa and the stimuli necessary for their renewed activity, is it not possible that, either one cycle of an organism causing pellagra, if there be such, finds its habitat in corn, or else may it not lie in the tissues somewhere, possibly the intestinal tract, and the ingestion of corn, producing the chemical stimulus necessary to its development, there results an invasion of the host with a development of the usual symptoms? It seems to me that this would account for the recrudescences following the eating of corn products, and also we might reasonably stretch the analogy to include those cases developing sporadically of pseudo-pellagra, accounting for these by the ingestion of some other product than corn, producing a like stimulus, but much more seldom eaten than corn.

DISCUSSION

DR. WILLIAM ALLEN, Charlotte, N. C.: Dr. Taylor in his paper drew an analogy between the treatment of syphilis and pellagra. I have had several patients who gave a past history of syphilis. They were first put on the treatment recommended by Babes last winter, but no improvement was noted. Later, when put on hypodermic injections of the salicylate of mercury, they recovered.

DR. WALTER H. BUHLIG, Chicago, detailed some experiments that were carried on at the Peoria State Hospital for the Insane under the auspices of the Illinois State Board of Health. He found no amebas in the city water of Peoria. He found none in the city water used at the institution, contrasting this with a previous experiment in which he had found them. In the well water no amebas were found, but in the water which came from a refrigerating plant large numbers of amebas were found.

DR. H. J. NICHOLS: The parasitic theory of any disease is very attractive, but I do not think we are safe in following Dr. Taylor's lead on this proposition. We had a similar experience with beriberi, which has been a problem in the tropics for many years. First, the disease was ascribed to rice; then it was thought a protozoon or bacterium was the cause of the disease. Finally, it has come back to rice again. While there is undoubtedly some definite connection with rice, the question has not been solved. We have been through the same phases in that disease as we have in pellagra. It was thought at first and even now that some protozoon or bacterium in the diet plays a causal rôle, but that is purely a psychologic reaction rather than a reaction based on reliable data.

DR. J. J. WATSON, Columbia, S. C.: I have had an extensive experience with pellagra, but there is no drug that cures the disease. Arsenic does not do any good. I have seen patients recover when I have given them morphin. On the other hand, I have seen some of them recover when I did nothing and was out of the way. The argument that such and such a drug, which acts beneficially and curatively in protozoal diseases, does not hold good in pellagra. Ordinary, good corn does not produce pellagra, but damaged corn does so. That is the experience of men who have studied the disease very carefully and closely for generations.

DR. W. H. DIAL: In the last few years the manner of harvesting corn has had something to do with damaged meal. It is the harvesting of corn before it has had time to mature, and undoubtedly this has something to do with the prevalence of pellagra in the South and elsewhere.

Dr. Hiram Byrd, Jacksonville, Fla.: If there is any one thing that has been impressed upon me at this Conference it is that we do not know the etiology of pellagra, that we are to-day in the dark. This Conference has assumed both a national and international character, and every part of the world is represented here either in person or in sentiment. The proceedings of this Conference will be read with avidity by the entire world. Is it a safe thing, in the present state of our knowledge, for us to put ourselves on record that corn is the cause of pellagra? I contend that it is not. It is better for us to say: "We do not know." This is a scientific question, and we ought not to accept anything short of absolute proof which the most exact science can give. So far as corn as a cause of the disease is concerned, we can say it is unproved.

Dr. J. D. Jones, Sweet Water, Ala.: This disease has been under my observation for three years. For a year and a half we did not know what it was, but with the aid of Dr. Searcy we were able to diagnose it. I have had during that time three deaths from this disease. I have now under my care three patients who are insane with this disease, one of them being near the point of death when I left home. Damaged corn may produce the disease, but pure, fully developed corn that is hardened by the rays of the noonday sun will never produce pellagra. People are becoming frantic in various sections of the South over the idea that corn produces pellagra. Such an impression should not be conveyed by this body.

Dr. Louis Leroy, Memphis: That a relation exists between pellagra and damaged corn there can be no doubt, just as there is a relationship between impure water or impure milk and typhoid fever, but the last word has not been said in regard to the etiology of pellagra. Corn undoubtedly acts as a carrier of infection. I believe we shall have to look to some protozoon or micro-organism as the cause of the disease. It is my belief that some day we shall discover a living cause; but let us not go on record as saying that it is corn, and only corn, that produces the disease, but let us say, it is corn and something in the corn that cause the disease.

Pellagra at Nashville, Tenn.

Dr. J. M. King, Nashville, Tenn., contributed a paper on this subject, which was read by Dr. Louis Leroy, Memphis, in the absence of the author. There were two groups of patients, one occurring in the Baptist Orphanage, consisting of seventeen cases, the other consisting of two cases, which were found in the country fourteen miles from the city, and one single case. Each case was reported in detail. In commenting on the two groups reported, the first consideration is: Has there been any transmission of the disease from one case to another through food or any other way? Is the disease infectious? There seems to be absolutely no doubt as to the diagnosis of these cases. In the orphanage the disease was first introduced by a family of children from destitute parents; later, up to 1909, other cases developed in the same institution, and in children from all sections of the state. It does not appear that the children outside of this immediate family of four entered the institution with the disease. Every proof shows that they contracted it there. Every proof shows that the disease was introduced by the youngest member of this family of four, the other three members being also affected later, with the intensity of the disease less in the older children. The food at the orphanage was wholesome, well prepared and well served. The inmates showed all evidence of being well fed. Their food, in fact, was equal to that of the average home. The corn meal from which their corn bread was made was procured from one of the most reliable millers in the city of Nashville, and all the children ate the same quality of bread. The same grade of corn meal is used by the Central Tennessee Insane Asylum. A most careful inspection was made of that institution by Dr. Lavinder, Dr Tucker, Dr. West, and myself, and not a single case of pellagra was found even among the colored female inmates. In one group it appears as if there was a direct transmission of the disease to the woman from washing the clothes of one patient. The man had a well-marked case of pellagra. The woman did his washing during the winter and in the spring developed the disease. There seems to be no other way by which she could contract it. He came into the community with the disease. There was nothing in common between the two, as far as we could learn, except this washing. On the face of the report of these two groups, this disease has every appearance among us of being infectious, or in some unknown way communicable.

DISCUSSION

Dr. C. H. Lavinder: I visited Nashville and saw the cases there, and while I admit there is some reason for the conclusion drawn by Dr. King and others that pellagra is transmissible, yet I do not think we should come to a general conclusion that it is infectious or transmissible from one or two cases. Therefore, in a friendly way, I wish to offer my protest against such a conclusion.

Dr. W. E. Hibbett, Nashville: I wish to emphasize some of the facts in connection with this paper. We have three state institutions and one county institution, besides the Baptist Hospital, in the immediate vicinity of Nashville, the inmates of which all receive the same food. In all the other institutions, except the Baptist Orphanage, the number of inmates is relatively large. In the Baptist Orphanage there are only about 75. The disease was brought in, as the paper states, by a child from Newport, four members of the family having the disease, one case developing after another until we had seventeen cases in that institution. After a most careful study, with the exception of the other group alluded to, no other case was found in the vicinity of Nashville, or in any of the institutions. While we have not gone on record as stating that the disease is transmissible, yet with these facts before us, what else can we think than that the disease is communicable from one person to another? We are not trying to establish the infectious nature of pellagra, but we are here to learn and are open to conviction. We have been criticized for what was supposed to be the quarantining of these cases. We do not quarantine them, but have carried out what we term advisory isolation, made necessary because of the peculiar surroundings of the cases in the Baptist Orphanage.

Dr. Louis Leroy: So far as amebas and uncinariæ are concerned, in none of our cases in Tennessee have amebas or hookworms been present. Amebas, however, are prevalent in the neighborhood of Memphis. We have an area there in which amebiasis is endemic; still I have never seen a case of amebiasis give evidence of pellagra, nor have amebas been found in any of our pellagrous patients, although they have been sought for diligently in each case.

Facts and Theories of Pellagra

Dr. H. E. McConnell, Chester, S. C.: My paper is based on twenty-four cases, dating back to 1903. In each case there has been a definite history of corn products of questionable character having been used, and this puts me in the class with those still holding to the maize theory as to the causation of the disease. It seems strange that after the lapse of centuries a disease due to damaged corn should come back to us from the old world when the seed was first obtained in America. I believe this fact due entirely to the changed methods of cultivating and harvesting corn, whereby unmatured corn is placed in the most favorable condition for fermentation and fungus growth. From the similarity of the disease in all cases, I am led to believe that it is due to a fungus or bacillus with their toxins associated with spoiled corn. Its port of entry is through the stomach and intestines, and when once engrafted it is hard to dislodge. All my patients had in the beginning a stomatitis, salivation, burning in the stomach and diarrhea, more marked in some than in others The slowly developing cases usually present symptoms twelve months before the rash appears, the acute cases after a few weeks. By this rash we make the diagnosis of pellagra The blood shows no specific organism. I believe, further, that this fungus is unaffected by heat, or, which is more probable, enters the stomach with poorly cooked food. Apparently cured patients seem to relapse easily after corn products are used, even though they be of the best quality. While the stomach and intestines are the primary foci, I think most of the symptoms are produced by the action of the toxins on the nervous system. Of the fourteen cases seen this year, the proportion of males has increased to the same as that of females, seven of each. Of these, two females (white) and one colored (male) have died. Of the twenty-four cases, four only were negroes. Three of these I prescribed for during the summer of 1908 as suspected cases of pellagra, only to have my suspicion verified the following spring. The rash is not so distinct or so easily recognized in the colored as in the whites. From these cases, it would seem that no age or sex or race is exempt. The course of the disease has varied from three years to a few weeks. In regard to treatment, atoxyl was given widely this year, but not hypodermically, as these patients were not directly under an attendant capable of giving these injections. The results have not been superior to Fowler's solution and hydrogen peroxid The leucodescent light had the most beneficial effect on the erythema of any remedy tried.

Symptoms of Pellagra

Dr. J. J. Watson, Columbia, S. C.: The malady is so insidious in its onset that it is difficult to state what are the earliest premonitory symptoms. The first thing usually complained of by the patients is some gastrointestinal disorder. This may be loss of appetite, burning sensation in the epigastrium, excessive desire for food or drink, or more often diarrhea with more or less stomatitis and salivation. Soon after these digestive disorders manifest themselves, or coincident with them, the patient detects a disinclination to any exertion. Duties that were formerly dispatched with a feeling of pleasure are now looked on as a dread; and procrastination takes the place of promptness; so that the personal appearance of the victim, or the aspect of the home and children, if the sufferer is a woman, indicates neglect, all of which is evidence of the psychic depression that forms later a prominent figure in the clinical picture of the disease.

Skin Symptoms.—After these symptoms have persisted with unusually increasing severity, in some cases for weeks, in others for months, the characteristic symptom of the disease appears, namely, erythema on the hands and arms not covered by the clothing. The skin eruption may be either dry or wet. In the dry form it appears usually in the early spring months, and while it is one of the most characteristic features of the disease, it is *per se*, one of the most insignificant, as very few patients suffer any physical discomfort from it. They complain principally of the unsightliness. The eruption begins as an erythema on the backs of the hands and extensor surfaces of forearms, extending up the arms to the point that the sleeves reach, and ends abruptly there, being absolutely symmetrical if the sleeves are symmetrical, which is usually the case. In persons who do not hold their hands the eruption extends to the flexor surface in a characteristic shape; beginning on the radial border it extends toward the ulnar by an oblique line forming a patch of erythema on the flexor surface, somewhat triangular in shape, the base of the triangle being the radius and the apex near the ulno-carpal articulation. Patients who are well advanced in the disease and unable to work, and who sit about and hold their hands have the eruption on the flexor surface, to the same extent as on the extensor surface. The erythema lasts for a few days and then begins to fade and the skin to desquamate in fine scales if the dermatitis has been mild. As the redness fades the site of the erythema assumes a somewhat cyanotic hue. This is gradually replaced by a characteristic light liver or chocolate color, which, if once seen, cannot be mistaken or confounded with any other skin disease. In negroes it is readily recognized by an increase of pigmentation, the site of the eruption appearing as though soot had been smeared on that part of the hand and arm. The patients often make vain attempts to remove the dirty appearance of the hands with soap and water. After a time the eruption scales off and leaves the hands soft, velvety and glistening, quite a contrast to the dirty hands that they were the sorrowful possessors of only a few weeks before, but the erythema reappears and the eruption follows the same course as previously described. This may happen several times during the summer As a result of these repeated inflammations the hands become hard and wrinkled and frequently deep fissures occur on the fingers, notably the index finger, at or near the first joint. Portions of the body covered by the clothing subjected to pressure also show the eruption in some cases. The skin over the olecranon, trochanter, sacrum and knees is especially liable to become affected. The forehead, face and neck are often the seats of the eruption. In those who go barefooted the feet and legs do not escape. The eruption commences in the spring months and persists until July, August and September, and then disappears to make its appearance in the following spring. In some cases there is a mild relapse in October. The crowning characteristics of the pellagra eruption are the symmetry and color. After the pigmentation has been exfoliated there usually remains a fringe of dirty appearing epithelium, a relic of the line of demarcation of the dermatitis. In some cases the sebaceous glands on and around the nose are hyperactive, there being a seborrhea. The wet form differs only in degree. When the dermatitis is severe, bullæ form, sometimes containing serous, serosanguineous or seropurulent fluid, and when the bullæ break large ulcers are left to mark their site, or large flakes of skin desquamate, leaving a raw surface. Slight cicatrices remain as evidences of former ulcerations. The whole clinical picture is analogous to a burn of the first degree. The wet form involves a greater area than the dry, such as the axillæ, groins, etc. This form has been frequently diagnosed as dermatitis exfoliata.

Digestive Disorders.—The buccal mucosa becomes very red, the tongue and mucosa of the lips showing particularly this characteristic symptom. If the throat is examined, this redness will be observed as far as one can see into the pharynx. Flakes of exfoliated epithelium will be seen adhering to the gums, and the tongue being denuded of its epithelium, is smooth and glistening. Now its color is cardinal red, and it is a cardinal symptom of the disease, so that I have denominated it the "cardinal tongue." Sandwith calls it the "bald tongue." This stomatitis is accompanied by a profuse flow of thick saliva, in some cases so profuse that the saliva dribbles out of the corners of the patient's mouth. Intelligent patients suspect they have been salivated by mercury. When the mouth is open, strings of saliva will extend from the upper to the lower teeth. My attention was directed by Dr. Babcock over a year ago to small black or bluish-black spots on the tongue, and since then I have observed these papillæ in a number of cases, all negroes. The name of "stipple tongue" has been given this condition by Dr. Lavinder. The tongue may be either pointed or large, flabby, swollen and indented. The salivary glands may be swollen and tender. This with the salivation and conditions of the swollen gums has been mistaken for mercurial salivation, but in mercurial salivation there is always a disagreeable odor to the breath, and while there is an odor to the salivation in pellagra, it is not the same disgusting fetid odor that is characteristic of mercurial ptyalization. The acme of the stomatitis corresponds to the acme of the eruption on the hands. Other mucous membranes are inflamed. Proctoscopic examination reveals a bright red mucous membrane as far up the gut as can be seen. Hemorrhoids are frequently complained of. One of my patients complaining thus showed on examination only an intense redness of the mucosa, still she insisted that she suffered acutely from piles. This patient was in a state of mild delirium, and possibly there was some irritation that caused her to refer to trouble in that locality. She was far advanced in the disease, and this was the only symptom of which she complained. It is unusual for patients to complain of discomfort in this locality. The mucosa of the vagina is also the seat of inflammation, and vulvovaginitis is not at all infrequent.

A burning sensation in the esophagus and stomach is frequently present. Pyrosis is sometimes a prominent feature, with or without belching. "Pyrosis is never absent" (Lombroso). Vomiting occasionally occurs, but it is not a constant feature of the disease. When the disease is advanced dysphagia is complained of by some patients, and this may be accompanied by strangling when fluids are taken. Marked gastric symptoms are present in some cases. I have known a case of pellagra diagnosed as gastric cancer.

Diarrhea is a feature of the disease at some time in its course. It varies from a few soft stools a day to twenty or more, and they are frequently involuntary when the patients are bedridden. In a number of cases I have noticed that the stools are as frequent at night as in the day. The diarrhea is obstinate and not affected by the ordinary treatment of diet. I have seen it persist in spite of large doses of bismuth and opium and a rigid diet, and improved when drugs were discontinued and diet not restricted. It is not dependent on errors in diet, but is a neuropathic manifestation due to disease of the spinal cord and involving the sympathetic system. The fact that the normal reflex in the intestines is greatly increased by disturbance of the sympathetic nerves may explain the diarrhea, since it produces hyperperistalsis in the same manner that irritants applied to the skin produce an exaggerated vasomotor dilatation with the erythema as a result. In rare cases there may be constipation. These cases are mild and show slight mental depression or none at all. In the terminal stage, when rise of temperature sets in, the diarrhea frequently stops. Meteorism is present with the diarrhea, and sometimes persists after the bowels have lost their frequent action. The diarrhea follows the same course as the erythema and stomatitis, namely, it has exacerbations and remissions and persists through the spring and summer months, with a slight recrudescence in October, then disappears during winter to reappear the following spring.

Eye Symptoms.—Pupillary abnormalities are striking in some localities and in some seasons, varying from year to year. In 1908, in South Carolina, pupillary dilatation was the rule, the mydriasis being extreme in some cases. It may be either bilateral or unilateral. If unilateral, the right pupil is most apt to be dilated. During 1909, I have seen few patients with dilated pupils. Contraction of the pupils is sometimes met with. The pupils react sluggishly to both light and accommodation, and resist the action of homatropin considerably longer than the normal. Diplopia and photophobia are not usual. These pupillary phenomena must be due to a disturbance in the cilio-spinal center.

Pain in the back was a striking feature in some of the Italian patients whom I saw. The pain was so severe that the sufferers walked stooped over. I have had only one patient complain of pain in the back among the number studied in America. Pains in various portions of the body are often complained of. Tenderness at some point along the spinal column is almost constant. It is usually in the mid-dorsal region and is easily elicited by pressure with the fingers along the spine. The tenderness varies on the two sides, in some cases being more acute on the right. The tenderness is not over the spinous processes, but over the point where the nerves emerge from the canal.

The mild cases are practically afebrile, namely, temperature less than 100 F. The morning temperature is often subnormal, 96 and 97.5 F. A temperature of from 102 to 108 F. or over is not unusual in cases progressing to a fatal termination. The pulse is increased to from 80 to 100 in ordinary cases, but increases with the toxemia or temperature, and counts of 160 are not unusual in fatal cases. There is nothing characteristic about the urine, except that alkaline urine is a bad prognostic sign (Lombroso). The reflexes are usually exaggerated, although they may be normal, diminished or lost. Like other signs, they vary with the locality and season. The patellar tendon reflex is especially more lively, the slightest touch eliciting a lively jerk. The knee-jerk varies on the two sides, in some cases being more lively on the right, the side that has the most exquisite spinal tenderness. In severe cases, or rather in those in which there are tetanic contractions, ankle clonus may be found. In paretic patients the reflexes are abolished. There is usually analgesia or anesthesia at the site of the eruption.

Vertigo is complained of by nearly all the sufferers, and should always be asked about, if not mentioned by them. Its presence should excite suspicion and other pellagrous stigmata sought for. Mental depression is as constant as the erythema and diarrhea and varies from a mild case of the blues to severe melancholia. Hallucinations and delusions are sure to occur at some time in the disease, and no two patients will have the same delusions. In Italy 10 per cent. become insane. As yet, we cannot form any opinion as to what proportion of our patients will become insane, but if records of cases are kept it will be a very easy matter to ascertain what proportion is demented. While pellagrins are never talkative, at times they complain of real or imaginary ills. As the disease advances they talk less, often not answering questions, and finally pass into a state of absolute mutism. This portion of the pellagrous syndrome is important and properly calls for separate consideration. The gait is either simple paralytic or paralytic spastic. The patients walk with their legs far apart, and as paresis sets in the stride is very much decreased, and the patient assumes a peculiar shuffling gait.

DISCUSSION

Dr. C. L. Minor, Asheville, N. C.: In considering the symptoms, Dr. Watson failed to mention one which I regard as of the greatest importance, namely, the peculiar slimy green stool, with a sickly, disagreeable odor.

Dr. J. J. Watson: In the South Carolina State Hospital for the Insane it has been observed that the nurses can make a diagnosis of pellagra, before the skin eruption appears, by the offensive odor and characteristic appearance of the stools.

Amebas in the Stools of Pellagrins

Dr. W. Allen, Charlotte, N. C.: 1. Pellagra is often complicated by amebiasis. 2. Many varieties of amebas may be found in the stools of pellagrins. 3. Pellagra is liable to be mistaken for amebiasis, and *vice versa*. 4. In diagnosing and treatment of pellagra, in the absence of pathognomonic skin lesions or mental symptoms, it is first necessary to exclude amebiasis.

Results of Stomach Analyses in Pellagra

Dr. W. O. Nesbit, Charlotte, N. C.: In this paper I report the results of the analyses of the stomach contents of 10 cases of pellagra. Four showed a marked diminution in the acid factors of the gastric juice in the late stage of the disease. Five showed an excess of mucus during the pellagrous periods. Six showed normal motility, while in 3 the motility test was not made. Four showed the presence of bile during severe vomiting periods. While this series of cases is too small to draw definite conclusions, the indications are that in pellagra, as in all adynamic and sthenic diseases, the hydrochloric acid and ferments of gastric juice are progressively diminished.

Personal Observations on Pellagra

Dr. T. L. W. Bailey, Clinton, S. C.: I summarize my observations of this disease from a study of the cases that have come under my care as follows: 1. The acute uncontrollable diarrhea and its persistence. 2. Salivation with stomatitis, involving the esophagus; the characteristic slick red tongue that does not coat. 3. One case of vaginitis and inflamed anus. 4. A peculiar eruption on back of hands, sides of neck, both cheeks and sometimes tip of nose. 5. A feverless disease. 6. The hyperesthetic knee-jerk occurring primarily in all cases which should always be examined. 7. Insomnia, hallucinations and acute insanity. One of my cases developed locomotor ataxia and insanity.

Dr. Rea Parker, State Hospital, Williamsburg, Va., reported his clinical observations on 4 cases of pellagra, and called attention to one symptom not noticed by others, namely: On the evening of the thirty-eighth day the patient, a male, had a mild convulsion, the pupils becoming irregular, dilating and contracting alternately without any external stimuli, one pupil reacting independently of the other.

Is Pellagra Communicable or Hereditary?

Dr. H. H. Griffin, Columbia: 1. The conclusion that pellagra is not communicable is based on the authority of men of great minds who have spent a lifetime in the study of this disease. This seems to be the universal conclusion of those who, by virtue of a large experience, are in a position to speak, and from the 100 or more cases that have come under the observation of the staff of this hospital. 2. Pellagra is probably hereditary, that is, in the form of a predisposition or a mild tendency, such a tendency as we now believe to be inherited in tuberculosis or even in insanity. The hereditary pellagrin is especially vulnerable, not only to pellagra, but to physical and mental degeneration, including insanity.

Dr. Crown Torrence, Union, S. C., detailed a case of labor in a pellagrin, with the subsequent history of the mother and child.

Prognosis of Pellagra

Dr. James H. Randolph, and Dr. Ralph N. Greene, the Florida Hospital for Indigent Insane: The disease does not seem to be confined to any one section or locality in the state, our cases having been received from fourteen different counties, scattered irregularly through Florida from one extreme to the other. As to social scale, the five white women patients represented as many different walks of life, from a pauper epileptic idiot to a highly educated elderly woman of refinement, now in the stage of terminal dementia, and includes a farmer's wife, a mechanic's wife and a prostitute. Among the colored women the patients were recruited from the turpentine camps of the state, where there is a noticeable absence of general or personal hygiene, and one had been employed in packing leaf tobacco, but inquiry revealed the fact that she had long been a simple-minded dissipated individual, addicted to the use of snuff and "nigger" gin. The ages of the patients that have come under our observation range from that of a child of 13 years old to that of an aged woman; also one negro man, over 80 years of age, the majority being around 40. Of 5 cases embodied in a former report from this hospital, there was a complete subsidence of symptoms in the case of a white man, which has continued to the present time, and has been interrupted only once for a short period, when a return to general diet, including daily ration of corn bread, was accompanied by slight erythema and slight gastro-intestinal symptoms. Of the 13 more recent cases, 11 of which were among women, there has been complete subsidence of symptoms in 2, 1 of whom has returned home, and 2 more still under treatment show great improvement at the present time, with prospects reasonably good for recovery. All those who died gave undisputed evidence of serious complicating conditions, such as senile debility, tuberculosis and syphilis, and this applies with equal force to the new cases seen among the men, both of whom have died. An analysis of these figures gives a ratio of recovery of about 1 in every 4 or 5 cases.

Pellagra in the East Mississippi Insane Hospital

Dr. J. M. Buchanan, Meridian, Miss., presented short histories of the cases of pellagra in this institution:

These cases establish the fact that pellagra has existed in Mississippi for several years unrecognized, for they give histories of from two to ten years' duration. However, I do not think pellagra cases occurred in bunches prior to 1906 The first known case in Mississippi was observed at the Insane Hospital in November, 1907, although it was not recognized as pellagra until after the appearance of Dr. Babcock's report, which was several months after the death of the patient In April, 1908, Dr. W. R Card made a report of 2 cases before the Mississippi State Medical Association, but that report did not command a passing notice. Since then seven other patients have been received No case has developed in the hospital I have no data as to the number of cases in Mississippi, but as many reports have been made from various sections, I feel safe in saying the number has passed the 100 mark I believe in the corn theory and try to attribute the cause to imported western meal, but three of my patients came from interior counties, and the people state that all the meal used was from home-grown corn ground at nearby mills. I have known pellagrins to be made worse by eating good corn bread, and there may be something in the bread itself that causes the trouble, and it may not be altogether due to a supposed toxin Careful inquiry fails to find a local cause. All the patients were country people, fairly well to do living in open houses, and using good spring or well water. In some cases skin lesions were the first symptoms noted. In others, general bad health and diarrhea were first noted; the skin lesions appeared later Treatment was practically the same for all, and consisted of tonics and special diet. Atoxyl was given by deep injections, beginning with 1 grain and increasing up to 4 or 6 grains a day. For the bowel trouble betanaphthol, in combination with astringents, gave the best results. The mental manifestations were of the manic-depressive type, and were variable In 3 cases there was known hereditary taint. Of the nine patients, one made a good recovery, both mentally and physically. Two recovered from somatic troubles, with little improvement of mind. Three died, and three are still under observation, with no improvement.

DISCUSSION

Dr. Sara A. Castle, Meridian, Miss.: Of the many patients with pellagra whom I have treated since it was first recognized in Meridian, six were socially prominent in the city, and five of these died. This is not necessarily a disease confined to the poor, according to a prevailing popular impression. All my patients were eaters of corn bread and grits. Several of my hookworm patients subsequently developed pellagra and died.

Other Papers Read

The following papers were also read: "Pellagra in Yucatan," by Dr. G. F. Gaumer, Yucatan, Mexico; "Pellagra in Jamaica," by Dr. D. J. Williams, Jamaica, W. I.; "Personal Experience with Damaged Corn," by Mr. J. S. Whaley, Edisto Island, S. C.; "A Theory as to the Cause of Pellagra," by Dr. C. S. Pixley, Winnsboro, S. C.; "Report of a Case of Pellagra Universalis," by Dr. J. R. Miller, Rock Hill, S. C.; "Report of a Sporadic Case of Pellagra," by Dr. John Lunney, Darlington, S. C.; "Report of Six Cases of Pellagra," by Dr. Theodore Maddox, Union, S. C.; "Pellagra in Children," by Dr. M. B. Young, Rock Hill, S. C.; "Infants of Pellagrous Parents," by Dr. D. S. Pope, Columbia, S. C.; "Diseases of the Eye in Pellagra," by Dr. A. B. Clarke, Plantersville, S. C.; and "Eye Symptoms of Pellagra," by Dr. E. M. Whaley, Columbia, S. C.

Resolutions Passed

The Committee on Resolutions, composed of Dr. J. H. Way, Waynesville, N. C.; Dr. Charles L. Minor, Asheville; Dr. J. T. McAnally, Illinois, and Dr. C. C. Bass, Louisiana, presented the following:

1. *Resolved:* That we appreciate most highly the splendid work performed by Dr. C. F. Williams, the efficient secretary of the South Carolina State Board of Health, in organizing and successfully promoting this conference for the study of pellagra.

2. *Resolved:* That we tender our sincere thanks to Dr. J. W. Babcock, whom we justly recognize as the father of the movement for the study and control of pellagra in America, for his valuable labors and his many courtesies to this body during our session.

3. *Resolved:* That the purposes for which this conference was called can best be furthered by its formal orgauization into a permanent association of national scope, and that the committee on permanent organization be instructed to report at this session.

4. *Resolved:* That this conference recognizes the widespread existence of pellagra in the United States and urges on the national government the necessity of bringing its powerful resources to bear on the vital question of its cause, prevention and control.

5. *Resolved:* That while sound corn is in no way connected with pellagra, evidences of the relation between the use of spoiled corn and the prevalence of pellagra seem so apparent that we advise continued and systematic study of the subject, and, in the meantime, we commend to corn growers the great importance of fully maturing corn on the stalk before cutting same.

6. *Resolved:* That the work of this conference be brought to the attention of the various state and territorial boards of health, and that they severally be urged to specially investigate the disease, particularly as regards its prevalence, and that they also see that the proper inspection of corn products sold in the various states be had.

7. *Resolved:* That the secretary be instructed to convey to the family of the late Cesare Lombroso, our sympathy in their loss and our appreciatiton of his great work in the study of pellagra

8. *Resolved:* That all papers and discussions of this conference be referred to the Committee on Publication with full power to publish the same as they deem fit

On motion of Dr. J. Howell Way, seconded by Dr. I. M. Taylor, the resolutions were adopted unanimously by rising vote.

Permanent Organization Founded

The Conference perfected a permanent organization, which is to be known hereafter as "The National Association for the Study of Pellagra." The membership is to be composed of medical and scientific workers who are interested in the prevention, study and control of this disease.

Officers Elected

The following officers were elected: President, Dr. J. W. Babcock, Columbia, S. C.; first vice-president, Dr. W. A. White, Washington, D. C.; second vice president, Dr. C. F. Williams, Columbia, S. C.; secretary treasurer, Dr. George A. Zeller, Peoria, Ill. Peoria, Ill., was selected as the place for holding the next meeting; time, June, 1910.

DELAWARE STATE MEDICAL SOCIETY

One Hundred and Twentieth Annual Meeting, Held at Dover, Oct. 12, 1909

The President, Dr. Henry J. Stubbs, Wilmington, in the Chair

The address of welcome was delivered by Dr. P. S. Downs, Dover.

The officers elected were given in The Journal, Oct. 23, 1909, p. 1406.

President's Address: Review of Progress, Particularly in Surgery and Gynecology

Dr. Henry J. Stubbs, Wilmington, called attention to the fact that no particular achievements had been accomplished during the past year, but that there had been a steady onward progression.

Reports of County Societies

The report of the Kent County Medical Society was presented by the secretary, Dr. P. S. Downs, Dover, who outlined in detail the work that had been carried on by the society during the past year. He stated that the subject of preventive medicine had received a great deal of attention. He believed that relief from tuberculosis was largely dependent on the education of the public and hygienic measures and the securing of the cooperation of the public, as a means of which he suggested the value of the publication of medical articles in the law press, the publication being supervised by a proper committee of the state or county society.

The report of the New Castle County Medical Society was presented by Dr. Harold Springer, Wilmington, who stated that during the past year papers had been read before the society by prominent specialists, on insanity, carcinoma, epilepsy and other subjects, and that the average attendance at the meetings had been twenty-nine, as compared with twenty-two in the previous year.

The General Principles Underlying Modern Therapeutics

Dr. A. Robin, Wilmington, referred at length to the efforts made by Nature to repair the various organs after injury, and referred to a case of a Russian who suffered from severe injury to the intestines, in which several hours elapsed between the injury and treatment, during which time the patient was subject not only to infection from the feces which were escaping, but also from foreign substances, yet the man made a good recovery. Dr. Robin contrasted this case with that of the late President McKinley, whose wound resulted fatally, although immediately given the best of surgical attention; and urged that the therapeutic measures in these cases be such as will assist Nature in her efforts.

Medical Ethics

Dr. G. Frank Campbell, Selbyville, cited in full the Principles of Ethics as laid down by the American Medical Association, and condemned advertising, whether by direct notice of the press, or any other manner, which directly or indirectly might be used to bring the practitioner and his skill before the public, with a view to increasing his practice and pecuniary return. He emphasized particularly the need of a closer observation of ethical rules when asked to attend an individual whom the physician knows to be the patient of another doctor, and also the fact that a consultant should not give an opinion except in the presence or with the consent of the attending physician. The need of these rules, he stated, was especially apparent in the country districts.

DISCUSSION

Dr. H. W. Briggs, Wilmington, felt that there was need for the teaching of more ethics in the medical schools, and urged the importance of laws making the persistent violation of the Principles of Ethics a ground for the revocation of a physician's license.

Dr. P. W. Tomlinson, Wilmington, emphasized the benefit to be derived from writing papers, and reporting cases, both by the writers of the paper and those who hear them, and urged the members, including the practitioners in the country districts, to do more in this direction.

Dr. Charles A. E. Codman, Philadelphia, referred to the importance of organization and frequent meetings of the physicians in the various localities as a means of increasing the standard of medical ethics and the good feeling between physicians. He referred to the establishment of branches of the Philadelphia County Medical Society a few years ago, since which time the membership of that society has increased from 450 to over 1,300. He stated that all the branch meetings were well attended and well participated in by all the members living in the vicinity of the meeting places.

Report of a Simultaneous Case of Intrauterine and Extra-uterine Pregnancy

Dr. S. G. Rumford, Wilmington: In the first pregnancy, the child was entirely free in the abdomen, and at the time of the termination of this pregnancy, there was a normal pregnancy in the uterus of about six weeks. In the abdominal pregnancy the placenta was adherent to the child and there never had been a tubal pregnancy. The child lived but a short time after birth, and the mother also died soon after.

DISCUSSION

Dr. John Palmer, Jr., Wilmington, stated that he believed the reason the child died so soon after birth was on account of the pressure which had been exerted upon its head by the abdominal wall of the mother, the whole side of the head being crushed in. He stated that the heart beat was fairly good, and the child gave several good gasps, but soon expired.

The Relation of Chronic Malaria to Acute Catarrhal Conditions of the Nose and Throat

Dr. C. J. Harbordt, Dover, stated that from his observations of persistent catarrhal conditions of the nose and throat he had been led to believe that, in many instances, the trouble was not purely local, and that the malarial germ played some part in the production of the condition. He cited as proof of this fact that in cases in which malaria was supposed to be the causative factor, there occurred, among other symptoms, rise of temperature, catarrhal jaundice, herpes, enlargement of the lymphatic glands, slight albuminuria and nervous symptoms, and the cases frequently yield to the administration of quinin. He also reported several cases in which hemorrhage of the nose had yielded to the use of quinin.

DISCUSSION

Dr. E. S. Dwight, Smyrna, stated that he had always felt that the throat and nasal conditions were largely due to the dampness of the atmosphere due to the location of the state between the two bays. He stated that there was a great deal of latent malaria present, which promptly became acute when complicated by other illnesses and manifested itself by periodical congestion of the weakened part, every other day, which, of course, in cases of throat disease would manifest itself in the throat.

Dr. Albert Robin, Wilmington, stated that during his connection with the State Laboratory some years ago he had conducted an investigation to find out whether the blood of the people of Delaware contained the plasmodium of malaria, with the result that it was found to be present in only about 2 per cent. of the cases. He believed that many of the cases of supposed malaria were really cases of autointoxication due to drinking surface water. He cited a case, in which a man suffering from pyelitis had been thought to have malaria from his objective symptoms, and also from the fact that the administration of quinin was followed by an apparent cure in the first attack, but in which the blood examination gave a negative report, and a subsequent attack received absolutely no benefit from the use of quinin. He felt that the only way to be sure of the diagnosis of malaria was the finding of the plasmodium in a blood examination.

Dr. James H. Wilson, Dover, stated that he believed the reduction in the number of cases of malaria in Delaware was due largely to the better drainage, and remarked that while there is not so much true malaria, as in former years, similar conditions are manifested in malaise, etc., produced by kindred poisons.

Dr. P. W. Tomlinson, Wilmington, stated that in his opinion the cases of true malaria had been largely eliminated from the state, due to the better drainage. He also inquired whether throat specialists had observed any larger percentage of these throat and nose cases at one season of the year than others, as when malaria was so prevalent there was little of it in midwinter.

Dr. Luther S. Conwell, Camden, referred to the mosquito as a means of transmitting malaria, and declared that the decrease in the number of cases was due not only to the better drainage, but also the extermination of the mosquito and the improved screening of dwelling houses.

Dr. H. R. Burton reported the case of a laborer, who had been taken from Boston to Cuba, and two days after his arrival developed tropical malaria. The physicians were at first at a loss to account for the development so soon, but afterward it was learned that shortly before this man left Boston another contractor had arrived at Boston from Cuba with a crew of men, and that tropical malaria had broken out among these men, and as the men were camped close together it was felt that the disease had been carried by a mosquito to the patient in question before he left Boston. Dr. Burton also urged better drainage and the extermination of mosquitoes as a means of eliminating the condition, even, if necessary, the abolition of all water-power mills.

Dr. Charles A. E. Codman, Philadelphia, stated that if it were not practical to abolish the mill ponds the mosquitoes could be eliminated therefrom by stocking the ponds with fish.

Roentgen-Ray Treatment of Carcinoma

Dr. W. S. Newcomet, Philadelphia, stated that the cause of cancer was still unknown, although irritation entered largely into its production, severe, acute irritation being more likely to produce sarcoma, and continued mild irritation carcinoma. He urged early and complete operation in both conditions, followed by judicious use of the *x*-ray. He exhibited a number of photographs of the various conditions, including carcinoma of the breast, epithelioma of the nose, lupus, cirrhus of the breast and other conditions, and directed attention to the fact that when the deeper structures are involved, the disease is usually more violent and the progress more rapid, as well as being more likely to recur, than when the condition occurs on the skin surfaces.

DISCUSSION

Dr. Charles A. E. Codman, Philadelphia, stated that in the beginning cancer was a symptomless disease, and that it was equally distributed throughout all classes and all races, environment or climate apparently having little, if anything, to do with its production. He laid great stress on the importance of prompt recognition and early radical operation followed by the use of the *x*-ray for a period of three or four weeks after the operation. He declared that growths in the female breast should be looked on as malignant and treated accordingly, unless there is positive evidence of their benignity, and urged radical operation, followed by the *x*-ray for even suspected conditions, believing that if any error was to be made it was better to be on the safe side. He stated that most cases of cancer of the breast occurred in women between the ages of thirty-five and forty-five years, that, as the age of the patient increases, the frequency of the condition decreases, but its severity, when present, increases.

Dr. H. R. Burton urged the necessity for the local practitioner immediately referring suspected cases to competent surgeons for diagnosis, and, if necessary, operation. He cited a case of cancer of the lip, which he had been called to see, which had previously been treated by a country physician for six months without recognition. He immediately advised operation, which was done, and the man was free from the disease for three or four years, at which time some enlargement of the glands appeared and another operation was immediately performed. This was six years ago, and the man is now well.

Rearing of Children.—The influence of unsuitable surroundings, the lack of fresh air and sunlight, may play a part in the development of rachitis in many cases. The dwellings of the poor, especially in cellars and rear houses, do not admit of a proper environment for children.—F. C. Neff, in the *Kansas City Medical Index-Lancet.*

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Fifty-ninth Annual Session, held in Philadelphia, Sept. 27-30, 1909

(Concluded from page 1591)

Officers of Sections

At the section meetings the following officers were elected:

Section on Surgery—Chairman, Dr. Edward Martin, Philadelphia; secretary, Dr. Otto Gaub, Pittsburg.

Section on Medicine—Chairman, Dr. William B. Stanton, Philadelphia; secretary, Dr. Edward M. Green, Easton.

Section on Eye, Ear, Nose and Throat Diseases—Chairman, Dr. G. Hudson-Makuen, Philadelphia; secretary, Dr. John B. Corser, Scranton.

Dr. W. L. Davis of Scranton and Dr. John J. Coffman of Scotland were elected president and secretary, respectively, of the Society of Secretaries of the Component County Societies.

Traumatic Abscess of the Liver

Dr. S. J. Waterworth, Clearfield: The object in reading this paper is to place on record a case of traumatic liver abscess, an affection of interest because of its rarity. The differential diagnosis may be quite difficult and the relation of the general and local symptoms to each other and to the history of the patient should be well considered. The trocar should be used, but in all cases in which it is used the surgeon must be prepared to operate immediately more radically. I believe the operation of choice, except in those cases in which the abscess cavity has approached the upper posterior surface of the liver and in which we have practically a subdiphragmatic abscess to deal with, is free incision and drainage by the upper abdominal route and careful walling off with gauze. A patient operated on three months after injury recovered.

Joint Disease Versus Rheumatism

Dr. De Forest Willard, Philadelphia: This article is written in the hope of arousing the profession to the direful results that constantly occur from the careless and unpardonable habit of calling local joint pains "rheumatism," since the failure to diagnose and to examine patients with joint disease frequently results in a crippled condition which persists for life, long suffering and even death. More than 95 per cent. of joint diseases pass on to these most serious consequences as the result of this careless lack of diagnosing and of subsequent treatment. The pain of tuberculous joint infection at the beginning is usually worse after exercise, and is not accompanied by any local evidences of inflammation. The onset of tuberculous joint disease is usually slow and insidious. The principal diagnostic point will be rigidity. This muscular tension shows that the brain of the patient is already cognizant of the approaching danger, even before a positive pain is recognized as an entity. In tuberculosis the ordinary symptoms of acute inflammation are absent. In disease of the joints in the lower extremity limping is progressive and deformity in the direction of flexion of the joint speedily follows, as flexors are ordinarily stronger than the extensors. Sarcoma of the bone is also frequently maltreated as rheumatism. The vague term "rheumatism" is a will-o-the-wisp that has been blindly followed for centuries to conceal ignorance, carelessness or stupidity, and the same is true of the much abused term "growing pains." Every patient with persistent limp and pain (aside from acute trauma) should be examined naked and with the utmost care for the symptoms. Should the case prove in any instance to be one of rheumatism or trauma rather than tuberculosis no possible harm can result from the treatment by rest, fixation and general hygienic measures. Doubtful cases will never be injured by thorough treatment, while many tuberculous infections may be aborted.

DISCUSSION

Dr. Stewart L. McCurdy, Pittsburg: I agree with Dr. Willard on the question of rheumatism. This is a condition that the bone surgeon meets frequently. I would like to emphasize the statement made that local joint pain is seldom, if ever, we might say is never, rheumatism.

Dr. Edward Martin, Philadelphia: Rheumatism occupies the place in the profession that malaria used to. It has been my experience that nearly all local joint pain is rheumatism, especially in people who are over-fed and under-exercised; it disappears under light diet and general systemic treatment. However, when it comes to persistent pain, I agree with Dr. Willard, and one will usually find infection or beginning tuberculosis.

Dr. De Forest Willard, Philadelphia: Dr. Martin is speaking of one class of cases and I of another. I think his cases are gout and not rheumatism. Local joint pain, especially as it occurs in children, is never rheumatism, unless there are very positive signs which are clearly diagnosable.

Successful Experiences in the Immediate Operation for Ruptured Extrauterine Pregnancy

Dr. George Erety Shoemaker, Philadelphia: The whole situation has been unnecessarily obscured by a discussion which has arisen over the proper management of perhaps 5 per cent. of the cases. In all the others there can be, in my opinion, no discussion; the patients are better operated on at once to avoid either recurrent hemorrhage or chronic invalidism. A waiting policy ignores two important elements of uncertainty and danger. (a) chance of wrong diagnosis: (b) chance of renewed bleeding on reaction. Certain patients with tubal abortion with small hematocele would recover by absorption if let alone, but who can pick the cases? I have seen in my own practice and in consultation thirty-seven cases of ectopic gestation. While the number is not large it represents all the varieties of ectopic gestation, and it is a great satisfaction that operation was not regretted in any case and I am sure that some lives were saved by it.

DISCUSSION

Dr. George D. Nutt, Williamsport: I believe that we should operate on these patients early. My plan has been to do an immediate operation in all cases of extrauterine pregnancy or suspected extrauterine pregnancy, unless there is shock or something to contraindicate operation. When there is shock operation should be delayed until we can fill up the blood-vessels, which we usually can do while we are waiting for operation, by using salt solution. I think the waiting policy is a bad one.

Dr. J. C. DaCosta, Philadelphia: Extrauterine pregnancy occurs more frequently than we imagine. At first I did not recognize the condition. I believe in immediate operation as soon as the patient can be got into condition and prepared for operation.

Dr. G. W. Guthrie, Wilkes-Barre: To me the question is: Should we perform an immediate operation when the patient is in a condition of shock? I have found, in these cases, that by judicious care, waiting, salt solution (not given intravenously, however, but by rectum), that the patient will rally within a few hours, if the prostration is due to shock, and I wait until then.

Dr. John A. McGlinn, Philadelphia: It is impossible to lay down any hard and fast rule in regard to the operation in these cases, and the surgeon should use his judgment in regard to the case. However, in the vast majority of cases, except those in which there is extreme shock, immediate operation is the best.

Dr. Thomas C. Stellwagon, Pittsburg: I am an advocate of the delayed operation. The fact that patients almost invariably react before they get into the hands of the surgeon has saved many lives. Initial hemorrhage does not occur, as a rule, and recurrent hemorrhages do not occur under proper treatment. However, if the surgeon believes his patient is bleeding to death it is unsurgical to allow this and his duty is to open the abdomen.

Dr. C. F. Chandler, Philadelphia: It is a very bad practice to give salt solution for any length of time before an operation. I believe in giving it when one has tied up the arteries.

Dr. George M. Boyd, Philadelphia: It is hard to measure the degree of shock, and it is difficult to say how long we should wait for the reaction. Patients die from primary hemorrhage there is no doubt, and we cannot tell when they may die from a secondary hemorrhage. In the majority of cases we should go in promptly and get out as quickly as possible, do clean surgery, but not too elaborate.

Dr. George Erety Shoemaker, Philadelphia: I have never seen a case so bad that I could not operate by the time I had everything ready. In most cases by this time there will be some reaction. I know of two patients who died in their beds in the hospital waiting to get well.

SYMPOSIUM ON PYOSALPINX

The Causes, Symptoms and Differential Diagnosis of Pyosalpinx

Dr. M. Brooke Anspach, Philadelphia: The commonest cause of pyosalpinx is the gonococcus, although other bacteria also may produce suppurative inflammation of the tube. The pathologic changes in the pelvis associated with gonorrheal pyosalpinx are nearly all the result of the local peritonitis which accompanies its formation. Cystic degeneration of the ovary often occurs. A Graafian follicle may be secondarily infected with the ultimate formation of either an ovarian or a tubo-ovarian abscess. The pathologic changes caused by the streptococcus are more apt to affect the cellular tissue at the base of the broad ligaments or the ovary. The infection travels mainly through the lymphatics or the blood vessels. The symptoms of acute pyosalpinx closely resemble those of acute pelvic peritonitis, and the most important lesion from which it must be differentiated is appendicitis because in appendicitis early operation is indicated and in acute salpingitis operation should be postponed until the temperature has dropped to normal and the acuteness of the attack subsides. In distinguishing between appendicitis and acute gonorrheal pyosalpinx, examination should be made for evidences of gonococcus infection. The pain in pyosalpinx is usually near the midline, less confined to one side and lower than in appendicitis. A difference between the right and the left rectus muscle is not so often noted. The symptoms of nausea and vomiting are not nearly so marked and all symptoms subside more quickly under treatment. The symptoms of chronic pyosalpinx are the result of the pelvic peritonitis. From the resulting adhesions there are vesicle irritability, constipation, painful defecation, backache, pains referred to the limbs from pressure on the nerves which pass through the pelvis, profuse and painful menstruation, tympanites, and chronic diarrhea.

Conservative Treatment of Pyosalpinx

Dr. John W. Luther, Palmerton: The following reasons are offered for the conservative treatment of infections of the Fallopian tubes: 1. The patient is weakened by acute disease and less able to withstand operation. 2. An additional strain is thrown on the excretory organs by the anesthetic already overburdened by toxemia. 3. Organs which can and will return to the functionally normal are not sacrificed. Ovaries, which are being credited by physiologists with an internal secretion of value to the organism, may frequently be saved. 4. There is grave danger of infecting uninfected tissues by operating during the acute process. 5. The danger of inflicting injury on adjacent, adherent and important viscera is lessened. 6. There is a possibility of the abscess becoming sterile, when operation will be attended with but little danger. 7. The disease is largely self-limiting, rarely causing death when properly treated. Should operation be necessary only those structures which are irreparably diseased should be removed.

A Method of Implanting Ovarian Tissue in Order to Maintain Ovarian Function

Dr. William L. Estes, South Bethlehem: The operation I wish to advocate and the method I wish to describe is adapted to the cases of salpingitis and salpingo-oöphoritis, both of a catarrhal and suppurative kind, in which the whole of both tubes must be removed, and a portion, at least, of one or both ovaries must also be sacrificed. The operation is founded on physiologic principles and the experience gained in the preservation of small bits of ovarian stroma in suppurative and other diseases involving the whole of the tubes and part of the ovary. I am not sure that I can claim priority in the use of this special method. I can, however, positively assert, that I have never seen or read of any other operator using it. It has proved uniformly successful in my clinic in regard to the continuation of menstrual function, and in two patients of whom we know it has been followed by pregnancy. In my method the blood supply from the uterine anastomoses is never or very rarely cut off completely. Even if it is, the ovarian graft fitting directly into the walls of the very vascular uterus soon has an established blood supply which is quite adequate for even this organ which is accustomed to so rich a supply of blood.

Discussion on Pyosalpinx

Dr. B. F. Baer, Philadelphia: I can endorse what Dr. Estes has said, and a little experience I had forced me into conservatism. A woman came to me for the cure of sterility. I told her I could not cure the sterility, but would relieve the symptoms. I operated on her and found conditions such that I was going to remove the dead tissue and ligate on both sides, when I was deterred from so doing by her brother, who was a physician and was present. I did not ligate on the right side, but closed the abdominal wound and she recovered, and fifteen months afterward gave birth to a child. Many times since I have saved an ovary and tube which formerly I would have removed.

Dr. Francis P. Ball, Lock Haven: This matter has been brought to my attention in a medical and legal way, and I much regret the prevailing impression that pyosalpinx means a gonorrheal infection. This is true in many cases, but not always true, and we should teach our patients this fact. This idea causes a lot of trouble in a domestic and commercial sense.

Dr. Philip Marvel, Atlantic City, N. J.: It seems to me that conservatism may be carried too far in the matter of delayed operation and technic of operation in these cases, and I cannot see that it is justifiable.

Dr. George Erety Shoemaker, Philadelphia: If the gonococcus is present we assume a great many risks in being conservative. I have been disappointed in conservatism, that is, as to bringing freedom from trouble. Most people want to be well and stay well after going through one operation.

Dr. George W. Guthrie, Wilkes-Barre: I have made it a rule never to operate on a woman for appendicitis without making a vaginal examination. This can be done through the rectum if necessary. My experience has lead me to delay and to be conservative in operative cases of gonorrheal pyosalpinx, as sometimes these patients recover of themselves, and if they do not the chances for saving them are better if the operation is delayed.

Dr. George Erety Shoemaker, Philadelphia: I think that if we can demonstrate that the appendix is the primary offending organ we should operate at once, but if it is the tube we should, if possible, delay. I make an exception to this delay particularly in postpuerperal cases, and when a husband incurs an acute gonorrhea during a temporary absence and his wife becomes infected immediately after a miscarriage or a labor. These cases usually require immediate operation and drainage.

Dr. Ella N. Ritter, Williamsport: In postpuerperal cases I believe that occasionally medicinal treatment can be employed and is effective.

Dr. George D. Nutt, Williamsport: I think that the danger of operation in pyosalpinx is gradually lessened and the benefit increased if the vagina is drained, especially if there is pus in the cavity itself; then do a radical operation and remove such parts of the organ as is necessary to secure the future comfort and happiness of the patient. However, few patients seek help for any reason except for relief from pain and distress. They care little about any future action from these organs, and if we do not relieve them by operation they declare it is a failure. I have been conservative, but have taken into account the wants of the patient in regard to the operation. I think we must take our experience and work out our own plan of doing these operations in such a way as will insure the best results for the patients.

Dr. John M. Thorne, Pittsburg: I would like to mention the ideas of Dr. Simpson, who is not here, in regard to the time of operation. He treats the acute stage with rest, ice, etc., until the temperature and pulse are normal and most of the pain and tenderness have gone, and then in about a week if there is no reaction followed by fever and rapid pulse, increased pain and tenderness, he operates. If there is reaction he goes back to treatment. I think that an operation done in subacute or chronic stages is much safer than if done in the acute stage. That is what he means by delayed operation, and not waiting sixteen or eighteen months.

Dr. John W. Bruner, Bloomsburg: The cases that Dr. Shoemaker has spoken of are the most dangerous that we encounter, and I think they are the most dangerous for puncture. It is a question in my mind as to what is the best plan of treatment to pursue. If you operate on these patients early in this condition you have a mixed infection, which is rapidly absorbed through the puncture made in the vaginal wall, and very often the patient is reinfected and dies, and if you allow them to go they rupture and the patient dies.

Dr. Brooke M. Anspach, Philadelphia: These patients should not be operated on early. They should be given the benefit of expectant treatment. The universal rule is to keep patients waiting until the temperature falls to normal. The troublesome cases are those in which the temperature does not go down. In these cases, if there is a large tumor which can be easily drained by a simple vaginal incision, I think this should be done. If a radical operation is done the patient is very likely to die. Conservatism in these cases is often followed by failure, and it is advisable to put the question to the patients and let them decide whether they want the disease removed and then bear the consequences (tell them what they may be) or take the chance of submitting to another operation and still have the chance of possible pregnancy.

Two Cases of Traumatic Tetanus, One Ending in Recovery

Drs. R. Max Goepp and A. A. Eshner, Philadelphia: Of the two cases, the first was the usual type of case seen in hospital practice and terminated fatally at the end of a week. The patient was a colored man, adult, admitted with the statement that he had been suffering for two days with tetanic convulsions. The chief point of interest was that, although there was no history of any infection, no wound could be observed either on the cutaneous or mucous membrane and the man, who was quite conscious at first, remembered no injury that could have given entrance to the bacillus. The second patient was a boy of 8. Invasion was through an infected wound of the leg inflicted with a sharp stick from a stable-yard. The period of incubation was about twenty days. He was treated with tetanus antitoxin and spinal injections of 25 per cent. magnesium sulphate. The active period of disease was fourteen days, during which eleven injections of antitoxin (3,000 and 5,000 units) and twelve intraspinal injections of magnesium sulphate (2 c.c.) were given. The antitoxin was given subcutaneously and intravenously. Recovery ensued.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Thirty-fifth Annual Meeting, held at St. Louis, Oct. 12-14, 1909

(Continued from page 1592)

President's Address: Medical Education—Past, Present and Future

Dr. John A. Witherspoon, Nashville, Tenn.: This being the largest independent medical society in this country, it should go on record as standing for more than social and scientific work in its meetings and stand firmly for medical education in its highest sense of progress and wield its influence to bring about reform in medical teaching by insisting:

First, on every state within its territory having uniform medical laws.

Second, that none but men of culture and strictest integrity be placed on examining boards and that politics be kept out of all medical transactions.

Third, that colleges not having equipments to teach modern medicine should not be permitted to do so and that none should assume the responsibilities of teacher, who is not by training and natural talent especially fitted to impart and instruct others.

Fourth, that no college be recognized that does not insist on sufficient preliminary education and mind training to receive and digest modern medicine of every student as an entrance requirement, and a standard curriculum, in which full laboratory and clinical facilities will insure that none but good and well qualified men will be graduated.

Fifth, that all schools give prominence to the teaching of hygiene and sanitation departments, sadly neglected in the past, but in preventive medicine so necessary for the protection of people from infectious diseases, either endemic or epidemic.

Sixth, that we insist on the fact that colleges must have endowment, and that no philanthropy is more needed or deserved, and none will give greater returns both by insuring the people that none but competent men will belong to our profession, and financially, because they will enforce laws which will forever bar the entrance of epidemic scourges into the ports of this, the grandest and most glorious country that was created for the enjoyment of mankind.

Modern Surgery of the Digestive Tract

Dr. John B. Deaver, Philadelphia: The two prevalent conditions of the stomach which may be considered grave menaces to the life and health of the patient are carcinoma and ulcer. It is out of the question that carcinoma anywhere can be considered as offering any opportunity for the display of medical agents, and we have gradually come to a realization that the same holds good of gastric ulcer. Our problems, as regards these grave and not infrequent conditions, are manifold. They may be summed up into several subdivisions, diagnosis, propriety and method of surgical intervention, and the results of surgery of the stomach. It is a lamentable fact that our diagnostic methods and results in diseases of the stomach have lagged far behind the improvements in surgical technic and pathologic experimentation. It is to the surgeon that credit must be given for showing that carcinoma of the stomach is generally recognized long before it has reached this final stage. The exploratory operation, so-called by its opponents, but more rightly considered an early operation on early symptoms, is responsible for this. In any person at or beyond middle age, grave dyspepsia with progressive loss of weight and strength, should be looked on with suspicion. Anorexia, especially that form which manifests itself in aversion to meat, should be enough to cause a careful study of the case. Often slight epigastric tenderness and a feeling of oppression after eating, even the lightest of foods, will be the first symptom to come to the patient's attention. In cancer of the stomach, excision, when possible, and gastroenterostomy when we can only hope to drain the stomach, offer us the only hopes of permanent cure or of temporary relief. The mortality of pylorectomy is low, that of gastroenterostomy almost nothing. The main difficulty, and one which seems most hard to overcome, is to bring patients to operation early enough. I do not say "operate for dyspepsia," but I do advise operation in permanent, grave dyspepsia in individuals of middle age, even when there is no apparent anatomic cause.

Gastroenterostomy as a cure for gastric ulcer now occupies an undisputed place. It must not always be recommended; in acutely bleeding ulcers it is worse than useless. Its initial mortality in benign conditions of the stomach is less than 3 per cent., in the hands of experienced operators, and its complications almost none. The end-results are good.

SYMPOSIUM ON EXOPHTHALMIC GOITER

Medical Treatment of Exophthalmic Goiter

Dr. S. P. Beebe, New York, detailed the results of serum treatment of this disease and said that in many respects it was very encouraging. He has seen the effects of surgery as practiced by a variety of surgeons. Men of limited experience should not operate on exophthalmic goiter; none but the most experienced surgeons should undertake this operation, which requires not only great judgment and skill in its execution, but in the preparation of the patient. No greater harm can be done than when a number of young surgeons take it for granted that this is the operation to do and say by all means let us do it right away. They should serve a long apprenticeship under surgeons before doing such a formidable operation.

Postoperative Results in Exophthalmic Goiter and Tumors

Dr. George W. Crile, Cleveland, Ohio: This brief report is based on a total of 278 operations on the thyroid gland. I have operated on fifteen malignant tumors. In thirteen, the diagnosis was either made or suspected. All of these patients died either as operative deaths or as recurrences. In two, one a sarcoma and one a carcinoma, malignancy was found in the routine pathologic examination and was not suspected clinically. My personal experience and the reports from a number of clinics lead me to conclude that cancer of the thyroid is at present rarely, if ever, diagnosed in its curable stage and the occasional cure is accidental. Among the benign tumors and plain goiters there was one fatality. In malignant tumors diagnosed clinically the postoperative results are as uniformly unsuccessful as they are successful in plain goiters and benign tumors. A study of my series of seventy-two operations for Graves disease, presenting, as they do, numerous and complex symptoms, and involving many organs as well as the most fundamental vital processes, impressed me with the great, almost unsurmountable difficulty or even the impossibility of compiling any statistical table that accurately represents the net clinical results. The longer the disease has existed, the greater the organic changes, and in consequence the more tardy the convalescence, and if the organic lesions have progressed to a certain degree the operative risk is greatly increased and the risk may become an operative impossibility. In these desperate cases, when operative recovery takes place, the convalescence will be correspondingly slow, and stormy and incomplete. The ship has gone on the rocks and it is the wreckage that we are dealing with. I have seen no patient with this disease who was not benefited by operation. The majority regard themselves as cured. Operated on successfully before organic changes of importance have occurred, and acknowledging all the difficulties and shortcomings, I know of few classes of cases in which is experienced such deep and fundamental relief as in acute toxic Graves' disease.

Primary Bilateral Ligation of the Upper Poles of the Thyroid for Exophthalmic Goiter

Dr. J. H. Jacobson, Toledo, Ohio, drew the following conclusions: 1. Ligation of both poles of the thyroid gland, acts first, by diminishing the blood supply to the gland and thus diminishing immediately its activity; secondly, by directly diminishing and preventing the gland secretion from entering the general circulation by way of the main lympathic channels, which leave the thyroid body at its upper poles; and thirdly, by causing a subsequent atrophy of the gland itself. 2. The operation of "pole ligation" is much easier to perform than ligation of the thyroid vessels, and may be as effective as a partial thyroidectomy. 3. It does not disturb the blood supply of the parathyroids, nor endanger the recurrent laryngeal nerves. 4. Theoretically, at least, and from the simplicity of its performances, it would seem that "pole ligation" should entirely supplant the operation of simple ligation of the thyroid vessels in this disease, and in many cases the necessity of partial thyroidectomy. 5. As a preliminary operation to partial thyroidectomy it will be found of great value. 6. At present we are warranted in saying that "pole ligation" offers the prospect of cure in many cases and of lasting improvement in others. 7. The operation of "pole ligation" is a safe one and in skilled hands should have no mortality.

Value of Thyroidectomy in the Treatment of Catatonic Dementia Præcox

Drs. Allen B. Kanavel and Louis J. Pollock, Chicago: The paper summarizes the results obtained in operations on twelve patients with this disease, operated on at the Dunning Institution for the Insane. The cases were studied by Dr. Pollock and the patients submitted to operation. Dr. Kanavel reports his results as follows:

There was absolutely no result in any of the old cases. Of three patients operated on in the so-called favorable stage, two showed marked improvement lasting in one case for two months, and in the other for six months. The third showed no change at all. The two who showed temporary improvement relapsed at the end of the periods mentioned and are now in practically the same condition as before operation. The pathologic examination of the glands, did not show changes favoring the diagnosis of thyreotoxicosis, although the changes were compatible with it. Berkley still reports favorable results in his cases, but the results of the investigation in the present series cannot but lead one to a most conservative report concerning the value to be derived from the procedure.

Surgical Treatment of Exophthalmic Goiter

Dr. A. J. Ochsner, Chicago: Exophthalmic goiter becomes a surgical disease after it has been shown that internal treatment and treatment by serum are of no avail. When cases have advanced to the point of great interference with the function of the heart muscles and of the nervous system, then the results from surgical treatment are not promising.

Discussion on Exophthalmic Goiter

Dr. Herman Tuholske, St. Louis: The thyroid gland is an organ necessary to life. Without it trophic changes will be inaugurated of such a character as to result in the decay or death of the patient. This factor should be kept constantly in mind in considering the various phases of this subject. It is the experience of all surgeons that there are a number of patients with exophthalmic goiter who will recover with or without treatment, and while that number is small, still it becomes a factor in discussing the value of the remedies that have been used in the cure of this disease.

Dr. Arthur R. Elliott, Chicago: The tone of the papers read is preponderatingly surgical. This is in keeping with the present tendency which has initiated a movement strongly towards the assumption that this is a surgical affection, but perhaps not always in the interest of rational therapy. This is probably to an extent due to the fact that medical measures are unsatisfactory and unsuccessful in a certain proportion of inveterate cases of exophthalmic goiter. It is not to be forgotten, however, that the medical practitioner comes in contact frequently with many cases of thyroidism in various stages and degrees of intensity, many instances of which undergo a symptomatic cure, if we can speak of such a thing as curing this disease, and a large proportion of the patients improve under measures intelligently applied, such as rest, tonic treatment, dietetic therapy, etc. This is true not only of the milder and the chronic types of thyroidism, but of many instances of more acute Graves' disease, as those who practiced before the days of thyroid surgery can testify. Without directing any criticism against the surgical treatment, which in the hands of expert and experienced surgeons has amply justified itself by results, it is a fact that in the hands of the average surgeon the operation of partial thyroidectomy is attended by high mortality.

Dr. J. Henry Carstens, Detroit: The symptoms of this disease are very obscure, but there is one symptom I want to emphasize. Take a young woman who has repeated attacks of palpitation of the heart, without any particular cause, without any other symptoms, such as protrusion of the eyes, enlarged thyroid, etc., we should bear in mind constantly Graves' disease.

Sigmoid Diverticulitis

Dr. Daniel N. Eisendrath, Chicago: There have been many autopsy reports of peritonitis due to perforation of these diverticula, but their rôle in the production of definite clinical pictures was not known until a paper of Gräser in 1898. Diverticula of the sigmoid as a rule are acquired. They may occur anywhere in the large intestine, but are most common in the sigmoid, ending abruptly at the rectum. Unless they undergo secondary changes they do not give rise to any symptoms. Telling in 1908 collected 105 cases. Of these nearly one-half showed no clinical symptoms, but were found by accident at autopsy. Diverticula are most apt to occur in two rows at either side of the gut. They may, however, develop at the mesenteric attachment and occur between the layers of the mesentery. In some cases they are simply protrusions of the mucous membrane into the appendices epiploicæ, while in others they form definite pouches either oval or flask-shaped. One of the most important factors in the production of diverticula is muscular weakness incident to old age and the presence of considerable fat in the intestinal wall which favors a pushing out of the mucosa. The most frequent secondary pathologic changes are (a) infection of the general peritoneal cavity without perforation; (b) acute or gangrenous inflammation resembling the same pathologic form of appendicitis; (c) acute perforation or formation of an abscess, or general peritonitis. The preceding pathologic forms greatly resemble corresponding types of appendicitis. The other varieties not occurring in appendicitis are fistulas between the diverticula and the bladder or the bowel, and the development of a hyperplastic inflammation greatly resembling in appearance carcinoma. The latter form causes great thickening of the gut wall, so that its lumen is reduced to a minimum. The clinical cases can be divided into the acute and chronic forms. To the former belong the catarrhal gangrenes, with or without localized abscess formation, and perforative with general peritonitis. To the chronic belongs the chronic hyperplastic or stenosing form, the enterovesical fistulous form and the chronic adhesive form cause acute or chronic intestinal obstruction. The acute forms resemble the corresponding forms of appendicitis, except pain and tenderness, rigidity and tumor formation, when present, occurring in the left iliac region. The treatment of these does not differ much from the corresponding forms of acute appendicitis and, unless the case is recognized, recurrence is apt to take place. In one case diverticula were found filled with enteroliths during the operation for hernia, and in a second case general peritonitis was due to perforation of diverticula. No doubt many of the cases of the stenosing form or peridiverticulitis have been erroneously diagnosed as carcinoma of the sigmoid.

DISCUSSION

Dr. Ernst Jonas, St. Louis: A point of practical importance is that a condition of this kind is often mistaken for carcinoma of the sigmoid, and some patients with sigmoid diverticulitis have been operated on for carcinoma of the sigmoid. Dr. William J. Mayo has reported several cases in which he removed part of the sigmoid for a condition of this kind, believing at the time of the operation that he had to deal with carcinoma of the sigmoid, and only after careful pathologic examination of the specimen did he believe that it was a chronic inflammatory condition of the sigmoid due to diverticulitis. The weakness of the muscular walls, which is mentioned as an etiologic factor, must either be hereditary or acquired. Very little can be done for the patient in whom the weakness of the muscular walls of the sigmoid is hereditary, but in the acquired condition we have first hypertrophy, and later on dilatation and weakness of the muscular wall resulting whenever there is any obstruction further down. Adhesions around the sigmoid, which pull it out of place and interfere with the drainage, are the cause of diverticulitis. Another cause for diverticulitis may be a slight chronic ulceration in the particular place where diverticula are found.

Dr. J. Rilus Eastman, Indianapolis: I am reminded of two cases in which the abdomen was opened for what was obviously an acute generalized suppurative peritonitis, in which the symptoms were ascribed to the rupture of an inflamed appendix. Every one has opened the abdomen for these indications when there was no evidence whatever pointing to any infection arising in the upper abdomen, but every bit of evidence pointed to an infection arising from the lower zone of the abdomen. We have all cut down on the appendix and found suppurative peritonitis with the escape of a thin fluid filled with flocculi, followed by a thick, creamy pus We have examined the appendix and found it practically normal. We have removed the appendix, not knowing what else to do with it, and we have either irrigated or left the abdomen dry and put in a large tubular drain. In a recent case of this general character I found that the adhesions in the intestines were on the left side, and while it would be absurd for me to say in the presence of such meager evidence that I had to deal with a condition like that described by Dr. Eisendrath, still I submit that in the future I shall be very cautious and shall be on the lookout for infections arising from these diverticula in the sigmoid, because I am reasonably sure that the sigmoid diverticulitis, followed by a rupture, has given rise to more cases of general suppurative peritonitis than we have imagined, and if we are to consider adhesions in the future we will not only look to the right side of the abdomen for the cause of this suppuration, but also occasionally to the left side.

Dr. Edwin Walker, Evansville: I am satisfied that I operated last week in such a case as Dr. Eisendrath has described.

There was an abscess on the left side, exactly like an appendiceal abscess. I am reminded of a case which was diagnosed as carcinoma of the sigmoid flexure, and the post-mortem findings were precisely like those he described. It was thought at the time that the trouble was inflammatory, but I thought there was perforation and inflammatory trouble. This case occurred twelve years ago, and in the light of what has been said to-day it was without doubt a case of sigmoid diverticulitis.

Dr. C. W. Barrett, Chicago: It is likely that in many cases constipation causes the dilatation and that it results in overdistention of the abdomen, causing separation of the muscle fibers, and this furnishes opportunity for the mucous membrane to herniate between the weakened muscle fibers. In an acquired condition of this kind we should do away with any cause for overdistention; but instead of being able to do nothing in the congenital condition, it is all the more important that these conditions be looked after. Another practical point is that we have been inclined to deal with enlarged and inflamed appendices epiploicæ as though it were merely a question of having to control hemorrhage. We may not only have to deal with hemorrhage, but with the communication of the bowel, the same as in dealing with the appendix. Recently, in dealing with a pus tube, I felt it was desirable to cut off several of these appendices epiploicæ and deal with them as I would with hemorrhage.

Dr. R. E. Wilson, St. Louis: I differ from Dr. Eisendrath and others in reference to acquired diverticulitis. I still cling to the old theory that all cases of diverticula of the sigmoid are congenital and that we must go back to the embryologic formation in the primitive hindgut from which the sigmoid is developed and look there. I do not believe the conditions mentioned cause diverticula of the sigmoid, but that a weakened condition in the gut is the sole cause.

Dr. R. H. Barnes, St. Louis: I believe diverticula of the sigmoid, as well as of other parts of the bowel, are more common than most physicians or surgeons believe. These diverticula do not always cause trouble and may only be recognized post-mortem. I believe the majority of cases of diverticula are congenital. There is a localized weakness of the muscular wall of the bowel which forms them, and these become infected through the fecal matter or from some other cause and then we may have the symptoms of diverticulitis. The majority of cases are not recognized from the clinical symptoms and for that reason are overlooked.

The Advantage of Pfannenstiel's Incision

Dr. H. O. Walker, Detroit: The fibers of most of the abdominal muscles run either diagonally or transversely; the rectal muscles are exceptions. The principal blood-vessels supplying the abdominal region are the two superior and inferior epigastrics and their branches. These all run, in a general way, parallel to the recti muscles. It is never necessary to cut more than the two inferior epigastrics, and even this is not always required. The nerves supplying the abdominal region also run, in a general way, parallel to the muscle fibers. The prevention of hernia can no doubt be aided by incisions in line with the muscle fibers. It is more necessary to respect nerve fibers in incisions than blood-vessels, generally speaking. The cosmetic advantages of cross cuts are very apparent. Pfannenstiel's cross incision fulfils all of the above requirements. Thirty-eight patients have been operated on by this incision through which practically all possible pelvic operations have been carried out.

Dr. George Gellhorn, St. Louis: Advantages of the Pfannenstiel incision are becoming more and more appreciated in America. It has many advantages over the longitudinal incision. I have used this incision for a number of years and have not yet seen a case of hernia, although in four cases I had disturbances of wound healing. There is, however, a limitation to the use of this transverse incision, in that the larger tumors, which extend about half-way to the umbilicus, are not so easily removed through this incision as they are through the longitudinal incision, but outside of that fact the advantages are all in favor of this transverse incision.

Dr. H. O. Walker: We can remove very large tumors through this Pfannenstiel incision and we can go still further with this incision in that we can reach the stomach, pancreas, and gall-bladder, and do any surgical work which may be necessary on any of these organs. It is an incision that has a great many advantages over the longitudinal incision in many operations in the pelvis.

Sarcoma of the Prostate

Dr. Joseph Rilus Eastman, Indianapolis: Of malignant neoplasms of the prostate, carcinoma is the most common, although, as Barth stated years ago, sarcoma of the prostate is doubtless less rare than has been imagined, and owing to the circumstance that until recently very little, if any, distinction was made between carcinoma and sarcoma, there has been, perhaps, some misconception on this point That malignant disease of the prostate is much more common than has been appreciated heretofore may be inferred from the experience of such careful observers as Hugh Young, who in 500 cases of prostatic enlargement found 100 cases of carcinoma, or one case of carcinoma to every four of prostatic hypertrophy, and although there have been reported less than thirty cases of sarcoma of the prostate of primary origin in the gland, which have been satisfactorily proved to be sarcomata, no doubt in view of the general indifference as to microscopic examination many cases of sarcoma of the prostate have been carelessly called carcinoma or even tuberculosis. The case which I report is one of spindle-celled sarcoma of the prostate occurring in a man of 27, and apparently running a course covering five years and having many characteristics in common with tuberculosis. On microscopic examination, the masses of tissue at the base of the villi removed by the curette were found to be infiltrated and degenerated, showing a preponderance of embryonic connective tissue cells with a relatively small amount of mucoid intercellular substance. The tissue removed from within the capsule of the prostate was made up of the same spindle-shaped connective tissue cellular elements.

(To be continued)

UTAH STATE MEDICAL ASSOCIATION

Fifteenth Annual Meeting, held at Ogden, Sept. 21-22, 1909

The President, Dr. Ezra C. Rich, Ogden, in the Chair

Preventive Medicine

Dr. E. V. Silver, Salt Lake City: The medicine of the future will be largely preventive. The future victories of medical science must be the victories of preventive medicine. Human life has been compared to the burning of a candle, and the extinction of life at the end of its natural cycle can scarcely be regretted. But lives cut off before they are scarce begun entails a needless loss to the community. In the past, millions of lives were annually lost through plagues, pestilences and diseases which to-day are easily controlled and prevented. The cure of disease was variously attempted in the remotest ages, but the prevention of disease is strictly a modern phenomenon. In 1798 Jenner suggested and proved the efficacy of vaccination in smallpox. Hardly a century later Pasteur established the germ theory of fermentation. The discoveries of Pasteur and Koch, together with the work in antisepsis by Lister, brought about a revolution in medicine. The great triumph of the nineteenth century is the discovery of the causative agents of infectious diseases. Prevention will prevent preventable diseases, but other curable diseases must be recognized in the curable stage. Society to-day is divided into three great classes: the perfectly healthy, the apparently healthy, and the unhealthy. Only a small percentage of our population belongs to the first class; very few are willing to be classed in the third class; those who belong to the second class are legion. People in this class must be advised to submit to medical examination periodically, in order that pathologic conditions may be recognized as early as possible. A curable disease must be diagnosed in its incipiency. The test-breakfast will demonstrate the presence of malignant disease long before a tumor can be felt and early enough for an operation to be of benefit. We have no insight into the causes and prevention of organic diseases of advancing life. A large majority of people in this apparently healthy class are in middle life. Experience serves but to emphasize the disastrous result of overstrain, whether mental or physical. Too strenuous a life reacts on the whole organism with inevitable autointoxication—gastrointestinal, muscular, articular and cerebral. Hence come cancer, dyspepsia, muscle pain, gout, migraine, diseases of the kidneys, heart and arteries. A hopeful sign of the times is the interest taken by the public in prevention and sanitation. Until recently men measured the value of the medical art by its ability to cure a cold and other trifling ailments, unconscious of the many perils which preventive medicine had removed from his path. The medical profession is largely responsible for the lack of interest in the declining death rate and the increase in the expectancy of life, the means of preserving and preventing disease. The daily press and magazines teem with medical matters of interest to the reading public, and these popularized medical topics are eagerly read by the observing. The success of preventive medicine depends on the support and cooperation of the public. It is better to prevent the pollution of our houses, our food, our vehicles, and our streets by tuberculosis than to spend millions of dollars on treatment. It is better to spend a hundred million dollars and rid our country of anopheles and stegomyia than to see business wither at flood-tide under the blighting grip of yellow fever, and thousands perish from pest and malaria. It is better to prevent the pollution by sewage of a stream supplying a great city than to fight that pollution in the bodies of ten thousand innocent victims of typhoid. Preventive medicine is the medicine of the future and the final triumph of scientific medicine will be the suppression of diseases. In this struggle with the causes of disease we need not only the earnest and united support of the medical profession but the encouragement and financial aid of governments generally, state, city and village. Every dollar spent on sanitation brings returns. Nothing would be of more far-reaching benefit to the laboring man than to teach him how to avoid disease and preserve his health. All great reforms must have a beginning in the household. If we can interest our government and people, our educators and the public press in this great movement of abolishing disease by prevention, we may expect the millenium to come in due time.

Hemorrhage and Transfusion

Dr. E. F. Root, Salt Lake City: The medical profession is greatly indebted to Crile of the Western Reserve University, and Carrel of the Rockefeller Institute, for most of the newer knowledge and technic on the subject of hemorrhage and transfusion. Through practical experiments on animals we are in possession of facts that explode former theories. The result of these experiments goes to prove the inadequacy of the means we have been most inclined to reply upon. Saline infusion accomplishes most when given early after hemorrhage, and given slowly. It should be absorbed from the tissues and not thrown directly into the circulation through a vein. If a larger amount is given than can be easily carried in the vessels, to an amount increasing the normal amount of circulating fluid, it will leak out into the tissue and can only be eliminated when the vessels have been somewhat unloaded. Rapidly filling the veins is liable to cause acute dilatation of the heart—in cases of extreme exhaustion either from hemorrhage or shock, death is often hastened in this way. Saline infusion is at best only of temporary benefit and should be given guardedly, and as soon after the hemorrhage as possible. Bandaging the limbs and lower part of the body has a beneficial effect in bringing up the blood pressure. The heart, under most circumstances, will work if it has anything to work with and needs blood or other suitable fluid rather than drugs, and the nearer we can get to the normal circulating fluid the nearer we approach ideal conditions. Transfusion of blood from one person to another is a very old idea, but was not successfully performed until recently. The proper technic for this operation requires that the intima of one vessel be joined to that of another, allowing the blood to flow across without causing any change in it. Up to the present time the history of transfusion is a record of failures. In the human species the blood should be obtained from a person as nearly related as possible, for it has been proved that similar blood mixes perfectly and causes no hemolysis. In simple anemia, when there is a lack of blood only, when the hemoglobin is low, but the blood not vitiated; or in cases of acute anemia from hemorrhage, transfusion gives immediate and permanent relief. In cases of severe and frequent bleeding from ulcerated surfaces, as from the bowel, transfusion may not only temporarily relieve the anemia but may arrest further bleeding by sufficiently nourishing the starved tissues. There is a vast difference between the temporary effect of saline infusion and transfusion of the whole blood. The latter is permanent in effect. Saline infusion often tides the patient over until the vital forces can rally, but it is rapidly eliminated, both in the natural way and into the tissues, and if given in excessive amount may do material harm. Care is necessary not to overdistend the heart by allowing the stream to flow too rapidly; from thirty to fifty minutes is required for the average transfusion. Acute dilatation is announced by dyspnea, distress or pain in the precordial region, cough and cyanosis. The second great danger is hemolysis, either direct or reverse, to guard against which blood of a similar quality should be used. Following transfusion, a chill of more or less severity occurs, just as after a saline infusion. There is also a slight rise of temperature. In tuberculosis, transfusion gives more than temporary relief. Before operation in chronic suppuration, transfusion may cause marked increase in the vitality. Transfusion is valuable in uncomplicated shock, as anemia plays an important rôle in the cause of death from shock. Transfusion is the ideal treatment for acute uncomplicated hemorrhages.

DISCUSSION

Dr. Ralph T. Richards, Salt Lake City: I had an opportunity of visiting Dr. Crile's laboratory. The description of the technic of transfusion, given by Dr. Root, is especially clear. I have had only one opportunity of trying this personally. There are a few points to be observed if one expects success. In a case of purpura, a boy was rapidly bleeding to death. The uncle volunteered as donor. Two operators worked on the arm of the donor, and two on the arm of the patient, independently, isolating the vessels to save time. We made one mistake in the anastomosis. We did not get enough of the adventitia out of the way. After inserting the vein through the canula we had a smaller flow than desired. Crile takes as much as one-half an inch of the adventitita out of the way. In Johns Hopkins Hospital, when some of the earlier experiments were being made in transfusion they infused a patient with pernicious anemia. The anemia patient did well, while the donor collapsed, requiring saline infusion for stimulation. The donor should be carefully watched to prevent accidents. In Mount Sinai Hospital a modified Crile's tube is being used. The same general plan is adopted, except that a small handle, two inches in length, is attached. The tube has a small slit down one side, so that a suture attached to the end of the vessel can be brought through the slit and the vessel pulled through. We should try these procedures on live or dead animals for the knowledge to be gained, and the chances for success in actual practice would be greater.

Dr. E. F. Root: The important thing is attention to the details of technic. If the operation is undertaken at all, it should be done perfectly, so that no ill effects may follow. The one point that needs emphasis is that many of us have been using saline solution without regard to the amount of the solution put into the tissues, the idea being to introduce as much as possible and let it go at that. Not a few patients have died or suffered from acute dilatation of the heart, or in some other way have suffered, from this indiscriminate use of saline transfusion. While it is a good thing for temporary relief in many cases, some patients must have fresh red blood if any benefit is expected.

Differential Diagnosis of Intestinal Obstruction

Dr. H. P. Kirtley, Salt Lake City: The most common causes of ileus are volvulus, intussusception, paralytic obstruction, compression, obturation and structural alterations. Pain is generally present and cramping or colicky in character. The site of the most acute discomfort is usually in the umbilical region at first, eventually centralizing itself about the disturbed areas. Vomiting occurs early and is copious and severe; at first, gastric contents, bile, greenish or brownish material from the duodenum and jejunum; finally stercoraceous fluid appears. An important diagnostic feature is collapse, and when it occurs death may be expected. Constipation is generally present and is caused by mechanical occlusion or by paresis of the intestinal wall below the ileus. Meteorism develops gradually in passive chronic strangulation; in stenosis it occurs rapidly and is associated with the peristaltic waves.

Strangulation by bands occurs most commonly in young males. The associated pain is sudden, violent, agonizing and remittent in the umbilical or epigastric region. Tenderness is not localized, there is no tumor, meteorism occurs late, vomiting occurs early, vomiting is uncontrollable and rapidly becomes stercoraceous with total constipation, shock profound, with subnormal or lower temperature till sepsis occurs. Untreated the duration is from three to seven days.

Volvulus of sigmoid, commonly in men or advanced life, occurs with a history of constipation, onset milder than strangulation, pain less severe, paroxysmal, and in the hypogastric or iliac region. Vomiting is late, temperature normal or slightly elevated, shock slight, and the bowels may act at the onset of symptoms. Duration is from six to fourteen days.

Intussusception is more common in infants and young children, and there is generally some previous intestinal disorder, onset instantaneous or gradual, pain severe and intermittent, tumor present and characteristic early diarrhea, with discharge of blood and mucus. Vomiting is inconstant and shock varies from slight depression to profound collapse. Duration varies from a few hours to ten days.

Paralytic obstruction is characterized by its gradual onset after inflammation within the peritoneum, pain less severe than in other forms and diffuse over the abdomen, tenderness is general, vomiting is early and frequent. Constipation is marked, although gas may pass through the rectal tube. General condition is bad, with often high fever. Condition lasts from one to three days.

Obstruction of the bowel must be differentiated from perforation of the stomach or intestines, which was characterized by localized tenderness, muscular rigidity, distention, early disappearance of liver dulness and vomiting at the time that perforation occurs, after which it may cease. Feces and gas may be passed till the peritoneum is hopelessly inflamed.

Perforative or gangrenous appendicitis is distinguished from ileus by localized tenderness, muscular rigidity, fever reaching 101 within twenty-four hours.

Embolism or thrombosis of the mesenteric artery is generally a very rapid process, accompanied by terrific pain, beginning in the lumbar region and becoming general; patient is exceedingly restless and there is rapid accumulation of fluid within the peritoneal cavity.

Obstruction of the bowel must also be distinguished from the symptoms of biliary and renal colic, gastroenteritis and colitis, primary portal thrombosis, external hernia, acute hemorrhagic pancreatitis, distortion of the mesentery, pneumonia with marked pleural pain and, finally, the gastric crises of tabes. The treatment of ileus is essentially surgical and should be instituted with promptness, for an efficient, thoughtful diagnosis surgical eagerness is no substitute.

DISCUSSION

DR. A. A. KERR, Salt Lake City: Dr. Kirtley did not mention the presence of Meckel's diverticulum as one of the causes of intestinal obstruction. Two cases of this kind have occurred in my practice: in one case the diverticulum was two inches in length and actively inflamed. The case was far advanced when first seen and death resulted from general peritonitis. The most common type appears to be caused by chronic adhesions from localized peritonitis or appendicitis. The presence of occult blood in the feces or in the stomach contents often leads one directly to a diagnosis that would otherwise be made with dificulty. The routine work of the laboratory, the examination of the blood for the percentage of hemoglobin or the presence of a leucocytosis, and the examination of the urine and feces are always valuable aids in making a diagnosis and should not be neglected.

DR. J. S. RICHARDS, Salt Lake City: I recall a case of ileus that originated with the symptoms of an ordinary intestinal indigestion extending over a period of two or three weeks. When the characteristic signs of ileus developed the patient was sent to the hospital, as it was decided that an operation was indicated. The mesentery was very much distended and highly inflamed. At the autopsy a large abscess was found involving five or six inches of the mesentery, which had broken into the lesser peritoneal cavity. Four or five feet of the duodenum were gangrenous. In this case there was no fecal vomiting and the ileus developed gradually. In a similar case fifteen or twenty abscesses were found, varying in size from that of a hazel nut to that of a hen's egg. In postoperative cases of dilated stomach there is a close similarity to intestinal obstruction; it is often difficult to distinguish between them. The free use of the stomach tube will often relieve these cases of acute dilatation of the stomach very promptly.

DR. R. S. JOYCE, Ogden: It is not so much a matter of whether we are dealing with gangrene of the omentum, volvulus, intussusception, or other pathologic states as it is a question of whether we are dealing with complete obstruction of the bowel or not. If these cases go on for three or four days without surgical relief then operative procedures are useless. Intestinal obstruction must be recognized early. In some cases there may be very little pain, yet obstruction may be complete. In intussusception the condition may often be felt through the rectum.

DR. J. W. AIRD, Provo: I believe that the majority of cases of intestinal obstruction are due to intussusception. Secondly, bands of adhesions, the result of previous inflammations, form a common cause. I have seen a diagnosis of hernia made in a case of intestinal obstruction, and the true condition not recognized until the patient was ready for operation. The repeated reduction of a hernia by taxis is sufficient to cause enough traumatism in some cases to set up an inflammatory action with the formation of adhesions, and thus give rise to intestinal obstruction.

DR. A. J. HOSMER, Salt Lake City: I am disposed to think that we do not always go into the history of these cases as thoroughly as should be done. The history of the onset and development of intestinal obstruction should be thoroughly investigated. This is often the weak point in our examination and the reason why so many cases go unrecognized and pass beyond the stage where surgical treatment would otherwise effect a cure.

DR. H. P. KIRTLEY, Salt Lake City: Acute dilatation of the stomach should have been mentioned in the differential diagnosis. Its omission was an oversight. It is a condition that does not necessarily follow operations, as it occurs after typhoid, pneumonia, debilitating conditions, etc., and appears to be of nervous origin. Dr. Richards assures me that the free use of the stomach tube is very useful in relieving this condition.

(To be continued)

KENTUCKY STATE MEDICAL ASSOCIATION

Fifty-fourth Annual Session, held at Louisville, Oct. 19-21, 1909

The President, DR. JOHN G. CECIL, Louisville, in the Chair

The officers elected were given in THE JOURNAL, Oct. 30, 1909, p. 1493.

Proceedings of the House of Delegates

The reports presented by district councilors and by delegates of their respective county societies were very encouraging, as they showed that the spirit of organization of the profession throughout the state has gathered a momentum that cannot be checked.

The House of Delegates, by resolution, condemned the use of food preservatives, such as benzoic, boric, and salicylic acids, and their compounds. Such preservatives are not only unnecessary, but are detrimental and dangerous to the public health. The House went on record as being unalterably opposed to the adulteration of food of any kind whatever, as well as to any chemical preservative of food. The position taken by the American Medical Association in its fight against food adulteration was endorsed, and also its action in appealing to Congress for such immediate amendments of the national Food and Drugs Act as may be necessary to attain the above necessary ends.

The House heartily endorsed and earnestly supported the American Medical Association, its officers and editor, its councils, and The Journal, in their attitude toward the nostrum evil and their fight for honesty and purity in foods and drugs; also in their great service in the promotion of higher standards of medical education and their splendid achievements in extending the power and usefulness of medical organization.

The House recommended the adoption of the Michigan plan of simple refraction for general practitioners, although there was a spirited debate pro and con on the subject.

The Committee on Antituberculosis Campaign recommended that the Association inaugurate and earnestly enter on a campaign of education, prevention and treatment of tuberculosis.

The House endorsed a bill proposed to exempt the professional confidences between physician and patient from disclosure on the witness stand without the consent of the patient. A bill endorsed by the State Pharmaceutical Association governing the sale of opiates was also endorsed and the Committee on Legislation and Public Policy was advised to lend its support in securing the passage of said bill.

The House adopted the report of the Committee on Contract Practice to the effect that no member of the association shall accept the position of club, society, lodge or organization physician, at a less rate than the regular or customary charges for like services rendered by other physicians for patients not members of such club, society, lodge, or organization, and any violation of this by-law shall be considered unprofessional conduct and render the member guilty thereof liable to suspension or expulsion from the association.

The House favored a state board of registration for nurses, to consist of six members, three physicians and three nurses, who may be superintendents of training schools for nurses.

The Committee on Public Health and Sanitation recommended that members urge on the friends of public health and sanitation, physicians, health officers, teachers, and the press, to continue the campaign of education already begun by holding public meetings in the different counties, inviting the people, and especially the teachers to continue these meetings.

The special Committe on Criminal Abortion presented a resolution, which was unanimously endorsed by the House, that every member should educate his community to a higher standard of belief and conduct with regard to the frightful prevalence of criminal abortion; that every county medical society should secure evidence against all persons suspected of producing criminal abortion in its jurisdiction, and presenting the same to the proper tribunal, and that the Association, through the appropriate committee, shall introduce into the next General Assembly a bill, the aim of which shall be the suppression of this crime and the punishment of the guilty.

The Committee on Medical Education was changed to the Committee on Medical Council. This committee recommended and endorsed a high standard of medical education, both preliminary and medical.

A special committee of five was appointed to draft and prepare a bill to deal more effectually with the social evil problem in Kentucky

A Practical Talk on the Diagnosis of Mental Diseases

Dr. E. M. Wiley, Lexington: To determine the question of mental soundness, a definite routine should be employed. First the history, present and past, both of the patient and family; the personal previous history of the disease; a detailed inquiry into the habits, traits, and physical illnesses of all the members and the patient's immediate family, and direct branches. Special attention should be given to mental peculiarities, alcohol and drug addiction, and criminal tendencies. The etiologic importance of heredity should not be overlooked. Dementia is a disease of slow progress, characterized by progressive deterioration, loss of voluntary activity, aural hallucinations and indefinite expansive delusions, despondency, sudden development of excitement, distractability of attention, persistent ideas, verbigeration, periods of pressure of activity, followed suddenly by conditions of inactivity, stupor, mutism, and catalepsy. In the paranoid form, dementia is characterized by numerous hallucinations and fantastic delusions, progressive paralysis of thought and will, emotional deterioration and impairment of memory. The insanities of old age are characterized by a progressive mental deterioration due to structural changes in the higher brain center secondary to vascular degenerations, making good the truism that "man is as old as his arteries." The insanities of this period are chiefly embraced under the term senile dementia. Mental loss is not followed by delirium, confusion and stupor, change of disposition, memory loss, expansive ideas, disorientation, motor unrest, loquacity, erotic tendencies, insomnia and deep depression. I make an earnest appeal to our medical teachers to see that no young man receives the degree of Doctor of Medicine who has not had clinical instruction in psychiatry. Especially should he be so instructed that he will be able to recognize the border-line cases. The world is full of Guiteaus, Czolgoszs, Prendergasts, and Thaws. They are in our midst committing crimes of every character. How are we to be protected? Nothing in the past has been done. Our only hope is in the coming generation of educated, trained young physicians, who, it is to be hoped, will take up the great social problem of asexualization, which has been so successfully begun in Indiana. It has long been my idea that state asylums should be utilized for clinical teaching. We have in the shadow of Louisville a large state hospital filled with patients with every phase of mental disease which, if proper steps were taken, could be utilized.

DISCUSSION

Dr. W. F. Boggess, Louisville: In the care of the insane we have evoluted from the day when mad men were treated as such and confined with chains and staples, fed through holes in doors, to the present time, when the insane are treated as sick people. No mechanical restraint is used, and yet the fact remains that in the percentage of cures there has not been a very marked improvement. The reason for that is due to the fact that the family physician does not recognize the mental disease in its early stages, and when these people are finally committed to institutions or to specialists there is already brought about such destruction that it is impossible to do anything for these patients. The families themselves do not want to believe that they have to deal with mental cases. The family physician seeks to cater to their views, and the result is these patients are kept at home until it is too late for anything to be done when they are finally committed to a private or public institution.

Dr. George P. Sprague, Lexington: This subject should interest every physician and every citizen of the state. Insanity is on a steady increase in this state, so that we have in Kentucky one insane person to every 300 of our inhabitants; dementia præcox is unusually prevalent. We ought to have a means of early diagnosis in insanity, not only for the sake of the individual who may be treated early and cured, but for the sake of the state, for every chronic insane person is estimated to cost the state about $6,000 during the asylum treatment.

Dr. J. G. Carpenter, Stanford: The general practitioner should be an all-around specialist. Every year I see patients who have mental aberrations, and if proper treatment is instituted in time they will be restored to health and be allowed to remain at home. The whole profession should wake up. We should treat these patients at home early, and then the alienist will not have a chance to cure them.

Dr. Curran Pope, Louisville: Early diagnosis in menta disease means early treatment, and early treatment frequently means cure. As soon as the diagnosis of any phase, form o character of mental trouble is made, the word hoplessness is immediately written over the case, and no attempt is made to realize that the many phases and forms of mental disease are nothing more than an expression of a disordered condition o the cerebrum, just as we would recognize a disordered condition in the liver. We certainly do not stop work the momen we recognize any disorder in any other organ save that of the highest organ of mankind—the brain. It is in the border line cases that the greatest mistakes are made and the greates harm is done. The general practitioner should recognize these cases in the early stages, and should send these patients where they can receive the latest and best psychiatric treatment. I do not believe the blame for a failure to cure many of these patients should be laid at the door of the poor general practitioner, but a good deal of it lies with our legislative bodies and the people of the state of Kentucky. There is absolutely no asylum or hospital in the state of Kentucky under the care of the state. We have nothing but jailers to recognize the condition, and not physicians, who are applying modern treatment.

Treatment of Mutilated Extremities

Dr. R. C. McChord, Lebanon: More systematic conservative surgery should be practiced in treating mutilated extremities, and no primary amputation should be done where there is circulation in the distal extremity. The organized blood clot should be more often utilized when there is loss of the soft tissues.

DISCUSSION

Dr. W. E. Senour, Bellevue: I recall a case that came into our hospital only a short time ago when five surgeons were present, four of whom recommended amputation. The other favored giving the patient more time. Three days elapsed, the condition of that extremity improved, and the patient's entire hand was saved, much to the credit of the one surgeon who pleaded so earnestly and so strongly to save it.

Dr. J. G. Carpenter, Stanford: The use of the blood clot is of the utmost importance in the treatment of compound and comminuted fractures. If the periosteum is destroyed and the ends of the bones are not kept moist by an aseptic blood clot or by antiseptic irrigation, the bones will necrose, so that the blood clot is of great importance.

Delirium Tremens

Dr. F. M. Stites, Hopkinsville: Delirium tremens is a manifestation of chronic alcoholism. The pathology is the same as that of chronic alcoholism or what is frequently called wet brain. The symptoms are unmistakable. In treating these patients alcohol should be withdrawn. They should be nourished, and intelligent restraint practiced. Heart stimulants and sedatives should be used with moderation.

A Plea for the Surgery of Our Small Hospitals

Dr. J. L. Phythian, Newport, delivered the address in surgery, and, among other things, said:

Modern medicine has imposed on us to-day duties that were unknown twenty years ago. The science of medicine has already attained a high degree of perfection, and its accurate application is daily becoming more exacting. The patient's interest is the sole thing we have to consider; then it becomes our duty to see that he has the best advice and skill available, and that he be placed in those surroundings which will be most conducive to his welfare and recovery. That the small hospital is invaluable to the community in which it is located no one can deny, and no community can do a nobler charity than the support of such an institution. The extraordinary reward that surgery holds out is a temptation to the unscrupulous or morally weak surgeon who is apt to confuse his financial interests with the physical necessities of his patient. There is a wide difference between the fee of the surgeon and that of the general practitioner, the surgeon may be easily biased in favor of the method that promises the larger reward in any case furnishing a meager excuse for resorting to the operating table. I desire to make a plea that something be done to uphold the high standard which surgery has attained—a plea for the profession, the people and the deserving poor who enter our institutions and must accept the service given them. The proper fitting of a man for surgical practice requires a much longer experience as a student and assistant than the most exacting medical school demands. A man should serve four or five or six years as an assistant to an active surgeon. During this period of preparation, as it were, as much time as possible should be given to observing the work of the masters throughout the world. Much may be done to suppress the evil of operating by inexperienced, incompetent men, by using greater care in the selection of staff surgeons in the small hospitals. If it were possible for the medical profession to-day to establish a higher degree of moral responsibility many of these evils might be averted. We need an active conscience in surgery and the application of the old but ever practical golden rule.

Tonsils and Adenoids

Dr. S. G. Dabney, Louisville: There are two classes of abnormal tonsils: first, the simple hypertrophied, with symptoms of obstruction and reflex irritation; second, diseased hypertrophic or atrophic tonsils, causing local or general infection, or both. General or distant diseases are believed to enter through the tonsils. In the modern treatment of diseased tonsils and adenoids the tendency is toward radicalism in their removal.

As to adenoids the description of Meyer is almost as complete to-day as it ever was, except that adenoids are regarded as a possible port of entry for general diseases, and should be removed.

The Pupils During Health and Disease

Dr. Adolph O. Pfingst, Louisville: Some uncertainty exists as to what should be considered a normal pupil or one indicative of general disease. Fallacies to be guarded against in the examination of pupils are the age of the patient; inequality of light, entering the two pupils; difference in refraction in the two eyes, or defective vision in one eye; the possible use of some drug influencing the size and local diseased conditions, such as synechia, causing immobility of the pupils. From a diagnostic standpoint, the pupils are examined for their size, their reaction to direct light, their consensual reaction and for their reaction to accommodation and convergence. Pupils frequently do not react to light, though perception to light is present, and, on the other hand, pupillary reaction may persist in eyes without light perception. In the Argyll-Robertson pupil reaction to accommodation and convergence remains after reaction to light has ceased. The diseases in which the pupils are of especial value in diagnosis are tabes, progressive paralysis, hysteria, epilepsy and uremic eclampsia.

Diagnosis of Acute and Chronic Mastoid Disease

Dr. J. A. Stucky, Lexington: The cure of acute purulent otitis media is simply a question of drainage. Posterior drainage through the antrum will cure any ordinary case in which the mastoid cells are not already involved in a short time with little scar or deformity. If we effect cures in the acute cases we will have no chronic ones. It is the chronic cases that result in loss of hearing and life. Because the general practitioner first sees the acute cases the responsibility of much of the deafness that follows rests on him unless prompt relief is given. Therefore, correct diagnosis and prompt surgical treatment are most important. What the appendix is to the abdomen the mastoid cells are to the cranial cavity, the point of least resistance, and the easiest and safest to relieve when involved pathologically. Cases of mastoiditis in which the drum membrane and middle-ear cavity show little evidence of disease, and frequent anatomical irregularities, give rise to misleading symptoms.

Treatment of Acute Mastoid Disease

Dr. Lamm S. Givens, Cynthiana: The two most important points in the management of acute mastoid disease that have not already been emphasized appear to be transillumination and examination of the pus for bone débris. Each of these has been written on, but neither has received the attention that it deserves. Examination of the mastoid by transillumination is based on the fact, which can be easily demonstrated, that the healthy normal mastoid will transmit light, while a mastoid filled with pus or granulation tissue will obstruct the passage of light. In the acute cases which hang on for a considerable time, and in the subacute cases it is desirable to know, so far as possible, the extent of the pathologic changes within the mastoid.

If the bony partitions between the mastoid cells are broken down, bone débris will be found in the pus. When bone débris is found it is positive evidence that an operation should be performed. Looking on mastoiditis as a preventable disease, however, prevention is the thing to be aimed at by those who have the opportunity to institute such measures.

Fat Embolism

Dr. W. H. MacCracken, Louisville: Fat embolism is a condition that until recently has received little attention at the hands of the medical profession. The phenomenon is probably exceedingly rare, but doubtless occurs both as a result of accidental injuries and as a mishap of the operating room. It should always be remembered that fat as it exists at body temperature is a liquid, capable of flowing through any channel which may be opened to it and only solidifying when cooled by exposure. This being true, it readily follows that any accident involving the rupture or the cutting of a large vein, especially a vein located near the surface of the body, may be followed by the entrance of a considerable quantity of liquid fat into the blood vessel. This fat will, of course, be carried at once to the right side of the heart and thence enter the pulmonary circulation. Fat and blood will not mix; hence it follows that during the time that this fat is passing the capillaries of the lungs the blood must remain partially or completely unaërated, thus being deprived of oxygen and rendered incapable of ridding itself of carbon dioxid. Much remains to be done in the way of investigation along this line, but enough has already been accomplished to show that this accident may account for some of the sudden fatalities following comminuted fractures, and for some of the deaths on the operating table which in the past have been imputed to the carlessness of the anesthetists.

Local Versus General Anesthesia in Anorectal Surgery

Dr. S. J. Gant, New York: 1. Time should not be wasted in attempts to build up patients suffering from rectal diseases before operation because their run-down condition is usually due to their local ailment and will not improve until it is corrected. 2. Elaborate preparations of patients for rectal operations by purgation and colonic flushings are undesirable because they liquefy the feces and fill the colon with water which constantly dribbles over the field of operation. 3. It is much better to let the patient alone until one hour previous to operation and then give him a low water or medicated enema which will cleanse the rectum and be entirely expelled. 4. When operating for hemorrhoids, fissure, fistula, polyps and many other rectal affections, there is practically no danger from infection, consequently patient should not be given the unnecessary pain caused by plugging the rectum with antiseptic gauze or the annoyance induced by outgrowing hairs when the parts have been shaved. 5. More than 80 per cent. of all diseases of the anorectal region can be radically and painlessly operated on under local anesthesia at the office, the home of the patient or hospital. 6. The common practice of administering gas, ether, chloroform and other general anesthetics is unjustifiable in this class of cases because nearly all these ailments can be operated on within five or eight minutes under regional anesthesia. 7. Operations for fissure, hemorrhoids, ulcers, polyps, papillæ, simple fistula, etc., can be quickly performed under anesthesia produced by cocain, eucain, sterile water, or any other of the recognized local anesthetics if the surgeon knows how to use them properly. 8. When the operator's technic is perfect, the operation will cause no pain and the result will be good, but, on the other hand, if his technic is bad he will cause the patient a great deal of suffering during the operation and will not cure him. 9. In this class of work the surgeon who employs the fewest instruments and the most simplified technic accomplishes the most satisfactory results; in fact, a great deal depends on the manner in which the infiltration is made. 10. To obtain desirable results under both local and general anesthesia, it is necessary to do a good operation and to carry out carefully the postoperative treatment. 11. General should be substituted for local anesthesia, in cases of fissure, hemorrhoids, ulcer, fistula, etc., when complicated by some other serious rectal affection, for very deep and extensive operations, and whenever there is any doubt as to the diagnosis or as to the extent of the cutting necessary to be done. 12. The almost universal success which has followed the employment of local anesthetics in operations in and about the rectum should encourage the general surgeon to employ regional anesthesia in other parts of the body very much more frequently than he has in the past.

(*To be continued*)

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES

Eighteenth Annual Meeting, held in Washington, D. C., Oct. 5-8, 1909

The President, Surg.-Gen. Presley M. Rixey, U. S. Navy, in the Chair

Business Session

At the business session, Tuesday, the reports of officers were presented. The chairman of the Committee on Necrology reported that since the last meeting thirteen members had died, of whom four were officers of the Medical Corps of the army and three each officers of the United States Public Health and Marine-Hospital Service of the United States Volunteers in either the Civil or Spanish-American wars, and of the National Guard. The report was, as usual, adopted by a standing vote. The nominating committee reported the nominations for office and place of meeting next year, which have already been noted in The Journal for October 16, page 1300.

Public Meeting

On Tuesday evening the first open session was held. Hon. Hannis Taylor of Alabama, in the opening address, made an eloquent plea for peace, detailing the gigantic preparations for war which are being made at this time the world over. It now looks as if nations might be falling back on the old system of armed neutrality, the essence of which was an armed compact through which peace could be conserved.

Henry B. F. McFarland, District Commissioner, then welcomed the association on behalf of the city of Washington, and Dr. Samuel S. Adams delivered the address of welcome on behalf of the medical fraternity of the District.

President's Address

Rear Admiral Presley M. Rixey, U. S. Navy, after laudatory remarks regarding the work of the association, defined its interests as embracing the physical efficiency of military and naval organizations, the efficiency of the medical profession as regards each of its manifold activities in military spheres of activity, the honor of nations, and the welfare of mankind. No organization is more widely representative of the vital concerns of the human race, and owing to its intimate identification with the great physical emergencies of life and nations, the deliberations of the organization should be fruitful. The success of the Japanese during the recent war with Russia in preventing disease in their army must be attributed in great degree to their acceptance of the fact that their medical officers possessed superior knowledge of sanitary matters, and that, having employed their surgeons as specialists in their particular line, they accepted their advice, gave them the men, material and money to carry out their suggestions, and held them responsible for the results. He also suggested Washington as the permanent meeting place of the association on account of the international character of the organization and because Washington is the military headquarters of the United States.

Foreign Delegates

Surgeon William H. Bell, U. S. Navy, assistant secretary then presented the insignia of the association to the following delegates from foreign counties: Great Britain, Sir Alfred Keogh, director-general R. A. M. C., and James Porter, C. B. director-general of the Medical Service of the Royal Navy; Guatemala, Señor Don Dr. Louis Toledo Horrarto, envoy extraordinary; Honduras, Señor Don Dr. Louis Lazo, envoy extraordinary; Italy, Claudio Sforza, surgeon-major-general Japan, Bunzo Tomatsuri, surgeon-inspector of the navy; Mexico, Lieut.-Col. Alejandro Ross, School of Medico-Military Practice; Canada, Lieut.-Col. G. C. Jones, G.G.H.S., director general of the medical service; France, Major M. Le Routte surgeon sanitary department; China, Tang Wen-Yuan, director Army Medical School, Surgeon Hsu Ying-Yang; Netherlands, Dr. Bujo, fleet surgeon; Germany, Dr. Presuhn, flee surgeon. Sir Alfred Keogh responded on behalf of the foreig delegates.

Military Organization and Administration

Captain Harold W. Jones, M.C., U. S. A., arraigned the lack of uniformity in organization of the medical corps of the various states. In many states politics takes an active part in appointments, examinations are not held or are farcical, the annual tours of duty are junketing trips, and the field service a joke. He urged the medical officers of the National Guard to insist on proper qualifications for entrance, a severe examination, and systematic training thereafter in camps of instruction and by lectures and demonstrations, especially in the line of preventive medicine. The benefits of camps of instruction lay in the exercise, open-air life, solution of practical problems in sanitation, and especially in the interchange of ideas between the professional and the amateur soldiers.

Col. Valery Havard, M.C., U. S. A., emphasized the necessity of concerted action in obtaining autonomy for the Medical Corps, including transportation, so that in case of need, the medical department could move its own stores, instead of having to depend on an already overcrowded quartermaster department which proved unable to do all that was asked of it during the stress of the Spanish-American War, with the result that much illness and mortality occurred which might have been obviated had the Medical Corps been autonomous. The entire medico-military personnel should take up this more important matter.

Major George S. Crampton, M.C., N. G. Pa., declared that the medical officer uneducated as a soldier is useless in time of emergency. The field training is essential as is also the technical experience.

Sir Alfred Keogh, R.A.M.C., maintained that while it was the province of the military surgeon to act in a humanitarian capacity, his first object should be to increase the efficiency of the force of his commanding officer. Military surgeons should be more strict in returning to their homes soldiers physically unfit for campaigns. The carrying out of this policy would greatly reduce the wastage of armies through disease in time of war.

Capt. William S. Roberts, M.C., U. S. A., advocated a more thorough training of medical officers. He believed that with cavalry an ambulance should be assigned to each squadron. As a matter of experience, he advised the carrying of spare parts of the ambulance, particularly poles, which are liable to be broken in going over rough country. As the cavalry service is especially arduous, hospital corps men should be thoroughly instructed in equitation, and should have good horses assigned them, not the castoffs of the troops.

Col. Winslow Anderson, Surgeon-General N. G. California, praised the camp of instruction at the Presidio of San Francisco and outlined the work done by the medical officers of the guard. The instruction and demonstrations by the officers of the Medical Corps of the army were full and explicit, and great benefit was derived by the National Guard officers. The chief good seemed to be in line of administration and "paper" work, hygiene and sanitation. He spoke strongly on the need of a complete field equipment for the state troops.

Dr. Johann Steiner, Imperial and Royal War Minister, in his paper, which was read by the secretary, detailed the new regulations for ambulance trains in the Austro-Hungarian service. The hospital train is made up of twenty-six cars, and constitutes a complete hospital, commanded by a captain, with personnel of a lieutenant, sergeant and thirty-four privates. Two ambulance trains, each having accommodations for 364 patients, including sixty-four recumbents, are provided for each army corps in charge of a medical officer, or line officer, or local practitioner.

Brig.-Gen. Charles C. Foster, Surgeon-General, of Massachusetts, considered an examination board as a substitute for the correspondence course advocated for the training of national guard medical officers. The board should examine candidates with care, using questions which cover the main ground of the duties and responsibilities of medical officers. The members of the board should then mark each paper independently, and the final mark should be the average of the individual findings.

Supplies and Equipment

Major Carl R. Darnell, M.C., U. S. A., in considering the question of field medical supplies for the organized militia, stated that the Medical Supply Depot is prepared to furnish full equipment as detailed as the manual of the medical department to every militia organization which makes proper requisition. The state should have one fully-equipped field hospital for every 2,500 men. Requisitions should be made through official channels, and it would be well for each state to have a medical supply depot with a medical officer in charge who would make issues of equipment and supplies on receipt of proper requisitions.

Col. Valery Havard, M.C., U. S. A., reported progress in the work of the War Department in all questions of organization, including the organization of medical depots. In addition to the regulation ambulances, two-wheeled ambulances have been devised. One great difficulty encountered is the distribution of supplies. In the landing of supplies in Cuba the medical department was greatly hampered because it did not have control of its own transportation. The agencies for the distribution of knowledge to the organized militia are the association camps of instruction and the various medical schools of the army and navy. In his opinion, it was only a question of time until correspondence schools would be established by the War Department in the Department of Militia Affairs.

Lieut.-Col. Alejandro Ross, C.M.M.M., described a new system of diagnosis tallies for wounded in war. His plan calls for markings on the diagnosis tags to indicate the severity of the wound, whether or not dressed, etc. For instance, a tag bearing a circle would mean a slight wound; a triangle would indicate a severe wound; a square a very severe wound; a horizontal line, that a provisional dressing had been applied; two parallel horizontal lines, that a permanent dressing had been made; a perpendicular line would show that the patient had a wound requiring operation; two parallel perpendicular lines, that the operation had already been performed; a figure of eight on its side, that further operative interference was required, etc. These signs in combination could be made to give practically the entire history of the patient.

Lieut.-Col. Louis A. La Garde, M.C., U. S. A., made a report for the committee appointed several years ago to make exhaustive tests as to the stopping power and shock effects of twelve different kinds of bullets from various pistols and revolvers, illustrated by charts. This was to have been further illustrated by lantern slides, but the latter graphic portion of the reports unfortunately could not be given owing to the impossibility of darkening the room.

(To be continued)

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Professional Compensation for Public Services

The *British Medical Journal* discusses editorially, October 23, the question of adequate remuneration by public authorities for medical services, which is at present receiving much consideration in England. A number of specific instances are cited to show the evident value placed on medical services. The Barry Hospital in Wales was established for the benefit of working men of the docks, and in 1900 was taken over by the Barry Urban District Council. The district contains a population of about 33,000, almost entirely composed of the workmen of the Barry docks, their families and the tradesmen who supply their wants. The docks employ between 8,000 and 10,000 men. Originally, all the physicians of Barry were members of the staff of the hospital. Questions have recently arisen regarding the makeup of the staff. The matter was referred by the Cardiff Division of the British Medical Association to the hospital's committee, which instructed the Medical Secretary to investigate the matter. As result of the investigation, the committee recommended that the hospital should be open to each medical practitioner in the district who had been in practice there for six months, physicians to serve in rotation and to be paid £20 ($100) for three months' service, the local profession taking the position that while they were perfectly willing to give their services free in the case of a voluntary hospital (that is, one supported by voluntary contributions), they did not consider that they should be asked to do so in the case of a hospital entirely supported by the rates (taxes), as was the Barry Hospital. This proposition, involving the payment of about $30 a month to each physician for the time actually spent in service, was rejected by the district council solely on account of the compensation feature.

The Aberystwyth Board of Guardians recently took exception to a bill for £1 2s. 6d. ($5.44) sent in by a local physician for the examination of nine imbeciles. At the same meeting, objection was made to a bill of £1 1s. ($5.08), rendered for administering chloroform to a patient in the hospital, on the ground that the board had recently passed a resolution to pay only 10s. 6d. ($2.54) for such services. The surgeon in charge asked what would be his position in case he were not able to secure the assistance of a medical man to administer chloroform on these terms, as he said he would not take the responsibility of administering the chloroform and he did not know a medical man who would do it for less than a guinea ($5.08), and that it was unreasonable to expect him to pay a guinea for assistance when he was only paid 15 shillings ($3.75) himself. The board declined to pay more than this amount.

The Salford Board of Guardians refused to grant any of the requests made by the Salford Division of the British Medical Association, or even to negotiate with them. Accordingly, a warning notice has been published in the *British Medical Journal*, and, as a result, the guardians have been unable to obtain any medical officer for Hope Hospital. The positions of senior and junior resident medical officer are now vacant, and the deadlock has lasted since the end of July, due entirely to the refusal of the guardians to discuss the points at issue, which involve the status of the senior medical officer and the salary which he should be paid. The Salford Division of the British Medical Association has taken the position that the question of what is a fair salary to accept is one for the profession alone to decide, and that the salary offered is "miserably inadequate."

The recent action of the post-office department is also of interest in this connection. Under the superannuation act, which became a law on September 20, certain postal officers are entitled to free medical attendance, for which services a fee of 3s. 6d. (84 cents) has been offered to the postal medical officers. The physicians holding appointments under the post-office department claim that this is an imposition of extra work for a miserably inadequate fee, while the department apparently takes great credit to itself for its generosity in offering any fee at all. In the case of postal officers not entitled to free medical services, the department has announced that medical men would be entitled to a fee of 5s. ($1.25) for physical examination, payable by the postal officer himself, regardless of how high the officer's salary might be. As the salary of the patient might in some cases run as high as $5,000 a year, the compensation to physicians is obviously out of proportion to the value of the services. To the objection of the postal medical officers, the department replied that if they would not do the work for five shillings it would be given "to other physicians who would be glad to do it." As the *British Medical Journal* says: "This is nothing more nor less than an attempt by a government department to punish the medical officers if they will not allow themselves to be exploited." The position taken by the joint committee of the Manchester and Salford divisions of the British Medical Association is that the proposal of the post-office department amounts to a decision that $1.25 is quite enough for an insurance examination, even for a large amount, and that it is an invitation to general practitioners to "undersell" the postal medical officers in case they demand more.

Another case of the same tendency is reported, the Council of the Metropolitan Borough of Wandsworth having sent an official communication to a member of South-West London Medical Society proposing the following fees for professional services rendered to employees of the council who may claim sick allowances in case of accident or illness: services rendered at the physician's office 1s. (24 cents) for each examination and report; services rendered at the employee's home, 2s. 6d. (60 cents) for each examination and report. The member of the society to whom this proposition was made declined it, saying: "I can only regret that the council have such a contemptible opinion of the value of the medical man's time."

Commenting on these recent instances of the estimate placed by public officials on the value of professional services, the *British Medical Journal* says, "It is worth noting that in two of the cases, the medical services are required, not in the interest of suffering individuals, but purely as a matter of actuarial business, to guard the state or the local authority either from malingering or fraud. The most temperate protests (on the part of the medical men) are met by state departments and municipalities alike by what practically amounts to the answer, 'Take it or leave it; if you don't take it we shall very soon find other doctors who will.' It is disagreeable and somewhat unfortunate that difficulties which arise between the medical profession and the state or local authorities should so often turn on questions of money. We are told that we are a noble and generous profession, existing for the good of mankind and that we endanger our reputation for nobility of character and generosity of action by insisting on higher fees and salaries than are offered. But this is not common sense. The members of the medical profession have to earn their living like other folks and while they never fail to respond to the call of charity, they are not only justified in rejecting, but as good citizens bound to repel, proposals which are contrary to sound economic principles. It would seem sometimes as though public charities acted on the assumption that medicine was already endowed by the state and its practitioners in receipt of retaining salaries to which it was only necessary to add some trifling honorarium when new duties were imposed. The truth, of course, is that, save in the cause of charity, medical men are entitled to claim the full value of the services they render. Business men may consider it good business to set as low a pecuniary value on these services as they think will be accepted, trusting to competition to keep the price down and the quality up. But there is a limit to legitimate competition; either the quality will decline or the worker will not receive a living wage. The limit has been reached and is frequently overpassed in the dealings of public authorities with the medical profession. The only effectual remedy for this state of things is combination and union within the profession and this can be attained only through the British Medical Association which has the will and possesses the necessary machinery."

The comments of the *Journal* are eminently pertinent and timely. Public positions and services rendered the state or the municipality by members of the legal profession, civil engineers and others, have always been recognized as entitled to the same or often higher compensation than that paid by the private individual for the same services. This is shown by the eagerness with which such positions as city or state's attorney, attorney-general, etc., are sought by lawyers, many of whom receive for their services much higher compensation than they could secure in private practice, or at least than they would receive for the same services rendered to individuals. Purely through the carelessness and altruism of the medical profession, however, the idea has been allowed to gain ground in the public mind that medical services rendered to the town, county or state are given gratuitously or are to be paid for at an absurdly low rate. Physicians on the attending staffs of practically all our public hospitals serve without pay. As was shown in last week's issue, the burden of professional charity imposed on the medical profession in our large cities is about fifty times greater than that imposed on other classes of society. In addition to this enormous burden, physicians are asked to deal with the state, county and city when they desire medical services as though they were dealing with pauper patients, and to furnish needed medical services either at the expense of the profession or for an amount of compensation that is utterly out of proportion to the value of the services rendered.

This question, which has been widely discussed and agitated in England, should be taken up dispassionately and thoroughly by the medical profession in the United States in order that the necessary data may be secured on which to base arguments and claims for proper compensation. Owing to the growing importance of preventive medicine and state sanitation the importance of this question will be vastly increased in the next few years rather than diminished. The time is coming when prevention and state medicine will constitute the bulk of professional work, and it behooves us to see that compensation for such work be ample enough to make the profession self-respecting and free from material want.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Third Month—Third Weekly Meeting

Smallpox, Variola

Etiology: Contagiousness, age, sex, race, season. Variations in epidemics.

Bacteriology: Work of Guarnieri, of Councilman.

Pathology: Microscopic changes occurring in lesions.

Symptoms: A. Variola vera; (a) discrete, (b) confluent. Period of incubation, length, variations. Invasion, symptoms, prodromal rashes. Eruption in (a) discrete, (b) confluent form. Desiccation, desquamation.

B. Variola hemorrhagica; (a) purpura variolosa, (b) variolosa pustulosa hemorrhagica. Symptoms and lesions of each form.

C. Varioloid. Symptoms, lesions.

Diagnosis: Early, differentiation from meningitis, typhoid, influenza, scarlet fever, etc. Eruption, from measles, scarlet fever, varicella, syphilis, glanders, drug eruption.

Vaccinia: History, nature of vaccinia.

Vaccination: Preparation of lymph. Technic of vaccination. Normal vaccination. Irregular vaccination: A. Local variations. B. Generalized vaccinia, (a) spontaneous generalized vaccinia; (b) from autointoxication. C. Complications, (a) local, erythema, impetigo cotagiosa, erysipelas, ulceration, gangrene, cellulitis, etc.; (b) constitutional, purpura, urticaria, syphilis, leprosy, tuberculosis.

Marriages

Oscar L. Long, M.D., to Miss Grace McFrederick, both of Baltimore, October 27.

Robert E. Stevens, M.D., to Miss Mabel Healey, both of Rochelle, Ill., October 20.

Charles E. Burke, M.D., to Miss Zella Lynch, both of Atlantic, Iowa, October 27.

E. Barbour Pendleton, M.D., Cuckoo, Va., to Miss Virginia Hunter Goodman, October 23.

H. Frances Bartlett, M.D., Philadelphia, and William Tyson of Pittsburg, October 27.

John Frank Simison, M.D., Romney, Ind., to Miss Olive L. Neal of Aylmer, Ont., October 24.

Evald Olson, M.D., to Miss Laura Lillian Sellards, both of Burlingame, Kan., September 22.

Harry DeWitt Fast, M.D., to Miss Luella Adaline Miller, both of Mackinaw, Ill., October 27.

Emil H. Hermann, M.D., Highland, Ill., to Miss Bertha Hermann of Fillmore, Ill., October 31.

Peter McLean, M.D., Laurinburg, N. C., to Miss Alice Lee Elliott of Fayetteville, N. C., recently.

Walter Wilson House, M.D., Thompsonville, Ill., to Miss Nona Steele of DeSoto, Ill., October 24.

Antonio Fanoni, M.D., New York City, to Miss Emily Stanley Merill of Brooklyn, October 28.

Allen Galpin Rice, M.D., Springfield, Mass., to Miss Mary Merrihew of Newton, Mass., October 27.

Aaron P. Wolever, M.D., Willisville, Ill., to Miss Portia Catlett, at Springfield, Ill., September 21.

Lloyd E. Goodpasture, M.D., Thayer, Ill., to Miss Frances Ann Carter of Chesterfield, Ill., October 14.

Norman O. Dalager, M.D., Tolley, N. Dak., to Miss Lena Othelia Nelson of Grano, N. Dak., October 21.

William Likely Simpson, M.D., Memphis, Tenn., to Miss Lenora A. Balderson of Mount Ayr, Iowa, October 27.

Joseph Hersey Pratt, M.D., Boston, Mass., to Miss Rosamond Means Thomson of Andover, Mass., October 23.

Darius Cleveland Absher, M.D., North Wilkesboro, N. C., to Miss Bethania Ashby of Mount Airy, N. C., October 27.

John Robert Paddison, M.D., Oak Ridge, N. C., to Miss Zora Sapp of Kernersville, N. C., at Greensboro, N. C., October 28.

Deaths

Charles Henry Cobb, M.D. Harvard Medical School, Boston, 1881; a member of the Massachusetts Medical Society; professor of materia medica and therapeutics and dean of the faculty of the College of Physicians and Surgeons, Boston; died at his home in Boston, October 31, from acute peritonitis, aged 65. The faculty of the college, at a special meeting, adopted resolutions eulogizing Dr. Cobb as a beloved and faithful member of the faculty, a true disciple of medicine, a competent instructor and a sincere devoted friend.

Benjamin Harrison Kidder, M.D. Long Island College Hospital, Brooklyn, N. Y., 1861; of Malden, Mass.; rear admiral U. S. Navy, retired, on attaining the age of 62 years, Jan. 23, 1898, after fourteen years and three months' sea service and seventeen years and seven months' shore or other duty; at one time president of the medical examining board of the Navy; died at his summer home in Edgartown, Mass., October 26, aged 73.

Robert L. Caruthers White, M.D. Jefferson Medical College, Philadelphia, 1868; a Confederate veteran; for several years editor and owner of the *Lebanon (Tenn.) Herald*; for nineteen years Supreme Keeper of the Records and Seal of the order of Knights of Pythias; a journalist of more than local reputation and a literary man of superior attainments; died at his home in Nashville, October 29, aged 65.

Warren David Springer, M.D. Trinity Medical College, Toronto, 1889; a member of the American Medical Association; secretary of the Idaho State Board of Health; major-surgeon of the First Idaho Infantry U. S. V. in the Spanish-American War, and for a year and a half on duty in the Philippine Islands; died at his home in Boise, October 19, from angina pectoris, aged 44.

George Robert Harris, M.D. College of Physicians and Surgeons, New York City, 1885; a member of the Connecticut State Medical Society; surgeon to the Backus Hospital, Norwich, Conn.; local surgeon to the New York, New Haven and Hartford Railroad; secretary of the local pension board; medical examiner for Norwich; died at his home, October 20, from cerebral hemorrhage, aged 44.

William Gilbert Terwilliger, M.D. College of Physicians and Surgeons, New York City, 1894; of Brooklyn, N. Y.; a member of the Medical Society of the State of New York; was instantly killed in a collision between the automobile in which he was riding and a train of the Long Island Railroad, near Long Beach, N. Y., October 30, aged 38.

Cleophas Joseph Ducote, M.D. Tulane University, New Orleans, 1875; a member of the American Medical Association; for many years a member of the Board of Supervisors of the State University; once president of the Louisiana State Medical Society and State Board of Health; twice state senator; died at his home in Cottonport, October 26, from cerebral hemorrhage, aged 59.

Hugh France, M.D. Bellevue Hospital Medical College, New York City, 1892; of Wallace, Idaho; a member of the American Medical Association; coroner and health officer of Shoshone county in 1899; once sheriff of the county and provost marshal and state senator; died in Seattle, October 26, from cancer of the liver, aged 42.

Elmore Palmer, M.D. University of Michigan, Ann Arbor, 1864; formerly president of the Western New York Medical Society; a medical cadet, serving with the Twenty-ninth Michigan Volunteer Infantry, and afterward as a surgeon during the Civil War; died at his home in Buffalo, N. Y., October 23, aged 69.

William E. Scobey, M.D. Medical College of Ohio, Cincinnati, 1866; contract surgeon in the army and afterward captain and assistant surgeon, and assigned to duty with the Forty-fifth Kentucky Volunteer Infantry during the Civil War; died at his home in Kankakee, Ill., October 24, from nervous breakdown, aged 68.

George Watt, M.D. College of Physicians and Surgeons, San Francisco, 1903; a member of the American Medical Association; and physician of Glenn county, Cal.; died at his home in Willows, October 24, from injuries received in an automobile accident the day before, aged 44.

Leyander John Young, M.D. University of Vermont, Burlington, 1877; a member of the American Medical Association; chairman of the board of health of Haverhill, Mass.; died suddenly October 27, from cerebral hemorrhage, while making a professional call, aged 59.

Samuel R. Elliott, M.D. New York Medical College, New York City, 1856; surgeon of the Fifth New York Volunteer Heavy Artillery in the Civil War; well known as a magazine writer; died at his home in Livingston, Staten Island, New York, October 26, aged 73.

Edward William Thomas, M.D. Cooper Medical College, San Francisco, 1892; a member of the American Medical Association; founder and superintendent of the Thomas Sanatorium, San Francisco; died October 21, six days after an operation for appendicitis, aged 47.

Gregg Henderson, M.D. New York Homeopathic Medical College, New York City, 1866; a charter member of the Ontario Medical Council, and in 1897 its president; for thirty-four years medical health officer of Strathroy; died at his home, August 25, aged 72.

Jesse Eugene Cook, M.D. Dartmouth Medical School, Hanover, N. H., 1896; representative in the legislature from Waldo county, Maine, and a member of the staff of Waldo County Hospital; died at his home in Unity, October 15, from tuberculosis, aged 40.

Thomas L. Banks, M.D. University of Pennsylvania, Philadelphia, 1854; one of the oldest practitioners of North Carolina, and formerly state senator; died at his home in lower Wake county, near Raleigh, October 26, from pleurisy.

John Albert Lamberson (license, Ore., 1891); a practitioner of Lebanon, Ore., for twenty-seven years; a member of the Oregon State Medical Association; died at his home, October 13, from cerebral hemorrhage, aged 55.

J. P. Minus, M.D. Medical College of the State of South Carolina, Charleston; a veteran of the Civil War; afterward superintendent of education of Dorchester county, S. C.; died at his home in St. George, October 11, aged 70.

John Meador Goldsmith, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1900; of Atlanta, Ga.; was found dead in a room in the Marion Hotel, Atlanta, October 26, from hemorrhage of the lungs, aged 33.

George Peter Rasbach, M.D. Bellevue Hospital Medical College, New York City, 1876; house physician for many years to the Old Ladies Home, Mohawk, N. Y.; died at his home in that place, October 20, aged 57.

August Gronerud, M.D. Kentucky School of Medicine, Louisville, 1897; of Bronson, Minn.; died in that place, October 21, from the effects of an overdose of morphin, of which he is said to have been an habitué.

Edward Pitt Marston, M.D. Dartmouth Medical School, Hanover, N. H., 1884; a member of the Maine Medical Association; died at his home in Monmouth, October 27, from cerebral hemorrhage, aged 47.

John Trumbull Metcalfe, M.D. University of Pennsylvania, Philadelphia, 1843; first president of the New Haven Dental Society; died at his home in Brooklyn, N. Y., October 29, from senile debility, aged 91.

Walter Melville Barrett, M.D. Missouri Medical College, St. Louis, 1880; a member of the Medical Society of the State of California; died at his home in Redwood City, October 26, from pneumonia, aged 53.

Nicholas L. Hornsby, M.D. Transylvania University, Lexington, Ky., 1842; said to have been the oldest resident of Carondelet, St. Louis; died at his home, October 26, from senile debility, aged 87.

William John Hamilton, M.D. Cleveland University of Medicine and Surgery, 1873; died at his home in Dunbar, Pa., October 26, from pneumonia complicating typhoid fever, aged 62.

Griffith W. D. Patterson, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1887; a veteran of the Civil War; died at his home in Atlanta, Ga., October 23, aged 72.

William Thompson, M.D. University of Nashville, 1856; a surgeon in the Confederate Service during the Civil War; died at his home in Little Rock, Ark., October 26, aged 79.

Omer G. W. Adams (license, Iowa, years of practice); an eclectic practitioner of Dubuque, Iowa; died in a hospital in Chicago, October 12, from acute bronchitis, aged 67.

Clarence Nichols, M.D. Hahnemann Medical College, Philadelphia, 1892; formerly of Baltimore; was drowned while oystering near Cambridge, Md., October 27, aged 35.

George B. Dowling, M.D. New York Homeopathic Medical College, 1886; of Tarrytown, N. Y.; died at the Manhattan Square Hotel, New York City, October 30, aged 42.

David S. Sampsel, M.D. Jefferson Medical College, Philadelphia, 1874; died at his home in Ashland, Ohio, October 29, from cerebral hemorrhage, aged 61.

Edward Playter, M.B. University of Toronto, 1860; formerly of Ottawa; died at his home in Chester, Ont., recently, from heart disease, aged 73.

Josiah Finlay Cadmus, M.D. College of Physicians and Surgeons, New York City, 1848; died at his home in New York City, October 28, aged 90.

Joseph K. Julian, M.D. Indiana Medical College, Indianapolis, 1872; died at his home in Covington, Okla., October 19, aged 62.

Hiram Hemstreet, M.D. Geneva (N. Y.) Medical College, 1850; died at his home in Canastota, N. Y., October 23, aged 86.

Book Notices

Clinical Lectures on Neurasthenia. By Thomas Dixon Savill, M.D., Physician to the West End Hospital for Diseases of the Nervous System, Welbeck Street, London. Cloth. Pp. 226. Fourth Edition. Price, $2.00 net. New York: William Wood & Co., 1908.

Lectures on Hysteria and Allied Vasomotor Conditions. By Thomas Dixon Savill, M.D., Physician to the West End Hospital for Diseases of the Nervous System, Welbeck Street, London. Cloth. Pp. 262, with 21 illustrations. Price, $2.50 net. New York: William Wood & Co., 1909.

Notwithstanding the fact that one of these books is in its fourth edition, we note the books together, because hysteria and neurasthenia are not so clearly differentiated in the mind of the average practitioner as they should be. And we fear that Savill's lectures will not help much toward making the differentiation any clearer; for, in building up the hypothetical pathology of both diseases, he lays so much stress on vasomotor manifestations and analogies, and attributes these so largely to an underlying toxemia that one is forced to ask wherein, after all, hysteria and neurasthenia differ. The only difference Savill seems to make is that hysteria is an angioneurotic (chiefly splanchnic) paroxysmal trouble, whereas neurasthenia is an angiotoxemic (chiefly gastrointestinal) nonparoxysmal affection. The difficulty with this distinction, however, is that clinically it is not so apparent as it theoretically promises to be. And therein lies the main objection to these books. They fail signally to tell us how to distinguish at the bedside between hysteria and neurasthenia, the symptoms of each being so interchangeable; while they assume a pathology for both that is founded, particularly in hysteria, on a loose, unstable and unimportant symptomatic basis. Indeed, many of the illustrative cases reported by Savill as neurasthenia would be diagnosed by neurologists of the modern school as hysteria, and *vice versa*.

We believe that the general consensus of opinion to-day is that neurasthenia is a disturbance of the primary physiologic functions of the ultimate elements of the entire nervous apparatus, such disturbance being initiated and continued by toxemia, malnutrition and traumatism, as well as overwork; but that hysteria is a pure psychosis, a disease of the personality depending on a faulty activity among the secondary or interrelated functions of the nervous elements, and accompanied by a host of subsidiary manifestations in all of the organs of the body. This is a sharp distinction and seems to be well supported by recent observations made in the physiologic and psychologic laboratories, as well as in the clinic; but Savill does not recognize it. Of neurasthenia he says (p. 66, "Lectures on Neurasthenia"): "All the symptoms point to an irritability and a weakness of the nervous system, an instability combined with a lack of endurance. Now, the two elements of which all nerve structures consist are cells and fibers, and the defect would seem to be more in the cells, whose function is to initiate and to act as centers of reflex action than in the fibers whose function is to conduct." This definition, faulty as it is in neurophysiology, is quoted for comparison with that on hysteria, which Savill says (p. 187, "Lectures on Hysteria") "consists of an instability, or undue irritability of all the nervous and reflex centers throughout the body, and particularly those of the vasomotor system; that hysterical paralysis or tremor and many other hysterical phenomena hitherto unexplained are produced by vascular changes in the nervous system; and that the essential defect in the nervous system on which hysteria depends, whatever it may be, is inborn and inherent—that is to say, the reflex centers in hysterical subjects are throughout life more unstable than those of other people." He says (ibid, p. 185): "My own conclusion as regards the pathology of hysteria is that a large proportion, probably nine-tenths, of hysterical symptoms, depend in the main on an instability of the vasomotor centers throughout the body and a want of coordination among these centers, associated with more or less emotional instability. And these factors are aggravated by toxemia or malnutrition." As to neurasthenia, we are told (pp. 67-68, "Lectures on Neurasthenia") that the "irritability and weakness of the nerve cells" are produced by "toxic blood states," "malnutrition," "fatigue or overfunctioning of the nervous system," and "emotional shock and traumatism." while behind these "there are four ways in which heredity as a predisposing cause of neurasthenia may, and does sometimes, act," thought it "does not seem to play so important a part here as it does in cases of hysteria" (p. 59). In a word, then, instead of being two distinct and dissimilar affections, hysteria and neurasthenia are the same, depending, respectively, merely on different degrees of heredity, toxemia, vasomotor disturbance and neural reflex irritability and instability. Such a conception of these two great maladies, especially hysteria, is not only antiquated ("I have taught the views herein expressed for twenty years, 1899 to 1909;" preface to the "Lectures on Hysteria"), but is woefully confusing and unscientific.

We do not recall having ever seen that besetting sin of the clinician, the argument by analogy, for which Savill pleads so elaborately and names "the method of analogy," pushed to a greater extreme. Not only does he base his entire pathology of hysteria and neurasthenia on imaginary internal vasomotor conditions, similar to the external flushings and pallors, but he even attributes the hemiplegias, the paraplegias, spasms, tremors, etc., observed in these functional troubles, to the same vasomotor processes which are known to give rise to the same phenomena in the organic. Indeed, he goes to the length of allying such toxangioneurotic conditions as erythromelalgia, acroparesthesia, sclerodactylia, "dead hands," Raynaud's disease, migraine, epilepsy and exophthalmic goiter to hysteria, because, forsooth, hysteria manifests vasomotor symptoms not wholly unlike those seen in these troubles; and he argues that this analogy and assumed close relationship between them all but proves the vasomotor nature of hysteria. This cutaneous argumentation concerning so well-recognized a psychosis as hysteria betrays in Dr. Savill less of the psychologist than of the "physician to the St. John's Hospital for Diseases of the Skin, London," (title page of "Lectures on Hysteria").

In like manner, Savill might have gone on with his "method of analogy," treacherous as logicians have long known it to be, and referred to the vasomotor disturbances that initiate all toxemic states, all inflammations and all traumatic abnormalities in the circulation, often occurring in non-hysterical as well as hysterical individuals, and then have drawn the all-comprehensive conclusion which the reader can scarcely escape drawing for himself after reading these books, that hysteria (and even to a lesser degree neurasthenia) is "a complex protean disorder, chiefly affecting the female sex, manifested by an immense variety of nervous, neuromuscular, neurovascular, sensory and other symptoms which may be referable to almost any organ or part of the body" ("Lectures on Hysteria," p. 5). To diagnose hysteria on such a clinical picture and conception of its pathology would be for us, we confess, a most "complex protean" problem. Frankly, we would not attempt it. We would adopt the easier and more common procedure of calling everything hysteria and a few of the less striking things neurasthenia, when we did not feel quite sure that they were something else. And that is about what these lectures encourage one to do.

In view of the unscientific conception of the nature of hysteria herein taught, it is not to be wondered at that the therapeutic measures recommended for the management of both hysteria and neurasthenia should be so elaborate, indefinite and multitudinous. The nervous irritability, the toxemia and the vasomotor disturbances are the guide-lines for the treatment of hysteria; while psychotherapy is made almost as prominent in the management of neurasthenia as any of the other measures.

Curious indeed is it to read (p. 196, "Lectures on Hysteria") in this day of scientific progress that when recommending valerian and asafetida for hysteria, it is to be remembered that "the taste of these drugs is not so unpleasant as their odor, which may be partially counteracted by holding the nose while swallowing the medicine."

Such books as these are to be strongly condemned, for, in addition to being incomplete and inadequate, they help to keep alive certain ancient, vague notions of the clinicians in regard to vasomotor and reflex phenomena long ago relinquished by the neuropathologists and physiologists; and they tend to encourage the general practitioner to remain satisfied with these notions instead of forcing him to learn what the more recent advances have been.

Die chemische Entwicklungserregung des tierischen Eies (Künstliche Parthenogenese). Von Jacques Loeb, Professor der Physiologie an der University of California in Berkeley. Paper. Mit 56 Textfiguren. Price, 9 marks. Berlin: Julius Springer, 1909.

In this book the distinguished author and investigator gives the results of his investigations by physicochemical means of the problem of the development of the ovum. Believing that purely morphologic observations would not give us any real insight into the nature of the forces that cause the ovum to develop into the embryo, Loeb several years ago began his celebrated experiments on artificial parthenogenesis of the eggs of various sea animals, which have led to such important results and which have been continued uninterruptedly to the present time. He has discovered that the process of development may be started by a number of artificial agents, including solutions of electrolytes, changes in the osmotic pressure of the medium, fatty acids, and combinations in various ways of these and other means. At the same time attention has been directed to the nature of the mechanisms involved and suggestive sidelights thrown on pathologic processes, more particularly on all proliferation as illustrated by the growth of tumors and by inflammatory proliferations. In the introduction to this book Loeb gives a valuable summary of the progress of his investigations and the essential results so far obtained. In the body of the book the various lines and methods of investigation and the results of each with different kinds of eggs are given with adequate detail on the basis of and with constant reference to the original articles by himself, his pupils and other workers. Professor Loeb is a genial investigator and a clear and succinct writer. The present book is an invaluable contribution to our knowledge of one of the most important of all biologic processes, and it will be received with a warm welcome not only by zoologists but also by physiologists, pathologists and chemists as well as by all physicians who are interested in the study of basic biologic problems.

The Open-Air Treatment of Pulmonary Tuberculosis. By F. W. Burton-Fanning, M.D., F.R.C.P., Physician to the Norfolk and Norwich Hospital. Second Edition. Cloth. Pp. 184, with illustrations. Price, $1.50 net. New York: Paul B. Hoeber, 1909.

This book bears evidence of having grown out of the personal experience of a careful observer. It excels in the qualities of simplicity and directness. Dr. Fanning avoids the common fault of overvaluation in details of management and in attainable results and shows that the essentials of open-air treatment are not necessarily elaborate or expensive.

Further Advances in Physiology. Edited by Leonard Hill, M.B., F.R.S. Cloth. Pp. 440, with illustrations. Price, $4.20. New York: Longmans, Green & Co., 1909.

This book represents the latest views of certain English physiologists on selected physiologic subjects. These views are the result of a study of the recent literature and of original work by the authors themselves on these problems. The book should be profitable especially to workers in physiology, as well as to all those who are interested in those problems in physiology which have particular application to clinical medicine or to pathology. Such a book gives a wider and more advanced view than could be obtained from ordinary text-books.

This volume follows "Recent Advances in Physiology" and is the second of a series of books on "Advances in Physiology." Mr. Hill expresses the hope that others of "More" and even "Further Advances in Physiology" may appear in the future. This second volume is similar to the first in the method of treating the subject-matter. The first dealt with problems of metabolism, secretion, and excretion, while the second deals with the problem of the circulation, respiration, the neuromuscular system, and with vision.

The first chapter of the book, by Benjamin Moore, is on "The Equilibrium of Colloid and Crystalloid in Living Cells." Moore says that the conception that the living cell is a mass of fluid, in which are dissolved crystalloids and the whole surrounded by a semi-permeable membrane or cell wall, is a highly pernicious conception in biology. He believes that the various organic and inorganic constituents of living cells are held in loose chemical combination with the bioplasm or proteins, and asserts that this latter conception is necessary to explain the action of drugs.

Hill in his article on "The Vascular System and Blood-Pressure" discusses the difficulties of the mere filtration and osmosis theory for the secretion of urine, formation of lymph edema, etc. It might be questioned whether Hill gives sufficient credit to Guthrie, along with Carrel, in opening up the field of experimental blood-vessel surgery; as well as whether he gives a correct conception of the technic employed by these investigators. In "The Mechanism of Respiration in Man," Arthur Keith gives his own work on respiratory movements. He endeavors to show that many problems in respiration are to be explained on a purely mechanical basis. M. S. Pembrey contributes the article on "The Physiology of Muscular Work," in which he discusses the influences of muscular work on the heart, respiration, the exchange of materials in the blood, and on the glandular system, concluding with its relation to fatigue.

"Some Chapters on the Physiology of Nerve," by N. H. Alcock treat of the physiology of nerve activity, regeneration, growth, fatigue, and the behavior of excised nerves. "Recent Researches on the Critical Localization of the Cerebrum," by J. S. Bolton, give some new ideas concerning Broca's localization of aphasia.

Martin Flack contributes the article on the heart, Thomas Lewis on the pulse and the events of the human cardiac cycle, and M. Greenwood on visual adaptation and color vision. Each of the authors, except Moore, has appended a bibliography to his article.

Manual of Chemistry. By W. Simon, Ph.D., M.D., Professor of Chemistry in the College of Physicians and Surgeons of Baltimore, and Daniel Base, Ph.D., Professor of Chemistry in the Maryland College of Pharmacy. Ninth Edition. Cloth. Pp. 714, with 87 illustrations, 9 colored. Price, $3 net. Philadelphia: Lea and Febiger, 1909.

The ninth edition of this well-known manual preserves the plan and characteristics that have won for it the approval of teachers of chemistry. The most important changes are found in the considerations of physics and of theoretical chemistry and in the department of organic chemistry. The colored plates illustrating the various color reactions form a prominent and useful feature of this text-book.

Minor and Operative Surgery Including Bandages. By Henry R. Wharton, M.D., Surgeon to the Presbyterian Hospital. Seventh Edition. Cloth. Pp. 657, with 555 illustrations. Price, $3.00. New York and Philadelphia: Lea & Febiger, 1909.

This very practical handbook has been brought well up to date in the present edition. Those who want a compact manual on the subject will find Wharton's book most satisfactory.

The Sexual Disabilities of Man. By Arthur Cooper, Consulting Surgeon to the Westminster General Dispensary. Cloth. Pp. 184. Price, $1 net. New York: Paul B. Hoeber, 1909.

The subject is discussed under the two general heads, sterility and impotency. The chapter on sterility accurately describes the various pathologic changes producing this condition. The same may be said of the chapter on microscopy of semen, which is especially good in the description of the changes occurring in the spermatozoa themselves. Treatment is well considered, but a fuller description of vasoepididymostomy might have been given. The chapter on impotency begins with a short lucid description of sexual physiology, followed by the pathology, etiology and treatment. The advice has been given frequently to neurotic patients to take a long sea voyage. Dr. Cooper, very judiciously, we think, warns against such a course unless the patient be provided with proper companionship and supervision. Such patients tend to isolate themselves from society; they should be encouraged to mingle with others, thus getting their thoughts away from themselves. The book is scientific and happily free from all obscure and salacious references so common among writers on these subjects.

The Practical Medicine Series. Under the General Editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School. Vol. VI., General Medicine, Edited by F. Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, M.D., Professor of Medicine, Illinois Postgraduate Medical School. Cloth. Pp. 345, with illustrations. Price, $1.50; or $10 the series of 10 volumes. Chicago: The Year-Book Publishers, 1909.

This volume deals with the general infections not treated in Volume I and with the diseases of the abdominal organs. The selection of material covers a wide range of medical literature. The abstracts are so arranged as to afford a systematic view of each subject. Much attention is given to the results of physiologic investigation. Comparatively little of the individual experience of the editors appears in this volume except as incorporated in the general remarks. Occasional errors have crept into the work. We note that the figure illustrating acute dilatation of the stomach is credited by a typographical error to Broadhurst instead of Borchardt. The book contains a good account of the year's advance.

A Text-Book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and Their Employment on a Rational Basis. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Thirteenth Edition. Cloth. Pp. 866, with 122 engravings and 4 colored plates. Price, $4.00. Philadelphia: Lea and Febiger, 1909.

This well-known text-book has been again revised to meet the needs of the practitioner, especially by incorporating information with regard to some of the newer remedies and some of the newer methods of therapy. The local use of magnesium sulphate for relief of pain and inflammation, the Lenhartz method of treating gastric ulcer and Murphy's treatment of peritonitis are examples of these newer methods. A number of illustrative prescriptions have been added. These modifications serve to keep the book well abreast of therapeutic progress.

Practical Gynecology. A. Manual for Nurses and Students. By Netta Stewart, Sister in the Gynecologic Wards of the Royal Infirmary, Edinburgh, and James Young, M.B., F.R.C.S.E., Clinical Tutor in Surgery and Late Resident Gynecologist, Royal Infirmary, Edinburgh. Cloth. Pp. 327, with illustrations and plates. Price, $2.00, net. New York: William Wood & Co., 1909.

This volume (a second and enlarged edition) is prepared primarily for the use of nurses and medical students and describes the technic of examination and minor manipulations, such as irrigation, introduction of catheter and the preparation of the patient for operation. The book is well suited to its purpose and is abundantly illustrated.

Text-Book of Anatomy and Physiology for Nurses. Compiled by Diana Clifford Kimber, Graduate of Bellevue Training School. Third Edition, Revised by Carolyn E. Gray, R. N., Assistant Superintendent, New York City Training School for Nurses. Cloth. Pp. 421, with illustrations. Price, $2.50. New York: The Macmillan Co., 1909.

This is one of the most practical text-books of the kind on the market. All superfluous matter is eliminated and merely the essential facts stated. The illustrations are good. Particularly valuable is the glossary at the end of the book, which not only defines a word, but gives the derivation as well.

Medicolegal

Admissibility of Testimony as to Result of Investigations Conducted by Several Persons

The Court of Appeals of Maryland says, in the case of Buck vs. Brady (73 Atl. R. 277), that a few days after a dog was killed its head was taken to the Pasteur Institute, in Baltimore, where certain tests were made to discover if the dog had been afflicted with rabies or not. Two physicians from the institute testified that from their investigation of the head, the animal had hydrophobia at the time it was killed. A motion was made to strike out that testimony on the ground that all the work of making the experiments at the institute was not done by one person, but that different parts of the process of investigation were performed by different members of the staff employed there, and that, therefore, the witnesses' opinions were based on hearsay. But the investigation appeared to have been scientifically and carefully made according to the established system in vogue at the institute. All the physicians who took part in the experiments testified as to the parts performed by them, respectively, thus making a complete chain of investigation, and the entries in the record books and on a card label were admitted in evidence in connection with the testimony of the witnesses. Under such circumstances the court thinks the testimony on the result of the experiments was admissible.

Admissibility of Evidence of Declarations of Pain—Admissibility of Evidence of Physician Employed to Examine So as to Testify

The Supreme Court of Mississippi says, in Mississippi Central Railway Co. vs. Turnage (49 So. R. 840), a personal injury case brought by the latter party, that declarations of present pain and suffering, no matter to whom made, are admissible as original evidence in all inquiries where pain and suffering constitute the question involved. Of course, there may be exceptional instances wherein such declarations would be rejected, such as, for instance, where one had been employed to make an examination of an injured party for the express purpose of making a witness of the person making the examination; but the general rule is as above stated. Declarations made by an injured party, narrating the cause of the injury, or narrating past pain and suffering, do not come within the rule, and, being hearsay, cannot be testified to by the party to whom made, to be used either as an original evidence or to bolster up the testimony of the injured party.

The admissibility in evidence of declarations and expressions of present pain and suffering is not dependent on whether or not they constitute a part of the res gestae (immediate circumstances of the case). Nor does time play any part in determining whether or not they are admissible, so long as the declarations and exclamations are confined to existent pain and suffering. Whether this character of evidence be classed as an exception to hearsay or as independent and original evidence, its admissibility is beyond question.

Of course, even though a physician may be employed for the express purpose of examining a person who has been negligently injured, in order that he may testify, such fact does not disqualify the physician from testifying as to the injury and extent of it gathered from the examination alone; but this fact may be considered by the jury as affecting the value of the testimony. The disqualification in such case extends only to the statements made by the injured party to the physician of pain and suffering.

President of Board of Health Not Personally Liable for Quarantine

The Supreme Court of Iowa says that the case of Kirby vs. Harker (121 N. W. R. 1071) was brought to recover damages for the restraint of the plaintiff, in being quarantined for smallpox. The defendant was at the time, as mayor, president of the local board of health. A rumor having reached him that the plaintiff was sick, he went to see him; then sent the health physician, and, on his reporting that it was a case of smallpox, notified a physician who was a member of the state board of health. The latter, while making his examination, told the plaintiff that he diagnosed his case as smallpox, and, in answer to an inquiry as to what was to be done, suggested that he remain in his drugstore with the doors locked until evening, and then go to his home and submit to quarantine. This the plaintiff agreed to do, which the physician reported to the defendant, who called a meeting of the local board of health. In the report to the board it was erroneously stated that the plaintiff had already been quarantined by the defendant, and a resolution was passed approving the quarantine so reported, and that the chairman of the board should quarantine all directly exposed persons.

The court holds that a verdict was properly directed for the defendant. While the record of the board of health recited, as stated, that the plaintiff had already been quarantined, it was shown that there was no restraint until after the board of health had officially directed the quarantine of all suspects, and notice thereof had been served on the plaintiff. If he remained secluded from his neighbors before service of the notice, it was because of his agreement with the member of the state board and was purely voluntary, and hence no liability could be predicated thereon.

In the light of the record before the court it must be held that when the quarantine was finally established and the plaintiff's liberty restrained, it was in pursuance of the formal direction of the board of health, and not on the individual authority of the defendant. Such being the case, the question of a written notice was wholly immaterial. It is evident from section 2568 of the Iowa Code that written notice is only necessary when the mayor acts without authority from the local board of health, and that it is not necessary to confer jurisdiction on such board. That the board of health had the power to act, and that its action was legal, could not be seriously questioned. And if the defendant did no more than to see that the requirements of the health board were carried out, he was not individually liable.

Furthermore, if the defendant was confined to his own home with his wife and other members of his family, it was proper to keep the other members of the family secluded from the public under the resolution of the board of health.

Expert Opinions as to Nature and Manner of Injuries—Insanity and Suicide

The Supreme Court of Iowa says, in the case of Van Norman vs. Modern Brotherhood of America (121 N. W. R. 1080), that expert opinion as to the nature and results of a physical injury is and always must be of great value where a determination of these facts become material. But when the expert undertakes to describe the manner in which the injury was or must have been inflicted, his opinion borders on the realm of guesswork, and is little if any better than the opinion of the expert of average experience and judgment. For instance, if an expert testifies that because a bullet enters a person's temple, penetrating the skull, instead of glancing therefrom, the gun must therefore have been at right angles to the temple, the jury is justified in taking such testimony with a great degree of allowance, and bringing to bear on the problem their own common sense, knowledge, observation and experience. In the very nature of things the particular manner and method by which an injury has been inflicted cannot ordinarily be the subject of expert testimony.

In the absence of direct proof as to the manner of death, if the circumstances leave any room for doubt on the question, the law presumes that death is accidental or from natural causes, and not suicide. There is a general presumption against the theory of self-destruction. But it is not correct to say that if a person had any ailment affecting his mind, "however slightly," or was suffering from mental unsoundness in any degree, the presumption against suicide does not obtain. There are many varieties, phases, or degrees of mental unsoundness. It is not, the court believes, an established or admitted fact that persons in all phases or degrees of mental unsoundness have a tendency to suicide. Such persons are, of course, to a greater or less degree moved to acts and conduct of an abnormal or unnatural character rendering their peculiar condition a material and proper fact for the jury on the question of suicide, but to say that in every instance the ordinary presumption shall be given no weight is a rule which this court is unwilling to sanction.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

October 30

1 *Relief of Urinary and Genital Conditions Through Surgery of the Seminal Vesicles. E. Fuller, New York.
2 Clinical Varieties of Periodic Drinking. P. Bailey, New York.
3 *Is Lobar Pneumonia Inflammation of the Lungs? T. G. McConkey, San Francisco.
4 Defective Speech in Backward and Feeble-Minded Children. B. C. Downing, Lexington, Mass.
5 Preparation of Romanowsky Stains. R. W. King, Las Animas, Colo.

1. **Relief of Urinary and Genital Conditions.**—Fuller finds that many cases of urinary and genital disease may be cured by treatment of the seminal vesiculitis that exists. For this purpose he employs stripping of the seminal vesicles through the walls of the rectum, by the finger. He places the patient in the knee-elbow position, with the knees well spread out, when surgical interference is necessary, and makes incisions along the ischia, connected by a transverse incision. The vesicles are opened, cleaned out, and drainage used until healing has occurred. The patient is under treatment for about three weeks, two of them in bed. No tissues are removed, simply drainage applied, and there is no danger to the sexual functions; they are rather preserved than injured by the procedure. Fuller has done this operation 126 times without a death. In all but 10 cases the cure was complete.

3. **Lobar Pneumonia Inflammation of Lungs.**—McConkey believes that pneumonia is not an inflammation of the lungs, but a manifestation of a general infection due to the pneumococcus. It is a bacteriemia, and the localization in the lungs is not the primary trouble, and is not a process of inflammation, but a secondary process in sequence and in importance.

Boston Medical and Surgical Journal

October 28

6 The Fruits of Medical Research with the Aid of Anesthesia and Asepticism. C. W. Eliot, Cambridge, Mass.
7 *Acute Gonorrheal Epididymitis Treated by the Method of Bier. J. D. Barney, Boston.
8 The Opsonic Treatment of Pyorrhea Alveolaris. T. C. Beebe, Boston.
9 Eponymic Expressions in Medical Literature. F. H. Garrison, Washington, D. C.
10 *Epidemic of Catarrhal Jaundice. F. E. Leslie, Andover, Maine.
11 *Relaxed Knees in Children. M. H. Rogers, Boston.
12 Use of the Term "Flat-Foot": Diagnostic Classification of the Ordinary Disabilities of the Adult Foot. H. O. Feiss, Cleveland, Ohio.

7. **Acute Gonorrheal Epididymitis.**—For the ambulatory treatment of gonorrheal epididymitis, Barney considers the method of Bier the most valuable at our command. There are occasional failures, as with everything else, but its ease of application, simplicity and the excellent results should recommend highly its wider use.

10. **Epidemic of Catarrhal Jaundice.**—While he has always regarded catarrhal jaundice as sporadic or secondary to some other diseased condition of the hepatic or digestive systems, Leslie now regards it as an infection probably through the breath, or other excretions. He saw 135 cases in six months.

11. **Relaxed Knees in Children.**—This condition, according to Rogers, is most frequently seen in children between the ages of 3 and 5 years who are often fairly large for their age, and are well developed, and very well nourished, except that their muscles may not be very firm, and they may have a good deal of fat tissue. Occasionally, children with relaxed joints are thin and poorly nourished and underdeveloped. Children who have deformities due to rachitis often develop a similar condition of joint strain, but the large number of these cases show no evidence of rachitis, and it is not an etiologic factor. The majority of cases are from families of good circumstances rather than in the foreign element, largely perhaps, because more attention is paid to symptoms which are not severe, and advice is sought because the child tires easily and is restless at night. On physical examination the child is found well nourished and a little above the average weight, but its musculature is not firm. The standing attitude is characteristic in a well-marked case. The condition of the knees is the most prominent feature. When the child stands at rest there is a slight knock-knee and one or both knees are in a hyperextended position. One knee may be held in a normal position, but when the weight of the body is shifted, that knee-joint will spring backward. The position of the feet is more pronated than normal, and the scaphoid is prominent and low. In most of the cases, especially in a well-marked case, there is a good deal of lordosis of the lumbar spine and a prominent abdomen, and the shoulders are generally rounded and the head is held forward. The spinal muscles are prominent and sometimes held in spasm. There is appreciable laxity of the knee-joint and in all cases it is possible to obtain lateral motion.

If careful attention is paid to increasing the rest periods of the child, so that at night the whole body is not fatigued, the acute symptoms, such as pain and the restlessness during sleep, are usually alleviated. The diet should be carefully regulated and general hygienic treatment should be undertaken in order to strengthen the muscles and to put the child into better physical condition. It is not necessary to use any retentive apparatus for the knees unless the knock-knee is pronounced, because such apparatus tends to prevent the strengthening of the muscles. But occasionally it is necessary to apply simple knock-knee braces, to be worn part of the time. The pronation of the feet is best treated by raising the inside edge of the heel from 3/16 to 1/4 inch, and if the foot is not thus held in good position, a light plate or felt pad on an inner sole may be used. If possible, it is better to depend entirely on shoeing, so as not to interfere with the development of the muscles of the foot. It is more difficult to prevent the hyperextension of the knees. Most of the children wear spring-heeled shoes, and by putting on heels from ½ to 1 inch in height, the child is tipped forward and is compelled to stand with the knees slightly flexed, and this makes it more difficult to hyperextend the knees. The knee should be stretched by daily manipulation, grasping just above and below the joint, and bending the knee outward, while it is extended, several times morning and night, up to the point of causing pain to the child. It is not possible to correct the knock-knee, nor to make the joint firm in a short time, but it is possible to prevent more deformity, and gradually the joints will regain their tone, especially if the general condition of the child is improved.

New York Medical Journal

October 30

13 *Gastric Ulcer in the Young. A. Jacobi, New York.
14 *Etiology and Symptomatology of Peptic Ulcers. C. G. Stockton, Buffalo.
15 *Clinical and Pathologic Significance of Bacteriemia in Suppurative Otitis. A. B. Duel and J. Wright, New York.
16 Combined Direct and Indirect Teaching Cystoscope. R. Guiteras, New York.
17 *Intravenous Injections of Mercury. W. F. Bernart, Chicago.
18 Diagnosis of Renal Tuberculosis. A. P. Condon, Omaha.
19 New Treatment of Locomotor Ataxia. A. Heym, Chicago.
20 Observations and Statistics on 60,000 Labors, Occurring in the New York Lying-in Hospital. J. W. Markoe, New York.
21 Herpes Zoster Ophthalmicus Involving the First Division of the Left Fifth Nerve. C. A. Oliver, Philadelphia.
22 Pathologic Questions Concerning the Mutilations Represented on the Anthropomorphous Huacos Pottery of Old Peru. A. S. Ashmead, Canadensis, Pa.

13. **Gastric Ulcer in the Young.**—Jacobi says that the anatomy of gastric ulcer and the principles of its treatment are in the main essentially the same in all periods of life.

14. **Etiology of Peptic Ulcer.**—Stockton regards as the most interesting and probably the most important recent contribution that of Wienland, who maintains that there is formed in the gastric mucosa an antibody, an antipepsin, which opposes the digestive action of the acid gastric juice. Wienland holds that, for some unknown reason, there occurs, in certain areas of the gastric mucosa, a deficiency of these antibodies and that the stomach, thus unprotected, is readily injured by the corroding effect of the gastric secretion.

15. **Bacteriemia in Suppurative Otitis.**—Duel and Wright made cultures from 57 patients, 55 ear cases, and 2 frontal sinus cases. In some of the positive cases, one or two repeated cultures were made to confirm the first. Owing to the difficulty in making them, cultures in infants and small children were not attempted. At first only patients just operated on, or about to be operated on, for mastoiditis were examined. In 42 of these this technic was adopted:

Ten c.c. of blood drawn from the median vein was transferred to an Erlenmeyer flask containing 150 c.c. of broth (either plain broth or 1 per cent. dextrose) and was then incubated for thirty-six hours at 37 C. It was then thoroughly shaken, its neck well flamed off, and 15 c.c. of the contents poured out into a previously sterilized centrifuge tube. This tube full of blood broth was then immediately centrifuged for fifteen or twenty minutes, the supernatant liquid poured off, and agar slants inoculated from the sediment. In these 42 cases, 15 positive cases of bacteriemia were demonstrated. In a second series of 15 cases the blood was mixed with an ammonium oxalate solution to prevent coagulation, and immediately plated. By this method one positive case was demonstrated.

17. **Intravenous Injections of Mercury.**—The 9,838 injections included in Bernart's report were given in 422 cases. Only 22 patients completed a full term treatment, namely about eight courses given during a period of about two years, the intervals between these periods being devoted to some other form of treatment; 22 patients averaged 108 intravenous injections each; 86 of the patients received two or more courses, averaging 32 injections for each individual; 314 patients received only one course, the average being 15 injections for each patient. The mercuric chlorid was injected 9,446 times, the cyanid of mercury 327 times, the biniodid of mercury 33 times, and mercury ethylenediaminesulphate (sublamine) 32 times. Of the mercuric chlorid the average dose was 0.02 gram (4/15 grain), the minimum single dose of this salt was 0.0032 gram (1/20 grain) and the maximum was 0.0455 gram (7/10 grain). The average dose of the cyanid of mercury was 0.01 gram (1/6 grain), of the biniodid of mercury 0.013 gram (1/5 grain) and of the sublamine 0.016 gram (1/4 grain).

A simple phlebitis followed after 208 of the injections. An obliterating endophlebitis occurred after 48 of the injections. marked renal irritation occurred in only 3 of the 422 cases and was undoubtedly due to the preparation of mercury used, namely, the cyanid, which has a reputation of being a renal irritant. Among the 422 cases, well-marked bloody diarrhea occurred in 7 patients and lasted from two to twenty-four hours. The smallest amount which ever produced a severe bloody diarrhea was 0.0097 gram (3/20 grain) of the mercuric chlorid given during twenty hours. A marked intestinal tenesmus with or without a simple diarrhea occurred after less than 1 per cent. of the injections and exclusive of the inconvenience produced at the time was a matter of no moment. It is a noteworthy fact that all the patients having severe simple or bloody diarrhea of sudden onset were under the influence of some saline cathartic taken either shortly before or after the injection was given. Although unable to draw any positive conclusions as to the exact curative value of the intravenous medication, it can, however, be emphatically stated, says Bernart, that a single course of such injections carries more effective and therapeutic value than can be obtained in the same time from any other method of medication. When active syphilis is the factor to be considered quick and favorable results are produced.

19. **Tabes Dorsalis.**—Heym is of the opinion that the destruction of the nerve tissue is not due alone to the toxins circulating in the blood, but to the toxins contained in all the other fluids of the system. Therefore, the toxins in the lymph and in the cerebrospinal fluid are also concerned in this destructive action. The cerebrospinal fluid appears to be the active and destructive element in tabes in consequence of its toxic condition, as it seems to be very probable that this fluid, perhaps on account of its slow circulation, is the more saturated with toxins than the blood or the lymph. Heym believes that the theory of the destructive influence of the cerebrospinal fluid on the different nervous elements explains in a surprisingly easy manner the pathologic changes of tabes. If the toxins of the liquor cerebrospinalis are the destructive agents in tabes, it is a problem of the therapy to try to destroy or neutralize these toxins where they are most abundant. The most simple way to produce a result of this kind is to inject into the subarachnoidal space a substance that has the effect of eliminating or neutralizing, perhaps, the toxins without irritating the brain and the spinal cord.

Among the substances which favor the destruction of toxins without having an injurious effect on the nervous system cacodyl preparations seem to be the best ones, but Heym's experiments are not yet completed and he deems it not improbable that a remedy still more specific will be found. He has used exclusively sodium cacodylate put up in sterilized vials, each vial containing 0.05 arsenic in 1 c.c. To avoid all disagreeable effects, he never drains off any cerebrospinal fluid. He has always performed the injection by putting the patient on the side; after the injection the patient must retain the recumbent position from one to two hours. Heym injects 1 c.c. every second or third day.

Nineteen patients have been treated in this manner, twelve cases of tabes and seven cases of mental paralysis. None of the patients showed after the injection any of the symptoms commonly found after lumbar puncture. On the contrary, the condition of the patients after the injections was always very good. The beneficial effect of the injection appeared promptly after the third or fourth injection in every case with one exception. The pains originating from the roots were greatly reduced and finally disappeared almost entirely.

Lancet-Clinic, Cincinnati

October 23

23 Local Versus General Anesthesia. B. M. Ricketts, Cincinnati.
24 Diagnosis in Suspected Joint Disease. C. E. Caldwell, Cincinnati.

Virginia Medical Semi-Monthly, Richmond

October 22

25 Influence of Factory Inspectors on Public Health. H. B. Wood, Philadelphia.
26 Mercury—Physiology and Therapy. Is It a Specific in Germ, Toxic and Degenerative Diseases? H. E. Jones, Roanoke.
27 Examination and Diagnosis of Diseases of the Anus and Rectum. E. H. Terrell, Richmond.
28 Pellagra—Clinical Study and Report of Fourteen Cases. W. F. Drewry, Petersburg.
29 Relation of the Medical Profession to the State Board of Health. H. S. MacLean, Richmond.

Northwestern Lancet, Minneapolis

October 15

30 *Pulmonary Tuberculosis Among Scandinavians. G. D. Head, Minneapolis.
31 Surgical Tuberculosis—Tuberculin—Report of Cases. A. E. Benjamin, Minneapolis.
32 Surgical Treatment of Roots of Loosening Teeth. T. B. Hartzell, Minneapolis.
33 Physician's Investments: City Bank Stocks. F. A. Chamberlain, Minneapolis.
34 Case of Spina Bifida. W. H. Aurand, Minneapolis.

30. **Pulmonary Tuberculosis Among Scandinavians.**—From a study of the death records of pulmonary tuberculosis among the Scandinavians in the state of Minnesota and its chief city, and the comparison of the same with those of the registration area of the United States, Head concludes that:

1. Pulmonary tuberculosis shows a higher mortality among the Scandinavians than in any other race of our foreign population except the Irish.
2. This mortality is lower in Minnesota than in the registration area in the United States.
3. The death-rate among the foreign-born Scandinavians is higher than among the native-born Scandinavians.
4. The death-rate among the native-born Scandinavians is about twice that of the native-born of native mothers.
5. The reason why Minnesota and its chief city, with a large Scandinavian population, have such a low death-rate from pulmonary tuberculosis, is, in part at least, because of the low death-rate among the native-born of native parentage.

New York State Journal of Medicine, New York

October

35 Value to the Family Physician of a Knowledge of Orthopedic Surgery. W. R. Townsend, New York.
36 The Romantic Movement in Medicine. P. Scott, Brooklyn.
37 The War of the Cities Against Tuberculosis. C. F. Burrows, Syracuse.
38 Microcephalus with Encephalocele. C. C. Zacharie, White Plains.
39 Perforating Gastric Ulcer. C. L. Gibson, New York.
40 Some Advantages of a Small Hospital. W. E. Ford, Utica.
41 Treatment of Syphilis. J. M. Winfield, Brooklyn.
42 Diseases and Conditions which May be Mistaken for Appendicitis. W. C. Wood, Gloversville.
43 The Cry of the Unborn. I. D. Steinhardt, New York.
44 Tuberculin Diagnosis of Bone and Joint Tuberculosis. E. F. Sibley, Kingston.
45 Results in One Hundred and Eighty-two Operations for Inguinal and Femoral Hernia: Necessity for Resection of the Cremaster Muscle when Hypertrophied. J. M. Bachelor, New York.
46 Leukemia—Comment on Report by Dr. Henry G. Webster. A. L. Benedict, Buffalo.

Long Island Medical Journal, Brooklyn

October

47 The Relation of Diseases of the Upper Air Passages to Asthma, Cough and Disorders of Digestion. T. R. French, Brooklyn.
48 Relation of Ophthalmology to General Medicine. J. B. Thomas, Brooklyn.
49 Remote Results of Conservative Surgery on the Ovaries. J. O. Polak, Brooklyn.
50 *Deep Injections of Alcohol in Tic Douloureux. C. W. Stickle, Brooklyn.

50. **Deep Injections of Alcohol in Tic Douloureux.**—Stickle has made injections into Meckel's ganglion through the naris and through the sphenopalatine foramen for the relief of a "tic" affecting the pharyngeal and palatine branches of the superior maxillary branch with beneficial results. This method was first employed by William Browning, who suggested reaching the ganglion through the naris for the relief of pharyngeal and tonsillar neuralgia. The method used was puncture through the sphenopalatine foramen, after cocainizing with bent needle and afterward carrying trichloracetic acid on an applicator through the opening so made. This was followed by distinctly favorable results in two cases. In neither case was there any postoperative involvement of the facial nerve. In the first injection made by Stickle a 0.05 aqueous solution of cocain was used, with complete cessation of all pain for at least four months, when the patient was lost to observation. He afterward used a 10 per cent. solution of chloroform, containing ½ grain of cocain to the ounce, with apparently the same result. This patient had a relapse after two injections into or near the foramen rotundum, within three months. He then used a 50 per cent. solution of alcohol in water with the addition of ½ grain of cocain to the ounce. Relief had been complete after observation for seven months. The amount of fluid injected in these two cases amounted to about 1 c.c.

Yale Medical Journal, New Haven, Conn.

October

51 The Medical School as Part of the University. W. H. Howell, Baltimore.
52 Cystoscopy: Its Technic and Diagnostic Uses. P. D. Littlejohn, New Haven.
53 *Bacterial Vaccines in the Treatment of Disease. C. J. Bartlett, New Haven.
54 *Venesection and Dermatology. T. M. Bull, Naugatuck, Conn.
55 *Localization of Lesions of the Genitourinary Tract. F. H. Coops, Bridgeport, Conn.

53, 54, 55. Abstracted in The Journal, June 26, 1909, pp. 2124, 2125.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

October

56 Experimental Criticism of Recent Results in Testing Adrenalin. W. H. Shultz, Washington, D. C.
57 *Relation Between the Toxicity and Chemical Constitution of a Number of Derivatives of Choline and Analogous Compounds. R. Hunt and R. de M. Taveau, Washington, D. C.
58 *Action of Adrenalin on the Pulmonary Vessels. C. J. Wiggers, Ann Arbor, Mich.
59 *Crystalline Strophanthin. H. C. Bailey, Ithaca, N. Y.
60 *Life-Saving Action of Physostigmin in Poisoning by Magnesium Salts. D. R. Joseph and S. J. Meltzer, New York.

57. **Toxicity and Chemical Constitution of Choline.**—In each of 12 groups of homologous compounds, Hunt and Taveau found that the compound containing a tri-methyl group was less toxic than that containing a tri-ethyl, a tri-propyl, or a tri-amyl group. In 8 of the 12 groups, the tri-amyl, in 3 the tri-propyl, and in 1 the tri-ethyl was the most toxic. Compounds containing 2 methyl and 1 amyl group had a toxicity greater than that of the tri-methyl but less than that of the tri-amyl compounds. Compounds containing the oxy-ethyl group were less toxic than those containing a shorter or a longer side-chain with 1 hydroxyl group (except in the case of the tri-ethyl compounds). In all cases, compounds containing 2 hydroxyl groups in the side-chain were less toxic than those containing but 1 hydroxyl. This was true also of compounds containing 2 acetyl but not of those containing 2 benzoyl groups. The acetyl group increased the toxicity of all the compounds containing tri-methyl and tri-ethyl groups; with the tri-propyl and tri-amyl groups the effect varied in different compounds. The benzoyl group increased the toxicity of the compounds containing tri-propyl and tri-amyl groups. The effect varied in the case of the tri-methyl and tri-ethyl compounds. A chlorin atom in the side-chain diminished the toxicity of the acetyl derivatives of the tri-methyl and tri-ethyl compounds; the increased toxicity caused by the introduction of an acetyl group may thus, to a certain extent, be overcome by the introduction of a chlorin atom. A chlorin atom in the side-chain increased the toxicity of the benzoyl derivatives of the tri-methyl and tri-ethyl compounds. The normal oxypropyl compound and its derivatives were invariably more toxic than the oxy-iso compounds.

58. **Action of Adrenalin on the Pulmonary Vessels.**—The effect of adrenalin on the pulmonary vessels was studied by Wiggers by three methods: (1) By recording changes in pulmonary arterial and venous pressures; (2) by estimating changes in the amount of fluid perfused through the lungs; (3) by recording the contraction of a ring of pulmonary artery. He found that because the simultaneous influence of adrenalin on the heart cannot be eliminated, it is not possible to determine by pressure measurements in the pulmonary circuit whether or not adrenalin actively affects the pulmonary vessels. Adrenalin dissolved in a solution of the same viscosity as that with which the organ is perfused causes a constriction of the pulmonary vessels. If the adrenalin is dissolved in a solution of less viscosity than the perfusion liquid, the viscosity change is sufficient to counterbalance, or even overbalance the adrenalin action unless the doses used are very large. The increased outflow and fall in perfusion pressure does not indicate an active dilation but a viscosity change.

59. **Crystalline Strophanthin.**—Bailey advises that the daily dose should not exceed one-half milligram of the crystalline strophanthin, as a rule, and under no circumstances should this dose be repeated in twenty-four hours, except after careful study of the effects on the circulation. Crystalline strophanthin may be given intramuscularly or intravenously. It should be dissolved in normal saline solution in the proportion of 1 to 4,000 for intramuscular injections and from 1 to 6,000 to 1 to 8,000 for intravenous use. It is a valuable cardiac stimulant when compensation is broken in chronic interstitial myocarditis or in any form of chronic valvular disease, but it should be used in this way only in emergencies. It is not suited for continuous use, and when continued stimulation is desired he states that digitalis should be employed.

60. **Physostigmin in Poisoning by Magnesium Sulphate.**—A careful research has convinced Joseph and Meltzer that physostigmin is capable of efficiently antagonizing some of the toxic actions of magnesium salts. It may directly serve as a life-saving agent against fatal poisoning by magnesium salts, if the dose of the latter employed be not too large. Physostigmin overcomes the toxic effects of magnesium essentially by the aid it renders to the depressed function of respiration. This aid is of three-fold origin. It stimulates the respiratory center; it antagonizes the "curare-like" action of the magnesium-ion on the nerve endings of the pneumogastric nerves within the lungs. Physostigmin antagonizes also the magnesium action on the peripheral nerve endings and probably also the action on muscle tissue. The extent of this antagonism, however, seems to be not very significant.

Chicago Medical Recorder

October

61 Contemporary Workmen's Compensation for Industrial Injuries. W. H. Allport, Chicago.
62 Placenta Prævia. F. Werner, Chicago.
63 *Method of Performing Abdomino-Perineal Excision for Carcinoma of the Rectum and of the Terminal Portion of the Pelvic Colon. W. E. Miles, Brompton, England.
64 Poliomyelitis. G. C. Shockey, Chicago.
65 Perirectal Abscess. C. J. Drueck, Chicago.

63. Published in *The Lancet*, Dec. 19, 1908.

Journal Michigan State Medical Society, Detroit

October

66 *The Physician: His Duties and Relations to the Profession and to the Public. A. I. Lawbaugh, Calumet.
67 The Nature and Treatment of Gunshot Wounds. F. B. Walker, Detroit.
68 The Frontal Sinus. A. J. Abbott, Albion.
69 *Facts on Blood-Pressure. C. B. Fulkerson, Kalamazoo.
70 Prostatectomy. J. J. Reycraft, Petoskey.
71 Puerperal Eclampsia. J. O. Groos, Escauaba.

66. Abstracted in The Journal, Sept. 25, 1909, p. 1047.

69. **Blood-Pressure and Shock.**—Some men have shown the uselessness of strychnia and digitalis, because the vasomotor center will not respond to any stimulation centrally or peripherally. Fulkerson says that saline transfusions come nearer to solving the difficulty, but frequently prove futile, while adrenalin, intravenously in dosage of 1:50,000 or 1:100,000, with addition of atropin, seems to net the greater majority of successes.

United States Naval Bulletin, Washington, D. C.

October

72 The Hospital Camp at Norfolk, Va. P. A. Lovering, U. S. Navy.
73 *Teaching of Tropical Medicine Outside of the Tropics. E. R. Stitt, U. S. Navy.
74 Ethyl Chlorid as a General Anesthetic. L. W. Johnson, U. S. Navy.
75 Chronic Nephritis in Recruits. B. F. Jenness, U. S. Navy.
76 The Investigation of Samoan Conjunctivitis. P. S. Rossiter, U. S. Navy.
77 Points on Embalming Practicable on Board Ship. C. Schaffer, U. S. Navy.

73. Abstracted in department of Society Proceedings, in The Journal, May 8, 1909; published also in the *New York Medical Journal*, July 24, 1909.

Journal Missouri State Medical Association, St. Louis

October

78 *Fractures. A. J. Campbell, Sedalia.
79 *Anesthesia. W. E. Leighton, St. Louis.
80 *Late Effects of Chloroform. W. W. Stevens, Kansas City.
81 *Action of Scopolamin-Morphin on the Heart, Liver and Kidneys. C. M. Nicholson, St. Louis.
82 Ocular Diseases Due to Systemic Influences. W. H. Minton, St. Joseph.
83 Medical Jurisprudence. W. R. Littell, Tarkio.
84 *Physiology of Shock. M. G. Seelig and E. P. Lyon, St. Louis.
85 Empyema. J. W. Holliday, Tarkio.
86 Astasia-Abasia. J. D. Brummall, Salisbury.
87 Dry Gangrene. G. W. Whiteley, Albany, Mo.

78. **Fractures.**—Speaking of operation on ununited fractures, Campbell says that the refreshening of the ends of the fragments is a necessary step in the technic. But, he says, there is yet reasonable doubt regarding the advisability of this operation, except in special cases. The difficulty in securing and maintaining proper adjustment of the fragments because of the lack of command of the inner portion, its porous character and low vitality, present obstacles to success that cannot be denied. The degree of shortening that follows successful results suggests an initial failure of reduction of the deformity or the maintenance in proper place, and bespeaks, in any event, a considerable amount of absorption at the seat of the fracture. A more extended experience is needed and a careful comparison of the favorable results by different methods of treatment is required before a final judgment can be rendered. In fact, the treatment of the fractures of the neck of the femur is gradually undergoing a change which may prove to be a very radical one.

79. **Anesthesia.**—Leighton discusses the subject of general anesthesia, with special reference to a consideration of the responsibility of the anesthetist to the patient, to the surgeon, and to the law. He says that in view of the fact that to administer an anesthetic with the minimum risk to the patient is all that a properly qualified and experienced man can attend to, and since the surgeon can only properly give attention to his share of the operation, it would seem reasonable that he should be absolved from any responsibility pertaining to the anesthetic, and the responsibility placed where it belongs, on the anesthetist.

80. **Late Effects of Chloroform.** Stevens considers only the late effect of chloroform on the liver and the resulting hepatic syndrome and pathology. There is marked similarity in the symptoms exhibited in all of the reported cases. The patient usually makes what is apparently a good recovery from the anesthetic, and seems to be doing well. Suddenly the marked cerebral symptoms appear; he becomes anxious, irrational, restless, with sudden and great fright, piercing cries, shrieks, grinding of the teeth, tossing and struggling, delirium followed by apathy, and then coma; irregular or dilated pupils, tremor; the sweet acetone odor is present in the breath; vomiting of "coffee-ground" vomitus; absence of fever until just before death, when it may reach 104 degrees F.; jaundice of varying degrees, flushed face, air hunger as shown by deep breathing and bright red mucous membranes, Cheyne-Stokes respiration, cold extremities, weak, rapid pulse, collapse and then death.

The autopsies done on patients dying with the above symptoms after chloroform, almost invariably show the same macroscopic and microscopic changes, which are: pale and faun-colored liver, fatty degeneration or infiltration of the liver, the various changes of nephritis in the kidney, fatty degeneration of the heart, and fatty degeneration of the muscles of the lower limbs. The most important of these are those found in the liver—fatty degeneration and necrosis of the liver cells; autolytic disintegration of the necrotic cells and fatty degeneration of the cells which are not necrotic. The capillaries and blood-vessels do not seem to be involved, there is no thrombosis, and no inflammation or proliferative action. This condition is essentially an hepatic toxemia and the other changes are secondary in importance to those in the liver.

81. The principal points in this article are given in a similar article by this author in The Journal, April 3, 1909, p. 1096.

84. **Shock.**—Seelig and Lyon try to show explicitly that the peripheral vessels are contracted, and implicitly that not all the vasomotor centers can be exhausted. The complexity of the vasomotor apparatus, with its multiplicity of centers, and the seemingly independent action of many of these centers, renders it impossible to frame a satisfactory theory based on their results. They claim, however, that if their work stands the test of confirmation, then the doctrine that shock is due to vasomotor exhaustion must be revised.

Bulletin of the American Academy of Medicine, Easton, Pa.

October

88 *Classification of Exceptional Children as a Guide in Determining Segregation. M. P. E. Groszmann, Plainfield, N. J.
89 *Necessity of Expert Medical Inspection of Public Schools. A. R. Baker, Cleveland, Ohio.
90 *The Leakage in Our Educational System. M. Bancroft, Haddonfield, N. J.
91 *Care of Exceptional Children by Children's Bureau of Philadelphia. J. P. Murphy and W. S. Cornell, Philadelphia.
92 *What Is Being Done for Backward and Mentally Deficient Children in the Public Schools of Philadelphia. L. A. Kirby, Philadelphia.
93 *What May Be Done for Exceptional Children by the Training of Speech and the Development of Language. G. Hudson-Makuen, Philadelphia.
94 *Value of the Nurse in the Public School. T. A. Woodruff, Chicago.
95 *Rational System of Medical Education Will Furnish Physicians Adequate for the Entire Field of Medical Practice. L. Connor, Detroit, Mich.

88, 89, 90, 91. Abstracted in The Journal, July 31, 1909, pp. 402, 403.

92, 93. Abstracted in The Journal, Aug. 7, 1909, p. 481.

94. Abstracted in The Journal, June 26, 1909, p. 2124.

95. Abstracted in The Journal, July 3, 1909, p. 70.

Therapeutic Gazette, Detroit

October

96 *Relation of Some of the Recent Advances in Cardiac Physiology and Pathology to Treatment. H. A. Hare, Philadelphia.
97 Treatment of Interstitial Keratitis. A. Brav, Philadelphia.
98 *Overdosage in Treatment of Tuberculosis. A. L. Benedict, Buffalo.
99 Methods Employed for Relief of Organic Stricture of the Urethra in the Genitourinary Surgical Department of the Jefferson Hospital (continued). O. Horwitz, Philadelphia.

96. **Cardiac Physiology and Pathology.**—Hare shows that cardiovascular stimulants are often given when vascular relaxants are really needed, and that more attention to the protection of the heart from unnecessary labor is advisable. If the physician will direct his treatment to the vessels, the heart will often be able to care for itself. Therefore, do not stimulate a heart to increased effort when the real object is to decrease its burden and to diminish the toxemia which is destroying its function.

98. **Overdosage in Treatment of Tuberculosis.**—With due allowance for light and drafts, Benedict says it is not obvious, *a priori*, why an enclosed veranda is necessarily superior to a well-ventilated bedroom. Again, unless it can be shown that the constant nasal (not buccal) breathing of cold air has some direct effect on the bacillus or indirect effect on the tissues or leucocytes, it seems questionable whether the artificial conservation of the bodily heat by clothing and rugs is

superior to an artificially warmed but pure atmosphere. It must also be questioned whether the almost total suppression of perspiration and dermal exhalation is advisable. The term overdosage is particularly applicable to the insistence on continuous outdoor or practically outdoor life, without regard to wind, rain, and excessive cold. Why exposure which a healthy individual would avoid should be necessary for the consumptive, Benedict finds it difficult to understand.

Southern California Practitioner, Los Angeles

October

100 Suggestions as to Diet in Tuberculous Patients. C. C. Browning, Monrovia.
101 Surgical Treatment of Gastric and Duodenal Ulcer. C. D. Lockwood, Pasadena.
102 Case of Renal Calculus: Operation; Pulmonary Embolism. R. T. Bullard, Los Angeles.
103 Internal Obstruction from Peritoneal Bands. C. Van Zwalenburg, Riverside, Cal.

Interstate Medical Journal, St. Louis

October

104 Clinical Study of the Blood. A. J. Whiting, London.
105 Psychiatry. S. I. Schwab, St. Louis.
106 *Presence of Tubercle Bacilli in the Circulating Blood in Tuberculosis. A. E. Taussig, St. Louis.
107 *Physiology of Shock. M. G. Seelig and E. P. Lyon, St. Louis.
108 Syphilis of the External Eye. C. A. Wood, Chicago.
109 *Perforative Appendicitis Complicating Pregnancy. E. A. Babler, St. Louis.

106. **Tubercle Bacilli on Circulating Blood in Tuberculosis.**—Taussig tried Rosenberger's method on a large number of tuberculous patients in the St. Louis City Hospital, but with uniformly negative results. From a series of patients with relatively advanced tuberculosis, spreads were made according to Rosenberger's method and, in addition, the entire sediment from 5 c.c. or more of the venous blood was injected subcutaneously into the groin of a guinea-pig. The bacilli could not be found in a single case, while the guinea-pigs showed at no time any evidence of infection, and, when killed from 72 to 90 days after inoculation, showed no evidence of tuberculosis. Taussig says that it is evidence that if the bacilli can be found microscopically in a spread, the inoculation of a guinea-pig with an amount of sediment many times as great as that used for microscopic preparation could not fail to produce tuberculosis.

107. See Abstract 84.

109. **Perforative Appendicitis Complicating Pregnancy.**—Babler reports 3 cases, in 2 of which operation proved successful. He also reviews briefly a previous paper on the same subject published in The Journal, Oct. 17, 1908, p. 1310.

Albany Medical Annals

October

110 Present Status of Blood-Vessel Surgery. E. MacD. Stanton, Schenectady, N. Y.
111 Percutaneous Tuberculin Reaction of Moro. E. Corning, Albany.
112 Treatment of Suppurative Conditions of the Accessory Nasal Sinuses. C. F. Theisen, Albany.
113 Mastoiditis. A. J. Bedell, Albany.
114 Sinusitis of the Accessory Nasal Sinuses. A. Holding, Albany.
115 Need of Visiting and Certified Nurses. J. M. Mosher, Albany.

Woman's Medical Journal, Cincinnati

October

116 Common Diseases of the Eye and Their Treatment. L. A. Lane, Minneapolis.
117 Notes from My Obstetric Practice. A. R. Mattheson, Brooklyn, N. Y.
118 Progress of Electricity and Its Value to Medicine. I. M. Wilson, Columbus, Ohio.
119 Forensic and Clinical Aspects of Transitory Frenzy. H. C. B. Alexander, Chicago.
120 *Elongated Umbilical Cord. E. Braunwarth, Muscatine, Iowa.

120. **Elongated Umbilical Cord.**—Braunwarth reports a case of greatly elongated umbilical cord in a male infant weighing 8½ pounds. The cord was 90 inches long, and was wrapped four times around the neck, once around each shoulder, crossed over the back like suspenders, once around each hip and below each knee. The child was released and did well.

Dominion Medical Monthly, Toronto

October

121 Pathology of General Paralysis. E. Jones, Toronto.
122 Laparotomy for Tuberculous Peritonitis and Suprapubic Prostatectomy Three and One-Half Years Later. F. W. Marlow, Toronto.
123 Primary Carcinoma of Neck. F. A. Clarkson, Toronto.

Archives of Pediatrics, New York

October

124 *Position and Work of the American Pediatric Society Toward Public Questions. T. M. Rotch, Boston.
125 Spasmodic Stricture of the Esophagus. L. E. La Fetra, New York.
126 *Gastric Capacity of Infants. H. O. Mosenthal, New York.
127 *So-Called Casein Masses in Infants' Stools. L. F. Meyer, Berlin, and J. S. Leopold, New York.
128 Development of Dairy Hygiene. R. G. Freeman, New York.
129 Case of Salaam Convulsions. S. A. Agatston and I. Goldstein, New York.

124. Abstracted in The Journal, June 12, 1909, p. 1948.

126. **Gastric Capacity of Infants.**—Mosenthal claims that the gastric capacity of infants as measured postmortem or *intra vitam* is a false guide to the amount of milk that should be offered at each feeding. The quantity of milk given at each nursing should exceed the measured gastric capacity for a child of the corresponding age by a considerable margin. The interval between nursings should never be less than 2½ hours for breast-fed children, and 3 hours for bottle-fed. Infants fed according to these principles showed no signs of gastric dilatation during life nor on postmortem examination of 24 cases that died of marasmus. In infants exhibiting the symptoms of overfeeding, the size of each nursing is in many instances not at fault. The cause of such symptoms must also be sought in too short periods between nursings, in the improper dilution of milk, and especially in excessive fats.

127. **"Casein Masses" in Infant's Stools.**—Clinical observations and careful analyses have convinced Meyer and Leopold that the so-called casein masses cannot be considered undigested casein; the nitrogen of the feces and the nitrogen of the food bear no intimate relation to one another, and the appearance of the "casein masses" and even an increased amount of nitrogen in the stools do not point to a disturbance in proteid digestion.

Cleveland Medical Journal

October

130 Some Medicolegal Problems, from the Standpoint of the Attorney. A. Hadden, Cleveland.
131 Three Cases of Brens Mole (Hematomole). A. H. Bill, Cleveland.
132 Perineal Herpes in a Case of Pneumonia in a Child Eight Months Old. J. Phillips, Cleveland.
133 Diagnosis and Treatment of Eclamptic Toxemia; Vaginal Cesarean Section in the Pre-eclamptic Stage. A. J. Skeel, Cleveland.
134 Formaldehyd Poisoning. J. MacLachlan, Cleveland.
135 Modified Submucous Resection of the Nasal Septum. R. D. Fry, Cleveland.
136 Typhoid Fever Complicating Pregnancy. W. O. Ziemer, Cleveland.

American Journal of Physiology, Boston

October

137 Influence of Calcium on the Pupil and the Pupillomotor Fibers of the Sympathetic Nerve. J. Auer and S. J. Meltzer, New York.
138 *Certain Aspects of Carbohydrate Metabolism in Relation to the Complete Removal of the Thyroids and Partial Parthyroidectomy. F. P. Underhill and W. W. Hilditch, New Haven, Conn.
139 Integumentary Nerves of Fishes as Photoreceptors and Their Significance for the Origin of the Vertebrate Eyes. G. H. Parker, Cambridge, Mass.

138. **Carbohydrate Metabolism.**—Underhill and Hilditch summarize their investigations on metabolism after parathyroidectomy as follows: When thyroidectomy and partial parathyroidectomy have been performed on dogs, the presence of at least two intact parathyroids is sufficient to maintain life, health, and apparently normal control of the nutritional processes of the body for a long period of time. Contrary to the results obtained with thyreoparathyroidectomy, the above operation does not result in a lowering of the assimilation limit for dextrose introduced subcutaneously; nor could any evidence be obtained that this operation gives rise to an increase in urinary ammonia excretion similar to that resulting from complete thyreoparathyroidectomy. After an operation whereby one thyroid and three parathyroids were removed, there was observed a measurable diminution in the sugar-assimilative power of the organism.

Adrenalin chlorid, administered subcutaneously, in doses of 1 mg. or more per kilo of body weight, invariably causes a significant glycosuria in dogs deprived of both thyroids but retaining at least two parathyroids. These observations are not in harmony with those reported by Eppinger, Falta and Rudinger. Unlike the experience of Massaglia with young dogs, no evidences of myxedema were observed with full-grown animals (two dogs) even ten months subsequent to removal of the thyroids and partial parathyroidectomy.

Mississippi Medical Monthly, Vicksburg

October

140 Treatment of Tuberculosis in Mississippi. R. P. Wendel, Aberdeen.
141 Diagnosis and Treatment of Cystitis in the Male. S. A. Eggleston, Shell Mound.
142 Rheumatism in Children. W. P. Patterson, Beauregard.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

October 16

1 *Relation of Medicine to the Ancillary Sciences. S. West.
2 Operative Treatment of Cataract. A. E. J. Kister.
3 Venous Anesthesia. C. M. Page and S. G. MacDonald.
4 Epidemic of Enteric Fever, Probably Due to Infection by a "Carrier." H. Roscoe.
5 *Thyroidectomy and a Theory of Cancer Causation. W. Stuart-Low.
6 Fatal Endocarditis Occurring During Scarlet Fever. J. M. Clements.
7 Duodenal Fistula Cured by Operation. R. L. Knaggs.

1. **Medicine and Ancillary Sciences.**—According to West, the proper position of each of the ancillary sciences is side by side with medicine. They must all work loyally together in a common search after the truth. But if one must be preeminent it is surely medicine, which has the right to preeminence as the parent of them all. To speak of the clinician or physician as obsolete, effete, or an anachronism, is midsummer madness. The clinician, says West, is as necessary to the progress of medical science in the present day as the bacteriologist, physiologist, or pharmacologist. In fact, there never was a time when the mature experience and cool judgment of the practiced clinician was more necessary than now, to put brilliant but crude theories to the test, and in general to counteract the separatist tendencies of modern specialism. After all, the end and aim of all this work is to make the student a practical physician, an object which too often seems to be lost sight of in the controversies of rival educationalists. So much time is spent in preparing the student to be a physician that there is little or none left to make him one. In other words, so much time is spent on preliminaries that the practical clinical work is scamped. The result must be a less finished and complete article than such a curriculum would seem to promise. If each student could add to his curriculum a year of residence in a hospital as a house officer, without any examination to work for, he would obtain what is lacking. But all cannot have the advantage of hospital experience of this kind, even if they can afford the time and money. Instead of gaining practical experience in the wards while they are students, when mistakes do no harm and can be corrected, they have to learn it later in practice, where mistakes are serious to themselves and to their patients.

The remedy is to cut down the curriculum until the work required is not more than can be accomplished by the average man in the time allotted to it. Each preliminary subject must be pruned and all that is not essential ruthlessly cut out. The present muddle, for a muddle West claims it is, has largely arisen from the want of that control which medicine should exercise over the whole curriculum, preparatory as well as professional. The object is to make a man a physician, and the physicians themselves are the best judges of what is necessary for that purpose. The perspective of the medical curriculum has been lost. It can only be regained by medicine resuming the control over the whole medical curriculum, preparatory as well as professional. This control it has in theory but not in practice. The time has now come when in the interests of medicine and of the students that control must be resumed and effectively exercised.

5. **Thyroidectomy and Cancer.**—After years of careful observation of many cases of carcinoma and sarcoma in all stages, Stuart-Low has come to the conclusion, looking on the thyroid gland as the fly-wheel of body growth and metabolism, that this organ is very liable to overwork, that the body metabolism in this manner is liable to become over-driven, and that so the thyroid may be a causative factor in the origin and continuation of malignant disease. Holding these views, he long had it in contemplation to perform more or less complete excision of the thyroid in inoperable carcinoma as the best means of eliminating or ameliorating a disturbing factor in the diseased organism of the carcinomatous. Five cases are reported in which this was done, and there seems to be no doubt that partial removal of the thyroid had an influence on these growths. It seems to have a deterrent effect on the rate of growth of the primary tumor; the secondary glands, too, seem to be favorably affected, as in these cases there was a softening change in the glands, and they were much less painful. In all cases the pain was quickly relieved. The patients, instead of losing weight, as they were doing before the operation, put on weight. Another thing noted in all these cases was a distinct slowing of the rate of the pulse. The second, third, and fifth patients were operated on at a much earlier date than the first and fourth, and it would appear to be best to intervene as early as possible, not waiting until the patient is too low and weak.

British Medical Journal, London

October 16

8 Intermittent Closing of Cerebral Arteries. W. Russell.
9 Congenital Heart Affections. G. Carpenter.
10 Peroneal Type of Muscular Atrophy. J. R. Halliday and A. J. Whiting.
11 *Chronic Infantile Paralysis of Ten Years' Standing: Treatment: Result. F. Hernaman-Johnson.
12 *Determination of the Tubercle Bacillus in the Blood of Persons Suffering from Phthisis. A. M. Hewat and H. G. Sutherland.
13 *Influence of the Unsaturated Fatty Acids in Tuberculosis. O. T. Williams and C. E. P. Forsyth.
14 Angina Pectoris. Sir T. C. Allbutt and Sir L. Brunton.
15 Treatment of Tinnitus Aurium. T. Barr and R. Lake.
16 Association of Slight Abnormalities of the Auricle with Certain Forms of Deafness. H. E. Jones.
17 Etiology of Exostoses of the External Auditory Meatus. G. Jackson.
18 Extirpation of the Larynx Fitted with a New Vocalizing Apparatus. R. H. Woods.
19 Surgical Anatomy of the Tonsils. J. H. Neil.
20 The Labyrinthine Nystagmus Tests. D. McKenzie.
21 Treatment of Cicatricial Stenosis of the Larynx. H. L. Lack, V. Delsaux and D. B. Delavan.
22 Cancers of the Throat. R. H. Scanes-Spicer.

11. **Chronic Infantile Paralysis.**—Hernaman-Johnson says that chronic infantile paralysis of medium severity occurring in persons not yet of full growth should never be regarded as incapable of improvement, even when the condition is of many years' standing. Because the parents will not permit the surgeon to perform a simple and, to his mind, obviously necessary operation, he should not, therefore, throw up the case. It is his duty to do what he can for the patient by other means, thereby conserving the limb, and leaving the way open for surgical measures at some future date. As regards paralytic deformity below the knee, leg-irons and coil-springs are not the last word in supporting apparatus. Provided expense is not a first consideration, special boots can generally be devised to suit individual cases—boots which need not be a source of constant embarrassment to the sensitive girl patient approaching young womanhood. The fact that the patient has well-to-do and intelligent parents desirous of giving their child every chance, is no guarantee that everything possible has been done. Each case, no matter what the history, should be considered with an open mind.

12. **Tubercle Bacillus in the Blood.**—Analysis of the results obtained by Hewat and Sutherland shows them to be almost completely opposed to those obtained by other observers. In one instance only, out of twenty-two blood examinations from twenty patients, was it possible to demonstrate tubercle bacilli. In this case two acid-fast bacilli were found, resembling morphologically the tubercle bacillus. A second examination of the blood of the same patient proved negative after prolonged search, so that they were led to believe that the presence of the two bacilli referred to may have been accidental. These observations seem, therefore, to indicate that at no stage of localized pulmonary tuberculosis is the tubercle bacillus demonstrable in the blood.

13. Influence of Unsaturated Fatty Acids in Tuberculosis.—Williams and Forsyth summarize their paper as follows:

1. Bodies containing unsaturated fatty acids have the power of disintegrating the waxy envelope which surrounds the tubercle bacillus.

2. The nature of the fat in the food, influences the nature of the fat in the tissues.

3. The administration of substances rich in unsaturated fatty acids may therefore be of value against the bacilli in the body. The dissolution of the waxy sheath may itself be fatal to the organism, or, this dissolution being effected, the bacillus may be rendered easier of attack by ordinary body forces.

4. The unsaturated fatty acids and their compounds aid the absorption of other kinds of fat.

5. With the administration of these bodies there is a beneficial effect on nitrogenous metabolism as well.

Medical Press and Circular, London

October 6

23 Cancer of the Tongue. R. A. Stoney.
24 Quacks, False Remedies and the Public Health. D. Walsh.
25 The Addendum Prandii and Professional Education. J. S. Wallace.
26 Treatment of Rheumatoid Arthritis. A. Robin.

Clinical Journal, London

September 29

27 Nervous Disease in which Diagnosis was Difficult. J. A. Ormerod.
28 Disorders of the Cerebral Circulation and Their Clinical Manifestations (continued). A. E. Russell.

October 6

29 Operative Treatment of Carcinoma of Uterus. A. H. N. Lewers.
30 *Disorders of the Cerebral Circulation and Their Clinical Manifestations (concluded). A. E. Russell.

30. **Disorders of Cerebral Circulation.**—In his lectures Russell endeavors to show that variations in the cerebral circulation, apart from gross lesions such as hemorrhage, thrombosis, and embolism, exercise great influence in the production of nervous symptoms. Such variations in the cerebral circulation are often associated with equally marked variations in the peripheral circulation and in the action of the heart. Alterations in the circulation afford an adequate explanation, not only of the ordinary fainting fit, but also of the more prolonged attacks characterized by cardiac, vasomotor and cerebral symptoms. Russell urges that these cases, which in some respects are so closely allied to epilepsy, the suddenness of some faints and the conversions of faints and fits, afford strong evidence that the epileptic fit itself owes its origin to some disturbance of the circulation. Corroborative evidence is afforded by the accuracy with which the symptoms of the various stages of the epileptic fit are reproduced in cases of heart-block due to heart disease.

Finally, evidence of the cessation of the heart's activity in epilepsy is given. In the case of petit mal it has been suggested that two different factors may be concerned. In some cases the transient unconsciousness may be produced by a very transient cardiac failure; in others cerebral vasomotor spasm may be concerned. Russell holds that if these views are correct, the pathology of epilepsy is carried only one stage further. The reason of these morbid cardiovascular changes is yet to seek. A hereditary factor is obvious, and we must assume that there is an inherited instability of the sympathetic and cardiovascular systems. The cerebral manifestations of uremia are simply due to increased intracranial tension with resultant interference with the cerebral circulation. Evidence is given to show that this change is amply sufficient to account for all the manifestations of uremia.

Practitioner, London

October

31 *On Being Tired. Sir L. Brunton.
32 *Indigestion. F. J. Smith.
33 *Treatment of Lobar Pneumonia. A. Latham.
34 Headache. W. Harris.
35 Jaundice. G. Rankin.
36 *The Common Cold. H. Campbell.
37 Neuralgia. P. Stewart.
38 Pertussis as Whooping Cough. J. H. Thursfield.
39 Treatment of Bronchitis. J. C. Briscoe.
40 *Boils and Carbuncles; Their Treatment. H. G. Adamson.
41 Corns and Bunions. J. F. Palmer.
42 Fractures of Upper Extremity of the Femur and Their Treatment. J. H. Pringle.
43 Pelvic Pain Apart from Obvious Lesions. H. T. Hicks.
44 Operative Technic of Piles. J. H. Nicoll.
45 Useful Points in Connection with Diseases of the Ear. M. Yearsley.
46 Common Diseases of the Hair. T. Robinson.

31. **Being Tired.**—Brunton's paper is a very thorough and most interesting discussion of fatigue which, he says, like hunger and thirst, is a systemic sensation, although, just as hunger has its local seat in the stomach, and thirst in the mouth and throat, fatigue has it more especially in the eyes and muscles. Hunger, thirst and fatigue are among the overpowering sensations of the body, and fatigue may be so great as to overpower the other two, and to prevent the sufferer from obtaining the food and drink which would have relieved him. Excessive weariness is so painful that it destroys the desire for life. Although weariness may be produced by a number of causes, yet the most frequent is excessive muscular exertion. Over-exertion in a muscle causes it gradually to lose its power of contraction, until, finally, it cannot contract at all, and so movement either of the body or limbs becomes impossible. But so long as muscles are connected with the central nervous system the complete exhaustion of the muscle is impossible, for before it becomes paralyzed by its own exertion the sensation of fatigue is perceived by the nervous centers, and the nervous stimuli which proceed to the muscle are so much diminished that complete paralysis is never produced. The sensation of fatigue is a central sensation. It is observed in the central nervous system, but it is produced by peripheral exertion. Brunton describes a number of physiologic experiments in line with these thoughts.

32. **Indigestion.**—Having once found out to the best of our knowledge and belief that there is no organic cause for indigestion, says Smith, does it help in any way to clearer conceptions of indigestion to prefix it with so many names—atonic, hyperchlorhydric, hypochlorhydric, apeptic, gouty, rheumatic, atrophic, dystrophic, renal, irritative, flatulent? Surely it is better to consider what sin a patient has been guilty of that he should be thus troubled, and how he can be helped back to paths of physiologic righteousness. The stomach is a long-suffering organ, as, indeed, it was meant and has need to be, but even a worm will turn at last, and so the stomach resents the treatment it is being subjected to and cries out for more consideration. Smith briefly runs over the symptoms of indigestion, and points out those features which suggest organic disease and render scientific investigation desirable.

As to the diet, Smith claims that cold boiled ham or bacon is of all flesh foods the most easily digested; other fads are that chicken is less digestible than beef and mutton when the latter are properly masticated; that there is no difference between red and white meat in digestibility, inherent in the meat itself, that is to say, though a patient may prefer one to the other; that fish need not necessarily be boiled, but may be cooked to the taste of the eater; and, lastly, that if a patient likes to try any fad of the faddists it will probably do him no harm to do so.

33. **Treatment of Lobar Pneumonia.**—One practical deduction made by Latham is that the patient should be placed under the same conditions as a patient suffering from typhoid fever. He should be kept in bed in what he finds to be the most comfortable position—usually the supine position—and any attempt at movement by his own exertion should be checked. The nurse may naturally shift his position, from time to time, either when this is requisite for nursing purposes, or when the patient craves for a change of position, but such movements must entail as little exertion on the patient's part as possible. Another deduction is that once the diagnosis is made examination of the patient should be directed to strictly salient points. The elaborate examination of the chest, back and front, once or even twice daily, does harm. The anxious search of some physicians for the presence of fluid or pus seldom gives any information in the first week of the disease, while the careful mapping out, day by day, of the area of consolidation has seldom, if ever, led to any advantage to the patient. Such elaborate physical examinations often mean the difference between recovery and death. In the treatment of pneumonia, then, the first lesson, based both on facts of clinical experience and on scientific investigation, is to refrain from unnecessary movement and meddlesome examination. Apart from the essential necessity of absolute rest, and apart from vaccine therapy, the treatment of pneumonia resolves itself into placing the patient under the best hygienic conditions, supplying a non-flatulent diet,

meeting symptoms as they arise, and endeavoring to avoid complications. Latham has had encouraging results from the use of vaccines.

36. **The Common Cold.**—Campbell claims that by means of vaccine therapy, not only are we able to cut short an acute cold, but also to confer considerable immunity against future attacks. By this method, we can, further, often successfully treat colds which have become chronic, e. g., chronic rhinitis, laryngitis and bronchitis. In but few cases of common cold can a stock of vaccine be employed with much hope of success; except in the case of the *Bacillus septus* we are not likely to do good by any vaccine other than that prepared from the patient's own person.

40. **Boils and Carbuncles.**—In cases of acute or recent eruptions of boils, Adamson says one may expect a cure by the use of vaccines; that there are, however, many methods of local application which give excellent results, particularly, collodion painting in early lesions, injection of carbolic acid, hot fomentations, and glycerin dressings; that in chronic furunculosis vaccines may be given a trial; but that the best results are to be obtained from continuous boric-acid fomentations, and from *x*-ray application to lesions which are much indurated. In cases of carbuncles the lesion is seen when small, it may be painted with collodion or injected with carbolic acid, but, better still, merely protected with a boric-acid fomentation and a thick pad of wool, and a staphylococcus vaccine administered; the injection to be repeated in three or four days if improvement takes place. If the lesion continues to spread in spite of the vaccine, then it should be treated surgically by complete excision, or by scraping or cutting away all the diseased tissue. In the case of very arge carbuncles, complete erasion is the treatment which gives most rapid relief to all symptoms.

Indian Medical Gazette, Calcutta

September

47 *Jail Dysentery, with Special Reference to Forster's Vaccine. W. Gillitt.
48 Smallpox. S. C. S. Vaughan.
49 New Lactic-Acid-Producing Streptothrix. G. C. Chatterjee.
50 Etiology of Double Quotidian Fever with Notes on Early Stage of Leishman-Donovan Infection. G. C. Chatterjee.

47. **Jail Dysentery.**—Gillitt reaffirms his belief in the efficacy of the vaccine treatment of dysentery and reports cases.

Intercolonial Medical Journal of Australasia, Melbourne

August

51 Early Recognition of Uterine Carcinoma. G. Horne.
52 Uterine Adenocarcinoma. E. A. Spowers.
53 Cyclic Albuminuria. A. J. Wood.
54 Cerebellar Tumor. D. M. Morton.
55 Fifty Consecutive Celiotomies (continued). A. J. Nyulasy.
56 Large Vesical Calculus, Weighing Twenty-six and One-fourth Ounces, Removed by Suprapubic Lithotomy—Recovery. W. W. Hearne.
57 Case of Sprue. C. Bage.

Annales de Dermatologie et de Syphiligraphie, Paris

September, X, Nos. 8-9, pp. 481-544

58 Congenital Erythrodermia Resembling Ichthyosis. (Contribution à l'étude des érythrodermies congénitales ichtyosiformes avec deux observations.) J. Nicolas and A. Jambon.
59 Ringworm at Parma. (Trichophyties de la province de Parme.) R. Sabouraud.

Archives Générales de Chirurgie, Paris

September, III, No. 9, pp. 881-990

60 *Surgery of the Heart. (Contribution à la chirurgie du cœur.) Salomoni.
61 Implantation of the Ureter in the High Stump of the Rectum After Low Enteroanastomosis with Sigmoid Flexure. (Urétéro-rectostomie haute terminale après sigmoïdo-rectostomie basse termino-latérale.) P. Descomps.
62 *Compound Fractures of Front of the Skull. (Les fractures compliquées de la région antérieure du crâne.) L. Thévenot.
63 Total Epiploitis Complicating Salpingitis. Mauclaire.

60. **Surgery of the Heart.**—Salomoni has been able to find 58 cases in which the heart has been sutured, reported by 19 surgeons. Recovery occurred in 59 cases, that is, in 37.33 per cent. In 21 cases death occurred before the operation was completed. The list includes 57 cases published in Italy, with 13 recoveries. He advocates access to the heart by nlarging the traumatic wound with scissors and articulating rom the sternum the costal cartilages above and below. In 0 out of the total 58 recoveries the pericardium had been rained. The effusion in the pericardium which frequently ollows the suture collects back of the heart, causing precordial oppression, distress and weakness; acceleration of the pulse and cyanosis do not appear until later. The list includes only 6 cases reported in America.

62. **Compound Fractures of the Front of the Skull.**—Thévenot reports two cases and discusses the treatment. It is important, he says, to explore the wound under general anesthesia, not forgetting that the fracture may be at some little distance to one side of the wound of the soft parts. In some cases a fracture has been assumed when nothing of the kind existed. This is especially liable when the lesion is low and the frontal sinus unusually developed, as the fracture may involve only the anterior wall of the sinus. Nervous symptoms, if present, are apathy, somnolency, and impairment of memory; the absence of severe reaction on the part of the nervous system sometimes misleads as to the presence of a fracture. If the pulse or respiration becomes slower or there is slight mental confusion, immediate exploration of the wound is indicated.

Archives Générales de Medecine, Paris

August, LXXXIX, No. 8, pp. 571-650

64 Acute Articular Rheumatism. (Bactériologie, sérothérapies et vaccination du rhumatisme articulaire aigu.) G. Rosenthal.
65 Symptomatology of the Vestibule of the Ear. (L'appareil vestibulaire de l'oreille.) Goldmann.

Presse Médicale, Paris

Oct. 2, XVII, No. 79, pp. 689-696

66 Measures to Prevent Operative Infection. (Des moyens preventifs de l'infection opératoire.) T. Tuffier.

Oct. 6, No. 80, pp. 697-704

67 Serodiagnosis of Echinococcus Disease. (Diagnostic de l'échinococcose par la réaction de fixation. Ses causes d'erreur.) G. Paisseau and L. Tixier.

Oct. 9, No. 81, pp. 705-720

68 *Spasmodic Paralysis in Inherited Syphilis. (Forme de paralysie spasmodique d'origine hérédo-syphilitique chez l'enfant.) A. B. Marfan.
69 *"Numerical" Atrophy. (Contribution à l'étude de l'atrophie numérique.) F. Trémolières and A. Gallais.

Oct. 13, No. 82, pp. 721-728

70 General Anesthesia with Spinal Technic. (La rachianesthésie générale.) T. Jonnesco.

68. **Spasmodic Paralysis of Syphilitic Origin in Children.**—Marfan discusses the case of a boy between 8 and 9 with spasmodic paraplegia more pronounced on the left side, scarcely perceptible as the child reclines, but interfering with standing and walking; the paralysis is not accompanied by sensory or trophic disturbances or sphincter trouble, but the Argyll-Robertson sign is marked and the child is mentally backward. The first tendency to paralysis was observed about the age of 5, previously to which the development had been practically normal except for slight evidences of rachitis. These features of the case exclude Little's disease, and the insidious onset without fever, convulsions or coma and the integrity of the arms also exclude acute encephalitis. The trouble is evidently of spinal origin, but the spine is apparently normal. The clinical picture indicates some lesion in the pyramidal tract in the dorso-lumbar region. The absence of other cases in the family excludes what Strümpell has described under the name of "familial spasmodic paraplegia." Marfan has encountered three similar cases and in all was able to trace the trouble to inherited syphilis. He even suggests that syphilis may have some connection with Strümpell's familial form. In the present case the paraplegia did not seem to be influenced by eighteen months of systematic mercurial treatment. It was not instituted, however, until the paraplegia had lasted for fifteen months; it is possible that better results might have been attained if the child had been seen earlier.

69. **"Numerical" Atrophy.**—Klippel first called attention to this form of atrophy affecting regions which have been the site of some injury during the early periods of growth. The tissues are normal but they do not develop to the normal extent. The atrophy is the entire trouble, all tests showing freedom from degeneracy, the general impression being that of merely a lesser number of cells than normally in the region, hence the term, "numerical atrophy." The present article shows how it can be detected in the most widely diverse conditions and afford a predisposition to numerous and varied affections, from the skin lesions to tuberculosis and even brain troubles.

Archiv für Kinderheilkunde, Stuttgart

LI, Nos. 5-6, pp. 321-500. Last Indexed October 16, p. 1339

71 *Treatment of Diphtheritic Laryngeal Stenosis. J. Neumann.

71. **Treatment of Diphtheritic Laryngeal Stenosis.**—Neumann reports the experiences with diphtheritic stenosis in Baginsky's pediatric service at Berlin during the years 1901-1907 inclusive. Pre-existing tuberculosis was found in a number of the fatal cases of laryngeal ulceration, and this may be a more frequent factor, he says, than is generally recognized. The cutaneous or other tuberculin test may prove useful in throwing light on some of these cases.

Archiv für klinische Chirurgie, Berlin

XC, No. 3, pp. 543-864. Last Indexed September 18 and October 16, pp. 980 and 1339

72 Rupture and Dislocation of Finger Tendon. (Ruptur und Luxation der Streckaponeurose eines Fingers.) H. Schloffer.
73 *Diagnosis of Conditions in Kidney Pelvis by Gauging Capacity and by Roentgen Examination. (Zur Diagnose des erweiterten Nierenbeckens durch Aichung und Pyelographie.) F. Voelcker.
74 *Experimental Cancer in Dogs. (Experimentelle Erzeugung des Carcinoms beim Hunde.) A. Sticker.
75 Experimental Research on Movements of the Intestines. (Experimentelle Untersuchungen über normale und pathogische Darmbewegung.) J. Boese and H. Heyrovsky.
76 *Technic for Removal of Cancer of Pelvic Portion of Rectum and Colon. (Technik der abdomino-perinealen Operation der Carcinome der Pars pelvina recti und des Colon pelvinum.) L. Moszkowicz.
77 *Operative Treatment of Diffuse Suppurative Peritonitis. W. Noetzel.
78 *Puncture of Corpus Callosum in Brain Surgery. (Bewerthung des Balkenstichs in der Hirnchirurgie.) v. Bramann.
79 Earthquake Injuries. (Ueber die durch das Erdbeben in Messina am 28 Dec. 1908 verursachten Verletzungen.) Colmers.
80 *Free Transplantation of Ureter to Serve for Urethra. (Eine neue Methode zur Operation der männlichen Hypospadie.) V. Schmieden.
81 *Scalping Accidents. (Ueber Scalpirungen.) W. Eichmeyer.
82 *Fish-bladder to Close Gap in the Dura. (Ueber alloplastichen Duraersatz.) J. Hanel.
83 Experimental Research on Action of High-Frequency Electric Currents. (Fulguration.) P. Nieuwenhuyse.
84 Plastic Operations on the Trachea. (Zur Tracheoplastik.) K. Nowakowski.
85 Operative Treatment of Congenital Sarcoma. (Zur localen Operativbehandlung congenitaler Sarkome ohne Röntgenisirung.) Lücke.

73. **Diagnosis of Enlarged Kidney Pelvis by Gauging Capacity and by Roentgen Examination.**—Voelcker has been continuing his work with his method of pyelography, that is, Roentgen inspection of the kidney pelvis after it has been filled with a fluid that casts a shadow, which he first described two years ago. He here relates his experience with it in a number of clinical cases, giving seventeen skiagraphs to show the findings. He supplements or precedes the pyelography by gauging the size of the pelvis from the amount of fluid that can be injected into it, using the same fluid that is required for the pyelography. He has found a solution of colloidal silver best adapted for the purpose, preferring a 2 per cent. solution of collargol; its dark color distinguishes it from urine, and it casts a shadow under the Roentgen rays. He injects it through a ureter catheter until the injection becomes painful or the collargol solution flows back outside the catheter. When the catheter is first introduced, he determines the amount of residual urine by noting the amount of urine that trickles from the catheter and whether it stops abruptly, whether it is of normal tint and specific gravity—the urine secreted in reflex polyuria is very thin and pale; whether the urine is turbid, and this turbidity reaches its maximum as the trickling of urine ceases, and whether the amount of urine trickling from the catheter cannot be increased by bimanual pressure on the kidney region—all these signs speaking for residual urine. After learning all he can in this line, he injects the silver solution if convinced that the pelvis is dilated; the stretched walls do not feel the injected fluid, but if the pelvis is not dilated the solution causes pain. In this way he has gauged the capacity of the kidney pelvis, finding it range from 5 to 20, 120 and even 150 c.c. in some cases. The findings are classified as noted in cases of wandering kidney, congenital displacement of the kidney, dilatation of the pelvis and dilatation of the ureters, examples of the Roentgen findings in each being given.

74. **Facts Learned from Experimental Cancer on Dogs.**—Sticker reports that inoculation of a fragment of a spindle-celled sarcoma into the mammary gland of a dog resulted in the production of a typical mammary carcinoma, and cites similar experiences reported by others. Such facts teach, he reiterates, that implantation and irritation are causal factors of cancer, although not necessarily the only ones. All malignant growths of rapid development, he thinks, are due to implanted germs which irritate the region where they are implanted, the result being a tumor growth which need not necessarily be of the same structure as that of the implanted germ. He suggests the term "mutation tumor" for a growth of this kind and reports some clinical examples, as, for example, Schmorl's case, in which an adenocarcinoma in the thyroid recurred after removal, the recurrence being part carcinoma and part sarcoma, while at autopsy typical sarcomas were found at various internal points.

76. **Combined Technic for Removal of Cancer in Pelvic Rectum or Colon.**—Moszkowicz reports 16 cases of cancer of the pelvic rectum or colon, with a mortality of 4, that is of 25 per cent., but zero during the last series of 6 cases. He gives illustrations of special points in his technic, urging the importance of shortening the operation as much as possible, and discussing the indications for a supplementary artificial anus and the technic for providing an organic diaphragm between the pelvis and the abdominal cavity.

77. **Operative Treatment of Diffuse Suppurative Peritonitis.**—Noetzel devotes nearly a hundred pages to a review of the various operative measures that have been attempted in peritonitis. His own figures embrace the years 1891-1908, and a total of 449 cases. The principles followed were those advocated by Rehn: extensive opening of the abdomen and radical removal of the cause; extensive irrigation with warm salt solution and drainage at the lowest point, the pelvis lowered; and suture to restore normal pressure in the abdominal cavity. All the patients with purulent peritonitis were treated in this way, even the apparently moribund, and 62 per cent., 278 of the 449, were cured. Hernia later was observed only in a small proportion of the cases. The mortality has been constantly decreasing until now recovery is the rule in from three-fourths to four-fifths of all cases, the mortality averaging now only 20 per cent.; the deaths being mostly caused by pneumonia, sepsis, subphrenic abscess, phlegmons, ileus or inanition.

78. **Puncture of the Corpus Callosum in Brain Surgery.**—Bramann's communication on this measure in treatment of hydrocephalus was summarized in these columns October 30. He here gives a more detailed description of the technic, with special reference to brain tumors. In three patients in an advanced stage the headache, vertigo and vomiting subsided more or less completely after the puncture. In another case the benefit from the puncture was so decided that the patient, rousing from her comatous condition, free at last from the violent headaches, vomiting, vertigo and tinnitus, responded sufficiently to tests so that the causal tumor could be finally located and successfully removed. The symptoms due exclusively to the tumor persisted, but those from the pressure of fluid subsided after the puncture. This case, he asserts, refutes the objection that the results of puncture may mask the clinical tumor picture and render localization more difficult. The rapid subsidence of choked disc was one of the most striking results of the puncture. He urges puncture of the corpus callosum in all cases of hydrocephalus rebellious to other measures and in all cases of tumors and pseudotumors of the brain accompanied by internal hydrocephalus and congestion neuritis threatening blindness, and also as a preliminary to removal of a brain tumor when the brain is under such pressure that it tears or protrudes much from the trephining opening, preventing palpation. In a number of such cases relief of pressure by the puncture enabled the operation to be successfully completed. He suggests in conclusion that puncture of the corpus callosum may possibly prove of use in treatment of epilepsy.

80. **Treatment of Hypospadias.**—Schmieden writes from Bier's clinic at Berlin to describe with a few illustrations a method of correcting hypospadias by building up the penis then boring a tunnel through it, and drawing into this tunnel a stretch of ureter taken from some other living person o

from the cadaver. In one case he used the ureter from a child's cadaver. In others he waited until he could summon the patient on occasion of an operation for hydronephrosis on another patient. He waits fully two weeks after implantation of the ureter before he tests its permeability, then commences to inject sterile oil through it and, finally, four or five weeks later, unites the proximal stump of the ureter with the distal stump of the patient's urethra and closes the openings except the meatus of the new urethra. He has experimented on animals with implantation of a stretch of ureter, although not in the penis, and in only one of his nineteen experiments did the ureter show signs of necrosis. In three clinical cases the technic gave fairly satisfactory results, but he regards only one of these cases as a complete success.

81. **Scalping Accidents.**—Eichmeyer has had two such cases in his recent experience and another is in the records of his hospital while he has found fifty-two other cases in the literature. In case the scalp hangs by a sufficiently broad pedicle to nourish it adequately, it should be replaced and efforts made to have it heal in place. But if the pedicle is small these efforts are sure to fail, and the only thing that can be done then is to cut down the scalp to an area proportional to the amount of nourishment liable to be supplied through the pedicle. It is useless and does actual harm to interfere with the healing of the injury by replacing the torn-off scalp unless there is a reasonable prospect of its healing in place. Under favorable conditions the Krause method of flaps from the periphery of the injury may be applied, but these do not heal over the vertex: a combination of the Italian plastic method and Krause flaps offers the best prospects. If Thiersch flaps are preferred, it is well to commence with them in a day or so, but they will not heal on bare bone. Chronic nervous manifestations are the rule afterward.

82. **Fish Bladder to Close Defect in the Dura.**—Hanel reports experiments on dogs which show that a piece of fish bladder heals into place when introduced to fill a gap in the dura. It becomes gradually absorbed, but a kind of membrane forms in its place. A month or two after its implantation this membrane fills up the gap in the dura, its thickness and texture being strikingly like that of the normal dura, while there is no adhesion to the brain below.

Berliner klinische Wochenschrift

October 4, XLVI, No. 40, pp. 1797-1836

86 Morphology of Tuberculosis Virus with Special Regard to a Contrast Stain. L. Weiss.
87 *Diphtheria Toxin and Roentgen Rays. (Diphtheriegift und Röntgenstrahlen.) H. Gerhartz.
88 Paratyphoid Bacilli A. (Ueber Paratyphus A.) G. Baermann and O. Eckersdorff.
89 *Endographic Method of Examination of Alimentary Canal. (Ueber die Anfänge einer "endographischen" Untersuchungsmethode von Magen, Darm und Speiseröhre.) H. Schade.
90 Treatment of Obesity. (Ueber Entfettungskuren.) E. Tobias.
91 *Use of Active Serums for Serodiagnosis of Syphilis. N. A. Tschernogubow.
92 Dynamics of Morbid Phenomena. (Ueber die Dynamik der Krankheitserscheinungen.) A. Münzer.

87. **Diphtheria Toxin and Roentgen Rays.**—Gerhartz reports from Senator's clinic at Berlin a series of experiments which seem to demonstrate that exposure to the Roentgen rays destroys the toxicity of the toxin both in the test-tube and in the animal body, whether the toxin is circulating in the blood stream or bound in the tissues. In every experiment the animals exposed to the rays survived hours longer than the controls after injection of several times the fatal dose. Animals injected with six times the fatal dose of toxin, exposed previously to the action of the rays, also showed much attenuated infection.

89. **Endographic Examination of Esophagus, Stomach and Intestines.**—In this preliminary communication Schade describes his application to clinical diagnosis of the principle of introducing an inflatable bag into the organ to be examined, and determination of the condition of the walls of the organ by the chemical reactions noted on the surface of the inflatable bag. He calls the method "endography," and uses for the purpose a rubber bag coated before vulcanization with a thick layer of rice starch; this acts like a reagent paper in contact with abnormal secretions and tissues. A smaller tube is enclosed in the stomach tube, the lower end of the smaller tube terminating in a hollow olive. The reagent bag is fastened to the end of the inner tube, and is enclosed in a second very frail inflatable rubber bag, both being introduced collapsed into the stomach, being easily pushed along ahead of the outer stomach tube by the protruding olive of the inner tube. The outer bag ruptures when inflated through the outer tube, leaving the reagent bag free; when it is inflated its outer surface fits against the inner walls of the organ, and any ulcer, cancer or other lesion makes its imprint on the chemically prepared surface. The bag is then withdrawn collapsed through the outer stomach tube left in position. To date the operation later or course of the cases has confirmed in every instance the presence or absence of a gastric ulcer as indicated by this technic.

91. **Improved Technic for Seroreaction in Syphilis.**—Tschernogubow remarks that the Wassermann test will not take its proper place among diagnostic measures until the technic has been so modified that it can be adopted as a routine measure by the general practitioner. He is convinced that great progress has been realized in this direction by the technic which he has worked out and describes, citing the results to date of extensive application of the modified test. Only 0.5 c.c. of the patient's blood is required, while the Wassermann technic calls for ten or twenty times this amount. The other elements required for the test are merely an alcoholic extract of a pulverized healthy human liver and a 5 per cent. emulsion of sheep corpuscles. Parallel results were obtained in nearly every instance with this and the original Wassermann technic.

Deutsches Archiv für klinische Medizin, Leipsic

XCVII, Nos. 3-4, pp. 201-409. Last Indexed October 16, p. 1340

93 Research on Dyspnea from Stenosis of Air Passages. (Gasanalytische Untersuchungen.) P. Morawitz and R. Siebeck. (Einstellung der Mittellage der Lunge.) R. Siebeck.
94 Sclerosis of Pulmonary Arteries and Its Origin. (Sklerose der Lungenarterien und ihre Entstehung.) W. Fischer.
95 Metabolism in Fever, Inanition and Cachexia. (Stoffwechseluntersuchungen bei Fieber, Inanition und kachektischen Zustanden.) F. Rolly and O. Meltzer.
96 Importance of Opsonins in Diagnosis and Prognosis in Tuberculosis. W. Fornet and E. Krencker.
97 General Infection from Colon Bacilli. (Allgemeininfektion durch Bacterium coli commune.) L. Jacob.
98 *Connection Between Adams-Stokes' Syndrome and Heart-Block. (Beziehungen des Adams-Stokes'schen Symptomenkomplexes zum Herzblock.) F. Volhard.
99 Amount of Sugar Derived from Albumin in Diabetics. (Menge des aus Eiweiss entstehenden Zuckers beim Diabetes.) A. Gigon.

98. **Relations Between Morgagni-Adams-Stokes' Syndrome and Heart-Block.**—Volhard gives a number of curves taken from thirteen patients with heart block, and remarks that heart-block alone does not necessarily entail the Adams-Stokes' syndrome, though it may do so. A certain proportion of patients require no treatment; others with insufficiency of the automatically beating ventricle are greatly benefited by a milk diet or restriction of fluids. Digitalis gave good results in some of the cases of dissociation, with complete heart-block. On the other hand, the digitalis induced dissociation for the first time in a case of incomplete block. Atropin is not always reliable except in the true vagus cases without disturbances in the atrioventricular conduction. The most careful study of each individual case is necessary to determine which patient will be benefited most by digitalis, atropin, dieting, iodids, mercury or oxygen. The discovery of the Adams-Stokes' syndrome or dissociation or both is just the beginning of the true diagaosis. The more precisely it is possible to determine the reasons for the dissociation and for the syncope with dissociation, the more effectual will be the treatment based thereon of this complication of heart-block, for this is what the Adams-Stokes' syndrome is. The complicating causes which start the separate attacks may be many and various; the main point is the exact diagnosis of the underlying conditions.

Deutsche medizinische Wochenschrift, Berlin

October 7, XXXV, No. 40, pp. 1729-1776

100 *Which is Most Important Mode of Spread of Human Tuberculosis? (Welche Ansteckungsweise spielt bei der Tuberkulose des Menschen die wichtigste Rolle?) P. v. Baumgarten.
101 *Transplantation of Vessels and Organs. (Ueber Gefäss- und Organtransplantationen.) C. Garrè.
102 Implantation of Thyroid in Treatment of Myxedema and Cretinism. (Ueber Schilddrüsenimplantation bei Myxodem und Kretinismus.) F. v. Bramann

103 Conservative Treatment of Surgical Tuberculosis. R. Klapp.
104 *Sign Revealing Placenta Prævia. (Ein brauchbares Kennzeichen der Placenta praevia.) H. Sellheim.
105 *Treatment of Lupus Vulgaris. (Behandlung des Lupus vulgaris mit Rücksicht auf die Pathogenese.) E. Lang.
106 End-Results of Enlarged Vaginal Hysterectomy for Cancer of Cervix. (Dauerresultate der erweiterten vaginalen Totalexstirpation des Uterus bei Kollumkrebs.) F. Schauta. Commenced in No. 39.
107 Familial Enlargement of Spleen and Liver, with Anemia: Benign Course. (Familiäre Milz- und Lebervergrösserung mit Anämie und gutartigem Verlauf.) A. Plehn.
108 Stain for Protozoa. (Färbung von Feuchtpräparaten mit meiner Azur-Eosinmethode.) G. Giemsa.
109 Colorimetric Test for Adrenalin. (Eine neue kolorimetrische Methode der Adrenalinbestimmung.) A. Zanfrognini.

100. **Route of Infection in Tuberculosis.**—Baumgarten thinks that the germs may be inhaled or ingested, but that future research will show that the prevailing mode of infection is by what he calls gennaeogenesis, that is, the penetration of the parental bacilli into the embryo-producing substance and into the fetus during intrauterine existence. He uses this term in preference to "germinative" and "congenital" origin to express the process more definitely.

101. **Transplantation of Vessels and Organs.**—Garrè describes what has been accomplished to date in this line.

104. **Sign of Placenta Prævia.**—Sellheim calls attention to the peculiar sensation of resistance, as of a soft cushion, between the palpating finger and the head of the fetus in case of placenta prævia. The abrupt margin of the placenta can be felt through the abdominal wall and at the rear of the uterus, with the palpating finger in the vagina.

105. **Treatment of Lupus.**—Lang reports a permanent cure in 262 cases of lupus out of 291 patients reexamined at least six months after the conclusion of treatment—his total experience including 412 cases since 1892. The fact that lupus attacks generally uncovered portions speaks for infection from without, but at the same time it may be due to some internal focus within the body. The combination of operative measures and Finsen treatment should be supplemented by general measures. The necessity for a certain amount of surgical training for young dermatologists is especially evident in the treatment of lupus, but he warns against the sharp curette and the actual cautery or any measure which leaves scars which interfere with Finsen treatment later. Special lupus institutes give much better results, as in general hospitals it is difficult to obtain the necessary concentration of attention on the lupus patients.

Deutsche Zeitschrift für Chirurgie, Leipsic

C, pp. 1-645

110 *Inflammatory Tumors in the Intestines. (Ueber entzündliche Geschwülste am Darm.) H. Braun.
111 Hypophysic Tumor with Operative Cure. T. Kocher.
112 Operative Reduction of Old Dislocation of the Elbow. (Operative Einrenkung veralteter Ellenbogenverrenkungen.) J. Dollinger.
113 Treatment of Congenital Dislocation of the Hip-Joint. (Behandlung der angeborenen Hüftgelenksverrenkung.) E. Küster.
114 *Treatment of Contracture, etc., by Operations on the Muscles. (Myotomie und Myoraphie.) B. Bardenheuer.
115 *Surgery of Ureters. (Heutiger Stand der Ureterchirurgie.) C. Garrè.
116 *Progressive Peritonitis and the Blood Picture. (Zur Diagnose und Prognose der fortschreitenden Peritonitis mit besonderer Berücksichtigung der Bedeutung der Arnethschen Blutbilder.) E. Sonnenburg and R. Kothe.
117 Two Cases of Exstrophy of Bladder Corrected by Maydl's Technic with Examination of the Urine Voided Through the Bowel. (Zwei nach Maydl geheilte Fälle von Blasenektopie mit Untersuchungen des aus dem Darm entleerten Harnes.) E. Graser.
118 *Rupture of Incarcerated Intestine Under Taxis. (Ruptur des inkarzerierten Darmes bei der Taxis.) O. Kappeler.
119 Retrograde and Double Loop Incarceration of the Intestine. (Ist es möglich, die "zwei Darmschlingen im eingeklemmten Bruch" zu diagnostizieren? Zugleich ein neuer Beitrag zu der Pathologie der "Hernie en W" resp. der "retrograden Darminkarzeration.") C. Lauenstein.
120 *Operative Treatment of Unilateral Pulmonary Tuberculosis by Total Mobilization of Wall of Chest and Release of Lung. (Pleuro-Pneumolysis thoracoplastica.) P. L. Friedrich.
121 *Present Technic of Witzel's Gastrostomy. (Die Magenfistelanlegung mit Schrägkanalbildung in ihrer heutigen Ausführung.) O. Witzel.
122 Plastic Operations on the Cheeks. (Wangenplastik.) E. Lexer.
123 Isolated Tuberculous Tumor of Ascending Colon. H. Küttner.
124 *Transplanted Flaps to Re-enforce Suture Line. (Ueber die Versicherung—Verlötung—unzuverlässiger Nahtlinien an Bauchrand Harnröhre usw. durch aufgepflantze Gewebslappen.) F. König.
125 Diagnosis and Treatment of Ureter Strictures. (Ureterenverengerung.) L. R. v. Rydygier.
126 Congenital Diverticula in the Bladder. (Kongenitalen Blasendivertikel.) G. Perthes.
127 Autopsy in Case of Total Exclusion of Colon Over Thirteen Years Ago. (Zur Darmausschaltung.) Wiesinger.
128 Operative Treatment of Fracture of Head of Femur, Especially in the Young. (Operative Behandlung der Schenkelhalsbrüche besonders im jugendlichen Alter.) Borchard.
129 Omentum in Plastic Operation for Perforated Stomach or Duodenal Ulcer. (Zur Verwertung der Netzplastik bei der Behandlung des perforierten Magen- und Duodenalgeschwürs.) A. Neumann.
130 Surgery of Pancreas Cysts. M. Martens.
131 Treatment of Complete Dislocation of the Mediotarsal Joint. (Einge Bemerkungen über die Luxatio medio-tarsea completa.) O. Madelung.
132 *Treatment of Hypophysis Tumors. . J. Hochenegg.
133 Treatment of Rectal Prolapse by Plastic Operation on Pelvic Floor. (Behandlung des Mastdarmvorfalls mit der Beckenbodenplastik.) P. Poppert.
134 Malignant Degeneration of Parathyroid. F. de Quervain.
135 Treatment of Peritonitis with Special Regard to Primary Enterostomy. P. Sick.
136 Sensibility in Abdominal Organs. (Sensibilität und Schmerzempfindung der Bauchorgane.) M. Wilms.
137 The Joints with General Edema. (Verhalten der Gelenke bei allgemeinen Oedemen und Gefässkompressionen; Stauungsergüsse.) W. Müller.
138 *Treatment of Lupus on New Principles. (Einige neue Versuche zur Behandlung des Lupus.) Payr.
139 *General Index from Foundation to Date. (General-Register zu Band I-C.)

110. **Inflammatory Tumors in the Intestine.**—Braun called attention eight years ago to certain tumors in the omentum which were merely inflammatory reactions, although simulating malignant neoplasms. He here reports three similar cases in which the intestine was the site of the lesion and cites a few he has found on record. In his first case the tumor and part of the colon were resected, as also a second tumor in the intestine near the artificial anus that had been made on the assumption of carcinoma of the sigmoid flexure. The microscope revealed, however, merely a circumscribed inflammatory reaction without a trace of malignant characteristics. He thinks that some primary focus elsewhere was probably responsible for these pseudotumors, but the primary focus may have been too insignificant to attract attention. In his two other cases the operation for supposed carcinoma was refused, and later the tumor disappeared completely. It is these pseudotumors, he decides, on which quacks build their reputation for curing cancer. A preceding laparotomy or inflammatory process in the intestines is an aid in differentiation, as also the presence of fever, which is rare with cancer. During the laparotomy the discovery that the tumor is predominantly in the mesocolon and that it does not encircle the intestine, testifies to its non-malignant nature. In case of doubt, an incision and inspection of the cut surface will generally decide the question. Expectant treatment is then in order, the subsidence of the pseudotumor being accelerated by bed rest, wet packs and light diet.

114. **Myotomy and Myorrhaphy.**—Bardenheuer has enlarged the scope of this technic and here reports its application in a number of cases of contracture from inflammation or trauma of tendons in infantile spastic hemiplegia and after extensive resection of joints. In case of ischemic tendon contracture the results of dividing the fibrous degenerated flexor muscles, eventually combined with shortening the extensors are better than from the Mikulicz' resection of the bones of the forearm or Schramm's lengthening of the flexor tendons. In case of injury of the tendons, the connected muscle should be lengthened if the tendon cannot be sutured without much flexing of the fingers. The results are also said to be superior in case of spastic hemiplegia when the extremely contracted muscle is severed and the tendons of the antagonist muscles are shortened. After resection of a joint, he cuts away the muscles to have those left correspond exactly to the area of bone remaining.

115. **Present Status of Ureter Surgery.**—Garrè's article is accompanied by twelve illustrations. He regards implantation of the ureter in the intestine in case of a defect in the ureter as the best means to ensure the functioning of the kidney above. The Borelius-Berglund technic promises the best results, in his opinion; the lateral anastomosis between the two legs of the loop of intestine, with the ureter implanted at the top of the loop, allows the passage of feces

below while the empty loop above answers solely the purpose of a recipient for the urine. This technic, he declares, is an improvement on the original Maydl principle. Injury of the ureter alone, he thinks, should not be accepted now as an indication for nephrectomy.

116. **Progressive Peritonitis and the Blood Picture.**—Arneth's statements in regard to the diagnostic importance of the blood picture in peritonitis, etc., were mentioned in The Journal, Oct. 20, 1906, page 1333. Sonnenburg here presents a detailed study of five cases of progressive peritonitis in which the blood findings, according to Arneth's formula, were recorded from day to day. They confirmed Arneth's statements and suggest that the neutrophile blood picture is a most important aid for oversight of the processes going on and the severity of the infection.

118. **Rupture of Incarcerated Hernia During Taxis.**—Kappeler reports four unpublished cases and four from the literature. The taxis had been applied by the patient himself in four, but in two taxis had been very gentle and by a skilled hand. In one case the incarceration had lasted less than three hours, the hernia was small and had never caused disturbances, being held easily under control by a truss, and yet rupture occurred under gentle taxis by a physician.

120. **Mobilization of Chest Wall for Apical Tuberculosis.**—Friedrich discusses the present condition of the patients operated on by thoracoplastic pleuropneumolysis nearly two years ago. The aim is to release the pleura and lung in case of pulmonary tuberculosis predominantly unilateral or restricted to the upper lobe. His experience during this interval has led him to modify the technic somewhat, as also to enlarge the sphere of its application, as he describes in detail, adding the history of a patient treated by releasing the lung tissue and pleura entirely around, after removal of seven ribs. His list now includes 14 cases, and marked benefit was observed in all.

121. **Witzel's Method of Gastrostomy to Date.**—The technic for the obliquely embedded tube for a permanent opening into the stomach has been modified more or less by Witzel during the twenty years this method has been in vogue, and he here gives an illustrated description of the technic which he has found most advantageous.

124. **Flaps for Reenforcing Sutures.**—König reports two cases in which he strengthened the suture after a herniotomy by transplanting a piece of the front of the tibia, 10 cm. long in one case. In another case a defect 2 cm. long in the urethra was sutured and the suture reenforced with a segment of the saphenous vein, slit and sutured over the length of the urethra, the skin being sutured together above it; the strip of vein healed smoothly in place. The aim is similar to the soldering at the junction of pipes, providing a broad expanse of soldering material under which the sutured edges cohere firmly.

132. **Hypophysis Tumors.**—Hochenegg reports his third case of operative treatment of a tumor in the hypophysis. The success in the first two cases was not repeated in the third. This patient showed signs of acromegaly in consequence of a tumor in the hypophysis; it was reached by turning back the nose and frontal sinus and opening the sphenoidal sinuses, but part of the tumor lay inside the skull and only the accessible portion could be removed. The patient soon roused from the slight anesthesia and said that the constant pain in the vertex was gone, but sudden heart failure the next day proved fatal. No signs of meningitis were found, death being due rather to the status lymphaticus and degeneration of the myocardium. The tumor not only filled the sella turcica, but extended into the frontal lobe where it compressed the brain substance. This discovery shows that operative measures have a chance for success only for small tumors, confined to the base, and not penetrating into the brain substance. Everything about the case indicated a successful outcome, and there was even a possibility, after the extension of the tumor into the brain was discovered, that after partial removal the remainder might shrivel and thus relieve the brain of the compression as the tumor would then have room to spread downward. The operation in reality offered no chance for success and merely did harm, as the mechanical injury of the tumor tissue afforded a predisposition for suppuration which might have entailed postoperative meningitis if the patient had lived longer. There had been no decided symptoms indicating such extension of the tumor.

138. **New Principles for Treatment of Lupus Vulgaris.**—Payr gives an illustrated description of a method of treating lupus which is simple and yet seems to cure in a comparatively short time. In spite of its numerous disadvantages, excision of the lupous patch is still the most effectual method of treating lupus, but he declares that all its essential features can be obtained by undermining the patch under local anesthesia. Two parallel incisions are made through the skin down to the muscles allowing the entire skin to be separated from the muscles below to form a bridge flap. Iodoform gauze dipped in Peruvian balsam is then drawn through beneath the flap to prevent its growing down again. The lupous patch is thus medicated from above and below, and the lupus soon heals, leaving apparently normal skin except that it is inclined to be more pigmented than normal. The tint has grown constantly more and more like that of normal skin in the course of the six months his patients have been under observation. This undermining treatment has been applied in four cases to date, but only for lupus on the limbs. There is no bleeding, no need for assistance, no danger, and no defect is left, he says. The after-treatment is painless, the gauze not being changed until granulation has occurred over the whole raw surface, which is generally in about a week; the Peruvian balsam facilitates the removal of the gauze and the cure is complete in one or two months. The cosmetic result is excellent and extensive areas can be treated in this way as desired. The conditions in the face are less favorable for the undermining technic, and for this he has been experimenting with magnesium arrows, stuck through into the subcutaneous tissue, such as he uses in treatment of cavernous angioma not adapted for extirpation. The result in the lupus cases was prompt and beneficial. An opening is made with a tenotome and the little stick of magnesium is pushed from directly under the patch or into its depths. This method has been applied in only one case, but with the exception of a few isolated nodules the extensive lupus, almost covering the face, has healed, leaving merely a firm, reddish scar.

139. **A Thirty-seven Year Index.**—This general index includes in a single alphabetical series all the articles that have appeared in the *Zeitschrift* during the thirty-seven years of its existence, the index filling 230 pages in this special centennial number. The issue contains also two pages devoted to small photographs of the forty-three men who publish the journal. Wilms, in the preface, deplores the way in which the various specialties now overlap each other, especially the overlapping of journals, so that summaries of the same article appear in a number of journals, year books and weeklies. The amount of reading necessary to keep up with a science is becoming enormous, he declares, remarking that too much reading interferes with original thinking. He appeals to writers to condense more, to avoid repetition, and instead of writing a number of articles on a single subject, often in different journals, to put it all into one telling article. Much time and energy could be saved if only there were greater economy in printer's ink.

Fortschritte der Medizin, Leipsic

September 30, XXVII, No. 27, pp 1009-1040

140 *Pathogenesis and Causal Treatment of Edema. Eschle. Commenced in No. 25.

140. **Treatment of Edema.**—Eschle declares that any one who expects to cure edema by merely drawing off the fluid or restricting the intake of water is like a person who tries to cool off the room by putting the thermometer in cold water. The water is not the cause of the disturbance; it is merely the index of it. The principal factor in the development of edema, he asserts, is the deficient tone in the skin, a weakening of the vitality of the protoplasm in general and especially in the skin and veins. Nothing permanent can be accomplished with diuretics, diaphoretics and purgatives unless the organs involved are still capable of functioning. Diaphoretic measures in particular should certainly not be applied unless

the skin is still moist. In heart disease not one organ but all try to help in maintaining compensation, and this should not be forgotten in treatment of edema. So many demands are made on the organism in daily life that it cannot rally all its forces for this purpose of reestablishing the balance, but if the patient stays in bed, the quiet, warmth and rest leave the organism free to devote all its energies to restoring the compensation balance. Restriction of all non-essential demands on the organism, application of warmth, bed rest, and administration of drugs to act as a tonic on the protoplasm—these are the essential factors in treatment of edema. Both digitalis and morphin he regards as distinguished by their tonic action on the protoplasm, and consequently he considers morphin a valuable aid in supporting the organism in its final struggle to restore the compensation balance, both by its tonic action on the tissues and the recuperation it permits by reducing the non-essential demands on the organism. Digitalis is also useful; by its regulation of tissue tone throughout the entire protoplasm areas, including the heart, it promotes diuresis indirectly. The more favorable the conditions in any region, especially in the kidneys, and the more of a secondary nature the disturbances in other organs, as in case of valvular disease, the more certain the regulating action of the digitalis. Ergot may also be useful when the main factor acting against restoration of compensation is a loss of tone in the arteries themselves, thus in cases in which digitalis fails, as, for example, in the so-called idiopathic dilatation of the heart, in aortic insufficiency and advanced arteriosclerosis. The walls of the arteries in these cases are still capable of responding to stimulation, and ergot will assist them in responding to the excessive demands made on them. If the combination of bed rest, digitalis and morphin fails to cure the edema, there is not much hope of relief from other measures. Palliative evacuation of the fluid may afford a useful temporary relief. The thirst that accompanies dropsy is a sign that, in spite of the accumulations of fluid, the tissues are still starving for water.

Policlinico, Rome

October, XVI, Medical Section, No. 10, pp. 429-476

141 Atypical Forms of Multiple Sclerosis. (Forme atipiche della sclerosi multipla.) P. Alessandrini.

142 A Case Intermediate Between the Erb-Charcot Syndrome and Amyotrophic Lateral Sclerosis. (Un caso intermedio fra la malattia d'Erb-Charcot e la sclerosi laterale amiotrofica.) A. M. Bono.

Riforma Medica, Naples

October 4, XXV, No. 40, pp. 1093-1120

143 Polymicrobian Septicemic Fevers. (Febbri e febbricole setticemiche polimorfe, IX.) G. Rummo.

144 Blood Serum in Acute Experimental Nephritis. (Il siero di sangue nelle nefriti acute sperimentali.) D. De Sandro. Commenced in No. 39.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

PROGRESS REPORT ON THE UGANDA SLEEPING SICKNESS CAMPS. From December, 1906, to Nov. 30, 1908. By A. D. P. Hodges, M.D., Principal Medical Officer, Uganda. With an Appendix on Breeding-Grounds of Glossina Palpalis. By Lieutenant A. B. Fraser, R.A.M.C., and Claude H. Marshall, M.R.C.S., L.R.C.P., October, 1909. Paper. Pp. 44. London: Sleeping Sickness Bureau, Royal Society, Burlington House, W., 1909.

THE PRINCIPLES OF PATHOLOGY. By J. George Adami, M.A., M.D., LL.D., F.R.S., Professor of Pathology in McGill University, Montreal, and Albert G. Nicholls, M.A., M.D., D.Sc., F.R.S., Assistant Professor of Pathology and Lecturer in Clinical Medicine in McGill University. Vol. II. "Systemic Pathology." Cloth. Pp. 1061, with 310 engravings and 15 plates. Price, $6 net. Philadelphia: Lea & Febiger, 1909.

DISEASES OF INFANTS AND CHILDREN. By Henry Dwight Chapin, A.M., M.D., Professor of Diseases of Children, New York Post-Graduate Medical School and Hospital, and Godfrey Roger Pisek, M.D., Professor of Diseases of Children, University of Vermont. Cloth. Pp. 591, with 179 illustrations and 11 colored plates. Price, $4.50 net. New York: William Wood & Co., 1909.

STUDIES IN RABIES. Collected Writings of Nathaniel Garland Keirle, A.M., M.D., D.Sc., Professor of Medical Jurisprudence and Emeritus Professor of Pathology, College of Physicians and Surgeons, Baltimore. With an Introduction by William H. Welch, and a biographical sketch by Harry Friedenwald. Testimonial Edition. Cloth. Pp. 374. Baltimore, 1909.

LEHRBUCH DER KRANKHEITEN DES HERZENS UND DER BLUTGEFÄSSE. Von Dr. Ernst Romberg, O. Professor und Direktor de Medizinischen Klinik in Tübingen. Second Edition, with 69 illustrations. Paper. Pp. 573. (Price, in cloth binding, 14 marks. Stuttgart: Ferdinand Enke, 1909.

SURGICAL DIAGNOSIS. By Daniel N. Eisendrath, A.B., M.D., Professor of Surgery in the Medical Department of the University o Illinois (College of Physicians and Surgeons). Second Edition Cloth. Pp. 855, with 574 illustrations, 25 in colors. Price, $6.5 net. Philadelphia: W. B. Saunders Co., 1909.

CLINICAL EXAMINATION OF THE URINE AND URINARY DIAGNOSIS By J. Bergen Ogden, M.D., New York, N. Y., Medical Chemist t the Metropolitan Life Insurance Co., N. Y. Third Edition. Cloth Pp. 427, with illustrations. Price, $3 net. Philadelphia: W. B Saunders Co., 1909.

TUFTS MEDICAL DIET CHARTS. (Charts A. and B.) Prepared by H. D. Arnold, M.D., Professor of Clinical Medicine at Tufts Medical College, Boston. Single Charts, 5 cents; 50 Charts, $2; 50 Charts, $18; 1,000 Charts, $30. Philadelphia: W. B. Saunders Co. 1909.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATIO at its Thirty-second Annual Meeting, Sept. 24 to 26, 1908. Paper Pp. 287. Official Report of the Proceedings by Grover W. Wende M.D., Secretary.

CLINICAL STUDIES FOR NURSES. By Charlotte A. Aikens, formerly superintendent of Columbia Hospital, Pittsburg. Cloth. Pp. 510 with illustrations. Price, $2 net. Philadelphia: W. B. Saunders Co., 1909.

OTITIC CEREBELLAR ABSCESS. By Heinrich Neumann, Privat Docent, University of Vienna. Translated by Richard Lake, F.R.C.S Cloth. Pp. 156. Price, 4 shillings net. London: H. K. Lewis, 1909

New Patents

Recent patents of interest to physicians:

932103. Snare curette. F. B. Black, Gilboa, Ohio.
931749. Dehydrating nitrocellulose. G. W. Gentieu, Peoria, Ill
932386. Automatic syrup delivery for soda fountains. A. H. Gross, Catonsville, Md.
932130. Making magnesium salts and ammonia. H. B. Hunter, Norfolk, Va.
932284. System for dispensing beverages. A. D. Jones, Louisville, Ky.
932285. System for dispensing beverages. A. D. Jones, Louisville, Ky.
932143. Air pump. A. M. Kjaersgaard, Copenhagen, and C. S. J. Wiese, Odense, Denmark.
931791. Scarificator. W. Niergarth, Pekin, Ill.
932174. Sanitary cuspidor. D. R. Reefe, Jacksonville, Fla.
932177. Orthopedic device. L. Roth, New York.
931803. Invalid chair. D. Rupley, South Whitley, Ind.
932066. Surgical stocking or casing. F. W. Smith, Union, Ohio.
932344. Holder for nursing bottles. C. Starbard, Worcester, Mass.
931817. Disinfecting apparatus. J. R. Van Dyne, Sedalia, Mo.
932074. Truss. A. Wakeman, Syracuse, N. Y.
931908. Invalid's foot rest for beds. M. Weld, New York.
932442. Bed-pan. M. F. Cagle, Knoxville, Tenn.
932604. Atomizer. T. A. De Vilbiss, Toledo, Ohio.
932775. Electric therapeutic instrument. C. W. Gaston, Fresno, Cal.
932780. Massaging and exercising implement. C. J. Hero, Milwaukee, Wis.
932479. Support for stretchers. J. Linxweiler, Bad Kissingen, Germany.
932635. Apparatus for producing formaldehyde. W. B. McLaughlin, New York.
932898. Producing ozone. J. F. Place, Glen Ridge, N. J.
932647. Antiseptic composition containing phenyl acetate. N. Sulzberger, New York.
932515. Respiratory apparatus. J. Tissot, Paris, France.
932527. Treating vegetable albumen and animal casein and the product therefrom. F. G. Wiechmann, New York.
933360. Inhaler. E. Carabias, Mexico, Mex.
933423. Bunion guard. W. H. De Ford, Pittsburg, Pa.
933537. Holder for absorbent cotton. W. J. Durant, Spencer, Iowa
933170. Operating table for osteopathic treatment. W. O. Galbreath, Philadelphia, Pa.
933462. Apparatus for separating oxygen from air. J. E. Johnson, Jr., Long Dale, Va.
933323. Invalid bed. F. W. Mitchell, Valparaiso, Ind.
933107. Manufacturing acetone. A. L. A. Pages and R. P. T Duchemin, Paris, France.
933578. Syringe nozzle. J. W. Perkins, Everett, Mass.
933490. Syringe. C. Remhof, Brooklyn, N. Y.
933398. Syringe. F. A. Stahl, New York.
934130. Truss. G. W. Bell, Kansas City, Mo.
934133. Making milk for infants. P. Bergell, Berlin, Germany.
934037. Valve-fitting for soda-water apparatus. P. Bunin, New York.
933844. Stereoscopic appliance. G. A. H. Kellner, Rochester, N. Y
934190. Sterilizing apparatus. E. Kronman, New York.
933913. Surgical bandage. J. Nord and N. T. Hillen, Arnheim Netherland.
934349. Continuous juice extraction by diffusion. K. Philipp Madgeburg, Germany.
933791. Physician's hypodermic syringe case S. Sinkler, Chicago Ill.
934368. Machine for cutting and folding sanitary-shield packages A. Stewart, Pittsburg, Pa.
934240. Surgical appliance. H. Tunnessen, Hazelton, Pa.
934662. Massage-vibrator. E. S. Faison, New York.
934916. Stereoscopic telemeter with traveling mark. C. von Hof Jena, Germany.
934917. Septic tank. A. W. Huhsman, Staunton, Ill.
934625. Abdominal bandage. A. Petrel, Buenos Ayres, Argentina
934844. Disinfectant. H. Schneider, Wilmersdorf, near Berli Germany.
934486. Holder for surgical instruments. T. S. Walling, Passai N. J.

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Original Articles

THE USE OF DIGESTIVE FERMENTS IN MEDICINE [*]

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BUFFALO

The primary digestion is accomplished through the action on the foodstuffs of certain ferments. The action in the case of each and all of these ferments is that of hydrolysis. Different foods require for their hydrolysis the attack of different sorts of ferments, and the organism is fortunately provided with a variety of these secretions.

It is somewhat remarkable that the several ferments operate unfavorably on each other. This is partly owing to the nature of the ferments and partly owing to the conditions under which they are secreted. Thus, ptyalin, an important factor in the digestion of starch, acts for the most part in the stomach previous to the free secretion of acid gastric juice, which inhibits the ptyalin; and the gastric ferments, in their acid medium, are in turn made inactive through the secretions entering the duodenum. It will thus be seen that the administration of digestive ferments as medicaments is open to physiologic objections. It cannot be denied that ptyalin, certain pancreatic preparations and some of the diastases are possessed of a certain amount of power in the conversion of starch into maltose and dextrin when thoroughly mixed with carbohydrate food at the time of ingestion. Practically the activity of all these substances ends as soon as the gastric secretion has become mixed with the stomach contents.

It would seem reasonable that when dealing with cases in which there is a very low gastric secretion, or none at all, these preparations would prove of material advantage to patients. It is presumable that they have some beneficial effects, but it is not considerable. At least such is the conclusion reached after the study of the digestion of patients treated with these ferments.

Not infrequently patients with low gastric secretion who are given extracts of pancreas, extracts of malt and other forms of diastase represent themselves as feeling better from the use of these substances. It is difficult to determine how much of this improvement is subjective, and how much of it owing to the extractive matter, bitter, or aromatic substances which may accompany the ferments in question.

Clinicians not infrequently take advantage of another means of assisting the digestion in patients who lack gastric secretion; that is, they attempt to favor the digestion of proteids by the administration of pepsin and hydrochloric acid. The question is, how much advantage is obtained by this plan? The French observers have interested themselves in the administration of gastric juice removed from the stomach of dogs through a fistula, and administered to patients suffering from lowered gastric digestion. The results are apparently far superior to those obtained by the administration of pepsin and hydrochloric acid. Nevertheless it can be shown by the removal of the stomach contents in those who are victims of achylia gastrica that appreciable, though very slight, digestion of proteids goes on in the stomach after the administration of pepsin and hydrochloric acid in full doses. In some instances the same result is obtained by administering hydrochloric acid alone.

As a rule the secretion of the gastric ferments and hydrochloric acid goes hand in hand. This is not invariable. A disproportion between the total acidity and the digestive power of the stomach has been shown by several observers. This occasionally appears in neurotic conditions.

In inflammatory states, the so-called catarrhal conditions of the stomach, accompanied by lowered secretion, the amount of hydrochloric acid and pepsin apparently occurs in natural ratio.

The great difficulty in obtaining better digestion through the administration of pepsin in lowered secretion lies in the fact that we are unable to administer hydrochloric acid in sufficient amount to satisfy the demands of the ferments. In order to bring about good digestion relatively enormous quantities of hydrochloric acid must be given, and this the patient resents. We should realize that, while the administration of pepsin and hydrochloric acid under such conditions is a move in the right direction, the actual help to gastric digestion is really very small.

The question arises what influence for good may exist in pepsin *per se*. May it not exercise some beneficial effects on the organism regardless of its special action in the stomach? I am not aware that this question has been answered. We occasionally find patients who insist that they feel great improvement from taking pepsin, though we may satisfy ourselves that this does not depend on any marked improvement in gastric digestion.

As to the matter of the effect of preparations of pancreas on intestinal digestion, the situation becomes still more confused. I have not been able to satisfy myself that intestinal digestion is improved by the administration of any ferments whatever. If asked to prove this I should have to plead my inability. I have been unable to recognize the improvement either in the observation of the patient or the study of the stools. Cooperation between the secretions of the duodenum, of the pancreas and the liver, not to mention that of the stomach, is a matter of so much intricacy, as shown by the recent studies of Pawlow, Starling and others, that one feels reluctant to claim good results from the administration of diastase or pancreatic extract.

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[*] Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

On the whole it must be concluded that the question of the administration of digestive ferments in medicine is complicated and is rendered the more uncertain by lack of precise knowledge as to what becomes of them in the digestive canal. In our present state of knowledge, or rather lack of knowledge, it behooves us to be modest in claiming either good effects or no effects from the administration of these ferments.

There can be no question that a large number of preparations which have been placed on the market are practically inert. Many combinations that are widely advertised, and presumably largely prescribed, are self-destructive, provided they are made as represented. That is to say, the various elixirs, etc., said to contain pepsin, pancreatin, hydrochloric acid, lactic acid, vegetable diastase, etc., are not only unphysiologic in theory, but by careful analysis made by the Council on Pharmacy and Chemistry of this Association, have been shown to be practically worthless so far as digestive activity is concerned.

This is not the least of many contributions to the enlightenment and assistance of the profession which have been made by the Association in recent years, and this seems to be a good occasion to express a recognition of the service.

436 Franklin Street.

ABSTRACT OF DISCUSSION

Dr. George Dock, New Orleans: My experience with the digestive ferments is rather unpleasant for those engaged in their sale. I think that Dr. Stockton was gentle in his reprobation. I have never prescribed digestive ferments. To be sure, some of my enthusiastic assistants have prescribed them, but never with any good results that I could see.

Dr. C. S. N. Hallberg, Chicago: It might be interesting to remark that in 15,000 prescriptions in the city of Philadelphia, representing about fifteen different pharmacists and one hospital, pepsin as such was prescribed 356 times, essence of pepsin 398 times, glycerite 15 times, the wine 20, the compound powder 18 and the aromatic 5. Pancreatin leads with 177 times. That means that the two main preparations of pepsin, that is, pepsin itself and the essence, were prescribed 750 times on 15,000 prescriptions. This shows that not all practitioners agree with Dr. Dock's theory.

Dr. Charles G. Stockton, Buffalo, N. Y.: I did not prepare this paper as a voluntary contribution, but at the request of the management, and I realize that it has practically nothing new in it. It is simply a belief perhaps too nihilistic, which I expressed as best I could.

Moscow Free from Cholera During Prevailing Epidemic.—P. Blumenthal contributes an article to the *Zeitschrift für Hygiene und Infektionskr.*, xliii, 199, 1909, calling attention to the brilliant results of the installation of a good water service in warding off cholera as evidenced in the experience at Moscow last year. During 1908 there were 9,000 persons attacked with cholera at St. Petersburg, while notwithstanding the constant communication with Moscow, there were only sixteen cases of cholera at Moscow during the year. Moscow used to have extensive epidemics of cholera, three in particular, in 1830, 1848 and 1853, having included respectively 8,798, 59,000 and 4,000 cases with the usual mortality of approximately 50 per cent. In 1893 a new system of water works was installed, providing the entire city with good spring water, supplemented in 1900 by an equal amount of river water passed through nine filters, after which the number of bacteria is much below 100 to the c.c., ranging from 5 in winter to 41 in June as the extremes.

THE REMOVAL OF TUMORS OF THE PITUITARY BODY BY AN INFRANASAL ROUTE

A PROPOSED OPERATION WITH A DESCRIPTION OF THE TECHNIC

ALLEN B. KANAVEL, M.D.
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CHICAGO

The various operations designed for the removal of tumors of the pituitary gland in which entrance is made through the nose have all passed through the upper part of the nasal cavity.

After an extensive study of the anatomy and repeated operations on the cadaver, I have worked out the details of an infranasal procedure and herewith submit the details of the technic.

In general, two routes are proposed, the intracranial and the extracranial or trans-sphenoidal. The former has been suggested by Caton and Paul, Krause, Kiliani and Caselli, and put into use by Horsley and McArthur. In the main, however, surgeons are inclined to view that approach with disfavor owing to the difficulties and dangers incident thereto, and Braun is the only one of the recent contributors who maintains that the route is practicable. Certainly, a study of the anatomy and the reports of the pathology, present in the cases, distinctly favor the trans-sphenoidal route, for, while a few of the tumors rise in the sella turcica, in a great majority of cases they erode the floor and grow downward. This latter fact must not be lost sight of in considering the proper course to pursue, since we are dealing not with the normal anatomy, but with a pathologic condition, which in this case fortunately lessens the difficulties of the operation. I have worked over the various methods of approach to the sphenoid proposed by various men.

One of the simplest of the proposed methods of reaching the sphenoid base is by an incision passing between the base of the tongue and the angle of the inferior maxilla, but its difficulty is that the point of entrance is too far away for easy work and it is chiefly unsatisfactory since it strikes the sphenoid at an angle, and in a majority of the skulls I examined would necessitate an extensive removal of bone and even then be unsatisfactory.

The splitting of the superior maxilla, as suggested by König and Hertle after the method of Gussenbauer, is a severe operation and does not give any better access than the simpler methods.

The remainder of the operations have consisted in some method of turning the nose to one side or down and thus reaching the sphenoid after removing the ethmoid cells and turbinates and at times making even more extensive resections. Among these may be mentioned the operations of von Michel, Giordano, Löwe, Moszkowicz, von Eiselsberg, Schloffer, etc. Löwe made a longitudinal incision a little to one side of the median line of the nose, cutting through bone and soft parts. The two sides of the nose are then turned back and the ethmoid cells and turbinates removed, the septum being either deflected to one side or resected. The sphenoid cells are then opened.

Moszkowicz and Tandler proposed to make an incision along the side of the nose and to turn it to one side. The operation then proceeds along the lines just described. They proposed to secure more room at times by the removal of the nasal process of the superior maxilla and the under wall of the frontal sinuses. The operation was performed in two stages; the first part carried the operation down into the sphenoid cells as described above; a flap of skin was then secured from the forehead and turned in along the cribriform plate, the tip reaching into the sphenoid cells. This was done with the idea of preventing meningitis. At the second operation the floor of the sella turcica was broken down and the tumor removed. It may be remarked in passing that, aside from the dangers of the operation, the floor of the sella turcica is generally destroyed at the time the patient comes to operation.

Schloffer in his case turned the nose to the right, excised the turbinates, the ethmoid cells, and the septum, removed the inner wall of the left orbit down to the optic foramen and the inner wall of the antrum of Highmore with a portion of the nasal projection of the left superior maxilla and then removed the tumor through the sphenoid cells.

Hochenegg turned down the nose, removed the ethmoid cells, septum and turbinates, made a bone flap of the anterior wall of the frontal sinuses and then passed through the sphenoid cells.

Von Eiselsberg operated each time by turning down the nose by what he refers to as the *Stimmegabelschnitt* (tuning-fork incision), removing the anterior wall of the frontal sinuses, the ethmoid cells, turbinates and septum. Borchardt operated after Schloffer's method.

It is thus seen that the essential feature of all these operations consists in reaching the sphenoid cells by the supranasal route.

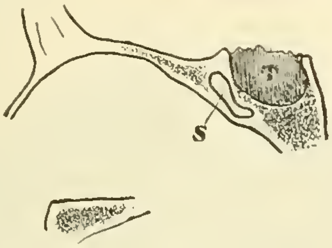

Fig. 1.—Finding on the *x*-ray plate of the tumor in a patient under observation.

Against this route is the great danger of meningitis arising through the cribriform plate, and the necessary removal of the ethmoid cells in addition to the turbinates with the attendant hemorrhage. Moreover, in von Eiselsberg's cases there was marked deformity following recovery. In favor of his operation was the fact that the distance from the surface to the sphenoid is slightly less, and, moreover, it seemed that one might have more definite landmarks to follow. This latter advantage I soon found was more apparent than real, since, owing to the downward curvature of the cribriform plate in two of my skulls, I was led to enter the sphenoid too low down. This will be seen by examining Figure 6.

In my search for a simpler method I was led to turn the nose up and thus follow a route to the sphenoid through the inferior part of the nares. I was surprised at the simplicity of the procedure, the good field it gave to operate through and the apparent security of the results. Moreover, it appealed to me because of the minimum of hemorrhage and the markedly lessened chances of infection.

The essential steps of the operation, therefore, are as follows:

The nose is turned up and entrance made into the inferior part of the nasal cavity: the septum is cut along its inferior part and its attachment to the perpendicular plate of the ethmoid. The middle turbinates are removed and the septum deflected to one side. We thus have a perfect view of the field of operation on the sphenoid. The sphenoidal foramina are located, and the interfering attachment of the perpendicular plate of the ethmoid and the vomer are bitten away. The anterior wall of the sphenoid cells is broken in, and by the aid of a Hajek-Schmithuisen punch forceps the sphenoid cells are opened up and the tumor removed as in any other procedure. It is essentially, then, an infranasal route.

By this method in nine cadavers I had no difficulty in opening the sphenoid cells and removing the floor of the sella turcica. In no case did I miss it and open any other part of the floor of the skull, an accident which did occur once during an operation by the von Eiselsberg method, when, following the roof of the nose as a guide, I was carried by its downward curvature under the sella turcica. Moreover, the technic was so simple as to take a minimum of time. The only real difficulty encountered was the variation in the sphenoidal sinuses, and this, of course, is attendant on any type of trans-sphenoidal operation.

A few of the practical points brought out by the cadaver work and study may be mentioned.

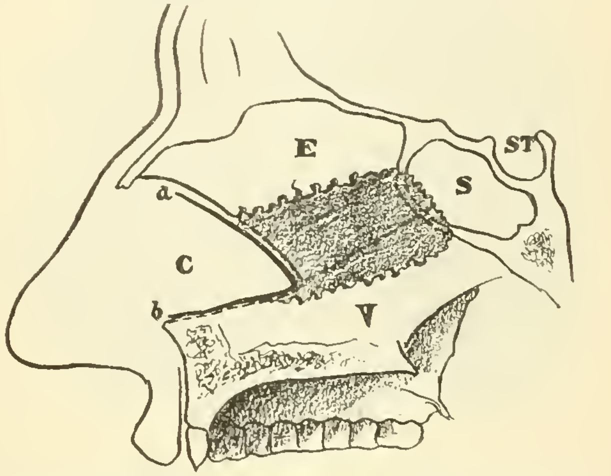

Fig. 2.—Line of incision (a-b) for the elevation of the cartilage (C). The perpendicular plate of the ethmoid (E) and the vomer (V) are shown as bitten away, as well as the anterior wall of the sphenoidal sinus (S).

In my cadaver work I made an incision around the lower half of the nose close to the crease at the alæ and close under the nares so as to have a minimum of scar. It may be necessary to excise the anterior end of the inferior turbinates. It is easily held in this position by the Jansen mastoid retractor. The deflected septum is held to one side with a Fraenkel nasal speculum, which holds the cavity wide open and yet does not interfere with the subsequent manipulations. Long, delicate yet strong instruments should be provided. The Hajek-Schmithuisen punch forceps is of great aid and it will be advantageous to have a narrow chisel with the end deflected at about 20° from the straight line. This is used in entering the sella turcica from the sphenoid. The attachment of the vomer to the sphenoid must be used as guide to the median line, since the septum between the sphenoidal cells is generally not in the median line and is asymmetrical in its relations. Many variations are noted in the sphenoidal cells. They may not be clearly separated from the ethmoid cells and it may be necessary to excise these latter. The cells vary greatly in size in different individuals. They may be no larger than peas, although this is uncommon, since they are generally of fair size. They may be extremely large. At times a horizontal septum divides them into four, and here it is difficult while operating to say whether you are

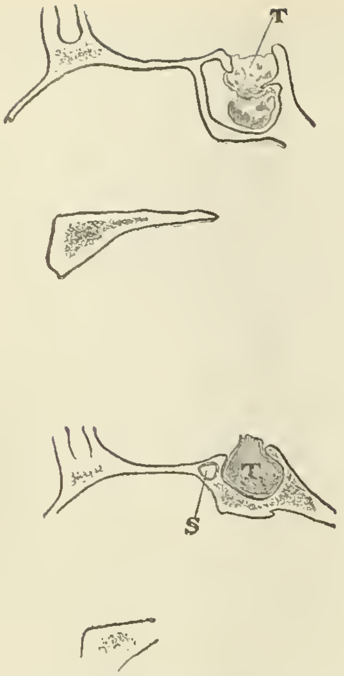

Fig. 3.—Tumors of the pituitary body, showing their relation to the sigmoid sinus. The upper drawing is from Zuckerkandl; the lower from Schloffer; the latter, and those in Figure 4, being from specimens in the museum at Prague.

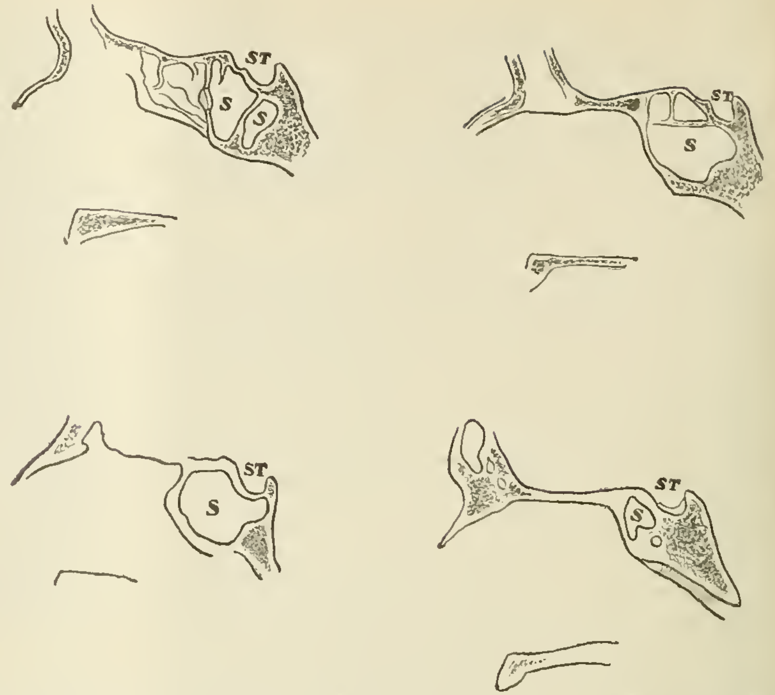

Fig. 5.—Relation of the sphenoidal sinus (S) to the sella turcica (S T) in various skulls.

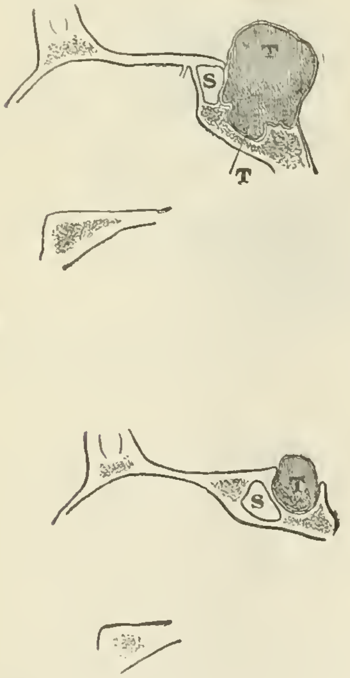

Fig 4.—Tumors of the pituitary body, showing their relation to the sigmoid sinus; drawing from Schloffer.

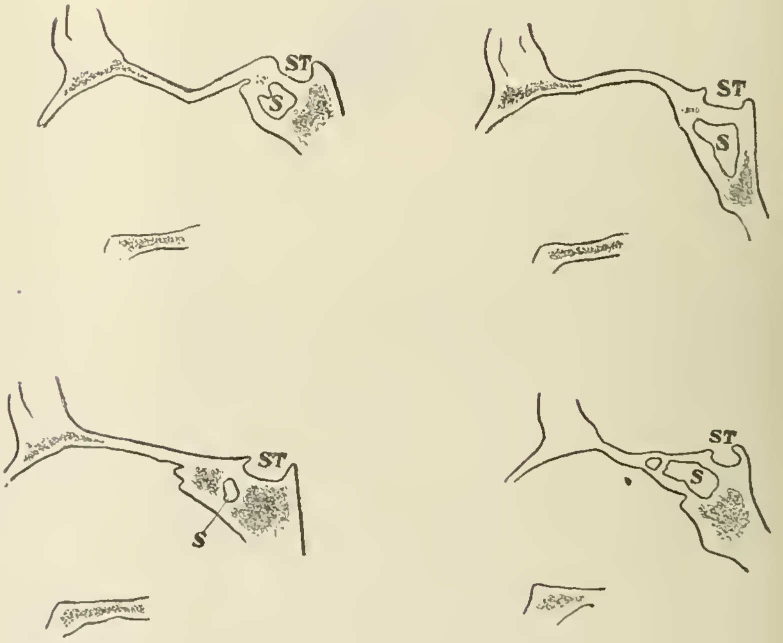

Fig. 6.—Relation of the sigmoid sinus (S) to the sella turcia (S T) in various skulls.

in the ethmoid or sphenoid cells. The sella turcica is also subject to great variation in size and position. These general facts may be seen from the drawings herewith shown, drawings made from my own cases and some redrawn from Zuckerkandl (Figs. 3-6). The changes in the relations due to tumors of the hypophysis are also shown in the drawings taken from various sources. Some idea of the relations may be secured from noting the position of the foramina. Zuckerkandl gives the accompanying table.

It will thus be seen that the roof of the sphenoid cells will lie approximately a centimeter above the foramina.

RELATIONS OF SPHENOIDAL CELLS TO FORAMINA

Height of Sphenoidal Sinus. mm.	Height of Foramen.		Height of Sphenoidal Sinus. mm.	Height of Foramen.	
	From Bottom. mm.	From Top. mm.		From Bottom. mm.	From Top. mm.
13	9	4	24	16	8
18	8	10	25	8	17
20	9	..	25	14	11
22	16	6	25	14	11
21	15	9	27	19	8

The distance from the bony entrance to the sella turcica should be measured on the *x*-ray plate. This information is of considerable aid while operating. It is normally about 8.5 cm. A good light is essential. The Kirstein or other head-light is satisfactory. The questions as to position of the head, packing the nasal cavity before the operation with adrenalin-soaked gauze, the type of anesthetic, etc., are not germane to my subject, except that one should consider favorably the rectal anesthesia as administered after the method of Professor Besley and Dr. Churchill. The anatomic work was done in the laboratory for experimental surgery of Northwestern University. I acknowledge the great help of Drs. F. Gurney Stubbs and H. M. Richter in developing the technic.

SUMMARY

The infranasal route is proposed in contradistinction to the supranasal route for reaching the tumors of the pituitary body. The technic in general consists in elevating the nose, cutting the cartilaginous septum, removing the middle turbinates, deflecting the septum, locating the sphenoidal foramina, biting off the intervening attachment of the perpendicular plate of the ethmoid and vomer, entering the sphenoid cells and thus reaching the floor of the sella turcica.

103 State Street.

CYSTOCELE

A RADICAL CURE BY SUTURING LATERAL SULCI OF VAGINA TO WHITE LINE OF PELVIC FASCIA *

GEORGE R. WHITE, M.D.
SAVANNAH, GA.

Ahlfelt states that the only problem in plastic gynecology left unsolved by the gynecologist of the past century is that of permanent cure of cystocele.

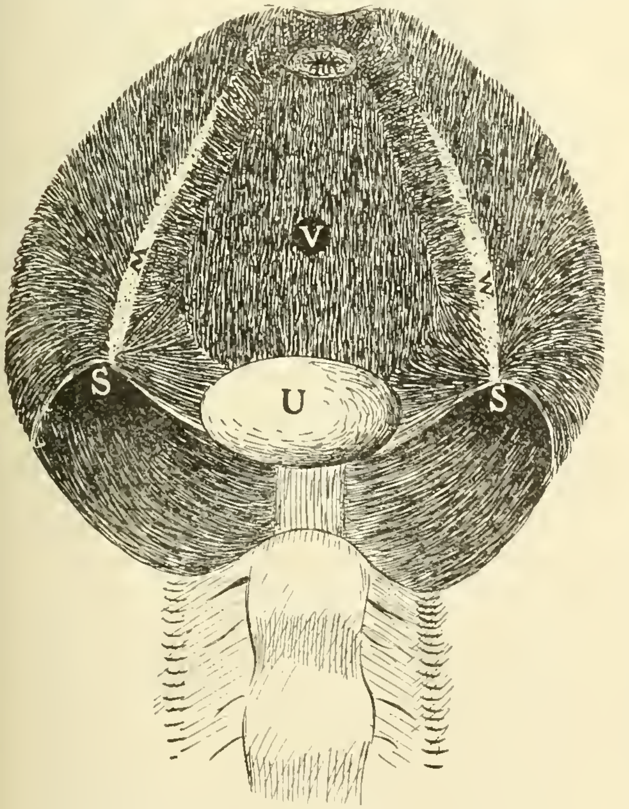

Fig. 1.—Attachments of the vagina seen from above; (u) uterus; (s) spine of ischium; (w) white line, (v) vagina.

That these cases recur after operation is too well known. The late Paul Numde states that all of his cases ended in failure and he had given up operating for that condition. The reason for failure seems to be that the normal support of the bladder has not been sought for and restored, but instead an irrational removal of part of the anterior vaginal wall has been resorted to, which could result only in disappointment and failure.

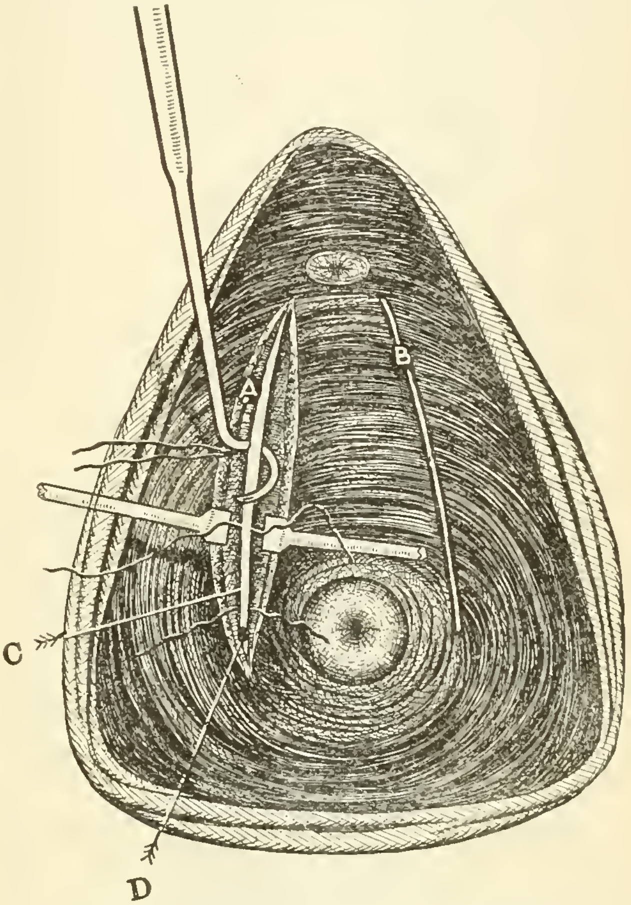

Fig. 2.—Passing of sutures (a) back of the white line by Deschamp's handle-needle; two sutures in place; incision (b) from lateral sulcus of vagina to side of urethra; (c) white line; (d) spine of ischium.

The support of the bladder may readily be determined in the cadaver by making a suprapubic incision and attempting to push the bladder out through the vulva. It will be found to rest on the anterior vaginal wall to which it is slightly adherent. If the bladder be pushed aside and an attempt made to push the anterior vaginal wall back toward the perineum its support comes out very plainly. It is attached to the symphysis pubis and pubic bones in front, laterally to the white line of the pelvic fascia and ischiatic spine; and, above and behind, to the uterus. The uterus, being freely movable, is no important factor in the case and the real support of the vagina comes from its attachment to the white line of the pelvic fascia and especially a thick bundle of fibers attached to the spine of the ischium and radiating out on both the anterior and posterior surface of the vagina. If the fibers along the white line, and especially those originating from the spine, be cut across, the vagina falls down and can be pushed out of the vulva in the manner of a cystocele. It is, therefore, evident that a cystocele is caused by the breaking loose of the vagina from the white line which can readily occur during labor and especially in an instrumental delivery.

I have recently had an opportunity to observe the actual occurrence of this lesion in a case of instrumental delivery for eclampsia, in which a laceration run-

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

ning along the lateral sulcus of the vagina laid bare the spine of the ischium, and separated the vagina from its attachments. Had the patient lived, she would undoubtedly have had a cystocele.

In another case of a young primipara delivered by forceps without any laceration, except a small tear along the lateral sulcus of the vagina, a complete cystocele developed within a month, although the perineum was intact and the uterus was in normal position.

In the treatment of cystocele the object is to reattach the vagina to the white line of the pelvic fascia, especially at its origin from the ischiatic spine, which can be done through the vagina without great difficulty.

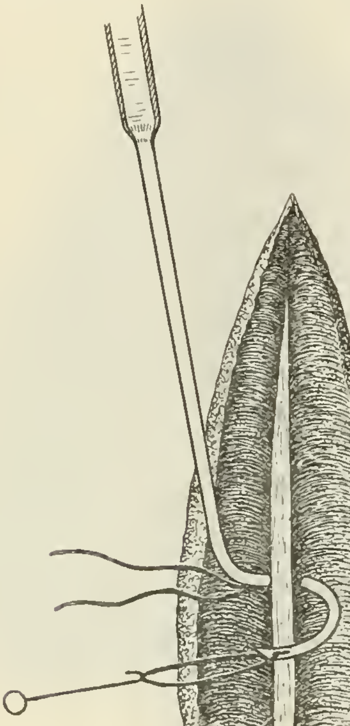

Fig. 3.—Passing suture behind the white line by the Deschamps needle; drawing out a loop of the thread by hook.

The vagina is held open by two retractors, the ischiatic spine located by palpation, and an incision from one to two inches long made through the mucous membrane, parallel to the white line, and extending well up the vagina. The bladder is separated from the vagina by blunt dissection until the spine of the ischium and white line are reached and can be felt uncovered beneath the finger. Hemorrhage is seldom troublesome and can be controlled by a few minutes' pressure. The sutures, which are of chromicized catgut, are passed under guidance of the finger by a Deschamps handle-needle.[1]

The first suture goes back of the white line just as it joins the spine of the ischium. The handle-needle is taken off, and each end of the suture threaded on a separate needle; one needle is passed from within out through the median edge of the incision, taking a firm hold on the vagina; the other needle is passed in a similar manner through the lateral edge of the incision. The two ends are then clamped and are ready to be tied. A similar suture is placed half an inch lower down on the white line, and when this is in place both sutures are tied, bringing the lateral sulcus of the vagina in contact with the white line of the pelvic fascia.

Should there be any prolapse at the outlet of the vagina, the incision may be extended down alongside of the urethra and the vagina sutured to the dense fascia covering the pelvic bone. The opposite side is treated in a similar manner and when both sides are tied the anterior vaginal wall is drawn up in a normal position, and has no tendency to sag, even when the patient coughs or strains. The vagina reaches across from one ischiatic spine to the other, without any tension; it collapses when the retractors are removed and normal relations of the parts are restored.

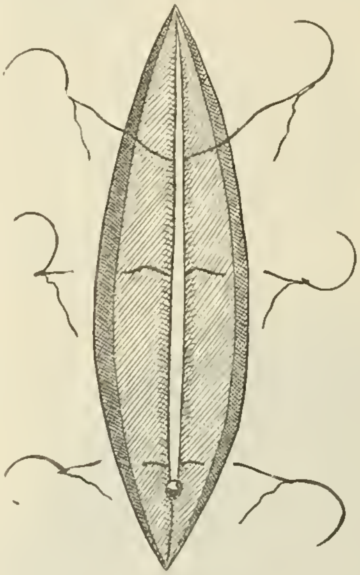

Fig. 4.—Suturing the lateral sulcus of the vagina to the white line.

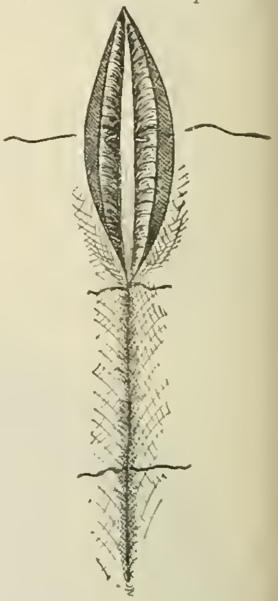

Fig. 5.—Closing the wound; two sutures tied.

The operation is always done in combination with other plastic operations, and does not interfere in any way with them, nor does it minimize the caliber of the vagina, which is a matter of importance should extensive denudations be contemplated for a rectocele.

The immediate effect is satisfactory. There is not much pain; dysuria, if present, passes off in a few days. The patients get up in from ten days to two weeks.

I have performed the operation nineteen times in the past three years, always in connection with some other plastic operation. No recurrence of the cystocele has taken place, so far as I have been able to determine, though some of the patients could not be followed.

The operation presents the following advantages:

1. The normal supports of the bladder and vagina are restored.

2. There is no sacrifice of tissue.

3. Recurrences are rare and are due to faulty technic rather than faulty principles.

4. The operation is done without interfering with any other plastic work about the vagina.

4 Liberty Street, West.

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[1] I make use of a Deschamps needle, described by Charles Peck in his article on cleft palate, Annals of Surgery, January, 1906, xliii, 10.

ABSTRACT OF DISCUSSION

Dr. H. Grad, New York City: At the Woman's Hospital in New York we have passed through a series of stages in plastic surgery. It was in this place that Sims began his plastic surgery, followed by Emmet, Thomas, Peasley and others. We formerly operated there on a plan devised by Emmet of denuding the anterior wall of the vagina in cystocele with the addition of a suture Emmet devised. A denudation is made on either side of the cervix and also in the median line on the anterior wall of the vagina, and when these three denudations are brought together the cervix is pushed into the hollow of the sacrum. That was the first principle of a successful operation on the anterior wall as practiced in the Woman's Hospital. This operation was done for a great many years, but we had a great many recurrences. Within the past few years another method has been followed there, and that is the method of Dr. J. Riddle Goffe. In this operation a longitudinal incision is made from the urethra to the cervix on the anterior wall of the vagina and a transverse incision along the cervix. These two incisions open up the entire anterior wall of the vagina, the bladder is dissected off, which is a very important point, because the bladder wall becomes adherent to the anterior wall of the vagina in a way that is vicious. Dr. White did not mention cystocele where no traumatism has occurred. In the unmarried woman there is no traumatism, but a gradual loss of the support, and the result is cystocele. By dissecting off the bladder as practiced by Dr. Goffe, we find that we get absolutely perfect results. He sutures the base of the bladder to the anterior wall of the uterus with three fine catgut sutures to hold the bladder out of place. The pelvic fascia is brought together in the same manner as one does in operating for a hernia.

It seems to me that the operation described by Dr. White is a very good one because it is based on good principles, but I believe that unless the bladder is at the same time separated from the anterior wall of the vagina there will be some recurrences.

Dr. C. W. Barrett, Chicago: The principles on which cystocele is treated must be based on the fact that cystocele or rectocele, or prolapse of the uterus is a hernia through the pelvic floor, and we must take into consideration the supports of the pelvic organs and the abdominal organs as well. The viscera, including the pelvic organs, are supported by ligaments and then by a limiting wall, and that limiting wall grows in importance as it goes downward. The pelvic floor is in the unfortunate position of having to play fast and loose, of having to be a most important part of the abdominal wall, because it is the lowest, and it must allow the passage of the child's head which distends the soft parts of the pelvic floor to the extreme limits of the bony parts; and these muscles must again contract so as to serve as the most important part of the abdominal wall. When important structures run through the abdominal wall, as we see in the inguinal region, instead of running straight through, they run through one part, then along the wall obliquely and then through the remaining portion of the wall. In the lower animals, the canal being more oblique, we have less tendency to hernia. As the intra-abdominal pressure increases, the pressure of the internal layer is against the external layer. In animals that walk on all-fours, very little of the pressure comes on the perineal region. In the higher class of animals and in man the muscles which have no use as tail muscles form in the median line the levator ani muscle. Occasionally in an individual we see, without trauma of the pelvic floor, that the muscle presents almost no fibers meeting in the median line, so that no support is derived therefrom and a tendency to hernia is created by reason of atavism of the muscle. We find that the patient needs a perineorrhaphy just as badly as the patient who has had a traumatism of the pelvic floor. To cure cystocele and rectocele we must do several things: 1. Create a good strong pelvic floor, that does not depend on any skin operation nor on a mucous membrane operation. It is herniotomy; going in and getting hold of the levator muscle which has been formed in the upright animals, but which has been displaced by traumatism or which has never met in the median line. 2. We must put the vagina out of a perpendicular line so that the anterior segment rests on the posterior. 3. If the vagina is so loose that no matter how good a pelvic floor we make, it would gradually work out over the perineum, we must do something with the vaginal canal; and it may be that this method is a good one. I have had no reason to discard the method of taking out an eliptical piece in the anterior wall; not a scarification, but a deep dissection of the anterior wall and bringing it together. 4. We must not only do these two things, but we must put the uterus out of line with the vagina. If we leave the uterus in line with the vagina it will dissect its way down through the vagina again.

Dr. I. S. Stone, Washington, D. C.: I agree with Dr. Barrett that there are two very strong "floors," or a division of one floor into two. It is very easy to understand this if we make a dissection from below or above, that the upper plane of this floor, as well as the lower, has strong bundles of fascia which may be demonstrated. If any one will make this dissection they will never fail to utilize it in an operation for cystocele. I can not understand how anyone, after these several years of advanced pelvic work, can continue to use a method denudation. Suppose we have only this upper "floor," as Dr. Barrett has said. If the uterus be left in such a position with the small end forward it will eventually prolapse. But if the uterus be so placed that the fundus is forward and the cervix backward, and in addition to the cystocele operation a proper perineal operation be performed, the patient is cured.

Dr. A. Goldspohn, Chicago: About seven years ago I published an article, with illustrations of the technic, entitled, "Intrapelvic and Infravaginal Perineorrhaphy, Without Loss of Tissue." I am glad that correct anatomic principles are finally gaining ground, with the profession, in regard to this operation; because until recently, this operation was in most hands a very superficial and incomplete performance, merely a cosmetic affair, which really improved the condition of the woman very little. As I pointed out in my first article on the subject, a German first called attention to the correct anatomy of the levator ani muscle, and its important function in this regard. I have wondered for years why it was that his countrymen did not incorporate his correct anatomic principles in their surgical attempts at perineorrhaphy. I was recently informed by one of them, that it was because they did not have buried suture material. But we have had absorbable sutures for a number of years and have been rather slow in this country in grasping the proper scope, of this operation, and in bringing an efficient technic into general use. Recently Dr. Barrett has become active in this matter, and he practically advocates the same principles, that I have contended for all these years. The play of normal forces in a woman's pelvis, is such, that when she strains, that is when intra-abdominal pressure is exercised, the pressure strikes the vaginal tube, sideways from above, the body of the uterus being during the same time, driven forward, in intensified anteversion. The anterior vaginal wall is driven against the posterior vaginal wall, which in turn is or should be driven against the pelvic diaphragm, the levator ani below. In that manner the vaginal tube is closed against the descent of anything through its lumen by evagination. The bridge of the levator ani muscle which normally passes from one side to the other, back of the vagina and in front of the rectum, is best restored when it has been injured, by temporarily raising the posterior vaginal wall, and then uniting the important structures by purely transverse buried sutures, and then adjusting the detached vaginal wall in folds on the new bridge.

Uterine prolapse in this country being almost altogether in women past childbearing years, or in those who are willing to surrender that function, can be treated very successfully as a rule, by combining a vaginofixation or a ventrofixation of the uterine body or fundus, (by a fibrofibrous union), with a thorough restoration of the anatomy of the levator ani muscle as a pelvic floor or diaphragm. Moderate cystoceles require no other treatment than the building up of such a normal support for them from below. When they are very marked or large, however, it is usually necessary to attack the anterior vaginal wall, also to give the bladder a new location higher up or on the fundus uteri, where it can not again invite the disorder, and to abbreviate the expanded anterior vaginal wall. The latter is better done not by resection, but partly at least, by sliding a flap of one side under that of the other side, after appropriate detachment, and denudation, thus doubling this wall, over the median area, where it was formerly most attenuated.

Dr. G. R. White, Savannah, Ga.: I have been surprised many times in working out this subject to follow the logic of many of the operations recommended for the cure of cystocele. Everything as recommended except repair of the anatomic supports of the bladder. The problem of keeping the bladder in place is solved in repairing the shelf on which it rests. Otherwise I do not see how we can expect to cure cystocele. The point of great importance is that the pelvic organs are a unit. It will not do to repair one part and let the others go and expect to get a cure. There is no use in repairing a cystocele and leaving a relaxed perineum and prolapsed uterus.

THE MACROSCOPIC AND MICROSCOPIC APPEARANCES OF STOMACH CONTENTS

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NEW YORK

The subject of the macroscopic and microscopic appearances of stomach contents, especially the former, is one that has been neglected by gastrologists. The moment the examiner secures the contents he pours them immediately into the filter on the funnel for the chemical examination. I have to meet yet the man who carefully examines the stomach contents in gross and then makes notes of the macroscopic findings. Even the best text-books on the diseases of the stomach are almost silent on the subject. I myself can judge much better about the anatomic condition of the stomach from looking at the stomach contents than from the results of the chemical examination. I will illustrate by an example.

Here is a specimen of stomach contents that shows on chemical examination the following: Free hydrochloric acid, 30; total acidity, 60; lactic acid, 0; starch digestion, erythrodextrin; pepsin and rennet ferments normal; biuret positive. What would be the inference? Cannot tell, as everything seems normal. One glance, however, at the stomach contents will establish the diagnosis of the case. The contents present the following characteristics: It spouted out with great force, like a fountain of the stomach-tube. There is a large quantity of it. It is very watery. Very little bread in it. Small round granules (starch) are falling to the bottom. Anything like this makes the case clear at once. It is a case of hyperacidity.

Here is another example: Stomach contents on examination show free acidity of 37; total acidity, 73; lactic acid, 0; starch, amylodextrin; pepsin and rennin, normal; biuret, positive. What is the inference? Nothing distinctive. The case, however, is clearly one of chronic gastritis of the acid variety. And on gross examination the contents show it at once. There is a lot of mucus in the contents embedded within the food. Contents are rather profuse and fairly fluid, and I would, therefore, surmise this to be a case of acid gastritis.

The negative part of the examination is just as important as the positive. A patient presents himself and tells of his illness, which has come on him rather suddenly. He has previously been in perfect health. For past few weeks he has had a variety of dyspeptic symptoms, with some loss of flesh and strength, loss of appetite, etc. The diagnosis of cancer of the stomach naturally flashes through the physician's mind, and he gives the patient a test breakfast. The chemical examination of the contents gives a normal result. Would any one, in the face of that history, assert that there is no cancer? I hardly think so. If, however, the stomach contents are examined macroscopically and found to consist of a clear, thin, milky emulsion, this being supplemented by a negative microscopic examination (and I will point out later what is understood by a negative microscopic picture), I would not hesitate a moment in pronouncing this case to be free from cancer of the stomach. I shall proceed now to point out the characteristic features of the macroscopic and microscopic pictures of stomach contents in normal state and in disease.

NORMAL STOMACH CONTENTS

In order to establish fixed clinical pictures we must have a standard. The stomach contents must be extracted always after a certain time and after a fixed uniform meal. It will never do to compare the appearances at one time of a carbohydrate meal and next time of a meat meal, as the two meals will vary considerably in their appearance. Nor does the same meal look alike at different periods of digestion. Fortunately the Ewald test breakfast is marvelously well adapted to the purpose. Although I am in a habit of giving each stomach patient two meat meals as well as two Ewald test breakfasts, and I have, therefore, had the opportunity of examining as many meat meals as I have examined test breakfasts, I have not learned to judge of stomach contents consisting of a meat meal with the same certainty as of an Ewald test breakfast.

A normal test breakfast, when extracted three-quarters to one hour after it is eaten gives a uniform white milky emulsion. The particles of bread are very tiny and they are all of almost uniform size. The contents are neither too thick nor too fluid. One or two ounces are secured without difficulty either by expression method or by employing an aspirator. There is hardly any odor to it. On standing it will separate into two layers which will be almost even in volume, the bread being at the bottom and a rather turbid liquid at the top. There is no mucus to be seen in it in gross. Its color is white, but may shade off into a very faint yellowish tinge. Having made these observations I proceed next to pour the contents into the filter. I notice that the contents pour uniformly. There is no large aggregate of masses bound together. There is not much of adherence between the individual particles of bread; a very slight, almost inappreciable quantity of mucus. The contents filter with a fair rate of rapidity and in five to ten minutes we get 5 to 10 c.c. of contents filtered through.

Microscopic Examination.—A drop of the unfiltered stomach contents is put on a large glass slide and spread out evenly to a very thin layer with a glass rod. The unstained specimen is very unsatisfactory for microscopic examinations and the keenest observer will confound small starch granules, fat globules, yeast cells, cell nuclei and blood cells if they should happen to be there. (Blood cells are extremely uncommon in stomach contents, as they are digested by the gastric juice and lose their identity.) I have, therefore, discarded the unstained smears entirely.

The most satisfactory way of examining it is to use a solution of iodin and potassium iodid in the following proportions: potassium iodid, 0.1; resublimed iodin, 0.05; distilled water, 100. Gram's iodin may be used, but it is too concentrated and stains the mucus a bluish tinge. The iodin solution stains all the starch, which constitutes the bulk of the drop, blue or violet, according to the degree of the digestion of the starch, while all cellular elements, muscle fibers, yeast, sarcinæ, are tinged lemon-yellow color. Bacteria are not stained by it at all. This stain gives a beautiful and very satisfactory picture. The iodin evaporates quickly, however, and on working for fifteen or twenty minutes over the slide the colors fade, which can be remedied, however, by adding another drop of the solution; the colors are then restored. The solution must be kept in a glass-stoppered bottle, as the iodin will evaporate through both cork and rubber; will turn from the normal wine color of the solution to a straw color which then has no staining properties at all.

Normal stomach contents, when stained after the above method, will show large numbers of granules of varying size. They will all be dark blue or violet, which will alter with the degree of starch digestion, the latter circumstance, however, depending solely on the degree of the acidity of the stomach. The salivary ferment, the ptyalin, is always reliable and capable of carrying on the digestion of the starches with utmost satisfaction. It works, however, only in an alkaline, neutral and even faintly acid medium. According to Chittenden and Smith, it acts best when there is just acid enough to saturate the proteins present. This acid is called combined acid, as it enters into a chemical combination with the food. When there is acid present in excess of the affinities of the proteins present, i. e., above the degree of saturation, the acid remains free and is called free acid. It is this free acid that hinders the action of the salivary enzyme. It is obvious that in hyperacidity the rate of the secretion, the quantity of the acid containing gastric juice and the concentration of the acid cause the free acid to appear early in the digestion, and this checks the activity of the ptyalin. This is what gives the difference in coloration of starch with the iodin. The less the effect of the amylolytic enzyme the deeper does the iodin stain the starch and *vice versa.*

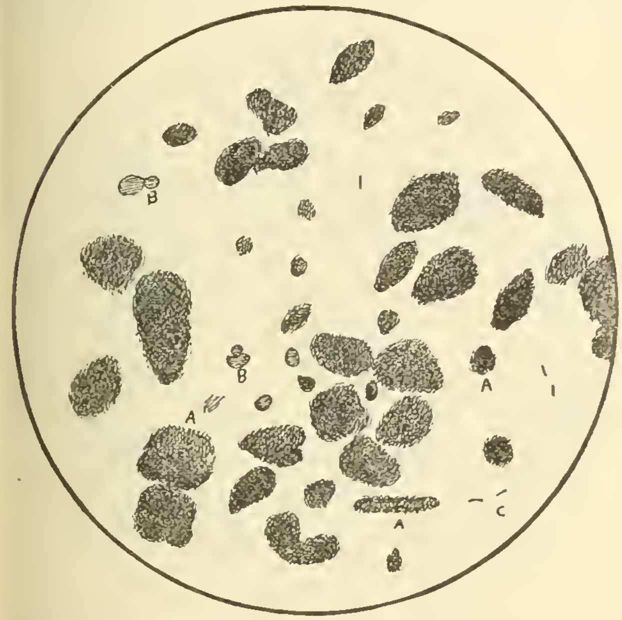

Fig. 1.—N. F.: Normal stomach contents. Test meal, stained with iodin solution; A, starch; B, yeast cells; C, micro-organisms. Leitz No. 7 objective; Ocular No. 2.

Besides the starch granules, a few yeast cells will be encountered. Yeast cells resemble very closely red blood cells, and the inexperienced eye will take them for such. They are almost of the same size. All red cells are of the same size, however; while yeast cells vary considerably, some being smaller and others being larger than a red cell. The main differential point is that yeast cells are oval, only rarely round. They are mostly situated in pairs. They are stained of a deeper lemon color by the iodin solution than red cells. In general red cells are a great rarity in stomach contents, while yeast cells are most frequent inhabitants of the gastric contents; occasionally an epithelial cell, just a few micro-organisms, cocci and bacteria (No. 7 Leitz). A bit of mucus may be met here and there.

The Stomach in an Empty State.—In fasting condition the stomach is contracted with the two walls lying in apposition to each other and no secretion is present. This is the view held by most writers, although some authors oppose it. We often, however, meet cases in which the introduction of the stomach-tube into the jejune stomach brings forth a few drams of fluid. This may have been left from the former meal. It may consist of swallowed saliva, or it may consist of duodenal secretion regurgitated through the pylorus. Some bile-stained fluid is of very common occurrence in the jejune stomach and this would imply regurgitated duodenal contents. The pylorus does not seem to be tightly closed when the stomach is empty. Boas[1] is of the opinion that the constant presence of bile in the stomach points to a stenosis of the descending portion of the duodenum. I have never found any acid present in these small quantities of secretions obtained from the fasting stomach, except in cases of Reichmann's gastrosuccorrhea. I have never tested them, however, for the presence or absence of enzymes.

By washing a fasting stomach we get off a good many exfoliated epithelia, bacteria and mucus, and from these a good deal of useful information may be secured on microscopic examination. I have examined the centrifuged sediments of the washings and will point out the results. In a normal stomach the washings are almost negative. Here and there an occasional cell is seen and some mucus and mucous corpuscles.

This completes the picture for normal, physiologic stomach contents. Anything beyond it either quantitatively or qualitatively is pathologic.

PATHOLOGIC STOMACH CONTENTS

Hypersecretion, Hyperacidity, Hyperchlorhydria.—The change in the character of the secretion is evident from the moment the tube passes through the cardia. The stomach contents rush through with a sudden gush and several ounces are obtained in a moment. On inspection the contents are seen to be profuse, very watery, with very little solid matter, possibly no food at all or heavy round little granules, like granules of sand, falling to the bottom. There is a marked acid odor. On standing, a very thin layer of solid granules appears at the bottom, with a large quantity of liquid over it. At times a small layer of thin bread particles float to the top, thus forming three layers: solids at bottom, liquid in the center and a thin layer of very light bread particles permeated by gases floating to the top. I will discuss later the significance of this. The contents filter very readily, almost like water through the filter-paper.

It is this profuse, watery condition, with or without the small, sand-like, starchy granules falling to the bottom. that makes the diagnosis of hyperacidity, no matter how low the figures for free, combined and total acidity should be. The explanation is obvious. Although the gastric juice be not concentrated and it contain not much hydrochloric acid in each individual cubic centimeter of stomach contents, the quantity of gastric juice being large, the total quantity of hydrochloric acid is necessarily high.

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[1] Boas: Deutsch. med. Wchnschr., 1891, No. 28.

I employ this method of inspection exclusively in diagnosis of hyperacidity and never try to extract all the stomach contents. I consider this latter method both cruel and inaccurate. The test meal, as a rule, is being given to patients who are not accustomed to the use of the tube, and we ought to be perfectly satisfied if we get enough contents to yield after filtration about 10 or 15 c.c. for examination. It is a great torture to such a patient to try to empty the stomach completely, and, more than that, it is an impossibility to empty such a stomach. It is a very difficult task to perform even in a perfectly tolerant stomach. I will advise any skeptic who may doubt these latter words of mine, after he washes out the patient's stomach and he is convinced that the stomach is perfectly empty, to put the patient on a couch, have the patient relax himself and to splash the patient's stomach vigorously; he will elicit a very marked splashing. He will appreciate then how hard a task it is to empty a stomach completely.

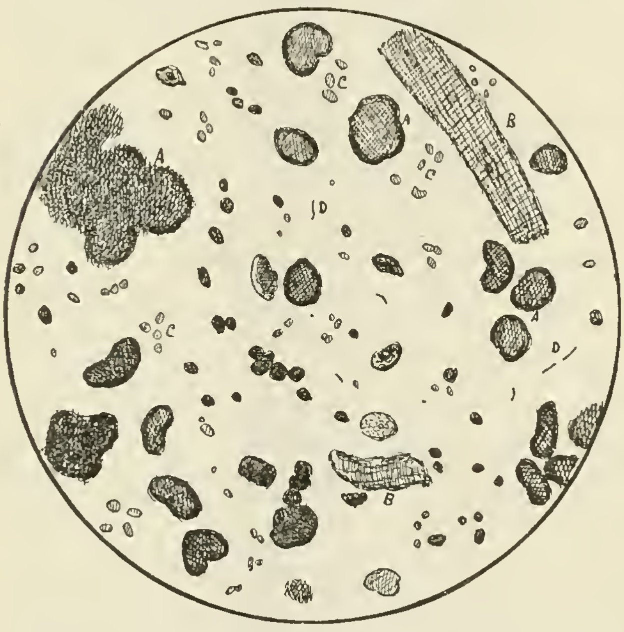

Fig. 2.—M. A.: Hyperacidity. Meat meal, stained with iodin solution; A, starch; B, muscle fibers; C, yeast cells; D, micro-organisms. Leitz No. 7 objective; Ocular No. 2.

Microscopic Appearance: The starch granules are of large size. They stain deep blue or black with the iodin solution. Yeast cells are present in abundance, much more than in normal stomach contents. A good many bacteria float around. This latter fact would be contrary to the general teaching of physiologists, that one of the functions of the hydrochloric acid in the stomach is as a bactericide. My studies in the microscopy of the stomach contents have shaken my faith considerably in this doctrine. It is my belief that the real bactericidal power of the stomach lies in its motility. When the motility of the stomach is normal, the micro-organisms are not so abundant, it matters not whether the acidity is below or above par; while on the other hand, even in the most marked cases of hyperacidity, such as we often meet in benign obstructions of the pylorus, the bacterial flora flourishes to stupendous proportions.

In case of a meat meal the muscle fibers are seen in hyperacidity to be very well digested, the striæ of the muscle fibers being almost obliterated.

The microscopic appearance of stomach washings from the empty stomach presents the same features as does that of a normal stomach: a few epithelial cells here and there; also some mucus and mucous corpuscles.

Gastric Fermentation.—I do not mean to classify this as a distinct disease. It is merely a single pathologic feature which occurs in a variety of gastric diseases, and it is appropriate to point out how this can be recognized by the stomach contents.

The stomach contents, in case of fermentation, when put in a beaker or bottle, separate into three layers: a layer of food at the bottom, a layer of turbid liquid in the center and a third layer on top. This layer consists of thin fermented particles of food permeated by gases which float them to the top, mixed with some mucus and also fat. We must differentiate this topmost layer of food from a mere layer of fat which has been ingested and which floats to the top. There is often a very offensive odor to the contents. The most frequent occurrence of stomach contents of such a character is in cases of motor insufficiency due to obstruction, mostly benign, and at times malignant, and also cases of atony of the stomach. It is often encountered in cases of hyperacidity, this probably being due to some fermentation within the stomach, owing to its retarded digestion of starches occasioned by the hyperacidity, since the ferment of the saliva—the ptyalin—works only in a neutral, faintly alkaline or faintly acid medium.

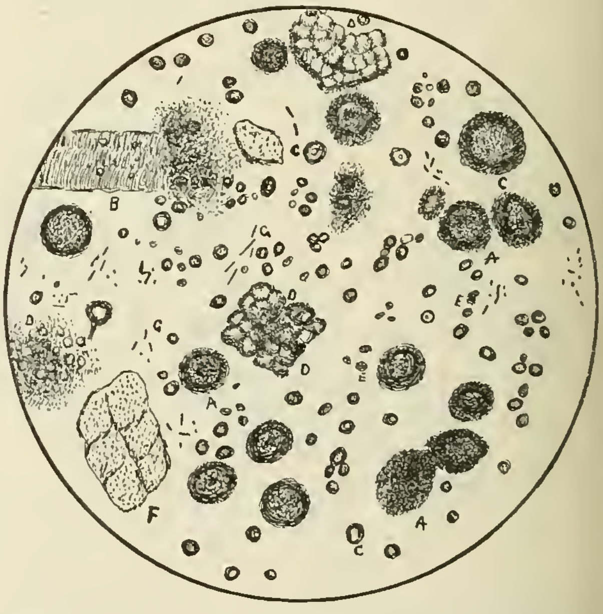

Fig. 3.—M. P.: Benign obstruction of the pylorus. Test breakfast, stained with iodin solution; A, starch; B, muscle fibers; C, fat; D, sarcinæ ventriculi; E, yeast cells; F, vegetable cells; G, micro-organisms. Leitz No. 7 objective; Ocular No. 4.

Gastric Ulcer.—The stomach contents may contain fresh blood, a phenomenon, however, which is seldom met. More often the contents have the appearance denoted by the classical name "coffee-grounds." "Coffee-grounds" are a cleavage product of the blood brought about by the gastric digestion. The coloring matter of the blood—the hemoglobin—through the enzymatic action of the gastric or pancreatic secretions, is converted into a protein body named globin and a ferruginous coloring matter, hemochromogen, which latter, in the presence of oxygen, becomes quickly oxidized into hematin. It is this hematin that imparts that characteristic color of coffee-grounds. Microscopically the red and white corpuscles can be made out but with great difficulty, since they become digested by the gastric juice, which is, as a rule, very active in cases of gastric ulcer, as these cases are accompanied by hyperacidity.

In interpreting the meaning of coffee-grounds one must be very careful, as the patient instead of the regular test meal may take coffee, and, what is worse, may try with all his might to deceive the doctor. The microscopic examination of coffee-grounds being of no value on account of the loss of the identity of the red and white corpuscles which can be made out but with great difficulty in such cases we have to resort to a chemical test, such as the hemin test, etc. A very satisfactory and simple test, indeed, and the one which I employ is this: To equal parts of chloroform and turpentine are added one or two drops of fresh tincture of guaiac. This is shaken; some of the solution to be tested is added and the mixture shaken. In the presence of blood the mixture turns blue. I wish to caution the reader not to rely too much on the presence or absence of blood, whether in gross or microscopically, in the diagnosis of ulcer of the stomach, as blood is not often met in the stomach contents in such cases. In cases of carcinoma of the stomach this is a much more common phenomenon. In ulcer, black stools should be rather looked for than blood in the stomach contents.

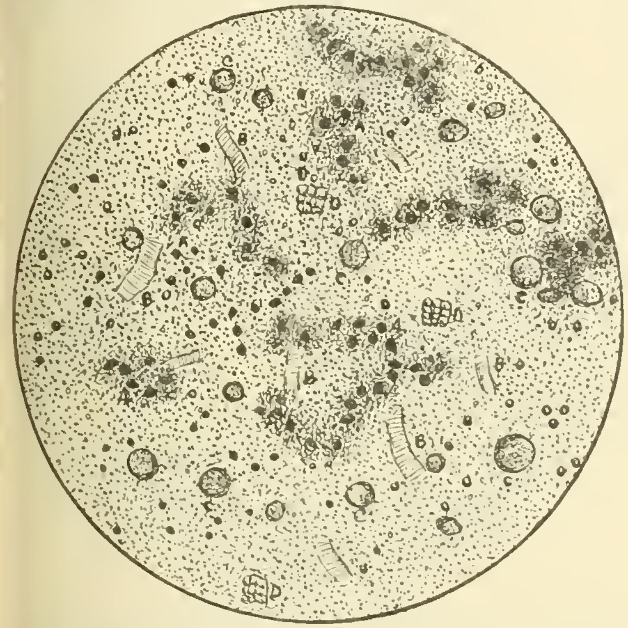

Fig. 4.—M. P.: Benign obstruction of the pylorus. Test meal; A, starch; B, muscle fibers; C, fat; D, sarcinæ ventriculi. Leitz No. 3 objective; Ocular No. 4.

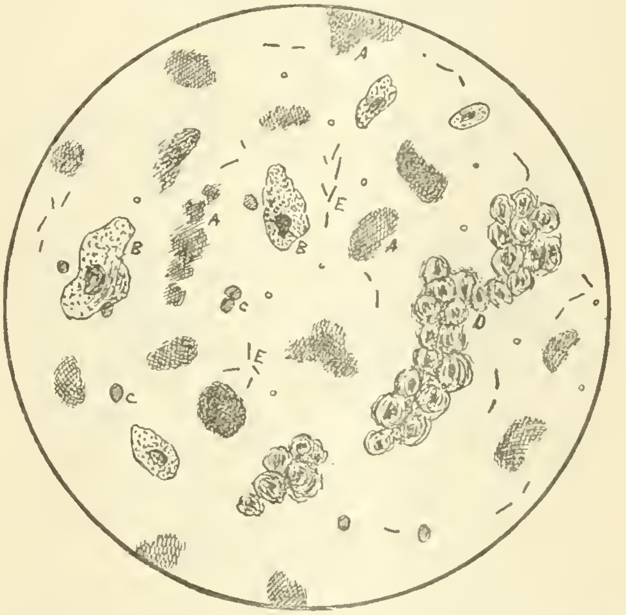

Fig. 5.—G. C.: Chronic gastritis. Test breakfast; A, starch; B, epithelial cells; C, yeast cells; D, mucous corpuscles forming mucus; E, micro-organisms. Leitz No. 7 objective; Ocular No. 2.

Motor Insufficiency.—The stomach contents usually have a gray, dirty look. A lot of fat globules float on the surface. Elements of food not included in the test meals are often recognized; especially skins of fruits are left behind and are easily recognized. The mixture emits a strong, rancid, butyric acid odor. It separates readily into three layers, solids at bottom and top with liquid in the center.

Microscopically we find starch granules stained blue by the iodin solution; muscle fibers (if the patient eats meat); fat globules in large numbers. The fat globules vary a good deal in size and appearance. There are large numbers of them as small as a red cell or a yeast cell and even smaller and some very large ones. The small ones, indeed, resemble red cells or yeast cells very much, and the only way to recognize them is, first, that the fat globules do not stain with the iodin solution, while the red and yeast cells do stain a light yellow color, and, second, that we find a large number of other globules of the same character, but of larger and manifold shapes. Fat is better identified with a low-power lens such as a 3 or 4 Leitz than with a higher power. The fat globules are of various shapes from round to oval, elongated and even gyrate figures. There is another form of fat globules which are met especially in obstruction cases and which look not unlike raspberries. They stain a very pale yellowish color with the iodin stain. These are undoubtedly fat globules that have undergone certain lypolytic changes, the exact nature of which, however, I have never succeeded in learning.

Another element encountered in motor insufficiency consists of the sarcinæ ventriculi. They look like bales of hay and are found in two forms, a larger and a smaller one. They are mostly met in motor insufficiency of benign origin. They are never seen in cancer. Oppler has injected pure cultures of them in carcinoma, and in twenty-four hours they all disappeared. Richter[2] reported a case of obstruction of the pylorus caused by a tumor formed by large aggregations of sarcinæ ventriculi. I have found it extremely useful in differentiating between an obstruction of benign and an obstruction of malignant origin. These cases are very trying, indeed, as they have most of the factors in common. There is the palpable tumor of the pylorus, there are the peristaltic movements of the stomach, there is the stagnation of food, there is the vomiting, there is the same loss of flesh and strength. The acidity is very often of little help, as in pyloric carcinoma the acidity is very often high. How are we to differentiate between the two conditions? A very good way is the microscopic examination. Presence of sarcinæ with absence of Boas-Oppler bacilli means benign condition. Presence of Boas-Oppler bacilli and absence of sarcinæ mean a malignant condition. In looking over my clinical material for the past few years I find only one case.

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[2] Richter: Virchow's Arch. f. path. Anat., 1887, cvii, 198.

Case 1.—A. M., female, aged 35, presented a typical history and appearance of carcinoma, and yet large numbers of sarcinæ were found in the stomach. There was a good-sized palpable tumor in the stomach. The examination of her stomach contents showed the following: Free hydrochloric acid varying between 4 and 20; total acidity, 48 to 92; no lactic acid; starch digestion—erythrodextrin. Gross examination: Contents looked gray and were of foul odor. Unfortunately the case passed out of my observation and I could not learn the ultimate fate of the patient. That case certainly looked malignant, but was it not rather a case of sarcoma than carcinoma?

Another case is the following:

Case 2.—F. T., female, over 50, presented marked peristaltic movements and a lot of sarcinæ were found in her stomach contents. Here free hydrochloric acid was 40 to 50; total acidity, 70 to 76; lactic acid, 0. The patient was operated on at the Roosevelt Hospital. The pathologist's report inclined more towards a benign condition.

In general in motor insufficiency the microscopic examination is very often of great utility, as will be shown by the following case:

Case 3.—I was requested by a colleague to extract and examine a test meal. The patient was an elderly man and it was the hardest thing to persuade him to have a stomach-tube passed. The patient was given an Ewald test breakfast in the morning on an empty stomach. It required a good deal of suasion and humoring to have the patient submit to the ordeal, although the stomach contents were withdrawn without any difficulty. The chemical examination showed somewhat higher figures than normal. On microscopic examination I found a large number of muscle fibers and large numbers of sarcinæ ventriculi with numerous micro-organisms. The patient ate meat on the previous day; it was evident that the case was one of motor insufficiency and the sarcinæ pointed to a benign obstruction. Here we have accomplished through the microscopic examination a great deal, especially since the patient would never submit to any more tubing of his stomach to carry out the stagnation test.

The large number of various micro-organisms, irrespective of the acidity, is another factor found in cases of motor insufficiency. Yeast cells are in abundance.

I cannot refrain here from expressing my opinion about remarks that I often hear made at medical meetings by stomach specialists about the great value of finding microscopically residual food as an early diagnostic means of pyloric obstruction. The conception is both erroneous and fallacious. If there is any obstruction at the outlet of the stomach, it is not the microscopic particles that will meet the obstruction first, but the big chunks of food will be left behind. The analogy with esophageal obstruction is striking. In the early stages of obstruction of the esophagus it is not the liquid foods, but the solid foods that cannot go through. Soup, milk, etc., go through very easily, and these liquids certainly contain microscopic particles of food. Milk contains fat globules. It is only in the last stages, when the esophageal stricture becomes impermeable, that the liquids cannot get through. The same holds true of obstruction of the pylorus. I admit that in some early cases of pyloric obstruction in the morning on a fasting stomach one may find microscopically particles of food left from the supper from the previous evening, which will point to an interference with the motility, but in such a case we have a much more reliable criterion, namely, examination of the patient after a full-sized meal seven hours later, when any normal stomach will be empty, while in a case of motor insufficiency that stomach will contain a great deal of food. The stomach will succeed in grinding down and pushing through this food in twelve or thirteen hours during the night, with the patient in a recumbent position, merely leaving a turbid residue which microscopically will prove to consist of food granules. It is obvious that this method of finding a great deal of food in seven hours is a much more reliable criterion than finding microscopic particles entangled in the rugæ of the stomach wall twelve hours after a meal.

Chronic Gastritis.—The macroscopic appearance of the stomach contents is diagnostic. The stomach contents are very thick, very scanty and contain a lot of mucus. In advanced cases the contents are so thick and tenacious that they represent one mass of mucus. It is the most difficult thing to fish this mucus out of the stomach. It can very seldom be taken out by the expression method, but it must be aspirated by an aspirator. There is very little gastric juice secreted by the stomach in such cases and the contents filter with the utmost difficulty. The bread is not in a state of fine division or emulsion, but consists of considerable sized morsels, just like bread that was only chewed and spit out. In less advanced cases considerable gastric juice is present. The gastric juice is usually of a yellowish color; the bread floats in it, just as if it were simply bread macerated in water instead of the almost white, very finely, uniformly divided particles forming an emulsion of normal stomach contents. Chronic gastritis is one of those conditions of gastric disease in which one look at the contents by the experienced eye diagnoses with certainty the presence or absence of the disease. The picture I have just depicted is pathognomonic of it. It matters not what the acidity is. Once there is mucus present, the mucus being thoroughly incorporated with the food (which differentiates it from mucus coming from the nasopharynx) it is a case of chronic gastritis. At times we find in carcinoma some mucus, as the cancer brings about a secondary gastritic process in the stomach, but the histories of such cases are so much at variance that no difficulty in diagnosis need arise. I met lately a case in which the contents looked thin, watery and a large quantity of it was secured, with very little solids in it, and it looked like a typical hypersecretion case. On putting it into the

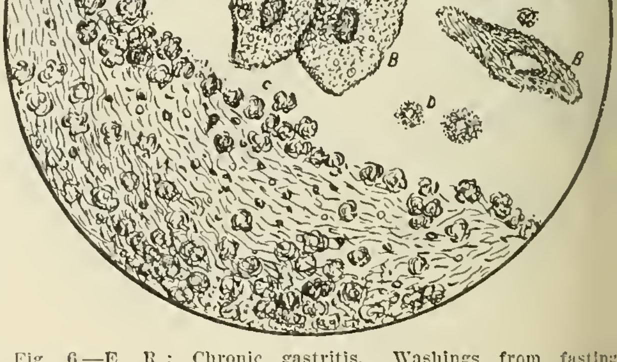

Fig. 6.—E. R.: Chronic gastritis. Washings from fasting stomach; A, muscle fibers; B, epithelial cells; C, a mass of mucus; D, mucous corpuscles. Leitz No. 7 objective; Ocular No. 4.

filter, however, I noticed some stringiness in it. It proved not to contain any free hydrochloric acid and this was thin mucus and not gastric juice, as first supposed. This is the only one of its kind I ever saw.

The surest way of recognizing mucus, when not present in large quantity, is by pouring the stomach contents from one vessel into the other or into the filter for filtration, when the particles of food are seen to be held tenaciously together in a stringy, sticky mass. Sometimes the whole quantity secured is rolling down *en masse;* while in the absence of mucus the particles of food show very little cohesive properties and each one separates readily from the other. The mucus of the stomach is found in two distinct forms. One consists of glassy, swollen and sticky lumps. The other consists of white flakes, strings or shreds. The difference in this appearance depends on the presence or absence of free hydrochloric acid. The first variety is seen in cases of anacidity, the second variety is present in cases of normal or hyperacidities. To differentiate mucus of the stomach from that of the nasopharynx, the stomach mucus is intimately associated and mixed with the food, while pharyngeal mucus is seen as isolated balls, it is purulent and often foamy.

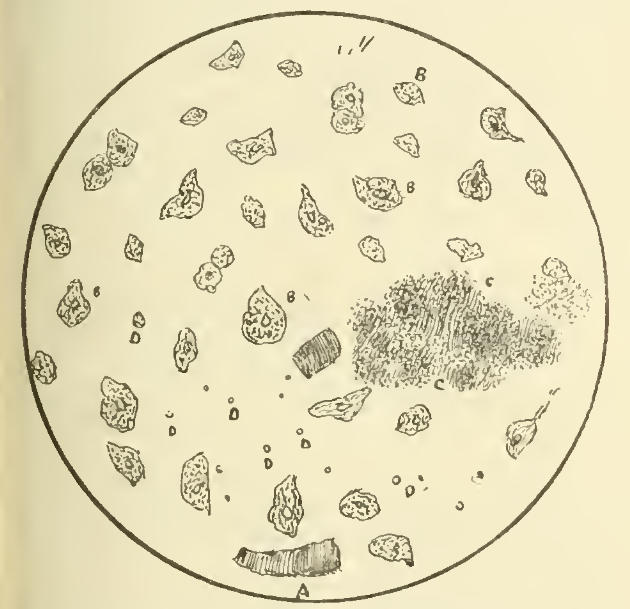

Fig. 7.—E. R.: Chronic gastritis. Washings from a fasting stomach; A, muscle fibers; B, epithelial cells; C, mucus; D, mucous corpuscles. Leitz No. 3 objective; Ocular No. 4.

Microscopic Examination: On microscopic examination, chronic gastritis presents a characteristic picture which can be differentiated from all other stomach diseases, except that in some cases carcinoma resembles it. The starch is but faintly stained with the iodin solution. The muscle fibers, if the patient took a meat meal, present very marked striæ, as they are unchanged, not having been acted on by the gastric juice, which is of very ow acidity and of very poor enzyme content. The contents are full of mucus, which under the microscope is recognized as dark, stringy masses holding entangled in their meshes large numbers of epithelial cells and mainly round cells resembling leucocytes. Large numbers of epithelial cells are seen throughout the field, and micro-organisms. It is this picture of the mucus with the large number of round and epithelial cells that make up the pathognomonic picture of chronic gastritis, and there is only one stomach disease that may resemble it, namely, carcinoma of the stomach.

This microscopic picture can be employed as a very reliable guide to differentiate the grave diseases of the stomach with anatomic changes in the mucosa (ulcer excepted), such as gastritis or carcinoma, from the neuroses of the stomach. A picture like this points most decidedly to a condition attended by changes in the gastric mucosa, while the absence of this picture assures us either that there is nothing the matter with the stomach at all or that the stomach is afflicted with a disturbance of its nervous apparatus. It has served in my hands time and again for this purpose with elegance and precision.

The microscopic appearance of the washing of an empty stomach is equally characteristic of its condition. We find a lot of mucus, large numbers of epithelial cells, round cells in large numbers and especially round cells looking like leucocytes, which are most likely mucoid cells. A fair number of micro-organisms are present. I will repeat again for the sake of clearness that mucus is represented microscopically by a stringy medium studded all over mostly with round cells—mucoid cells—and also some pavement epithelia. It is rather of a dark yellowish color, when specimen is stained with iodin solution and rather dark when unstained. A strong iodin solution stains it blue and may then be mistaken for starch.

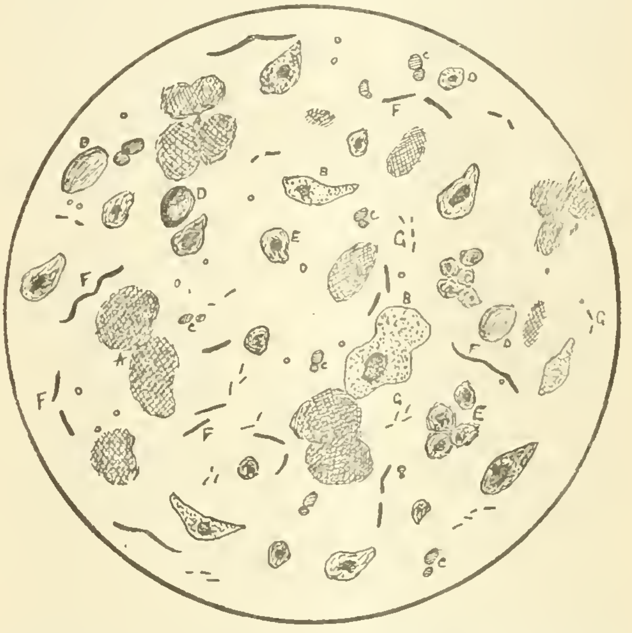

Fig. 8.—Carcinoma ventriculi. Test breakfast; A, starch; B, epithelial cells; C, yeast cells; D, fat globules; E, round and mucoid cells; F, Boas-Oppler bacilli, single and in chains; G, micro-organisms. Leitz No. 7 objective; Ocular No. 2.

Carcinoma of the Stomach.—The contents are thick; very little gastric juice as a rule. At times there is some juice, but the bread in it looks just as if it were soaked in it. Large undigested particles of food, chiefly meat, if the patient has no aversion to it, are found in the stomach contents. Very often we get coffee-grounds with it, when the carcinoma ulcerates and small hemorrhages take place. The contents look at times not unlike feces, coming out through the stomach-tube like molds in large quantities. An appearance like this latter is pathognomonic of cancer. It is met in those cases in which the carcinoma invades both the pylorus and the stomach wall. Carcinoma contents look very much at times like those of chronic gastritis, but in the latter there is a good deal of mucus, while in carcinoma mucus is rather uncommon, although it is encountered in some cases, since the cancer often induces a secondary gastritic process in the part of the stomach not invaded by the cancer. The odor in cancer contents is offensive.

Microscopic Appearance: The starches are very well digested and they are, therefore, stained but faintly with the iodin solution. Fat globules are usually present, since in most carcinomas, even in those that are not situated at the pylorus, the motility is below par, and some stagnation is present, and, therefore, fat globules are the rule even with an Ewald test breakfast. We seldom find muscle fibers, since these patients develop an aversion to meat. Should we give the patient some meat with the meal, we will find the muscle fibers very poorly digested, as the absence of the pepsin and hydrochloric acid leave the muscle fibers unaffected. Their striæ are prominent and intact. Large numbers of cellular elements, pavement, small round, large round and cuboidal epithelia, float around in great abundance more than in any other kind of stomach contents. They are, however, always single cells or a few together. Unfortunately, I never met large conglomerations of them, particles of tissue that should enable us to identify them as being fragments of a cancer. There is an absence of sarcinæ in cancer, even in cases in which the cancer invades the pylorus. The characteristic microscopic feature of cancer of the stomach, however, is the Boas-Oppler bacillus. This is a rod-shaped bacillus, non-motile, which forms long chains. It does not need any staining and can be easily identified even with a low power. There is no need for an oil immersion: a 6 or 7 objective (Leitz) brings out all its features. The Boas bacillus is an almost constant inhabitant of the cancer stomach. Most cases of cancer of the stomach show it. This is conceded by most authors. It is seen in larger numbers in washings of a jejune stomach than in food contents. It seems as if that bacillus were taking shelter in the folds of the stomach wall. It is of diagnostic value only when present in large numbers. A few isolated bacilli have no diagnostic significance. There has been considerable controversy among stomach specialists as to the origin of the Boas bacilli, some considering them as the result, while others consider them as the cause of lactic acid. While it is a well-known fact that the Boas-Oppler bacilli can produce lactic acid, it is equally well known that various micro-organisms are capable of producing lactic acid under favorable circumstances, i. e., when the bacilli are given plenty of time to act and when there is an absence of hydrochloric acid. Cancer of the stomach with its poor motility and its anacidity is admirably adapted to these purposes. I wish, however, to correct the prevailing erroneous idea that Boas bacilli and lactic acid always go together. I can state positively that I have met cases in which Boas-Oppler bacilli were present and no lactic acid and *vice versa*. I have seen several clear-cut chronic gastritic cases with presence of lactic acid, but no Boas bacilli were present. I took special care to ascertain that the patient had a lactic-acid-free test meal and did not ingest the lactic acid.

Other micro-organisms are also present in large numbers. The stomach teems with them in cases of carcinoma more so than in any other pathologic condition of the stomach.

Microscopic Appearance of Stomach Washings: The great abundance of cellular elements, pavement, round, cuboidal and cylindrical, the Boas-Oppler bacilli in large numbers and a very rich microscopic flora make almost a diagnostic microscopic picture.

Gastric Erosions.—In siphoning stomach contents or in doing lavage we sometimes find bits of gastric mucosa of variable size. They are red in color and may be mistaken for bits of fresh meat or corned beef, the differentiation of which is often made possible only through microscopic examination. Dr. Max Einhorn[3] has described conditions in which these bits of mucosa have been especially prevalent, as a separate disease, by the name of gastric erosions. These bits of mucosa cannot be caused by trauma, such as could be inflicted by the stomach-tube, since their finding is not accompanied by bleeding. While it is of great interest to make sections of them for microscopic studies, most writers agree that these bits of mucosa cannot serve as true representatives or samples of the general condition of the gastric mucosa.

Nervous Dyspepsia and Other Gastric Neuroses.—These present nothing distinctive in the appearance of their stomach contents and give the same picture, both in gross and microscopically, as normal stomach contents. There is no better guide in differentiating a neurosis of the stomach from an organic lesion (except ulcer) than by the gross and microscopic examination of the stomach contents. A normal macroscopic and microscopic picture of stomach contents with a stomach history, provided we can rule out diseases of other organs, means a gastric neurosis.

In conclusion, I wish to thank my brother, Mr. Samuel Weinstein, for his painstaking execution of the drawings.

61 East One Hundred and Seventh Street.

THE WORK OF A COOPERATIVE HYDROTHERAPEUTIC ESTABLISHMENT *

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In 1903 Dr. James J. Putnam and a number of other Boston physicians established a cooperative hydrotherapeutic institution under the name of the Medical Baths. Rooms were secured and equipped on the top floor of a modern office building conveniently located near the residential part of the city. The object of the enterprise was to furnish facilities for hydrotherapeutic treatments, especially those that require elaborate apparatus and skilled operators, so that all physicians in Boston and vicinity might avail themselves of these approved forms of treatment. At that time there was not a hydrotherapeutic douche apparatus or an electric light bath in the city, and the physicians who wished to have a patient given a wet-sheet rub or a carbon dioxid bath did not know where to find a man or woman familiar with the proper hydrotherapeutic technic.

At a meeting of physicians called by Dr. Putnam in October, 1903, it was decided that there was enough interest in hydrotherapy among physicians to make the plan of maintaining a self-supporting institution feasible and desirable. The institution when opened consisted of a large reception-room, five dressing-rooms, a large treatment-room, a douche-room, two toilet-rooms and two storerooms. The services of a professional decorator were secured in arranging tasteful and appropriate furnishings. Every aid to cleanliness and cheerfulness was introduced and the rooms were lighted from above as well as from the sides. In the large treatment-rooms yellow-stained and leaded glass was used in the windows which form nearly the entire side of the room. This shut out a dreary scene made up of chimney tops and railroad tracks and gave the effect of diffuse sunlight: the suggestion of warmth was produced even on a dark winter's day. The expense of fitting up the rooms amounted to about $2,000; and this was paid by gifts and loans from friends interested in the enterprise. Pledges amounting to $2,000 were secured to cover a possible deficit during the first year. To this guarantee fund many physicians subscribed. A complete douche apparatus and two hot-air cabinets were furnished by Dr. Putnam. The management of the establishment was in the hands of a committee composed of Dr. J. J. Putnam, E. G. Cutler and R. W. Lovett. I was made the medical director.

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[3] Einhorn, Max: Med. Rec., June 23, 1894.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

In his first annual report Dr. Putnam said:

> With the increasing experience of our operators, there is no malady for which patients now take long journeys to distant water-cure establishments that cannot here be adequately treated. It is, moreover, unique in being a physicians' establishment, founded to promote the needs of the profession and their patients as well as the education of students and nurses as far as that is practicable, and conducted in such a manner that physicians can send their patients without fear that their relations to them will be anything but strengthened.

Nearly five years have passed since the above was written and time has demonstrated that the institution fills a real need. Furthermore, it has won the confidence of the medical community. Recently a circular etter was sent to 2,000 physicians in and about Boston asking them if they approved of our establishment and nviting criticism. Ninety-eight per cent. of those who replied wrote in commendation of the work.

PRESENT ORGANIZATION

In December, 1908, the enterprise was incorporated under the name of the "Institution for Physical Therapeutics." This placed it on a proper financial basis. If he institution had failed previously, or if suit had been brought against it, the committee of three physicians could have been liable for any amount. The capital tock of $10,000 is divided into four hundred non-assessable shares of $25 each. A circular letter was sent o every physician in eastern Massachusetts setting forth he purposes of the organization and inviting subscriptions for stock. The corporation is governed by a board f nineteen directors, consisting of seventeen physicians, ne lawyer and one financier. The details of management are in the hands of an executive committee composed of five directors, including the president, Dr. J. J. Putnam. There is a restriction on the transfer of stock which will prevent it from passing out of the hands of physicians and will enable the corporation to purchase stock of any who wish to sell. It is the purpose of the directors to use any profits that may be realized to making improvements and in advancing physical therapy rather than in paying dividends on the stock.

Last year three more rooms were added, so that now there are accommodations for eight patients. This permits a rest in bed for several hours, if that is desirable, as it often is in connection with sedative procedures. With the smaller number of rooms it was sometimes necessary to cut short the period of rest, as the room was needed for another patient. The superintendence of the establishment is in the hands of a matron, who arranges the appointments for treatments, receives the patients, assigns the rooms and collects the fees. If the operators are negligent or if complaints are made by the patients she reports at once to the medical director.

The forenoons are given up to women patients, the afternoons to men. All treatments are by appointment. There are two chief attendants, a man and a woman, and each has an assistant. All four of the attendants were trained in an excellent school of medical gymnastics and are skilled in mechanotherapy as well as in hydrotherapy.

RECORD OF A CASE OF SLIGHT CARDIAC INSUFFICIENCY (MR. B. E. B.)

	Before CO_2 Baths.						After CO_2 Baths.			
1908 Oct.	Pulse.	Blood-Pressure.	Temp.	HCl. c.c.	Na_2CO_3 Gm.	Duration, Min.	Pulse.	Blood-Pressure.	Remarks.	Wgt.
7	64	105	91	400	800	10	66	115	Dry rub, rest 25 minutes.	171⅓
9	64	105	90	500	1000	11	72	115	Dry rub, rest 25 minutes.	...
12	64	110	89	600	1200	12	64	125	Dry rub, rest 25 minutes.	...
15	72	105	88	700	1400	13	76	115	Dry rub, rest 25 minutes.	172
17	68	105	87	800	1600	14	72	110	Dry rub, rest 25 minutes.	...
28	68	120	86	900	1800	15	72	145	Dry rub, rest 25 minutes.	...
31	72	150	85	900	1800	16	72	150	Dry rub, rest 25 minutes.	171⅓
Nov. 5	68	130	84	700	1400	13	60	146	Dry rub, rest 25 minutes.	170
7	64	125	84	700	1400	13	44	145	Arc L. before bath 10 minutes. Dry rub, rest ½ hour.	...
14	60	125	87	800	1600	14	66	143	Arc L. before bath 10 minutes. Dry rub, rest ½ hour.	170

No patient is treated unless he brings a prescription from a physician. A detailed record is kept by the operator of each treatment. Accompanying is the record in a case of slight cardiac insufficiency for which carbon dioxid baths were prescribed.

The chief attendant reports to the director daily the name of each new patient and the immediate effect of the treatment. The majority of treatments come under the head of stimulating or tonic procedures. These consist of a cold application to the warmed skin. If the cold procedure prescribed is not too intense for the individual's reactive powers a good reaction always results provided the treatment is properly given. If a good reaction is obtained, then the effect, so far as the attendant is concerned, is satisfactory. The following day the physician is informed that his patient has had the first treatment and a note is added in regard to the reaction. Last year when a physician referred a patient to the institution for the first time a letter like the following was sent to the doctor:

> Our chief attendant reports that your patient, ————, took his first treatment yesterday at the Medical Baths and a good reaction was obtained.
>
> We are urging all physicians who are sending patients to the baths to familiarize themselves with the details of modern

hydrotherapeutic technic. No one can doubt that hydrotherapy, the most important of all the forms of physical therapy, will play as important a part in the therapeutics of the future in America as it does to-day in Germany.

If physicians accompany their patients for the first few treatments they soon gain a working knowledge of hydrotherapy, and the effect of the doctor's presence on the patient as well as on the attendant is beneficial. When patients begin a course of hydrotherapeutic treatments they are frequently apprehensive and distrustful. Those physicians have obtained the best results who have been present at one of the first treatments. They have been able to arrange or to discuss with the attendant the details of the hydrotherapeutic procedure and to observe its immediate effect. If this plan is followed it will be found that the patients take up the course of treatments with more confidence and earnestness. This is particularly true in the case of neurasthenic patients in whom the psychic effect of the treatments is especially pronounced.

EQUIPMENT

The chief apparatus is as follows:

1. Electric light cabinet. This is an octagonal box lined with plate-glass mirrors and lighted with eight rows of six incandescent lights.
2. Two cabinets for hot-air and vapor baths.
3. Incandescent electric light bath for treating single parts of the body.
4. Arc-light with reflector for local treatments.
5. Local hot-air bath.
6. Douche-table with which a large tank for hot water and a pressure pump is connected. Temperature and pressure are completely under the operator's control.
7. Circular douche (needle-bath).
8. Rain douche (shower-bath).
9. Horizontal douche (spout).
   (a) Jet douche.
   (b) Fan douche.
10. Ascending or perineal douche.
11. Sitz-bath.
12. Porcelain tub used for
   (a) carbon dioxid baths.
   (b) electric baths.
   (c) half-baths.
   (d) full baths.
13. Electric cabinet (galvanic, faradic and sinusoidal).

FORMS OF TREATMENT

They can be divided into two classes, (1) the general and (2) the local. Most of the general treatments can in turn be separated into the stimulating and the sedative.

The immediate object of the stimulating or cold-water treatments of short duration is to produce a good reaction.[1] One understands by a reaction the secondary dilatation of the cutaneous vessels which follows their primary contraction produced by the stimulus of the cold water. There is an increased flow of blood through the dilated vessels, the skin reddens and there is a pleasant sensation of warmth, often accompanied by a feeling of well-being.

To promote a good reaction the skin should be warm and filled with blood before the application of the cold water. For this purpose we use chiefly electric light baths of short duration Formerly hot-air baths were employed, but light baths are more satisfactory. In general the colder the water, the shorter its application; and the greater the force of impact on the skin, the more prompt and intense the reaction.

The mode of drying the patient and the after-treatment are important considerations in the production of a reaction. Rough towels should be used and vigorous friction applied to the body. If the individual is weal and anemic it is well after the treatment to put him t bed well rolled up in blankets and, if a reaction does no promptly develop, to place hot-water bottles at the fee and over the spine. If the patient is strong and vigorous it is advisable for him to dress without delay an take a short, brisk walk which will promote the reaction Active measures are always better than passive, unles the patient is enfeebled. Hence, a walk after the treatment is better than massage if the condition of the patient permits.

Failure to understand the nature and significance o the reaction accounts for many mistakes in preparin hydrotherapeutic prescriptions. A measure of the reactive power of the patient can be obtained with the procedure known as the ablution with friction. This is th *Teilwaschung* of the Germans. It is the mildest genera treatment, and can be employed to advantage even i the treatment of feeble, bedridden patients. The wate is best applied with a wet bath mitten. One part of th body after another should be rubbed, first with cold water (50-75) and then with a rough towel. If th circulation is poor alcohol may be added to the water. The skin of the part treated should become red and warm. The intensity of the local reaction furnishes a guide to the selection of the proper tonic measure. If a good reaction is obtained with the ablution, stronger measures may be used, of which the douches have th greatest range of usefulness. A prescription that I often give is the following:

℞.

Electric light bath for	5 to 10 minutes
Circular douche at 105°	30 seconds
Circular douche at 90°	30 seconds
Jet and fan douche to entire body at 70°	20 seconds

Pressure, 10 pounds.

Repeat daily, gradually increasing pressure of jet douche and lowering terminal temperature until pressure of 20 pounds and temperature of 60° are used.

The following is a list of general stimulating treatments:[2]

1. The ablution (wet mit. friction).
2. The wet-sheet rub.
3. The half bath. Temperature, 70 to 85. Duration 1 to 5 minutes.
4. The douches:
   (a) circular douche, 60 to 70. Pressure, 8 to 15 pounds; duration, 50 to 60 minutes.
   (b) Jet and fan douche, 60 to 75. Pressure, 10 to 25 pounds.
5. The faradic electric baths. Temperature 90 to 93.
6. The carbon dioxid baths. Various strengths; temperature 85 to 92. Duration, 7 to 15 minutes.

The chief sedative treatments are as follows:

1. The wet pack.
2. The dry blanket pack.
3. The hot-air bath. Temperature, 115 to 140. Duration, 15 to 25 minutes.
4. The electric light bath. Temperature, 110 to 140. Duration, 15 to 30 minutes.
5. The neutral full bath. Temperature, 90 to 93. Duration, 10 to 45 minutes.
6. The hot full bath. Temperature, 104 to 108. Duration, 5 to 10 minutes
7. The galvanic bath. Temperature, 90 to 93. Duration, 5 to 15 minutes.
8. The sinusoidal bath. Temperature, 90 to 93. Duration, 5 to 15 minutes.

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[1] The cold procedures of longer duration so valuable in combating infectious fevers are not discussed in this paper.

[2] The technic of the different procedures will be found described in detail in the excellent works of Matthes, Baruch, and Kellogg on hydrotherapy.

Local treatments with heat produce hyperemia and are used chiefly to relieve pain, to lessen inflammation, and to improve the nutrition of the affected part. They are most useful in the treatment of the various joint troubles, neuralgia, neuritis and muscular affections.

1. Electric light (incandescent) bath.
2. Arc light with reflector.
3. Hot-air bath.
4. Hot-air douche.
5. Hot-water douches:
    (a) Simple hot douche.
    (b) Scotch douche.
    (c) Alternating douche.
6. Fomentations.

Of the various treatments given in the above list we use the electric-light bath, the wet mit friction, the circular and horizontal douche and the carbon dioxid bath more than all others combined. The hot-air and vapor baths are rarely employed, as their place has been taken by the electric light bath. Nearly all patients object if the hot-air bath is substituted for the light bath. The light bath of short duration usually produces the sensation of a pleasant stimulation, while a hot-air bath often gives rise to a slight feeling of oppression. Sweating occurs more quickly and at lower temperature in the light bath.

Simplicity in prescribing is well nigh as important in hydrotherapy as in pharmacotherapy. In some American sanatoriums a confusing variety of treatments are given to a single patient. This practice has all the faults of the ordinary "shotgun" prescriptions and at the end of several weeks it is impossible to decide which of the various procedures used has had a beneficial effect.

In writing prescriptions the exact temperature of the water should be stated and the exact duration of treatment. Cold water and hot water are relative terms. Tap water is commonly regarded as cold water. Yet it varies in Boston from 40 degrees in winter to 75 degrees in summer . It should be remembered that hydrotherapy is really thermotherapy, for it is the heat of the water and not the water itself that is the therapeutic agent. A full tub bath at 80 degrees, of five minutes' duration, has a tonic action, but a full tub bath of 92 degrees, of fifteen minutes' duration, has a pronounced sedative effect.

INDICATIONS OF HYDROTHERAPY

Hydrotherapeutic procedures are of value in the treatment of almost all chronic diseases. I have found them of great help in improving the general condition of patients. An increase in appetite and a better circulation of the blood in the skin and subcutaneous tissues is usually observed; and there is a beneficial action on the peripheral nervous system and increased functional activity of the skin.

The importance of hydrotherapy in anemia, in malnutrition, and in convalescence from acute diseases is not sufficiently recognized. As it can lessen pain and give a sense of physical comfort, it has a wide field of usefulness in the care of patients suffering from incurable and fatal diseases. Special emphasis should be placed on the fact that the simple physical measures can often replace the objectionable narcotics in the treatment of chronic maladies. A patient with tabes who had not had a good night's sleep for six months owing to lightning pains was able to sleep and to keep at his work an entire season with the aid of neutral and carbon dioxid baths without recourse to analgesics or narcotics.

Hydrotherapy is a most useful measure in cases of psychoneurosis that present somatic manifestations or in which the physical condition is not good. I have employed it with benefit in psychasthenia and other mental disturbances. Hydrotherapeutic measures given by skilful attendants in a well-equipped and well-conducted institution have an important psychic influence for good. This is increased by the general sense of refreshment and invigoration produced by the reaction that follows a stimulating procedure. In individuals who are not readily suggestible definite sensations of physical well-being are often necessary before there can be any improvement in the mental condition. Hope of recovery is not infrequently strengthened as a result of a good reaction, and fears and anxieties temporarily cast aside.

Cold applications exert a definite influence on the will-power, the effect of which on the psychical condition, as Brieger points out, should not be underestimated. The patient is subjected to cold stimuli, which often produce unpleasant sensations, especially at the beginning of the treatment. Sooner or later the patient realizes the beneficial action and then willingly submits to the initial feeling of discomfort. This develops increased mental stamina. Hydrotherapy should, of course, form only a part of the treatment, and other measures, such as diet, rest, isolation, exercise, work, and drugs, should be used as indicated.

The great majority of the patients sent to our institution have been affected with various forms of psychoneurosis. There have been many joint cases, not a few of which have been arthralgias of psychic origin, although most of these were mistaken for chronic rheumatism. The number of patients with arthritis, anemia, nephritis, neuralgia, neuritis and other organic diseases have been small. It is hoped that as knowledge of hydrotherapy increases among the profession it will be used more in these conditions. In Berlin during a space of less than three years 504 cases of sciatica were treated by Brieger in the hydrotherapeutic institution of the university. During the same period we treated less than half a dozen cases of sciatica in our institution, yet there was no other place in Boston where the methods employed by Brieger were available. This means that many sufferers from the disease in Boston were denied the most approved treatment for the subacute stage.

In disturbances of psychic origin the immediate effect of the treatment on the mind of the patient can never be predicted. Sometimes there is speedy improvement, but often subjective symptoms remain unchanged or are increased after the first one or two treatments and the idea gets fixed that no benefit will result. But persistence in treatment over weeks and months often leads to great improvement or even cure in this class of cases. Success depends largely on the masterfulness of the physician in charge. Dr. Baldwin has shown that remarkably good results can be obtained in time even in severe psychoneuroses if the doctor is tactful and controls the patient with a firm hand.[3]

Many cases of neurasthenia are seen in which it is difficult to determine whether a stimulating or a gentle sedative treatment is indicated. Every patient must be studied individually, and it may take some time before the proper procedure is found. No two cases are quite the same. As George Beard truly said, "If two cases are given the same treatment from beginning to end it is probable that one of them has been improperly treated." I have sometimes followed the practice of Binswanger in giving three different treatments on three successive days. After these have been repeated once or twice the treatment which seems to the patient to be most beneficial is selected. Usually one of the procedures will be condemned and one favored. In this way the support and confidence of the patient is gained.

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[3] Baldwin: The Personal Element in Prescribing Hydrotherapy Boston Med. and Surg. Jour., 1909, clx, 468

The following sample outline of treatment is given as a suggestion:

First Day: Electric light bath, 5 to 10 minutes, followed by wet mit friction.

Second Day: Carbon dioxid bath (half full strength), 10 minutes.

Third Day: Wet pack, duration 45 minutes to 1 hour.

Repeat treatments in the same order on the fourth, fifth and sixth day.

From half an hour to an hour of physical and mental rest should follow each treatment, unless the patient is robust and with good reactive powers, when a brisk walk may be substituted. Often it is a good idea to combine rest and exercise by having the patient dress quickly, walk a certain distance and on reaching home rest in bed for thirty minutes to an hour. A good proportion of the neurasthenic patients wish to discontinue treatment after the first or second bath has been taken. In many neurasthenic women a feeling of exhaustion comes on a short time after the treatment and persists the remainder of the day. This is usually regarded both by physician and patient as evidence that the hydrotherapeutic procedure has been too strong, but, as this temporary exhaustion develops after the mildest treatments and as it almost invariably disappears after the second or third treatment, the sensation of weakness is undoubtedly due in the great majority of cases to the nervous strain of the visit to the institution. The surroundings are new and the appliances are strange and somewhat formidable in appearance. I have known even physicians to appear nervous and apprehensive when placed in the electric light cabinet for the first time. Recently I saw a patient in whom weakness and depression persisted until the sixth treatment. Since then she has felt refreshed and invigorated after the bath for the rest of the day. It was possible to prove beyond question in this instance that the weakness was of purely psychic origin because the patient felt as tired after a mild treatment (wet mit friction) as after a strong one (circular and horizontal douche).

For patients who cannot afford daily treatment at our institution I prescribe three treatments a week at the Medical Baths and a home treatment in the form of a neutral bath, or half bath, on the other days. It is well to have the home treatment taken at the same hour as that at the institution.

After considerable experience with carbon dioxid baths in the treatment of cardiac insufficiency I can only say that they have seemed to be decidedly beneficial in certain cases. The carbon dioxid baths raise the blood-pressure and produce in some instances a transitory reduction of cardiac dilatation. Often I have failed to note any improvement, and never when the heart muscle was markedly weakened. In the cardiac neuroses they are of undoubted value. Care must be exercised to select a bath of proper strength. Weak hearts are frequently overtaxed by strong baths. I have observed cases in which the congestion-dilatation of the heart was distinctly increased by the bath. If there is a fall in the blood-pressure after the bath (temperature 87 to 92 F.) it indicates that the heart is weak and the bath too strong. We usually begin the treatment with a bath one-fifth or three-tenths full strength.[4] The attendants take the blood-pressure before and after every carbon dioxid bath. I have found that the action of baths of different strength on the blood-pressure furnishes a useful method for determining the functional power of the heart muscle.

INFLUENCE OF THE INSTITUTION IN ADVANCING PHYSICAL THERAPEUTICS

The facilities of the Boston establishment have been utilized at different times during the past five years by about 200 physicians in the treatment of their patients.

Since the opening of this institution several Boston hospitals have installed hydrotherapeutic equipments. Several skilled attendants employed in local hospitals were trained in the technic of water treatments at our institution.

Demonstrations in hydrotherapy have been given to students of the different medical schools in this city.

Our organization, cooperating with local medical societies, has secured several addresses by prominent physicians on hydrotherapy and other forms of physical therapeutics.

Reprints of articles on hydrotherapy have been sent to over 2,000 physicians in eastern Massachusetts.

The institution has been visited by physicians from many parts of the country and establishments patterned in a measure after ours have been started in other places.

313 Beacon Street.

ABSTRACT OF DISCUSSION

Dr. John A. Lichty, Pittsburg, Pa.: Such an institution as described by Dr. Pratt is, I think, a necessary adjunct to the physician's armamentarium. If the physicians do not become active and take up this matter, the quacks will, and with great harm to the patients. All of us no doubt have had the same experience. I have in mind one patient with loss of cardiac compensation, enlarged liver, etc., who went to an ordinary masseur, or a man who called himself "professor of hydrotherapy" to have his enlarged liver reduced in size. The massage and exercises prescribed led to serious results. This I have seen frequently, and I believe we should protect ourselves against these men. Unless we establish such institutions, we will be at the mercy of these men. The difficulties mentioned I believe to be the difficulties one would expect naturally in trying to treat ambulatory patients. It is difficult to prescribe a treatment to be taken in the patient's home. If the patient will go to a hydropathic institution, he will go to the physician's office. If a woman is to take the treatment, she dresses, goes down the street, takes the treatment and then goes to a department store to do her shopping. The good that follows the carrying out of such a course, under such difficulties, is small. In Pittsburg, such an institution is about to be opened, and I think we shall get good results from it. If we could send patients to Boston and have them devote the time necessary for the treatment in Dr. Pratt's institution, I know good results will follow; I also believe that if those patients who were not much benefited at his institution in Boston, were sent to a similar institution at Pittsburg, away from their home and environment, in all probability good results would follow. These patients take the treatment much better in institutions devoted to that purpose. In this country the watering-places and institutions are not manned as in other countries. Some of the best scientific work originates in some of these establishments in Europe. Good men are there to watch their patients carefully and prescribe the treatment to be employed. There are very few institutions in this coun try where the patients can be so treated; what is being done in this line, however, is being appreciated. At these watering-places the patients can enjoy themselves. The treatment in this country is a business; there is no amusement, no enjoyment for the patients in the institutions we have here. It is different in the watering-places in Europe. One advantage that is coming from the establishment of these institutions is the education of helpers so that the treatment may be carried out in the patient's own home. I am sorry Dr. Babcock is not here to tell of the Nauheim treatment as he has it carried out in the patient's own home. Nauheim himself has stated that it cannot be done at home; but Dr. Babcock has proved that it can be done and with very satisfactory results when the conditions can be entirely controlled.

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[4] Detailed directions for preparing the baths are given in Matthes' Lehrbuch der klinischen Hydrotherapie, Edition 2, Jena, 1903, and in Romberg's Lehrbuch der Krankheiten des Herzens, Stuttgart, 1906.

Dr. G. C. Smith, Boston: Dr. Pratt's work in Boston is well known throughout the New England States, and especially in Massachusetts, while in the South and West people have heard much less about it.

One or two points suggested by the paper I would like to touch on. There is a class of cases in which I have found hydrotherapy especially adapted, namely, vasomotor conditions with a neurotic etiology; also vasomotor conditions arising from a failing heart in cardiac disease, a condition so often seen in young boys and girls. These conditions are quickly relieved by hydrotherapeutic measures. Often patients who have been very little benefited by drug treatment can be satisfactorily treated by good sanitary measures, open-air life, proper diet and hydrotherapy, and show rapid improvement under such conditions. Other patients who do much better in America than abroad are the patients with broken compensation. This is my opinion after a study of the institutions abroad. The reason is that the physician knows the patient and is interested in him; he knows all the individual's idiosyncrasies. At Nauheim or other sanitaria abroad the patient is treated more largely from a cardiac standpoint which does not always work out well. I have had many patients try the Nauheim treatment, and they still continue to try it. They go abroad and spend from four to six weeks, and sometimes it is claimed that the transverse cardiac dulness has been reduced two inches in that time. That is absurd. The only way to do away with the stupendous outflow of the misinformed and misled from this country is to let the real facts be known. I know of several individuals in Boston who have been treated at Nauheim and other spas abroad who now make it a regular thing to consult the family physician in Boston and have a thorough examination before going. On their return they do the same thing. In these patients we cannot find the same diminution in the cardiac dulness as the foreign physicians claim. I am sure that hydrotherapy does help these patients. It must be remembered that many patients who have cardiac disease must be treated at home, and that this number is much greater than the number going abroad.

Dr. Andrew MacFarlane, Albany, N. Y.: The first duty of the physician is to cure his patient, and there is no question that the true way to do this is to find out the cause of his difficulty and remove it. This, however, does not appeal to the popular mind. Consider what has been done to stop the spread of smallpox by vaccination and to prevent typhoid fever by a pure water supply; the citation of such facts, however, does not present an argument to the average popular mind that will have any marked influence. If a patient with a stiff joint consults physicians, they are likely to give him pills, solutions, powders and liniments and often without much effect. The patient then goes two or three times to an osteopath, gets as many treatments and is benefited. He then is convinced that the osteopath is a better physician than the regular practitioner. He certainly is to that extent. The great mistake is that the medical profession does not appreciate the value of physical therapy. Physicians rely too much on giving prescriptions and then sending the patient home.

In New York State there is a man who conducts a successful sanatorium; he is an ex-prize fighter. Yet his place is frequented not by the ignorant, but by the most intelligent men in the United States. I regard it as a disgrace to the entire medical profession that an ex-prize fighter should be able to do, and to do successfully, what a scientific profession is not doing. In our various efforts to secure proper legislation in New York State we had the greatest possible difficulty in proving that the so-called regular medicine was better than fake medicine.

After taking the baths at the foreign spas the patients rest. I have visited many spas in Germany and I am fairly well acquainted with the conditions existing there. The Germans have developed the scientific side of metabolism in these watering-places to an extent which we would do well to copy and imitate.

I believe that the subject that Dr. Pratt has brought up is a most valuable one, and I have no doubt but that great advances will be noted in it during the next fifteen or twenty years; but we must not expect much from it in three, four or five years. This is, however, a subject that will bear much and good fruit in time.

Dr. Joseph H. Pratt, Boston: It is true that many patients with neurasthenia and other forms of psychoneurosis can receive better treatment in a suitable sanatorium than at home, but sanatorium treatment is frequently out of the question owing to the expense. Boston physicians have been gratified at the good results obtained by home treatment combined with systematic hydrotherapy in their local institution. In addition to the hydrotherapeutic treatment itself, the daily visit to the baths, the association with a kindly and cheerful attendant or nurse, the half-hour or hour of rest before dressing, often have a marked influence for good on both mind and body. Furthermore, the institution is an aid to the physician in his supervision of the case. If a patient is told to take a treatment at a certain hour daily in our establishment, it is an easy matter to find out whether he does so or not. A report is sent to the physicians, if requested, of the number of treatments taken by each patient and the date of each treatment.

In the management of patients with chronic organic disease, treatments at the medical baths have been of aid in encouraging the patients to persevere in following an unpleasant or exacting regimen. This is true in cases of nephritis, obesity, diabetes and heart disease. In 1905 I saw with Dr. Daniel a woman with chronic nephritis who had been ill a year. She had marked general anasarca and the day urine contained over 1 per cent. of albumin. The essential features of the treatment instituted were electric-light baths and a salt-free diet. She objected strongly to the diet, but did not abandon the plan of treatment because she felt that the light baths were beneficial. Afer three months the edema had disappeared except for a slight swelling of the legs. When last seen, three years later, the edema had not recurred and the urine contained only a slight trace of albumin. It is probable that her recovery was due more to the salt-free diet than to the light baths, yet without them she never would have continued with the diet.

It is strange that American physicians who send patients to Nauheim make so little use of artificial carbondioxid baths. Krehl, Romberg and other German authorities recommend and employ in their clinics the artificial baths. There are over a dozen natural carbon-dioxid baths in Germany used in the treatment of heart disease in addition to those at Nauheim. Two patients with cardiac disease whom I referred to a leading German consultant were sent not to Nauheim, but to Homburg. What I have learned from patients returned from Nauheim bears out Dr. Smith's statement. Treatments are often given there with inadequate supervision.

There is need of a thorough and unprejudiced investigation of the effects and value of carbon-dioxid baths, and this can well be carried out in establishments like the one described.

Infant Feeding.—It has been found by those who have studied the matter that one of the most potent causes operating to prevent or diminish maternal nursing is the ignorance of the mother as to what breast-milk really means to the child. For this state of things the remedy is instruction. Mothers need to be told in no uncertain tones that if they are able to nurse their babies and do not do so, they are morally responsible for the sickness and death resulting from their neglect. Few women possessed of any maternal instinct will refuse to nurse their children if this is made clear to them.—J. M. Connolly in *Hygiene and Physical Education.*

THE HISTORY OF TWO CASES OF CONGENITAL PYLORIC SPASM

WITH REMARKS ON THE ETIOLOGY AND TREATMENT *

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The title of this paper is a misnomer, if it conveys the impression that by "pyloric spasm" is meant the mild and common affection described by Pfaundler[1] and Cautley[2] under this name and evidently considered by them a condition quite distinct from and not likely to be confounded with congenital hypertrophic stenosis, but which, from the description of these writers, seems identical with the habitual or chronic vomiting of infancy. An unbiased study of the already voluminous literature on this subject is, to my mind, convincing that there occurs, under the term "congenital pyloric stenosis," a group of cases in which spasm of the pylorus and adjacent gastric walls is the principal, and often the only, abnormal condition present. This group comprises the majority of the cases of so-called congenital pyloric stenosis encountered in practice, and embraces those of infants who recover entirely under intelligent dietetic and other measures. It is the existence of this group which has given rise to the great confusion and division among observers as to the nature of congenital pyloric stenosis, and as to the means to be adopted for its relief—one class insisting that medical measures are sufficient for a cure, the other being equally positive that only surgical intervention can bring about permanent recovery. Notwithstanding that Heubner[3] places the incidence of pyloric spasm as but 0.5 per cent. of all children's diseases, the condition is not so very uncommon; a physician who sees many sick babies must encounter from time to time instances of the affection and although my cases might well, from the symptoms and history, be considered as mild instances of congenital pyloric stenosis, I believe that they come under the category of simple pyloric spasm, and as such they are reported.

REPORT OF CASES

Case 1.—*History.*—G. B., a male, the first child of its parents, both of whom are and were healthy, although the mother suffered much from nausea during her pregnancy, was born after a natural labor, weighing 8 pounds. The child was suckled successfully by its mother, and weighed, at three weeks, 8¾ pounds. At this time, its illness began with occasional vomiting. This gradually increased, until it soon vomited after every meal, sometimes in small, sometimes in large quantities—now and then, more than it had swallowed at one meal. Obstinate constipation followed, the movements, which were quite natural, occurring only with enemas. Rapid loss of weight ensued, and the infant was taken from the breast. In rapid succession, condensed milk, malted milk, barley-water and egg-water, whey, and whey and cream, were tried. Of these foods, whey was the most successful, four ounces being gained in five days on it, when vomiting and loss of weight again set in.

Examination.—I saw the infant first on Oct. 2, 1908. It was then 12 weeks old, and weighed 7 pounds. It was thin and emaciated, and cried continually; the tongue was clean, and the breath sweet. That morning, it had the first spontaneous movement in five days—of good color, smooth and well digested. There was, therefore, beyond a certain amount of colic and gas, no evidence of indigestion. The abdomen was large above, and somewhat retracted below the navel. Apparently, the stomach was normal in size; but, as I have never been able to demonstrate to my own satisfaction the situation of this organ in infants, it is impossible to speak with certainty as to this point. Peristalsis could not be detected on the abdominal surface, nor could the pylorus be felt. All the other organs were normal. From this time the infant was under constant observation. The vomiting, I noted, was often explosive, often shooting out one to two feet from the baby; but at other times the stomach-contents were simply gulped up in quantities varying from a mouthful to two-thirds of a bottle; the vomiting was preceded quite frequently, with pain and contraction of the abdominal muscles. It was never especially acid, and always unaltered, whether the child was taking whey or the food on which it was afterward placed.

Treatment.—A mixture of condensed buttermilk (1 part buttermilk to 7 of water, of which 25 per cent. was limewater), was given, two ounces every two hours, and daily lavage was instituted (salt-solution and sodium bicarbonate, one dram to a pint). After several passages of the tube, it was discovered that the stomach was never empty until two hours and three-quarters to three hours after feeding; and then, only when two ounces was given. Hence, the intervals of feeding were lengthened to three and a half hours, and the mother was instructed always to postpone the feeding half an hour, if, at or just before the meal, the child vomited. At first, the buttermilk caused diarrhea, as it often does; but this was quickly controlled with bismuth. Several examinations of the stomach-contents were made: Free hydrochloric acid was never present; the total acidity averaged 66 (about normal); pepsin-reaction was slight. Conclusive evidence of the hypertrophy, or, at least, the overaction of the pylorus and the stomach-wall, was given by the vigorous way in which the stomach would contract on the tube, after a certain amount of water had been introduced,—seizing it, and throwing its entire length into vibration; at the same time, forcibly pumping out the water, as if from a powerful syringe. After the infant had been under observation about a month, I first saw visible gastric peristalsis, and on several occasions thereafter; it was at times, feeble, at times, forcible and well marked. The progress of the child was extremely slow, and retarded by many set-backs. During these relapses, the weight would remain stationary or be lost; to be regained, as the vomiting ceased or diminished. The strength of the buttermilk and the quantity given was gradually increased; then whey was slowly added, and, finally, 20 per cent. cream; at first in small (half-dram) doses with each feeding. This process was continued until all the buttermilk had been discarded, and the baby was entirely on a cream-and-whey mixture. Further rehearsal of details would be tedious. The infant gradually recovered; the vomiting became less and less, and now, at the age of 10 months, the child weighs 22 pounds, all vomiting having ceased for a month.

This case, I believe, was one of simple spasm of the pylorus and adjoining gastric walls. It illustrates how patient, persistent and intelligent dietetic experimenting will often bring cases of this nature to a happy conclusion. More than once during its course was the question of operative interference considered; but a little more waiting always cleared up the atmosphere, so that, with the consequent improvement, the idea was dismissed.

Case 2.—This infant, also a male, was first seen on Aug. 1, 1908, at the age of 5½ months. It then weighed 7½ pounds, having weighed 9 pounds at birth. The parents were healthy. The birth had been normal, and the baby had been vigorous for almost three weeks thereafter, when vomiting began. On account of this, it was weaned, and a modified milk-mixture was given. This not agreeing, whey, pasteurized whey, milk prepared with peptogenic milk-powder, condensed milk, and, finally, Eskay's food, were tried. Peptogenic milk seems to have been the most successful of these. Under its use, the vomiting almost ceased, and the weight, for a time, increased. When seen, the child was much wasted and very constipated, with one smooth, well-digested movement by enema daily. It was vomiting practically everything given; sometimes immediately after, sometimes long after, the three-hour feedings. The vomiting was at times projectile in character, being thrown out a foot or more from the patient. It was often very acid; and again, not at all. Of late, it had contained large quantities of mucus and gas. The upper portion of the abdomen was enlarged, and I thought that the stomach was dilated, as apparently it reached to the navel. Visible gastric peristalsis was not observed. The infant was bright and hypersensitive, starting suddenly at the slightest noise. A weak mixture of buttermilk-conserve (1 part to 6 of water, of which 33 per cent. was lime-water), three ounces every three hours and a half, together with hot epigastric applications, were advised; no medication. At first, improvement was noted; then loss. At the end of the month, however, a pound had been gained. (The buttermilk had been increased to 1 part to 4; the proportion of lime-water, 33 per cent., still being maintained). Because of the large amounts of mucus ejected, lavage with salt and bicarbonate of sodium (1 dram of each to 2 pints) was instituted. Whenever it was employed, diminution of vomiting and gain in weight resulted; but, owing to the mother's unwillingness and inability to carry it out, this procedure was used only at infrequent intervals. As the tube usually showed that the stomach was not empty until almost four hours after a feeding, the bottles were given at this interval (six times a day); and the mother was told to postpone the meals, if vomiting occurred at the time they were due. The progress of this baby was slow and painful, beset with relapses and most disappointing losses in weight. Notwithstanding this, the steps were slowly upward; after four months of treatment, the weight was 10 pounds (a gain of 3 pounds). After the buttermilk had been gradually increased to 1 part to 3, it was slowly replaced by fresh buttermilk (with 3 per cent. cane sugar and 1.5 per cent. wheat flour). Every attempt to add whey or cream to the mixture was followed by disaster. At these times only was the vomitus very acid; (usually it contained no free hydrochloric acid, with a total acidity of about 50). When fresh buttermilk was given, the lime-water was replaced by citrate of sodium (1 grain to the ounce); and that this was beneficial, was shown by an increase of vomiting on its withdrawal. To compensate for the small amount of food tolerated by the irritable pylorus, the former was strengthened by somatose and beef-juice (1 to 2 drams), with how much benefit, it is impossible to say. After the eleventh month, the vomiting diminished materially; so that now (thirteen and a half months) several days will often elapse without its occurrence, and the child weighs 14 pounds, has four teeth, and is undoubtedly on the way to complete recovery. At no time was visible gastric peristalsis observed.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Pfaundler and Schlossmann: Handbuch der Kinderheilkunde, ii, 18., 181.

[2] Cautley, E.: Brit. Med. Jour., Oct 13, 1906, p. 939 et seq.

[3] Heubner, O.: Arch Pediat., July, 1908, p. 555, abst. from Therap. Gegenw., October, 1906, p. 133

The question as to the diagnosis in this case may be raised. I am sure, however, that it was one of pyloric spasm of extreme and obstinate degree, to which, from a long series of dietetic errors (five months) gastric distention and catarrh had been added. The expulsive vomiting, the early history, and the fecal movements of natural character, are sufficient to exclude simple chronic indigestion and pyloric stenosis. This case illustrates, even more than the first, how persistent and intelligent efforts at feeding will often bring success in the most obstinate instances of this affection. If there had been opportunity to have the infant under closer observation and control, it is possible that the improvement might have been more rapid.

Congenital pyloric spasm and congenital hypertrophic pyloric stenosis, though usually separable clinically, stand in close genetic relationship to each other. Hence, in considering the nature and etiology of pyloric spasm, a brief summary of its symptoms and of those of hypertrophic stenosis will not be out of place. The subjects are usually males. They are born healthy. They are commonly breast-fed. The vomiting begins from the third day to the third week, or later. It is without apparent cause, and may be very acid or entirely unaltered in character, and is often expulsive or projectile, and may exceed the amount taken. There is constipation, obstinate or partial, according to the amount of narrowing or spasm. Signs of indigestion or gastric catarrh are usually absent, at least in the early stages. Exaggerated gastric peristalsis, feeble or intense, from left to right, is almost always sooner or later observed. In the minority of the cases a mass is palpable in the pyloric region. There is rapid loss of flesh, keeping pace with the amount of vomiting. Pain (from spasm) is often present. The food remains in the stomach longer than the usual hour and a half, viz., from two to four hours.

This group of symptoms exists in greater or less degree, according to the nature of the case; whether it be one of pure or partial spasm or of true stenosis, and differs entirely from the habitual or chronic vomiting of infancy, in which there are always the evidences of indigestion, so conspicuously absent in the condition we are considering.

The conception of Koplik as to the relation and nature of the affections variously considered as pyloric spasm and pyloric stenosis seems reasonable and probably correct, namely: that in some of these cases there is simply pyloric spasm alone; that in others there is added to this some hypertrophy of the circular fibers, causing a more or less distinct narrowing of the orifice of the pylorus, but not sufficient materially to narrow its lumen, and permitting of the free passage of food in the absence of spasm; and that in still another variety the narrowing of the pylorus is so great as practically to close the opening, so that an actual stenosis exists. This last group comprises but a minority of the cases and includes those of patients relieved by operation alone.

That there may be a distinct anatomic change in the pylorus, and yet recovery ensue, although the pathologic condition remains, is shown by the case of Batten[4]: this patient exhibited the ordinary symptoms of hypertrophic stenosis and gradually recovered; but, at death, long after, was found to have the usual muscular hypertrophy of the pylorus. I think that the weight of evidence goes to show that in all cases spasm is a prominent and ever-present symptom, and is the cause of the symptoms observed during life; and, as in Batten's case, may and does subside, and yet the hyperplasia of the circular fibers persist. It would seem, also, from the purely clinical standpoint, that a simple spasm of the pylorus may exist without apparent anatomic change; yet it appears more reasonable to assume that in all cases there is some pathologic alteration in the structure of the pylorus, although very slight, which, under certain conditions—the swallowing of liquor amnii,[5] inappropriate food (whether from the breast or artificial), hyperchlorhydria, etc.—causes incoordination of the musculature of the pylorus and adjoining gastric walls, resulting, at last, in spasm. In a word, in cases such as I have reported as instances of simple pyloric spasm, there is underlying, as the primary cause of the spasm, a congenital defect of the circular muscle fibers at the pylorus, or of the nerves innervating them.

The relation, therefore, of the cases clinically recognized as pyloric spasm to those in which a true hypertrophic stenosis exists is simply one of degree. Pfaundler's theory that all cases are due to spasm, and that the changes in the pylorus met at operation or autopsy are always secondary, is certainly not borne out by clinical and microscopic evidence.

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[4] Progressive Medicine, Philadelphia, March, 1903, p. 218.

[5] Thompson, J.: The Clinical Examination and Treatment of Sick Children, Edinburgh and London, Edition 20, 1908, p. 122.

It is not necessary to dwell at length on the diagnosis of congenital pyloric spasm. Although theoretically its differentiation from the severer hypertrophic stenosis is not difficult, it can not be denied that in practice the obstacles may be great. Usually, however, if, in a given case, a normal or fair amount of fecal matter is passed, it may be concluded that the case is one of spasm, or that no great narrowing exists; or it exists in slight degree, and the spasm relaxes sufficiently to permit food enough to pass into the duodenum to nourish the infant adequately.

TREATMENT

The treatment of pyloric spasm is almost entirely dietetic. Drugs have little or no place. Intelligent, persistent and patient dietetic experimenting, as Koplik[6] has so conclusively shown, seems to be the key-note of success. I have seen now five instances of this affection, of which only two are reported at this time, because the others were observed at a period when the condition was not generally recognized—at least, not fully recognized by me. Most of them passed out of my hands; but I know that all the patients ultimately recovered, some of them, without any particular management. Hence, I conclude that the prognosis is good, if the case is largely one of spasm, as so many of them are.

In the feeding of these infants, it is generally taught that the quantity should be small and the intervals short; but, as it seems unreasonable to put food into an organ that has not rid itself of the last meal, I believe a better rule is to feed only when the stomach is known to be empty. This can be discovered by the passage of the tube; or, in lieu of this, by observing the latest period at which vomiting occurs after a meal, and by always postponing the feeding if vomiting takes place just before or at a time when it is due. The amount to be given is that which observation of the case teaches us will not be rejected in any great quantity. In this way, as the irritability of the stomach is gradually overcome, it will be found that larger and larger quantities will be retained. Theoretically, the infant will not gain flesh on the small amounts (only 16 to 20 ounces often) introduced by this or other methods, but practically I have found that it does, because, especially in severe cases, not half or one-third this quantity has been retained.

Breast-milk, given according to the method described, is the ideal food for these infants. If the milk of one wet-nurse does not agree, another should be tried; and, as the fat is generally not well tolerated, in many cases it may be found advisable to remove this by centrifugation. In artificial feeding, a food which is free from curds and irritating properties, and which will form no coagulum in the stomach, should be selected; such a food is whey, to which completely peptonized fat-free milk, and later cream, may be cautiously added. Buttermilk, notwithstanding the hyperacidity often present in these cases, is valuable on account of its low fat-content and the digestibility of its casein, and has been found effective in many. In my cases, a buttermilk conserve was at first employed, because of its easy preparation, and because it had proved to be a successful temporary food in other cases of difficult feeding. It was slowly replaced, in one case, by whey and cream; in the other, by fresh buttermilk. I always gave it well alkalinized (25 to 33 per cent. of lime-water).[7] In breast-fed infants lime-water may be given before, during and after the feeding, either from a spoon or by means of a medicine dropper, introduced between the nipple and lips. This (an alkali) is, I believe, a valuable addition to the dietary of these cases, whether the milk be fresh or acid. The excessive acidity, so often present, is thereby neutralized, the casein rendered more soluble and its coagulation retarded; and, as we know that relaxation of the pylorus is accomplished through the agency of the alkaline juices of the duodenum, it is not unreasonable to assume that alkaline stomach-contents might have a similar action. Citrate of sodium (1 to 2 grains to each ounce of milk, whey or buttermilk) has been recommended. It has the advantage of smallness of bulk, thereby conserving the nutritive value of the mixture given. In my second case, it was substituted for lime-water, when condensed buttermilk was replaced by fresh. That it had value was shown by the increased emesis whenever it was withdrawn. As a rule, fats of all kinds, whether in the form of cream or of olive oil or cod-liver oil, should be avoided. In my cases, they always provoked disturbance.

Stomach-washing is highly recommended by Sutherland,[8] Cautley, Pfaundler and other authors, and condemned by others. In my hands, it has proved a most valuable resource. So successful may it be in allaying the vomiting and spasm that Cautley warns against wrong conclusions which may be drawn therefrom, as to the nature or gravity of a case—whether it be one of true spasm or of organic stenosis. Lavage should be practiced daily, at first; and, later, whenever there is a return or an increase of the vomiting, or when food remains in the stomach from one feeding to another.

I believe that it also has some value as a diagnostic measure. When much spasm is present, the tube is seized and thrown into vibrations by the hypertrophied and irritable stomach, and the water pumped out much more vigorously than under normal conditions. Usually, simple saline water is sufficient; but if there is much mucus, sodium bicarbonate may be added (1 dram to a pint).

Warm applications and poultices, hot salt-bags or water-bags, and Japanese pocket-warmers, applied to the epigastrium at meal time, and for half an hour thereafter, have been advocated, and gave in my cases considerable comfort.

Drugs to overcome the irritability of the pylorus and adjoining gastric walls occupy, in this affection, a very secondary position. Opium has been recommended, but atropin, chloral, and the bromids would appear to be less objectionable, and more likely to afford relief.

Finally, in the treatment of pyloric spasm, we should never despair, remembering, if we are familiar with the history of the affection, that the most hopeless patients may recover entirely under our observation, if we are able to retain them long enough; and that, as in severe and pronounced cases the diagnosis from true organic stenosis is difficult and often impossible, the question of surgical intervention may have to be considered, yet operative measures should always be postponed so long as the infant is not actually and continuously losing weight.

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[6] Koplik, H.: Am. Jour. Med Sc., June, 1908 p. 1.

[7] Moll (Arch. f. Kinderh., 1905, xlii, 327) asserts that in alkaline buttermilk the proteids are more soluble and finely divided, and that tryptic digestion is easier.

[8] Sutherland, G. A.: Lancet London March 16, 1907, p. 725.

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ABSTRACT OF DISCUSSION

Dr. H. M. McClanahan, Omaha: A case I saw began on the third day of life, the child dying on the twenty-ninth day. Postmortem revealed a stenosis; the lumen of the pyloric orifice would barely admit a fine probe. The patient was very weak and gradually lost weight. I was unable to palpate any tumor. The increase in growth was at the expense of the lumen and not at the expense of the size. Now, is there any way by which we can say that one case is a case of pure spasm and another has an element of true stenosis involved? At the postmortem I regretted that surgical intervention had not been resorted to. In another case, in view of this experience, it seemed to me at the time that surgical interference would be justified, but the patient went on to recovery. The peristaltic wave was so distinct that the nurse could see it. The absence of the peristaltic wave might be evidence of the spastic condition.

Dr. D. J. M. Miller, Atlantic City: These infants are always hypersensitive. They start readily, are easily frightened, and should be kept as quiet as possible. For this reason stomach washing is inadvisable in many cases; and the same applies to rectal feedings. My object in presenting this paper was to show that spasm is a predominant symptom in most of the cases and that operation should always be postponed to the latest moment, for many of these infants will improve under patient and careful dietetic treatment. My second case illustrates this, though still much below weight and though the way was long the child is now practically well. Still I believe that in many cases an operation would do no harm and might be beneficial, although not absolutely necessary.

AN INVESTIGATION INTO THE CONDITIONS SURROUNDING THE CHILD IN SCHOOL *

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At the meeting of the American Medical Association of 1907, following a paper on the "School Child," by W. C. Hollopeter, it was suggested by A. C. Cotton that there be an investigation of school conditions undertaken by the Section on Diseases of Children. As a result a committee was appointed to investigate the present status of the school child; I was appointed for the middle west.

The intention was to cover the entire country, and the division of territory was made north and south. Early in the investigation it was learned that this division was an impractical one, as the school conditions in localities where there are separate schools for the negro were at such a variance from the average that statistics gathered in these localities were discarded and the investigation limited to cities of 25,000 population and upward in the north central states. The data used in this paper were gathered in thirty-four cities, from 904 schools selected at random, representing 369,290 pupils.

The methods used in the investigation were: first, the use of school statistics published by the various educational boards; second, correspondence with school superintendents, principals, teachers, and school inspectors; third, personal investigation.

The report of the U. S. Commissioner of Education for the year 1907 states that there were 16,829,386 pupils in the common schools; 848,191 pupils in the high or secondary schools at a total cost of $330,680,801, or a cost of $3.90 per capita of population, or a cost per pupil of $41.60 per annum.

In twenty-two of the cities under investigation the pupils were divided in the several grades as follows: first grade 87,783, second grade 61,369, third grade 57,703, fourth grade 54,220, fifth grade 50,489, sixth grade, 41,904, seventh grade 35,223, eighth grade 24,998, first year high school 13,858, second year 9,087, third year 5,572, fourth year 3,699.

The average ages taken at the beginning of the school year were first grade, 6 years 4.5 months; second grade, 7 years 10.5 months; third grade, 9 years 2.6 months; fourth grade, 10 years 4.1 months; fifth grade, 11 years 6.3 months; sixth grade, 12 years 4.3 months; seventh grade, 13 years 4 months; eighth grade, 14 years 1 month.

The variation in the ages between the various grades is not to be taken as indicating the average time spent in the grade, as the factors of non-promotion and the dropping out of the over-age child must be taken into consideration. In the primary grades the non-promotion of a large proportion of the pupils, together with the fact that but few pupils withdraw, causes the lengthened average interval, while in the grammar grades non-promotion is one of the chief causes of the withdrawal of the school child; so with non-promotion and the dropping out of the over-age child the apparent average interval spent in the grade diminishes.

The relation of over-age and non-promotion to the dropping out of the school child is shown in the accompanying table which gives the normal age per grade as used in the calculations of this article, the number and percentage of entire class of normal age pupils, the number and percentage of entire class of pupils over age, the number and percentage of class of pupils under age, with the percentage of promotions in the various grades.

TABLE SHOWING AGES AND PROMOTIONS BY GRADES

Grade.	Normal Age: Years.	Number of Pupils. Normal Age	Percentage of Pupils. Normal Age	Number of Pupils. Over Age	Percentage of Pupils. Over Age	Number of Pupils. Under Age	Percentage of Pupils. Under Age	Percentage of Promotions.
1.	6-7	65,001	88	8.863	12			68
2.	7-8	40,073	71	11,473	20.5	4,910	8.5	82.3
3.	8-9	32,252	61.6	14,346	27.4	5,759	11	85.4
4.	9-10	28,090	59	14,759	31	4.761	10	84.8
5.	10-11	25,153	60.5	12.514	30.1	3.908	9.4	82.5
6.	11-12	19,863	60.7	8,210	25.7	4,450	13.6	83.2
7.	12-13	19,988	64	5,496	22	3,407	14	84
8.	13-14	11,238	61.8	2,880	15.7	4.128	22	88

A uniform series of questions was sent to each of the principals of the 904 schools and a second series to some ten thousand teachers in these schools. The questions and such answers as can be summarized are here given, reduced to percentages for the more ready comparison when possible.

PRINCIPALS' SERIES

How many of your pupils are compelled to leave school each year because of ill health? (This includes only cases of general ill health, excluding all acute and contagious diseases and temporary illnesses). Twenty-one per cent. of the principals answered that none of their pupils were compelled to leave on account of ill health; 11 per cent. gave 1 in 500 as the proportion; 9 per cent., 1 in 250, 17 per cent., 1 in 200; 28 per cent., 1 in 100, 9 per cent., 1 in 50; 4 per cent., 1 in 33. This is an average loss due to general ill health of one in each two hundred pupils.

What is the size of your playground? Nineteen per cent had no school playground; 10 per cent. had less than a square yard per pupil; 7 per cent. had between 10 and 15 square feet per pupil; 15 per cent. had between 15 and 25 square feet per pupil; 6 per cent. had between 25 and 50 square feet per pupil; 18 per cent. had between 50 and 100 square feet per pupil; 25 per cent. had over 100 square feet per pupil.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City June, 1909.

Have you a good system of ventilation—any method insuring fresh air constantly? Twenty-two per cent. answered in the negative; 78 per cent. in the affirmative.

What method of ventilation is used? The answers varied greatly as to the system in use and the major portion of systems mentioned can not be considered adequate. The ventilation of the schoolroom is of such importance that it would seem advisable that this body take some cognizance of the methods of schoolrom ventilation which meet its approval.

Have you a sanitary drinking fountain? This was answered in the affirmative by 27 per cent.; in the negative by 73 per cent.

Do you use individual cups? This was answered in the affirmative by two principals.

Are the school toilets in good condition? This was answered "yes" in 81 per cent. and "no" in 19 per cent., but these answers do not coincide with the result of personal investigation, as in the schools visited the toilet rooms were usually found to be dark and ill ventilated.

The Care of the Rooms.—The rooms were swept daily in 80 per cent. of the schools, tri-weekly in 19 per cent. and bi-weekly in 1 per cent. The rooms were scrubbed once in two weeks in 24 per cent. of the schools, once a month in 21 per cent., once in two months in 3 per cent., three times a year in 37 per cent., twice a year in 11 per cent. and annually in 4 per cent. The school desks were washed twice a month in 7 per cent., monthly in 15 per cent., once in two months in 5 per cent., three times a year in 29 per cent., twice a year in 16 per cent. and annually in 28 per cent. The walls were washed or calcimined each year in 7 per cent., every two years in 19 per cent., every three years in 10 per cent., every four years in 12 per cent., every five years in 14 per cent., every six years in 14 per cent., every seven years in 2 per cent., every eight years in 8 per cent., every ten years in 8 per cent., every fifteen years in 1 per cent., every twenty years in 1 per cent. and never in 4 per cent. In dusting a feather duster was used in 67 per cent. and a damp cloth in 33 per cent.

Text-Books.—In 53 per cent. of the schools free text-books were used entirely. The average life of a book was given as two years in 12 per cent. of the schools, three years in 21 per cent., four years in 29 per cent., five years in 28 per cent., six years in 7 per cent., seven years in 1 per cent., eight years in 2 per cent. In no school was there any means provided for sterilizing the books; and, regardless of the condition of the previous user, the books were passed on to the next pupil without a pretext of asepsis.

TEACHERS' SERIES

Below are summarized the answers to the teachers' questions; for comparison there have been selected the answers from the first and seventh grade teachers, as time will not allow of a more detailed report.

How many pupils in your room?

Number of Pupils in Room.	Per cent. of Answers. 1st Grade.	7th Grade
15 to 20		2
21 to 25	1	
26 to 30	2	9
31 to 35	8	23
36 to 40	29	25
41 to 45	24	13
46 to 50	18	12
51 to 55	5	2
56 to 60	7	2
61 to 70	6	2
71 to 80	..	2
81 to 90	..	2
91 to 100	..	2

What is the size of your schoolroom? The dimensions of the schoolroom have been reduced to number of square feet per pupil, as in the calculation of air space any height over fourteen feet was not believed to influence the air content of the room.

Number of Sq. Ft. Per Pupil.	Per Cent. of Answers. 1st Grade.	7th Grade.
Less than 10	4	
11 to 15	23	13
16 to 20	39	25
21 to 25	26	40
Over 25	3	22

Have you good playgrounds? Thirty-four per cent. answered "no" and 66 per cent. answered "yes."

How much time does the child have on the playground each day?

Time on Playground.	Per Cent. of Answers. 1st Grade.	7th Grade.
No outdoor recess	8	12
10 minutes	3	6
15 minutes	13	35
25 minutes	10	6
30 minutes	66	41

These are the periods the schedule calls for, but as in no school is there any covered area provided, in stormy and inclement weather the outdoor recess can not be had.

What is the longest period the child is in the schoolroom without an outdoor recess?

Longest School Period.	Per Cent. of Answers. 1st Grade.	7th Grade.
60 to 90 minutes	50	34
90 to 120 minutes	38	48
120 to 150 minutes	5	6
150 to 210 minutes	7	12

How many of your pupils must do home work to keep up with their classes? In the first grade 7 per cent. of the teachers required some home work, while in the seventh grade home work was required by 82 per cent. of the teachers.

How many of your pupils show a marked lowering of vitality or loss of vigor or a noticeable increase of nervous irritability during the school year? Forty per cent. of the teachers failed to recognize these conditions in any of the pupils, while 60 per cent. recognized it in one or more of their pupils. In the minds of the teachers the contributing causes of this condition of stress were:

Causes of Strain.	Per Cent. of Answers 1st Grade.	7th Grade.
Too much school work required..........	78	22
Too great anxiety over grades or examinations	8	32
Too many outside cares, as the care of younger children or employment for economic purposes	14	24
Outside social distractions...............	12	30
Poorly cooked or innutritious or insufficient food	42	12
Habits contracted outside the school, as cigaret-smoking, exciting companionship or bad personal habits................	12	44

On the principals' series of questions the question, "What in your opinion are the chief causes of stress and strain in the school child?" was answered by the majority to the effect that there appeared no stress or strain in the children under their observation. Of the others answering the question each hundred principals gave the following:

Too much school work required.............	30
Too long school hours......................	9
Poor preparation in the earlier grades.......	12
Insanitary school conditions.................	9
Too many pupils in a room..................	8
Too much importance attached to examinations	5
Yearly promotions and the lockstep method...	6
Poor teachers..............................	4
Improper school seats.......................	2
Outside work, as selling papers, ushering in theaters and care of young children........	14
Outside work, as music and dancing lessons...	4
Overambitious parents.......................	11
Poor home environment......................	27
Children improperly clad.....................	9
Children improperly fed......................	23
Insufficient sleep...........................	15
Social distractions and cheap theaters........	23
Mental insufficiency.........................	26
Lack of home discipline......................	9
Irresponsibility	6
Irregular attendance.........................	6
Physical defects............................	9
Bad personal habits.........................	15
Too much stress attached to the special studies	6

The schedules are apparently arranged with but two ideas in mind—to have the harder studies early in the session and to fit in with recesses.

Sample schedules taken at random from various school systems were found to have the same lesson periods for all the grades, no attention being paid to the physiologic fact that a child six to ten years of age can not apply the attention to a specific subject for more than fifteen minutes without undue strain. In many schools the first lesson period, which supposedly is of the hardest study, is forty minutes in length in the primary grade.

The curriculum is manifestly overcrowded. This is due to three causes: first, the domination by the colleges; second, the fact that all that has been in the curriculum at any period must remain; third, that every pupil must take all the work, regardless of personal need.

This overcrowding of the curriculum is the source of much of the criticism which is being heaped on all public school systems, and is a menace to the child in two diverse ways: first, the honest ambitious child must do more than is within the limits of his ability to do without physiologic impairment, and, second—and what is of far greater evil in its effect—is the fact that educators recognize this factor and the child himself soon learns that to do all his work well is unnecessary for promotion, and here is inoculated into him those habits of shiftlessness and irresponsibility that are the crying evil of the modern school. Through all the literature and remarks of educators one recognizes this constant wail of the inability of the school to develop the will, but all effort is placed on the intellectual capacity. The school does not educate (draw out), but rather its apparent endeavor is to pour into the child a certain definite number of facts.

There are now at work several agencies looking to the simplification of the curriculum. A committee appointed by the National Educational Association is doing a valuable work.

To sum up: It is self-evident that inefficiency exists in the working out of the educational method for the child in all departments.

To suggest improvements in the several very urgently needed reforms would take more time than is allotted for this paper. What would be of far-reaching good is the establishment of an educational health board connected with each school system, this board to be composed of physicians, with proper authority to act in safeguarding the health of the school child, and to be the final arbiter in regard to hygiene and sanitation, and to indicate the mental and physical ability of the pupil.

THE SCHOOL CHILD'S BREAKFAST*

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To physicians deeply interested in the work of preventive, as well as curative medicine, the school child's breakfast is becoming an important factor for earnest consideration. The subject, however, is not a new one. For many years harrowing stories have reached us from over the ocean of the distressing poverty of English and French cities. Reports have come to us of thousands of children who are sent to school weak from hunger. The expensive educational system provided for the children weakened by privation and hunger in their poor homes evidently has failed to impress or benefit them to any degree. Our government, as well as the governments of several European countries, has debated and framed, year after year, various laws for the correction of the school child's condition; yet very little good in this special direction has crystallized out of the many voluminous "acts to amend an act" before the various legislative bodies. It is much more convenient for us to read, and even to reread, these many reports of the distress of the foreign child and eventually come to believe them than to investigate patiently the truth for ourselves.

The best framed legislative measures reach us from Great Britain. The British people have indulged, frequently and thoroughly, in debate on the underfed school child. It is a matter most vital to them. In April, 1905, Sir John Gorst, possessing an advanced mind, full of theories, yet lacking practical application, instituted a most appropriate comparison of the government of the people described by the Apostle as "ever learning and never able to come to the knowledge of the truth." As he states, they are always appointing royal commissions and departmental committees on social questions, but most frequently fail to carry out their many recommendations. He is found stating his case in this language: "It is true our committees found themselves unable to say whether the school child was better nourished or developed now than forty years ago, for the course of study imposed now is much more exacting than formerly. But it is a fact that the child is much better physically now, and more able to endure indoor work, so the committee felt, inasmuch as the material was better, it was desirable to demand more of the child." Another British report quoted by Sir John Gorst insists that all school children should be inspected more thoroughly, physically and mentally, and examined as to all the senses, and finally, measured and weighed semi-annually. In this way the country might learn the true facts of the child's condition—if improving or deteriorating.

While reading of our British cousins and feeling a national pride that our own country does not allow a school child thus to suffer and deteriorate, our natural complacency was given a rather rude shock by the publication of an article by that sociologic writer, Mr. Robert Hunter, implying that our country was no better than Great Britain or France, and estimating that in New York City alone 70,000 children went to school hungry. The exact number was, moreover, distressing, inasmuch as a definite number carried conviction in regard to the actual facts tabulated in so large a number. For 70,000 children to go to school hungry seemed appalling, and this occurred just during the most prosperous period of our country. The exact facts seemed more like an importation of statistics from the literature of a foreign revolutionary agitator. It did not seem to belong to our country or our investigations. The true statement made by Mr. Hunter was that 70,000 children were found in New York schools underfed, and the latter word would have expressed the real meaning of the original statement more clearly than the word hungry. Many thousands of little children go breakfastless to school at times; but the real problem is much more extensive than that, and embraces that much more numerous class of children who are chronically underfed, either because their food is insufficient in quantity, or, what is the same thing in the end, poor in quality and lacking in nutriment. Furthermore we read from John Spargo's "Bitter Cry of the Children" that from cases personally examined by himself, or by teachers acting under suggestions given by him. he found that of 12,800 children 2,950, or more than 23 per cent., either had, on the morning examined, no breakfast or a miserably inadequate breakfast of bread, crullers or crackers, with or without coffee or tea. He has also summed up the result of other investigations made in New York City, Philadelphia, Buffalo and Chicago, which show that of 40,746 children 14,121, or 34.65 per cent., had gone to school breakfastless, or with nothing more than bread with tea or coffee—certainly a very poor preparation for the day's work.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The animated discussion on the question of underfed school children which has been going on for the past four or five years, both at home and abroad, has found its way into the newspapers, chiefly through the reports of sanitary inspectors. These published statements are based on insufficient grounds. The final analysis will prove that poverty, or the want of food, is not the real cause. The child does not usually want the food in the morning. It is absurd for the excited social reformer to demand, on such slight grounds, the supplying of free meals. It is true, indeed, in every large city there are many children who go hungry to school and go because there is an actual lack of food for them. This condition is, fortunately, not common in our own country. This class of school children should be cared for by the proper charitable agencies and never by school authorities.

Viewing the question from a medical standpoint, poverty is not the cause, except in a small minority of the cases, of those school children who go hungry. All physicians, especially those dealing largely with children, note the capricious morning appetites of children who are physically below normal from any one of many causes—such as ill health, poor homes, careless personal hygiene, etc.—and this is most likely to occur with those living in city slums and crowded quarters. Any physician doing dispensary work will recognize the truth of this assertion.

For several years I have been deeply interested in the child's breakfast, and I have made careful investigation along this line to learn the actual truth. A large proportion of the children, if asked why they did not have breakfast, would quickly reply that they did not want it; or, if in the younger children, the answer would be that their mothers could not make them take any. The true answer must be sought farther back than the mere lack of food, for food is frequently abundant. The true cause is generally the personal or domiciliary hygiene of the poorer classes extending throughout several generations. Careless mother, unclean bedrooms, close and badly ventilated, late retiring hours, with heavy, unsuitable dinners, a strong disinclination for the morning bath—all tend to cause neglect of the morning meal: then the child is hurried off to school with little attention to his personal comfort in many ways, besides omitting the breakfast.

It is not among the poorer classes alone that we find the capricious morning appetite. The fault is found just as frequently among the children of the better classes. This condition prevails in a more pronounced form—the personal environment is forced and unnatural. The practice of allowing young children tea and coffee, various stimulants, the rich, late, evening meals, associated with the excitement of music and visitors until the early sleeping hours have been broken, are all active factors in producing unstable appetites. These conditions and many more could be mentioned which must be taken into account when seeking a remedy for the growing evil. Little good can be accomplished in spending public money for free meals for children who do not want to eat and can not eat in the early morning, handicapped as they are with these many difficulties.

With the object of corroborating or disproving the correctness of Robert Hunter's and John Spargo's statements of the school child's breakfast, I enlisted the services during the winter of about 100 teachers in the elementary schools and emphasized the importance of their method of questioning the young child. I insisted that the following three questions be asked: 1. Do you eat a breakfast? 2. What do you eat? 3. How long does it take you to eat? The importance of truthfulness in our answers would rest in the manner of the teacher's approach to the child. She must ask each child alone and in strict confidence; the child must not know he was about to be questioned, otherwise the answer would be prompted by his pride or his mother's suggestion—that is one reason why the answers collected by John Spargo are misleading.

The result of my winter's work is very briefly summarized as follows:

Of 2,169 children interrogated:

58 per cent. drank coffee
15 per cent. drank milk
11 per cent. drank cocoa
11 per cent. drank tea
68 per cent. ate bread
4 per cent. ate rolls
40 per cent. ate eggs
35 per cent. ate a cereal
5 per cent. ate potatoes
18 per cent. ate cakes
9 per cent. ate meat
9 per cent. ate fruit
6 per cent. ate various other foods

Only six claimed to eat no breakfast; 737 gave the time consumed in eating as follows:

2, 50 minutes
5, 45 minutes
3, 35 minutes
74, 30 minutes
27, 25 minutes
128, 20 minutes
221, 15 minutes
1, 13 minutes
2, 12 minutes
135, 10 minutes
1, 8 minutes
31, 5 minutes
3, 5 minutes
2, 2 minutes
2, 1 minute

In conclusion, while we can not draw a definite result from the analysis of so small a number of school children (2,169) as to the quantity and quality of food taken for their breakfasts, we may infer that the school child has a chance—a poor one, indeed—for a breakfast; and the reason he has so poor a one is not that he has no food, but unfortunate surroundings to prepare him for his day's work.

Our duty as physicians is to regard our professional relation not ended with the school child until definite instructions be given to the family in correcting the poor home surroundings of the child as to sleeping rooms, personal habits, as well as proper food at a given time.

It is quite evident that Mr. John Spargo's estimate of hungry school children is erroneous and misleading. This is due to the manner of his gathering his information, obtaining it collectively when every element of personal and family pride was placed on view.

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. HOLLOPETER AND VAN DERSLICE

Dr. L. T. Royster, Norfolk: I am acting head of the school board in a city of 70,000 inhabitants, about 60 per cent. of the school population being in the schools. We have about 15,000 negroes in our schools, but these schools, of course, are separate.

The school authorities are the first ones to be educated in this matter. It is absolutely essential that on every educational board there be a physician; I never realized the need of that until I got on the school board myself and found that what little I could do was absolutely needed by those gentlemen, all good men but not knowing what was needed from a physical standpoint. First of all, the physical and moral development should be ahead of the intellectual. Our public school system should fit the child for the battle of life, and that is not done without a physical and moral foundation. Of first importance is sanitation. When children are educated in the proper care of their physical being, not only will they be benefited, but the next generation will receive the benefit of this education. These children will in the next generation be the legislators as well as the educators. If the Lord's prayer is taught a child at its mother's knee, that child will never forget it. It may come to feel that it does not need it, but if the occasion arises it will remember its early teaching. This is equally true of other teaching. If a child is taught that his welfare depends on physical and moral hygiene, the foundations are laid for the good of the race.

Questions come up as to whether a midday lunch is preferable or whether the child should continue his work and go home for a 3 o'clock dinner. All these questions come up from time to time, and it seems this body should go on record and let it be known that the American Medical Association stands for certain principles that are essentials in public school education. That must have some weight eventually. We must keep these facts before the public every day and every month and every year. Another thing, we are the men who influence the people in their homes. The family physician is the one who tells the mother that the child must do this, that, or the other. Mothers will do what we tell them, even if they come into conflict with the public school system. We are the missionaries. Now it seems to be a belief that anything ever put into the curriculum should never be taken out. I am a believer in two fundamental things in the teaching of children, *i. e.*, moral training and physical education. No man is educated until his moral nature is trained and from physical training you get a power of coordination and also of relaxation. Make the public feel that we are the arbiters of the situation. It is our duty to humanity to keep constantly knocking at the public door.

Dr. Charles Douglas, Detroit: It seems to me that this is perhaps the most important subject we could undertake in order to educate the public. Professionally we are coming in contact with the results of intense ignorance among the so-called better educated women in this country. Our work is largely to repair the damages that are the result of their ignorance. We are continually called on to correct evils among the little ones that are the result of the ignorance of the mothers who have followed the advice of some ignorant mother or grandmother. I contend that we must do all that has been said and we must go further. In every woman's college curriculum there ought to be a course educating our young women to know what is right and what is wrong in hygiene and dietetics, so that in after years when feeding their children they will not be dependent on some ignorant old woman for directions. We know that in the first week of a child's life damage is often done that will send the child to its grave. We should force the public to recognize that the schools are not doing their whole duty. Is it necessary to teach so much of what we all forget? Is it not better to teach young women something they will need? We should teach them what foods agree, what are the elements in food for proper nutrition and how to use the foods. If they have enough of this knowledge they won't be subjects for education by people more ignorant than themselves. Only then will we have a higher status of education than we have now.

Dr. George F. Little, Brooklyn: I agree that we ought to make public such action as we may take. We won't go far by merely talking this over among ourselves. This committee will report from year to year and I think they should make recommendations to be acted on by this body. I would suggest that the committee get together this afternoon and make such definite recommendations as the report may call for; that the section act on the resolutions submitted and that they be given wide publicity.

Dr. C. G. Kerley, New York: When I was chairman of this Section I read a paper on this subject, and a year ago I read a similar paper before the American Pediatric Society. I think we are going a little too fast. It is all right to take the matter before the public, but the first one we have to educate is the physician. The physician must realize that he has something to do besides studying pathology and therapeutics and practicing medicine. We know something that the public ought to know. We recognize this fact we come here and discuss and then we go away and the public knows just about as much through our knowledge as it did before. What physicians must recognize first is that they are, in a sense, teachers. Where does the public get its information on the subject of health and disease? From "patent-medicine" and proprietary-medicine manufacturers. How is the mother to know how to feed her child properly or how is the father to know how to eat in order to nourish his body to enable him to work, if he has never been taught? Ninety per cent. of the population eat simply to satisfy the appetite. What we must do is to teach the people how to live. Physicians must appreciate their duty to the community and then they will be able to act to a tremendous advantage for good. Instruction in vital living principles should be taught in the schools. Every large town should have a board of hygiene associated with the board of education, but to have that brought about the people must know that we have something that they need that should be brought before them.

Dr. Van Derslice tells us of the ignorance and of the neglect of children, showing that they do not have the care that the farmer gives his horses and his sheep because the child has no value in dollars and cents. The neglect of children, particularly in our larger cities, is a disgrace to our country.

Dr. Helen C. Putnam, Providence: The first thing to do is to educate physicians. The teaching of hygiene in recent years has grown to what may be called a specialty. Several speakers in another section discussed hygiene taught by textbooks; but our leading educators and some physicians are far ahead of that idea. Object lessons and training in habits is the most efficient method. A child can learn more hygiene in two days from a good tuberculosis school exhibit than in two years by memorizing a text-book on bad air and unclean room. The making of housewives has been mentioned. Housekeeping to-day requires scientific knowledge. Domestic science when well taught is by far the best hygiene taught in the schools, and children take it home to their mothers. Boston has exceptionally good instruction in this department, and exceptionally good health reports. School nurses are among our effective instructors. We need higher standards for medical inspection—physicians trained for it. I do not know whether one of the speakers meant to endorse the individual drinking cup in school. Theoretically he might. Experience, however, shows it to be no improvement on the common cup. Children keep it in a dirty desk, or hanging in dusty air, or wrapped in a grimy handkerchief, and lend it to their cupless friends. What morals and manners if they did not! Its details are additional burdens to teachers, parents and child. We should advocate instead the bubble fountain. School fatigue is being specially studied in laboratories. This school cachexia is largely due to lack of outdoor air. Physicians should advocate education through industrial training, outdoor games and school gardens, to introduce the open-air life. Nature study (school gardens, etc.) is the normal method of teaching the origin of new life, which it is our duty to promote. The national organization of biologists is beginning definitely the consideration of its mission in this respect, and we should cooperate in all possible ways.

Dr. H. I. Bowditch, Boston: As a younger member of the profession, I think we have neglected one class of students who should be thought of. When I was in college nothing was taught of our responsibility to the public. In the early years it used to be taught, but not now. We used to get an occasional lecture on ethics and the relation of the physician to the public. If the students realized their relation to the public, and what ought to be taught the public, physicians would have a better knowledge of what they have to come up against.

Dr. E. C. Hackett, Chicago: When Dr. Putnam spoke of the work of the biological society, it seemed to me a crying shame that a brother or sister profession should take up the work that physicians ought to be doing. I want to urge that the medical men and medical women in small towns are over-modest. This teaching of others will not be done unless physicians do it. I know the difficulty there is in small towns in getting accurate information on these subjects. One woman physician told me that she had had the temerity to speak in her small town on the subject of reproduction and the matter of abortion, and for speaking of such "unladylike things" she had been tabooed. We will have to come forward and show the public that the American Medical Association is behind this movement if we expect to accomplish anything.

Dr. W. C. Hollopeter, Philadelphia: My sole object in writing this paper was the attempt to go farther back than the mere want of food, and consider the general environments of the child. Much harm has been done by the sentimental writings of the sociologist in the matter of the school child's food, and especially the breakfasts, and this investigation was made to fix the facts more definitely before the profession. If I have satisfied any members of this Section that we need greater hygienic home care of the child rather than increase of food, the object of the paper will be accomplished.

Dr. J. W. Van Derslice, Oak Park, Ill.: I believe that the medical profession needs educating, but I don't know any place where physicians can go to get any sane ideas on the subject. I have worked on this committee for two years and there are very few points on which I am definitely fixed. I think this Section should take a definite stand on subjects we deliberately take up; any subject we take up must be sanely handled. I do not want anything to go out from this Section as a resolution that can be turned down as impractical. There are too many fads and hobbies; what the public wants is facts and practical ideas taken from authoritative sources.

River Pollution and the Hudson-Fulton Celebration.—A discordant note in the Hudson-Fulton glorification, says the New York *Christian Advocate*, comes from a man whose life-span almost bridges the hundred years since the Clermont made her first trip—the Hon. John Bigelow, who was born on the banks of the Hudson ninety-two years ago and has always lived beside it except when residing in Paris as consul, or minister. Mr. Bigelow opens his heart to the public in a letter to the Hudson-Fulton Commission, in which he makes the shades of the discoverer and steamboat pioneer say:

> The river you are making such an ado about discovering and navigating is not the river either of us saw. The river we know and which bears one of our names consisted of as pure and delicious water as ever descended from heaven. You have permitted it to be converted into a great sewer into which all the cesspools, barnyards, kitchens, mills and factories between New York and Troy discharge all their polluting exuviæ and rubbish, instead of sending them back on the lands whence it came and which it should enrich. In doing this you have deprived all the river counties of one of their most valuable crops. That river in our time used to swarm with shad, herring, sturgeon, striped bass, bullheads, sunfish and pan fish of many other varieties. These fish used in our times and for many years after continued to furnish at least one-third of the nourishment of all the inhabitants for ten miles back on both sides of the river from New York to Albany. If you wish to honor us for what we have done to render this magnificent waterway useful, restore it to the condition in which we left it and when it was ready to appease the hunger and thirst of millions of people. Instead of that you have not given a thought or appropriated a penny for the discharge of the first duty which our names should have prompted you to discharge.

It is perhaps too late to save the majestic Hudson from pollution, but there are still in the more recently settled parts of our country streams which nothing but immediate and vigorous action can save from similar or worse pollution. That lavish waste of natural resources which has leveled the forests of America is defiling lakes and rivers with offal which ought to be returned to the soil.

FINAL WORD ON THE STEM PESSARY FOR AMENORRHEA, DYSMENORRHEA, STERILITY, ETC. *

J. H. CARSTENS, M.D.
DETROIT

The many inquiries I receive from all over the country about the use of the stem pessary, with requests for reprints of previous articles on the subject,[1] have prompted me to write another article on this question. It shows that the conditions mentioned in the title are difficult to treat. Knowing that the stem pessary will relieve the patients in nearly all cases, and in order to give this method of treatment thorough publicity, I again write on the above-named subject.

AMENORRHEA

This we generally divided into two classes, the one existing in young women in whom menstruation never made its appearance, and the other in patients in whom it has been established for a shorter or greater length of time and has suddenly or gradually disappeared.

Although there are great individual variations, large statistics in different countries show that the age of the first appearance of menstruation is about the same in the white race, viz., between the fourteenth and fifteenth year. The common people understand this perfectly, and if a young girl does not menstruate at about fifteen the mother begins to worry and perhaps treats her or consults a physician. We now well know that in some cases there is no need for treatment of any kind. The patient is backward in development, is perhaps anemic, chlorotic, suffers from indigestion, or has other conditions which generally retard the growth of the pelvic organs. With our rapid development and high education, in many young girls the vital energy is used up with study, and the menstrual function is slow in making its appearance. On the establishment of ordinary rules of hygiene and appropriate treatment such patients become stronger in the course of a year or two and the menstrual function makes its appearance without trouble.

But there are other cases in which no cause for the tardy appearance can be found, but the patients have symptoms of pain and distress recurring monthly. In such cases all the long list of emmenagogues which have been handed down to us for ages are of no avail. I have tried them faithfully and never saw any benefit from them whatever. I am by no means a therapeutic nihilist. Such patients need a thorough examination of the genital organs. There is no use wasting time with all kinds of treatment. These patients must be examined under an anesthetic. If there is an imperforate hymen, atresia of the vagina, or absence or defect of any of the organs of generation, proper surgical treatment must be instituted. These abnormal conditions do not concern us to-day.

Frequently we shall find that the uterus is small, a great deal smaller than it should be; sometimes it is bent. We have a so-called infantile uterus. Sometimes the whole uterus is small, only two inches in length. At other times it is of normal length, but is very thin. In some cases the body of the uterus seems poorly developed and in other cases it is the cervix. It may be the normal length, but only as thick as a lead-pencil.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Carstens, J. H.: The Stem Pessary for Amenorrhea and Dysmenorrhea, THE JOURNAL A. M. A., Dec. 29, 1906, xlvii, 2133; Infantile Uterus, etc., Am. Jour. Obst., 1903, No. 5; The Stem Pessary for Dysmenorrhea, Ann. Gynec., December, 1904.

This poorly developed condition is sometimes due to poor hygiene, improper method of living, too much mental work and too little physical exercise, resulting in a poor development of the whole body. In other cases the patient is physically well developed, but only the pelvic organs seem to be retarded. Now with this kind of cases I formerly had a great deal of trouble. I used applications, tampons, douches, and applied electricity until I got tired of it. I then began to use a small steel dilator like the Notts. By gradual dilatation two or three times a week I would develop some of these uteri to about normal size. It was painful, however, and would take months—yes, even years. Twenty-six years ago in an article I called attention to this method of treatment for amenorrhea and dysmenorrhea.

A good many years ago I read an article on the value of a string of beads introduced into the uterus for the purpose of bringing on a more profuse flow in scanty menstruation. The introduction of a foreign substance into the uterus struck me as a reasonable procedure. I then thought of the stem pessary as a possible means of relieving this condition and began to use it. I found so much benefit that I increased the indications for its use ever since.

PREMATURE ATROPHY

Then there is another class of cases in which menstruation has been regular and normal for years, but when the women are 30 or 35 years old it becomes scanty and skips and is painful. This condition you will find in women who are unmarried and take little physical exercises, but are hard workers mentally, teachers and others who hold positions of responsibility requiring a great deal of mental work. On account of non-use the uterus undergoes a premature atrophy, and on examination the uterus will be found small, like the infantile uterus above mentioned. In such cases wonderful improvement on the insertion of a stem pessary, allowing it to remain for a year or two. To this class may be added that class of superinvolution of the uterus following confinement or miscarriage. Generally the same symptoms are produced as are found in the small uterus at puberty.

AMENORRHEA IN FLESHY STERILE WOMEN

Then there is a third class of cases. Women who live high, have good digestion and are hearty eaters become fleshy; the menstruation becomes scant and sometimes disappears entirely, and the women become sterile and develop all kind of nervous symptoms. I never saw any medicine give benefit in such cases, but by the insertion of a stem pessary and by control of the method of living wonderful benefits to the symptoms and reduction of fat can be brought about.

DYSMENORRHEA

This is one of the most intractable conditions to manage. In the past many normal ovaries have been removed as a last resort in such conditions. Some women suffer pain so that they are laid up every month for a day or two or even more. If they have positions they lose them, as nobody wants the young woman who is incapacited for work every little while. Many drug habits are started on account of painful menstruation. All the remedies, local or internal, that have been used and recommended give but little relief, except some kind of narcotic; hence we can readily see how necessary it is to find some means to permanently relieve this condition.

Authors have divided dysmenorrhea into different varieties, such as obstructive, inflammatory or congestive, membranous, and ovarian. We must, first of all, see that the pelvic organs are in normal condition, and if there is partial atresia it must be remedied by forcible dilatation, etc. But this recurs in the course of a couple of months and the operation has to be repeated. To prevent the recontraction I always insert the stem pessary after forcible dilatation. In cases of membranous dysmenorrhea I thoroughly curette the uterus and swab it out with pure phenol, insert the stem, and cure the patient. The so-called congestion and inflammatory conditions usually mean diseases of the tubes or pelvic peritonitis, and so on, and these require special surgical operations. The stem pessary is not only not indicated, but is liable to light up a dormant case and cause serious consequences.

The stem pessary is indicated in those obscure cases in which we can not lay our fingers on any particular abnormal condition—the kind that used to be called neuralgic; no general defect is found, no inflammatory condition, no displacement, or anything else, simply pain during menstruation. And let me add to this that other peculiar pain occurring just between the menstrual periods which the Germans call *Mittelschmerz*, the pathology of which we do not understand. It is marvelous what beneficial results are obtained in all such cases from the stem pessary.

DISPLACEMENTS

Originally the stem pessaries were devised to keep the uterus in about the normal position. Some stem pessaries were a combination of a retroversion or anteflexion and a stem pessary, all in one piece and difficult to introduce. Others were made of zinc and copper, supposed to have an electric action. But all kinds of stem pessaries were soon discarded because they caused trouble. In the course of my experience I found that in some cases in which there was a reflection or version besides the other conditions requiring the use of the stem pessary, the latter often helped the displacement if worn long enough. As the general health of the patient improves, the ligaments regain their original tone. But the pessary must be worn at least a year or more.

STERILITY

Many of the conditions requiring the use of the stem pessary are also the cause of sterility. I had that impressed on me by some of my earlier cases. A woman, married five or more years, who had suffered from some of the above-mentioned conditions, became pregnant after removal of the stem, which she had worn for three months. This gave me another indication for the use of the stem; and, in fact, some of my patients were kind enough to call the attention of sterile patients to the fact that they had been relieved by the stem pessary and sent them to me, so that in the course of time I have had several patients who afterward became pregnant, although I never promise to relieve that condition. There is nothing lost in trying the pessary, even if it fails. Sterility is sometimes caused by poorly developed mucous membrane of the uterus and the presence of a foreign substance in the uterus, I think, will strengthen and develop the lining membrane.

CONTRAINDICATIONS

Velpeau, in 1840, was the first, I think, to urge the use of the stem pessary. Others took it up, especially Simpson. Different kinds and shapes were devised. But in those days the pessary was used for displacements principally, and, as many of the displacements were the result or coincidence with pelvic troubles, pus tubes, etc., it can now be readily seen how serious results followed their use. Dormant pelvic inflammations were relit; in fact, septic micro-organisms were sometimes introduced in the uterus and persons otherwise previously healthy soon developed pelvic trouble, so that in the course of time the profession tabooed the use of the stem pessary. It is well known that, though repeated efforts were made to re-establish their use, they soon fell into disuse again, and very justly, as they were not properly used and counter-indications not well established. Dysmenorrhea was frequently caused by pelvic inflammations of various kinds and a careless physician might use a stem pessary in such a case with disastrous results. These cases require surgical interference of entirely another kind. Versions and flexions with adhesions require different treatment. A movable displacement requires an Alexander operation or something of that kind. The stem pessary is indicated only when there is no septic or inflammatory condition in the pelvis.

Such conditions must be rigidly excluded; hence it is readily seen that the principal indication for the use of the stem is in young or unmarried women. I have had a few cases in which the stem would not be tolerated and had to be removed. In some the pessaries came half out, as the result of falls from a swing or a bicycle, and had to be removed and reinserted. Hence I want to warn the profession not to use the stem indiscriminately and again bring it into bad repute. Judiciously used, it will be a valuable aid in the treatment of these otherwise intractable cases.

TECHNIC

The introduction of the stem requires dilatation of the uterus. As this is very painful, it is necessary to give an anesthetic, although it may take only five minutes. Then the absolutely cleaning of the vagina is necessary.

I use the Chambers hard rubber stem, although others may be as good. That everything be aseptic I boil the stem with the instruments, but, as the two arms of the stem come together while boiling, I immediately, when taking them out of the hot water, separate them and dip them in cold water so that they will stay open. Generally I have the patient on the back; with vulsellum forceps I catch a lip of the uterus, pulling it down somewhat and straighten it out as much as possible. I now insert a sound to get the exact length of the uterine cavity. Then I select a pessary a little shorter (¼ or ⅓ inch) and have it ready for insertion by fixing it into the introducer. Now I dilate the uterus. As this is often small it is necessary to start with a fine-pointed dilator. I use the Notts dilator. This generally is not sufficient and I then use the Goodell-Erlanger dilator or any other kind, thoroughly opening the uterus. If there should be any endometritis or discharge from the cervix I thoroughly curette the cervix only and swab it out with pure phenol, wiping it dry. I can then insert the stem. The button at the end must be on the cervix. The stem is kept in place by a finger on the button; then the introducer is pulled out and the thing is done. If indicated, a Thomas-Hodge pessary is inserted. The physician must see that the button is in the center of the retroversion pessary. There may be a little blood lost from the dilatation; therefore, I give phenolized douches twice a day for a day or two while the patient remains in bed. Some can get up the next day, but, as a rule, I keep them in bed for forty-eight hours. Then they can get up and go about their usual vocations. They can do anything and everything, as they always did, and never know that they are wearing stem pessaries. Once in a great while in women who are very constipated the pessaries may be forced out by straining. This sometimes also occurs in cases of relaxed vaginas. In the latter the soft rubber inflated pessary will often help to retain the stem in place.

All I ask of the members of this Section is to give the stem a fair trial in those properly selected cases in which ordinary treatment has failed and let us hear the results.

620 Woodward Avenue.

ABSTRACT OF DISCUSSION

Dr. Howard A. Kelly, Baltimore: I think it would be interesting if the members would give their experience. I supposed that the old-fashioned method of using a pessary had been discarded a generation ago. I practically never use internal appliances for any cause whatever, that is, extending over any period of time. I have never used a stem pessary. I don't see just what good it can do. I have seen a great deal of harm result from the use of pessaries, and therefore, I have not used them.

Dr. H. P. Jack, Canisteo, N. Y.: Often the uterus will either raise children or raise something else. We often see in women engaged in mental work the most severe suffering from dysmenorrhea and scanty menstruation. I have in mind a woman who, in spite of the most careful treatment, had become a nervous wreck and who had not menstruated for eight months. Following the method of Dr. Carstens, I used a stem pessary and since that time she has menstruated, not profusely, but regularly. She has developed from a nervous wreck to a healthy, robust, well-feeling young woman. I could report several other cases in which the results have been equally striking, in which women have been transformed, so to speak, from invalids to healthy capable persons.

Dr. A. E. Benjamin, Minneapolis: I have been using the Outerbridge speculum instead of the stem pessary, although I have used Dr. Carstens' stem pessary in several cases and must report good results in some of them. We must be sure that a case of amenorrhea is due to a lack of development of the uterus or of the ovaries. Dr. Carstens has thrown out a few suggestions in regard to the use of the pessary, but we must be absolutely sure that there is not an undeveloped condition of the adnexa, particularly of the ovary. I have seen a number of cases in which a fibrocystic degeneration was taking place; and it must be remembered that amenorrhea will occur on that account. In some of these cases laparotomy was done, the ovaries were resected, cysts removed and menstruation and pregnancy have followed. In cases of dysmenorrhea I have used the Outerbridge speculum introduced just previous to the menstrual flow. Its spring-like action keeps the cervix open. It is one of the best instruments we can use at that time. Also in dysmenorrhea we must be sure that the difficulty is not due to some condition outside of the uterus, that is, in the pelvis. For sterility the same instrument can be used. A few cases I can report in which pregnancy occurred by the use of the Outerbridge speculum, but in most cases I think that Dr. Carstens' stem pessary can be used with greater satisfaction. I believe with Dr. Kelly that nothing should be introduced into the uterus to be left there for any length of time. But when one can restore the function of the uterus and produce a more normal mental state by the use of some of these things, I think their employment is justified.

Dr. J. H. Carstens, Detroit: How can any one judge of a thing he has never used. Thirty or forty years ago it was a serious matter to use these pessaries; they were inserted an severe inflammation was the result. To-day we see grea benefit resulting from their use. I have women traveling al over the world wearing these stem pessaries, and able to d all kinds of work.

OPACITIES OF THE CORNEA

THEIR FREQUENCY IN CHILDHOOD FROM PREVENTABLE CAUSES AND THEIR EFFECT ON VISION *

COLMAN W. CUTLER, M.D.
NEW YORK.

Ophthalmology has been regarded as a field not distinct from general medicine, but comprising problems such as refraction and special surgery, which require so thorough a training as to deter the practitioner of medicine. It is obvious that this attitude is deplorable, as it tends to make the specialist in reality narrow as well as to deprive the practitioner of information at first hand which is often of great value.

The ophthalmoscope has become an instrument of precision in the hands of every careful diagnostician. Gower's "Medical Ophthalmoscopy," the excellent translations of Haab's atlases, and articles by Bull, de Schweinitz, Duane, Knapp, and Risley, who has drawn attention to the importance of hygiene in the care of the eyes of school children—these writings and many others have awakened an interest in ocular problems, and the questions which this paper will raise will, it is hoped, justify its presentation before a society which welcomes all information relating to the welfare of children.

In the excellent address of the Chairman, stress has been put on the importance of foresight. In the care of children, as in no other field of medicine, conditions of nutrition and of the inheritance of a disposition to disease must be anticipated and controlled before the precious moment has passed and the tendency becomes disease.

Some of the special problems met in aural disease are now recognized by the general practitioner and faced with confidence. The skin is a field full of suggestion which we study for the most varied signs of general disorder and of lessened resistance to external irritation. We do not need to know the nature of eczema or of the various forms of dermatitis to grasp to some useful degree their significance.

The meaning of the surface of the eye should be equally patent; and if it is studied as part of the surface of the body, containing in its small area some of the same problems met elsewhere, it will yield information equally significant.

In order to make quite clear the nature of the lesions to be considered, it will be necessary to review briefly the structure of the cornea. The surface consists of six or eight layers of stratified epithelium, like the epidermis, and, like this, it is renewed if scratched, without the formation of a scar. In reptiles that shed their skin, it is cast off with the external cuticle. Beneath this is Bowman's membrane, the external limiting layer. This is a firm and resistant membrane without apparent structure, which forms a very efficient protection to the stroma beneath from foreign bodies. The resistance of this membrane is evident when a foreign body penetrates the epithelium and lodges in it, and has to be picked out with a needle or when it is necessary to apply some strong antiseptic to an infection of the superficial layers. Without it, the transparency of the cornea would be in constant danger. If Bowman's membrane is destroyed, it is not renewed. Although the epithelium is loosely attached to it, this membrane is firmly connected with the corneal tissue or stroma beneath, which is formed of fifty or sixty layers of fibrous tissue inclosing spaces which contain fixed cells and lymph from the scleral vessels, which forms the only source of nutrition of the cornea.

Posterior to the stroma is Descemet's membrane, the posterior limiting layer which has on its surface, in contact with the aqueous humor, a single layer of endothelial cells. The anterior and posterior limiting layers are impervious to fluid and protect the stroma from infiltration from without and from within.

This very elementary sketch may serve to refresh the memory. In dealing with the eyes of children, it is important to remember that, while epithelial damage is not vital, an infection or injury which passes Bowman's membrane will leave an indelible trace, which is a menace to vision if it lies in the area of the pupil.

Before the child is excited by an attempt to separate the lids, the surface of the eye should be inspected if possible by daylight before a window, so that the even surface of the cornea and its reflecting properties may be studied as the eye follows the finger. Any distorting of the bars of the window, for instance, will indicate an unevenness, which is a sign of past or present trouble.

The examination of the eyes of a resisting child is not always easy, but if there is a history of eye trouble, or if there is secretion on the lashes, or if the child shuns the light and has evident discomfort and cries when attempt is made to separate the lids, the cornea must be inspected thoroughly. This requires a good light and a lens, not to be used as a magnifying glass, but as a means of focusing the light on the cornea—and any one who has to look at the eye should never be without a lens.

An assistant who can hold the child and steady the head is also needed, although the better plan usually is to hold the child's head in one's lap, steadying it between the knees, while the nurse controls the body and arms.

The best elevators are the fingers, but pressure on the cornea must be avoided and this needs practice, especially when the photophobia and blepharospasm is intense, as is often the case in phlyctenular keratitis. If it is necessary to use the elevator of Desmarres, great care must be taken to avoid scraping the cornea.

The control of the child, the arrangement of the light and of the lens, and the manipulation of the lids with due regard for the already inflamed eye may seem difficult, but the importance of these measures can not be exaggerated. An attempt to describe them in detail may be spared, since a very little practice will suggest modes of procedure which will vary with the case. Every book on ophthalmology deals with this subject. Among many excellent works, Haab's "Atlas of the External Diseases of the Eye," edited by de Schweinitz, will be found especially useful for the general practitioner.

There are three points to be considered in examining the cornea, all familiar but not the less important: the corneal reflex, the smooth surface and the transparency. Any clouding of the normal glistening reflex indicates an active process, edema or infiltration. If, with this, there is a defect or depression of the surface, an ulcer is present in an active stage. If the defect glistens, however, showing that the epithelium is restored, the ulcer is in process of repair, or there is a cicatrix. If the infiltration is deeper, beneath Bowman's membrane, the surface may be intact as in the early stage of a phlyctenule or in an interstitial keratitis of syphilis.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909

The formation of vessels beneath the epithelium in pannus or fascicular keratitis and the deeper vessels in interstitial keratitis are to be noted. Ciliary injection and hypopyon should not escape attention and their significance is well known.

It is my purpose to impress on the general practitioner the importance of an early recognition of small lesions of the cornea. In their beginnings, most ulcers can be controlled without serious damage to the eye. Ulcers complicating gonorrheal ophthalmia do not always yield to treatment, however, but here, too, an early and vigorous treatment of the disease will usually prevent such unhappy results.

The importance of Credé's method is acknowledged and the immense progress in recent years toward the prevention of blindness is a matter of sincere congratulation. It rests with pediatricians as much as with ophthalmologists to see that laws are passed and that incompetent nurses and midwives and ignorant parents are not allowed to lose precious time in futile methods before the sovereign remedy, nitrate of silver, is used.

All cases of infants with purulent discharge should be treated as if they had gonorrhea, even if the gonococcus is not found at the first examination. The careful use of nitrate of silver does no harm and may do incalculable good.

The milder silver preparations, argyrol and protargol, should be used as adjuvants only and should not supplant the nitrate of silver in cases that show virulence. In epidemics of measles in a large children's hospital, during the past five years, these milder silver preparations have been used in all cases with secretion, and in no such case has a corneal ulcer developed, although previously such complications were not infrequent.

An ulcer of the cornea in gonorrheal ophthalmia may occur at the margin where the swollen conjunctiva overhangs the cornea or near the center where the nutrition is poor. The ulcers at the margin may be due to the accumulation of secretion beneath the swollen conjunctiva, which makes it very difficult to inspect and cleanse the cornea without abrading the epithelium. The central infection is due in many instances to injury received during examination or cleansing.

It is not the purpose of this paper to deal with treatment in these cases; but the importance of a thorough examination and of care in opening the lids and in removing the secretion can not be exaggerated.

The nutrition of an infant with ophthalmia is often a problem of greater difficulty than the treatment of the disease itself. In a recent paper[1] on this subject attention was called to this important point and reference was made to an article by Lobenstine and Harrar, who demonstrated the ill effects of gonorrhea in the mother on the early nutrition of the child. A question which is often raised is whether the child may remain at the breast. If the infant is nursed by its own mother and her intelligence permits proper care being taken to protect her own eyes, this course should be followed, but in an institution it is rarely possible without assuming a grave responsibility.

Phlyctenular conjunctivitis and keratitis has been a mooted point in ophthalmology, as is eczema in dermatology, and the two conditions have been associated as if they were of the same nature. This only adds to the confusion because it brings under one head two conditions of whose etiology little is known and which actually have little in common.

Phlyctenules are small nodules or collections of round cells beginning beneath the epithelium and frequently beneath Bowman's membrane, as has been shown by Baas. They are not vesicles, as their archaic name implies. No organisms have been found in the early stages, although staphylococci are numerous in their later development. It is probable that they arise from internal irritation, i. e., endogenously from toxins, or, as has been well expressed by Axenfeld, that they indicate the manner in which the conjunctiva, of scrofulous persons especially, reacts to various forms of irritation.

These eruptions are of importance because they appear insidiously and are often not brought to our attention until permanent damage has been done to vision. They are very frequent, especially in ill-nourished children of the poorer classes whose eyes have been neglected, particularly in those with adenoids, whose nares are obstructed and crusted, or who have eczema of the scalp and blepharitis. Undoubtedly ulcers of the cornea arise from direct infection from these sources, but the early stages of phlyctenules are quite characteristic and should be regarded as a probable indication of tuberculosis. After a phlyctenule comes to the surface as an ulcer and is secondarily infected, it loses much of its distinctive appearance, but the deeper infiltration and the vascularity are always suggestive of its origin.

In twenty cases examined recently, in addition to several with manifest tuberculosis of bones or glands, a positive reaction to tuberculin was noted in all except two cases, which were superficial ulcers and not typically subepithelial. Axenfeld has made similar observations, and Verhoeff, whose views of the relation of phlyctenules to tuberculosis have been quoted in the article previously referred to, is strongly of this opinion. These true phlyctenules should then be classed as stigmata of tuberculosis, and, as they not infrequently occur in apparently healthy children, they offer an important indication for further investigation and general treatment.

A characteristic of phlyctenules is their tendency to recurrence during any depression of vitality and their disappearance with tonic treatment and improved hygiene. With the great progress that has been made in recent years in school inspection and hygiene, this very important and interesting condition has diminished during the school age, but in the early years it is frequent, and the scars left on the cornea are too often a cause of impaired vision and lessened usefulness in later life. One meets with young men and women who wish to become stenographers or teachers or nurses, and whose intelligence justifies the ambition, but whose defective corneas make the continued eye work a source of unnatural effort and ultimate discouragement. Many cases of unilateral squint are caused by a minute fleck on the surface of the squinting eye. These local results of the fleeting and often ignored eruption in infancy are very important, and I am glad to be able to call your attention to their broader significance as a sign of a dyscrasia against which we are making a united contest.

Syphilis is a potent cause of corneal opacities and the traces which it leaves are as typical for the diagnosis of that disease as are Hutchinson's teeth. In the initial stages of interstitial keratitis, the cornea is intensely vascular, but the vessels are deeper than in pannus following trachoma or scrofula. These deep vessels are believed to be permanent, remaining visible after all infiltration has been absorbed, as fine branching twigs extending from the limbus into the corneal tissue. The are seen when the pupil is dilated, with a + 20 D. len in the ophthalmoscope, if the observer approaches close to the patient and throws the light into his eye. This sign of an early syphilis should be available to the general practitioner, as it is sometimes present when other symptoms are absent and may throw light on obscure conditions of nutrition.

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[1] Cutler: Lesions of the Cornea in Gonorrheal Ophthalmia and Phlyctenular Keratitis, Am. Jour. Obst., 1909, lix, No. 4.

To summarize this paper in a few words, I have tried to show the importance of the normal cornea and to define the changes which have a general significance. The methods of examination have been indicated and certain precautions in the manipulation of the lids have been emphasized. The method of examination with a lens by means of oblique illumination is easily acquired and should be practiced in all cases in which the eyes show signs of irritation and as a means of diagnosis in obscure cases in which tuberculosis or syphilis is suspected. Especial stress has been laid on the early recognition of ulcers and infiltrations which, if neglected, may permanently impair the sight.

Finally, to repeat a familiar idea, the importance of recognizing latent tuberculosis not only for the sake of the individual, but of society, is obvious. Scrofula has been a useful term, but must give way to a more definite expression. It is not needed where tuberculous glands or other lesions are present in which the bacilli may be demonstrated; and in other cases if the patient react to tuberculin, and have phlyctenules or other signs of a toxemia without a discoverable focus, it may be convenient to speak of latent tuberculosis or of tuberculous toxemia.

It has been said that most human beings have successfully resisted tuberculous infection, and the corollary is that, if the condition had been recognized soon enough, the number of those who have not successfully resisted it might have been greatly diminished.

The question of the wider use of tuberculin for diagnosis in schools and especially in children's hospitals is so involved with social and economic considerations that it can not be dealt with in this paper. Nor does it belong to a discussion devoted to ocular matters, but, like most medical problems, it overlaps many fields, and the opinion of this Section would have great weight.

Certain members of the race are the hosts of organisms to which they are in a measure adapted or which they tolerate, but which are still dangerous to others.

Unquestionably "typhoid-carriers" are a very great factor in the dissemination of typhoid; so in venereal diseases, those in whom the disease is latent are most dangerous, and in tuberculosis especially no effort should be spared to discover the unsuspected cases. We may doubt whether the prophecy of Professor Lankester in his Romanes lecture of 1905—"that the knowledge of the causes of disease has become so far advanced that it is a matter of practical certainty that, by the unstinted application of known methods of investigation and consequent controlling action, all epidemic disease could be abolished within a period so short as fifty years"—will be realized, but the ideal of eugenics so recently raised must be held in mind and all possible effort made to realize it.

8 East Fifty-fourth Street.

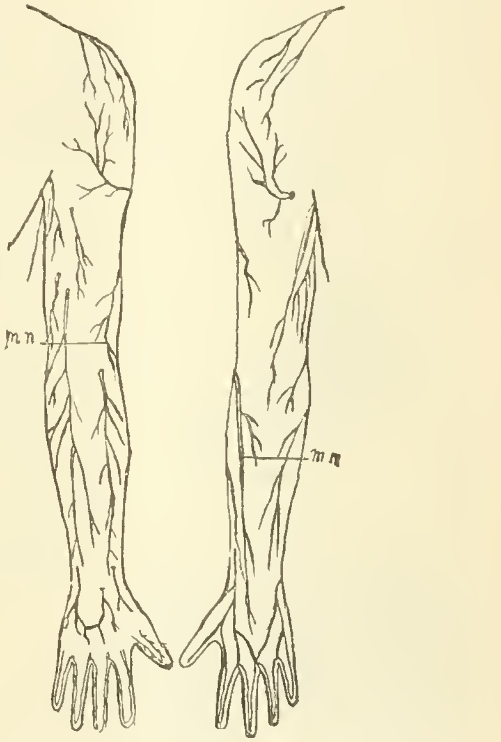
Asclepiades.—Without any increase of positive knowledge, Asclepiades and the Arabs cut loose from the teachings of simple clinical experience. Particularly the latter built up a confused mass of therapeutic measures. Their numberless old and new medicinal internal and external aids and appliances remind us of the detrimental activity displayed by the worst class of our wholesale nostrum vendors.—A. Jacobi, in *Monthly Cyclopedia and Medical Bulletin.*

Clinical Notes

AN ISOLATED NEURITIS OF A SENSORY FILAMENT OF A PERIPHERAL NERVE-TRUNK

ALFRED GORDON, M.D.
PHILADELPHIA

The peripheral nerve-trunks of the extremities, being composed of mixed motor and sensory fibers, when in a state of irritation or inflammation, will give rise to both motor and sensory phenomena. This is a common observation. An isolated involvement of either motor or sensory nerve fibers is sometimes observed. We are very familiar with motor neuritis and sensory neuritis. For example, in multiple neuritis caused by lead intoxication, motor phenomena (palsy) are almost exclusively present and the sensory disturbances are usually *nil.* In syphilis a sensory multiple neuritis may be alone present for a long time. Alcoholic neuritis may be also exclusively sensory.



Innervation of the arm; posterior aspect on the left, anterior on the right; M.N., external inferior cutaneous branch of musculospiral nerve.

If now we consider the individual branches of the main nerve-trunks of the extremities isolated, we find that palsies or inflammations of the motor divisions are not rare, but a neuritis of a sensory filament, judging from the neurological literature, is certainly a great rarity. Within the last eight months four cases came under my observation, all presenting a singular similarity in the localization, also in subjective and objective manifestations, and pointing to an involvement of the inferior cutaneous branch of the musculospiral nerve. The absence of such a record in the literature warrants the publication of my observations.

My four patients are two men and two women. Three of them are of middle age and one (girl) 23 years old. One man is a barber, the other a cutter (tailor), and the two women do housework. None of them except the girl uses alcohol. The latter uses it quite freely.

When they first consulted me, they all complained of a pain immediately behind the external condyle of the right arm. Curiously enough, in every one of them the right arm was involved. When the forearm is in pronation there is no pain. But as soon as slight pressure is made over the above spot at a distance of about a half of an inch above or below, pain was exquisite. The condyle itself is not tender. As to spontaneous or induced movements of the forearm, unless they are violent they are all painless with the exception of supination, which in three of my cases is slightly painful and in one not at all painful. The barber especially states that, while shaving or cutting hair, every time he would have to turn the hand in an outward movement, pain would appear in the mentioned area so that he was obliged to discontinue his work for a few moments. In addition to the pain brought on by pressure or by certain movements, there is also a spontaneous pain behind the external condyle and radiating down the posterior aspect of the forearm on its middle and external sides at a distance of a third of the limb. This pain is paroxysmal, comes on even when the arm is at rest and has the character of a neuralgic pain; that is, it appears suddenly without any apparent cause and is sharp and lancinating.

A careful examination for general sensations of the area of distribution of the lower cutaneous branch of the musculospiral nerve (see illustration) showed in the two men a hyperesthesia, and in both women a hypesthesia to touch, pain and temperature senses. As is well known, the dorsal external cutaneous branch of the musculospiral nerve, passing down between the outer and inner heads of the triceps, divides near the elbow into its upper and lower branches. The upper branch, the smaller, supplies the skin over the lower half of the outer and anterior aspect of the arm. The lower branch, the largest, runs behind the external condyle and supplies the skin of the middle of the back of the forearm, anastomosing with the medial internal cutaneous and musculocutaneous nerves. The partial preservation of sensibility in my patients over the area of distribution of the lower cutaneous branch is probably due to its anastomosis with other sensory branches, but why hyperesthesia should be present in some cases and hypesthesia in others is difficult to explain with certainty. The difference probably depends on the degree of inflammation of the nerve; with a greater degree of inflammation, hyperesthesia is likely to be present, while with a less degree hypesthesia will be the result. This contention finds its corroboration to a certain extent in the course of the neuritis. The two women whose affected areas were hypesthetic recovered in a comparatively short time (from two to four weeks), while the men with the hyperesthesia suffered from four to six months. To sum up, the affection presented exclusively sensory phenomena, namely, tenderness of a sensory nerve-trunk, disturbed objective sensory symptoms (hyperesthesia and hypesthesia) to all forms of sensation over the area of distribution of that nerve, spontaneous pain of a neuralgic character, commencing immediately behind the external condyle and radiating down the back of the forearm at a certain distance. No motor phenomena could be observed in the affected area and trophic disturbances were equally absent. The entire pathological picture was solely in the domain of one sensory branch of the musculospiral nerve.

It was mentioned above that pain could be brought on only by supination in three of the cases. The reason of it lies probably in the fact that the supinator longus arises from the upper two-thirds of the external condyloid ridge of the humerus and from the external intermuscular septum of the arm. The lower branch of the dorsal cutaneous branch of the musculospiral nerve, which is involved here, also separates from its upper branch at the level of the intermuscular septum. There is consequently great proximity of the origin of the nerve and muscle; a display of the latter will naturally irritate the nerve which is in a state of inflammation.

The etiology of this neuritis is probably that of neuritis in general. None of my patients could tell whether a trauma had been sustained or not; perhaps a slight trauma did exist, but passed unnoticed. Exposure to cold may have been a factor: the two women were obliged to do general housework; their arms were frequently, they say, in contact with cold water. Have the occupations of the male patients anything to do with their sensory neuritis? They said, however, that they were obliged to discontinue their work, as the latter invariably caused pain. A complete rest gave complete relief. While it is easy to conceive that some stretching of tissue and of cutaneous nerves takes place when the forearm is in a state of flexion for a long time (and this is precisely the situation with barbers and cutters), it is nevertheless difficult to attribute the neuritis exclusively to this factor, as otherwise a sensory neuritis of that particular nerve would be a frequent occurrence, which is, of course, not the case. The two male patients and the middle-aged woman have been suffering from rheumatism for years. The cutter had once an attack of occupation cramp in the right hand. The barber had once a paresis in the right hand following a cold bath. The girl is an alcoholic and perhaps syphilitic. All these predisposing factors probably played a certain rôle in the etiology.

As to the treatment, Bier's method of induced hyperemia was apparently successful in the middle-aged woman, but unsuccessful in the others. Complete abstention from work and exposure, hot baths locally applied and aspirin internally gave considerable relief. It is practically the same treatment as used in other forms of neuritis.

1430 Pine Street.

STITCH SCISSORS FOR EYE, EAR, NOSE AND THROAT

FRANK R. SPENCER, A.B., M.D.
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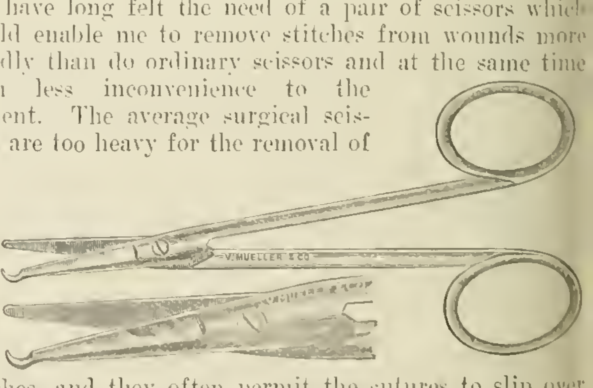
I have long felt the need of a pair of scissors which would enable me to remove stitches from wounds more rapidly than do ordinary scissors and at the same time with less inconvenience to the patient. The average surgical scissors are too heavy for the removal of stitches, and they often permit the sutures to slip over the end of the engaging blade.



The scissors here illustrated enable one to remove stitches from the conjunctiva, lids, mastoid, turbinate, etc., with a minimum of pain.

Physicians' Block.

A CIRCUMCISION OPERATION FOR THE YOUNG

SAMUEL E. NEWMAN, M.D.
ST. LOUIS, MO.

The text-books on surgery seem to imply that a circumcision is the simplest of procedures. The operation, however, is often troublesome. Postoperative complications do occur. The penis may become edematous to the point of making urination difficult. In certain cases the swelling and induration subside only after the removal of the stitches. More or less oozing of blood may persist for days or a hematoma of no small size delay the union of the parts. Inflammation in the tissues may be marked; this may abate rapidly or pass away only after the skin has broken and discharged its pocket of pus.

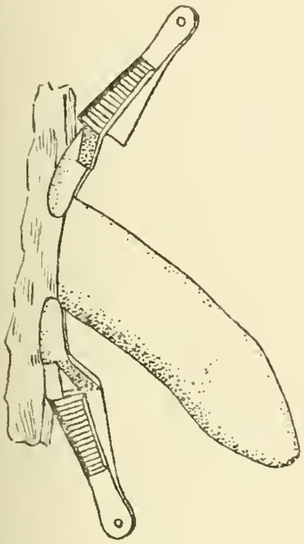


Fig. 1.

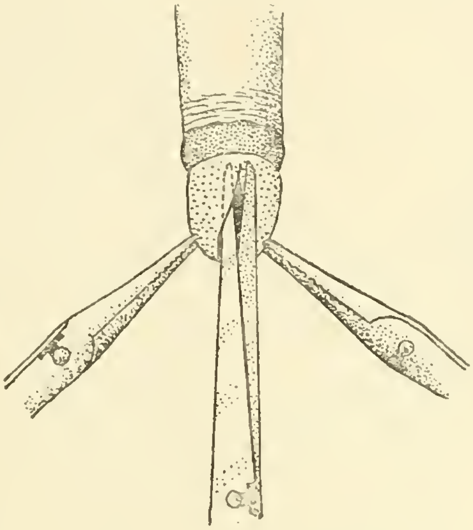


Fig. 3.

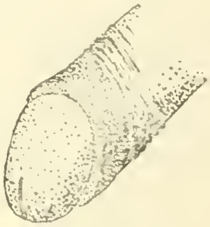


Fig. 5.

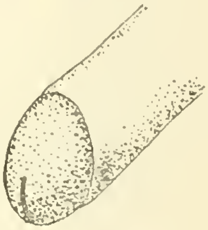


Fig. 6.

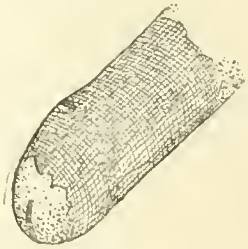


Fig. 8.

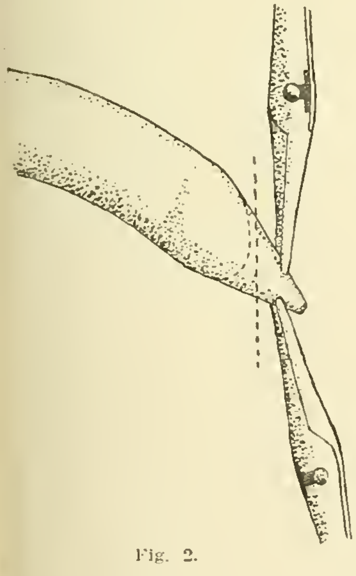


Fig. 2.

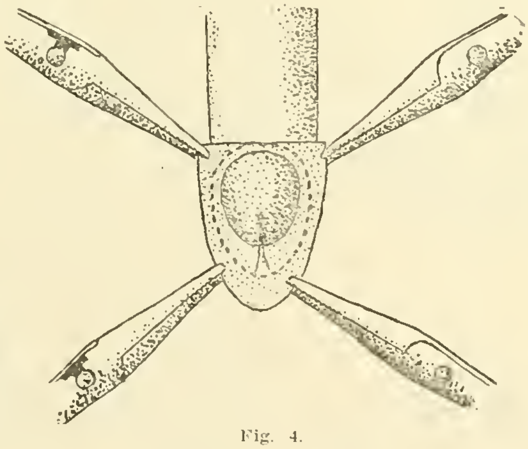


Fig. 4.

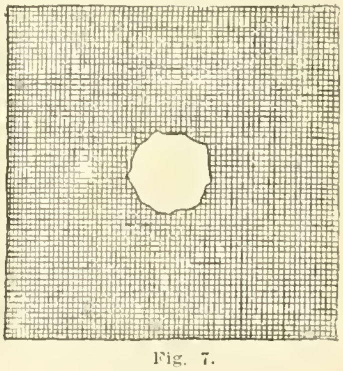


Fig. 7.

There is in nearly every circumcision some swelling of the organ. When the purse-string suture was advocated this condition was marked. If many interrupted stitches are placed close together so as to secure too perfect a coaptation of the edges the edema appears very promptly after twenty-four hours. A few loosely tied stitches give a decidedly better result. The query arose why sewing was employed at all, at least in the young. Cannot the skin be cut so that the edges are sufficiently approximated for a good result? If this can be done, the blood and lymph can more readily find a vent; the trauma to the tissues resultant from handling with the tissue forceps and needle and thread will be minimized; the reaction from the operation less disturbing. In a series of cases the operation has been carried out with this idea in mind and the result has been most satisfactory. The wound required very little attention; the comfort of the patient was not interfered with; a good result was obtained in five to ten days. I recommend the operation here offered as efficient, easy and quick.

STEPS IN THE OPERATION

1. The penis is held in place by two snaps, which pinch the skin of the organ between the selvage edge of two lengthwise adjusted towels (Fig. 1).

2. When the penis is in position, the location of the glans is determined and the amount of superfluous prepuce noted. One hemostat is applied above and one below in an oblique line so that more skin is removed from the under surface than from the dorsal. The hemostats pull the foreskin forward and then the skin is cut off with straight scissors along the dotted line, as shown in Figure 2. If the tissue is correctly removed the skin edge will retract to the corona. In the removal of the foreskin of a babe in the first months of life it is well to bear in mind that the parts are all diminutive and that the entire corpus is not much longer than the glans. Carelessness in this consideration results in an almost complete denudation of the organ; the skin retracting to the base of the penis.

3. The inner skin layer, or mucous membrane layer, as it is sometimes called, is slit down the dorsal surface to within one-fourth of an inch of its attachment (Fig. 3).

4. The edges of the inner layer are held with a few hemostats to facilitate the removal of all but a small collar at its attached edge. The dotted line in Figure 4 indicates the line of excision followed by the scissors.

5. The little bleeding vessels, two to four in number, are caught up and in every case tied with plain No. 00 catgut. This saves much postoperative annoyance.

6. Figure 5 shows the skin drawn up on the corpus away from the corona. Figure 6 is the result when the skin is allowed to come forward to the corona, where it meets the trimmed margin of the mucous membrane layer.

7. A piece of gauze with a small opening at its center is steeped in melted 10 per cent. boracic petrolatum and applied to the parts at the completion of the operation (Figs. 7 and 8). The dressing is changed if it comes off and may be discarded completely on the third day. The parts are then protected by boric ointment.

CHOICE OF ANESTHETIC

The use of cocain in children is not advisable, and the general anesthetic is probably the most desirable method. Infants only a few years old may be held by two assistants and the operation done without any anesthetic. I desire to call attention to the method of bandaging the child to a board after the Indian fashion of strapping the papoose; for this purpose a narrow cushioned board and a few bandages are all that is required to hold the child firmly in place until the operation is ended.

OBJECTIONS TO THE OPERATION

It may be asked, what happens to a patient operated on in this manner if the penis becomes erect.

The parts permit the easy stretching of the wound and there are no stitches to pull open or to cut through the tissues. When the erection has subsided the tissues contract and the edges of the wound are approximated in a satisfactory manner.

Against the operation may also be mentioned the fact that much of the wound heals by granulation. While this is true, a wound which is difficult to keep free of infection should not be sewed up tight.

The object of this paper is not to lay claim to originality, but to bring before the profession a procedure which has many advantages over the operations in vogue and one which gives most pleasing results when done in patients before the age of ten or twelve years.

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A SIMPLE, RAPID, AND ACCURATE METHOD FOR THE DETERMINATION OF AMMONIA AND ACETONE IN URINE

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Many of the propositions of chemistry, like those of mathematics, are susceptible of easy demonstration. To this class belong the following:

PROPOSITIONS

1. When 50 c.c. of fluid containing 0.5 gram of sodium carbonate, 50 mgm. of ammonia, and 25 mgm. of acetone is distilled, the entire amount of the NH_3 and $CH_3.CO.\ CH_3$ will pass over with the first 25 c.c. of distillate. This proposition is certainly true, but it is equally certain that it is not generally known. If it were, we should not be directed, as we usually are by text-book writers, to collect the acetone from urine by distilling 100 c.c.—or less—until seven-eighths of the fluid has passed over.[1] Nor should we have been cautioned to test the subsequent distillate for acetone.

2. When 10 c.c. of a solution containing from 0.5 to 8 per cent. of urea is diluted with 40 c.c. of water containing 0.5 gram of sodium carbonate and distilled so that 25 c.c. will pass over in from four to eight minutes after boiling begins, the distillate will contain one half as many cubic centimeters of decinormal ammonia as the solution contains grams of urea per 100 c.c.; i. e., the per cent., of urea divided by two will give the number of cubic centimeters of decinormal ammonia resulting from ureal decomposition. The exact amount of the ureal ammonia will vary with the time required in collecting the distillate, the amount being greater as the time is longer. When, however, the time required ranges between four and eight minutes, as in practice it probably always will, the constant (per cent. urea divided by 2) may safely be used, for all clinical purposes, as expressing the amount of ammonia produced by the action of the sodium carbonate on the urea.

3. The presence of such an amount of ammonium sulphate as could occur in neutralizing the distillate from 10 c.c. of urine with sulphuric acid has no effect whatever on the accuracy of Huppert's modification of Messinger's method for estimating acetone. Ogden,[2] Simon[3] and others make the erroneous statement that acetone cannot be estimated in the presence of ammonia.

4. The presence of such quantities of alcohol as may be recovered from urine, or as may be introduced with the indicator used in estimating ammonia, in no way affects the determination of acetone by the iodoform (Messinger-Huppert) method.

On the above propositions is based the following simple, rapid, and clinically accurate method for the determination of ammonia and acetone in urine. It will usually only require about thirty minutes to carry out the process.

PROCESS

Apparatus Required.—The apparatus at present used in this laboratory is that shown in the accompanying drawing. It represents an outlay of about one dollar and weighs, excluding the battery jar, only 175 grams. It is light, durable, convenient, and gives good results.

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[1] Autenrieth (Detection of Poisons, page 42) says: "Acidify from 200 to 50 c.c. of the urine with a few drops of sulphuric acid and distil. Collect 20 or 30 c.c. of distillate. This will contain the entire quantity of acetone in the urine."

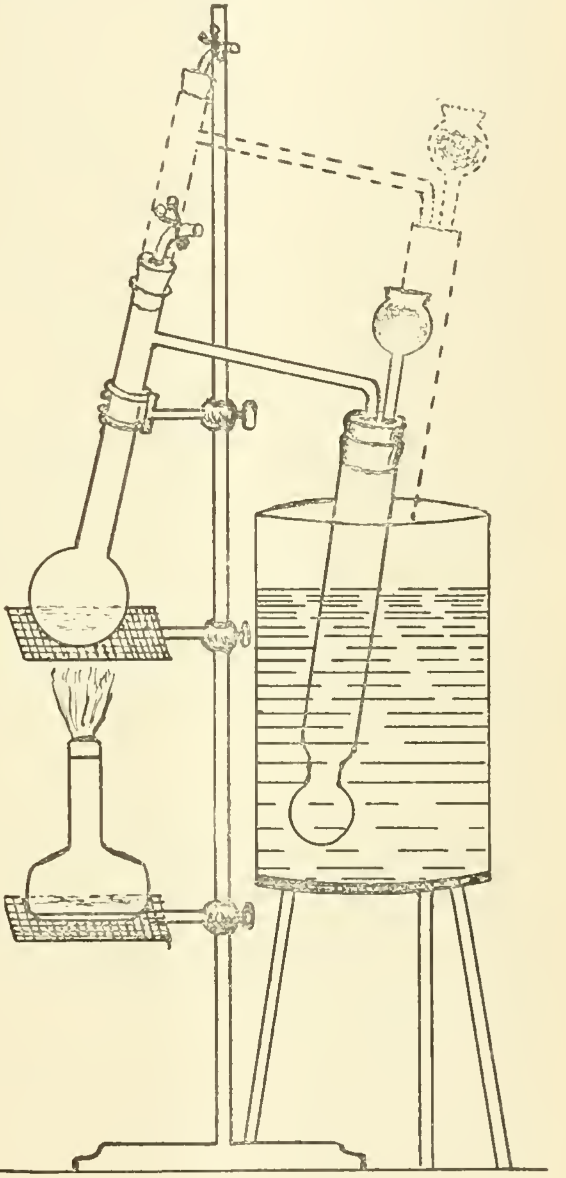
[2] Ogden: Clinical Examination of the Urine, page 176.

[3] Simon: Clinical Diagnosis, page 532.

Determination of Ammonia.—The apparatus being in the distilling position shown in the illustration, the battery jar is filled with water until the surface of the water is about 30 mm. below the top of the receiving tube. The apparatus is then raised into the second position, shown by the dotted lines, and held there by means of the burette clamp. The receiving tube is then removed and 25 c.c. of decinormal sulphuric acid from a pipette is poured into it. The glass wool in the thistle-headed funnel is thoroughly moistened by pouring several cubic centimeters of distilled water over it, the excess being allowed to flow into the battery jar. The receiving tube is now firmly fixed, the rubber stopper carried by the stem of the distilling flask, and the apparatus lowered into its original position. By means of a long-stemmed thistle funnel 10 c.c. of the urine[4] are introduced, followed by 40 c.c. of water containing 0.5 gm. of sodium carbonate. The distilling-flask is immediately closed and heat applied. This should be of such intensity as will bring over 25 c.c. of distillate in from four to eight minutes after boiling begins. A Barthel's alcohol or gasoline burner or a Bunsen gas burner will answer equally well. During the distillation it is advisable to stir the water in the battery jar once or twice, as otherwise the water near the surface will become unduly heated, while that near the bottom will remain cold.[5] When the distillate reaches the 50 c.c. mark on the receiving tube the source of heat should be removed, the air-cock on the distilling flask opened, and the glass wool washed by pouring about 25 c.c. of distilled water through it into the receiver. Now the apparatus is raised into the second position, the receiver removed and its contents transferred into a flask containing about 200 c.c. of distilled water. A few drops of cochineal,[6] or, wanting this, alizarin red, are added as indicator, and the decinormal sodium hydroxid solution run in[7] from the burette until a permanent change of color results. The number of cubic centimeters of the decinormal sodium hydroxid required deducted from 25 will give the total number of cubic centimeters of decinormal ammonia contained in the distillate. From this amount are deducted one-half as many cubic centimeters as the per cent. of urea which the urine contains, and the remainder multiplied by 0.017. This will give the per cent. of ammonia contained in the urine; i. e., grams of NH_3 per 100 c.c. This may be represented in formula as follows:

$$Y = 17\left[25-\left(X + \frac{\%\ \text{urea}}{2}\right)\right]$$

In this formula Y is the number of milligrams of ammonia contained in 100 c.c. of urine, when X is the number of c.c. of the decinormal NaOH required to neutralize the excess of acid.



The apparatus shown in the drawing consists of the following: 1. A 250 c.c. Baloc distilling flask fitted with a rubber stopper through which passes a short glass tube, over which is fitted a short rubber tube. This air-cock arrangement is opened or closed by means of a Hoffman's tubing clamp. The remote end of the stem of the distilling flask is bent as shown, and is tightly fitted into a two-holed rubber stopper; the end of the tube should reach 25 or 50 mm. below the stopper. 2. Through the second hole of this stopper is passed the stem of a thistle funnel, the stem having been filed off to a length of about 75 mm. The head of the funnel is loosely packed with glass wool. 3. A large (100 c.c.) potato culture tube carrying a mark around the circumference at the 50 c.c. point. This is obtained by pouring 50 c.c. of water into the tube and marking with a wax pencil. A file being subsequently used. 4. A three and one-half liter battery jar. The use of the tripod permits the water in the jar being changed without the slightest inconvenience. The dotted lines show the second position of the apparatus. This allows the receiving tube to be easily removed or placed in position.

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[4] If the urine cannot be had soon after it is voided it should be preserved with a few drops of chloroform. If more than a trace of albumin is present it should be removed before distilling.

[5] Three distillates may be collected without changing the water in the battery jar, provided it has a capacity of three or four liters.

[6] An excess of the indicator must be avoided. The best results may be obtained by adding a very small amount—say half a grain—of the powdered cochineal.

[7] As a simple and accurate means of standardizing volumetric acid and alkali solutions I suggest the following procedure: 1. Dissolve about 50 grams of sodium hydroxid (pure sticks by alcohol) in 1,100 c.c. of distilled water. 2. Accurately weigh 3.3 grams of chemically pure ammonium sulphate and dissolve in sufficient distilled water to make 500 c.c. 3. Dilute 25 c.c. of formalin (40 per cent. HCOH) with about 75 c.c. of distilled water. Add several drops of phenolphthalein and then run in the sodium hydroxid solution from the burette until a faint pink color is permanent. 4. Measure accurately 25 c.c. of the decinormal ammonium sulphate solution into a small flask and add about 15 c.c. of the neutral formalin solution. This liberates exactly 25 c.c. of decinormal sulphuric acid. Now add a few more drops of the phenolphthalein and run in the sodium hydroxid from the burette until a permanent, faint pink color appears. Repeat the experiment and from the data obtained correct the remaining sodium hydroxid solution by adding to 1,000 c.c. of it a sufficient amount of distilled water to make 25 c.c. of it correspond to the acid liberated by an equal volume of the decinormal ammonium sulphate solution. From the resulting decinormal sodium hydroxid solution can then be prepared the decinormal sulphuric acid. Inasmuch as ammonium sulphate can easily be obtained of great purity, and contains no water of crystallization, it is believed that it will afford a more accurate means of preparing decinormal solutions than either oxalic acid or sodium carbonate. Decinormal solutions made in this way have, in this laboratory, been found to agree exactly with those standardized gravemetrically.

Determination of Acetone.—The neutral fluid obtained in the ammonia estimation is, if necessary, made up to 300 or 350 c.c. with distilled water and 10 c.c. of decinormal iodin added, followed by 10 c.c. of a 10 per cent. aqueous solution of sodium hydroxid. This is allowed to stand for fifteen minutes; then 10 c.c. of a 10 per cent. (by volume) sulphuric acid solution are added. The free iodin is then determined by means of decinormal sodium thiosulphate solution.[8] This is run in from the burette until only a light brownish-yellow color remains. At this point ten or fifteen drops—not more—of the starch solution[9] should be added and the thiosulphate solution should be added by degrees until the blue color is just discharged. The number of cubic centimeters of the thiosulphate solution required deducted from the total number of cubic centimeters of the iodin solution used will, when multiplied by 9.7, give the number of milligrams of acetone contained in 100 c.c. of the urine. One c.c. of decinormal iodin combines with 0.97 mgm. of acetone. But as only 10 c.c. of urine were used, the number of cubic centimeters of iodin required is multiplied by 9.7 to get the number of milligrams of acetone in 100 c.c. of urine.

It need hardly be said that the above method for estimating acetone is proposed as being clinically accurate, and that it is reliable, experiments leave no room to doubt. How nearly the results may be made to approach absolute accuracy is not definitely known at present. It is not thought probable that the error will ever exceed 2 or 3 mgms. of acetone in 100 c.c. of urine. Variations of this magnitude may easily occur in perfect health, and hence, from a clinical standpoint, are of no importance whatever. The method is, of course, not applicable to urines which contain sugar, since acetone is produced when dextrose is treated with boiling alkaline solutions. If the urine contains as much as 5 or 10 per cent. of sugar it would, when distilled as above with the sodium carbonate solution, yield about 5 mgm. of acetone as a result of the decomposition of the carbohydrate.

In the presence of sugar the following procedure should be adopted. It requires but little more work and no more time: (1) Dilute 10 c.c. of urine with 40 c.c. of water. Add enough 36 per cent. acetic acid—about 1 c.c.—to make strongly acid to litmus. Place 25 c.c. of water in the receiving tube. Distill until 25 c.c. come over. The distillate and washings from the glass wool is made up to about 300 c.c. and the acetone determined as directed above. (2) While waiting for the iodoform to separate take an additional 10 c.c. of the urine and dilute with 40 c.c. of water containing 0.5 gram of anhydrous sodium carbonate and, having placed 25 c.c. of decinormal sulphuric acid in the receiving tube, distill over 25 c.c. Estimate the ammonia as directed above.

If the acetone distillate contains nitrous acid, the results will be vitiated owing to the decomposition of the potassium iodid contained in the decinormal iodin solution. The distillate will, however, never contain nitrous acid unless the urine has undergone bacterial decomposition. Since reliable information is not sought from an analysis of badly decomposed urine, the presence of nitrous acid is an exceedingly improbable source of error. It may, if present, be detected with a little starch-potassium-iodid solution, and eliminated by adding a little urea to the distillate. I have applied this reliable test to the distillate hundreds of times, but have abandoned it as a routine procedure, as in no instance has nitrous acid been found present.

CARCINOMA OF THE SIGMOID WITH METASTASIS IN THE LEFT ILIUM

REPORT OF A CASE

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AND

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When reading the recent literature on carcinoma of the sigmoid, we were impressed by the fact that the most important question is not so much one of operative technic, but one of early diagnosis, the point dwelt on by Armstrong and by Bloodgood.

The classic symptoms of this disease are all signs of a late stage, namely, obstruction of the bowels or its results. There is a dearth of signs which indicate this condition in its incipiency. Sigmoid carcinoma gives a good prognosis only when operated on in its earliest stage. This paucity of signs in the early stage justifies a more frequent employment of explorative laparotomy even when the symptoms are insufficient to establish an early diagnosis. The so-called pathognomonic symptoms of this disease are in reality manifestations of a late stage at which we can seldom expect a cure by operation.

A history of the following case, bearing on the above, seems to us of sufficient importance to be recorded in the surgical literature. Dr. Benson reports the following:

History.—On June 18, 1908, early in the morning, Mrs. K., aged 42 years, consulted him, stating that she had been awakened the previous night by severe pains in the abdomen. After a short interval she felt nauseated and began to vomit. As far as he could learn, the vomitus consisted of some particles of food and slime together with a small quantity of a yellowish fluid. She added that there had been no bowel movement for the past three or four days. Pulse was somewhat accelerated and the temperature normal. Consent to a more thorough examination could not be obtained at this time. The patient merely wanted something to relieve her pain, believing her symptoms trivial and temporary. For the vomiting Dr. Benson prescribed hourly doses of 1/10 grain of calomel, small pieces of ice, and rest in bed. In addition enemas of soap-suds were given and all food and drink was withheld. The same afternoon the pain became more severe. The vomiting had almost ceased. Repeated enemas of soap-suds were ineffective. Patient stated that she had been previously healthy. Her family history was negative. She had been married twenty years and had never been pregnant.

Examination.—The patient was fairly well nourished; her color was good. Cachexia was noticeably absent. The thoracic viscera were examined in detail. All were seemingly normal. The abdominal findings were: Liver and spleen were not enlarged. There was very little distention. No tumor could be found. Bimanual examination through vagina and through rectum revealed nothing abnormal. An examination of the urine proved negative. From the above findings, obstructions which form enlargements could be eliminated. The picture was that of a chronic obstruction in the distal portion of the colon, the sigmoid.

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[8] In case the urine contains more than 98 mgm. of acetone in 100 c.c. no free iodin will be liberated on adding the acid. This will not often be the case, however, but should it occur it will be necessary to add an additional 10 c.c. of the iodin solution; again, to make alkaline with about 15 c.c. of the sodium hydroxid solution, allow it to stand about fifteen minutes, as before. This procedure could always be obviated by adding 25 c.c. of the iodin solution in the first place. This should be done when acetone is known or suspected to be present in greatly increased quantities.

[9] Made by adding 1 gram of starch to 100 c.c. of 0.5 per cent. sodium hydroxid in distilled water, heating to the boiling point and cooling in running water. This solution will keep for several months

The following day the patient's bowels moved. An emulsion of castor oil (Fenner's formula) had been given. The stools were not saved for the physician's inspection. The patient ceased visiting him. On June 27, 1908, patient returned and said that her bowels had not moved for three days. Magnesium sulphate was given. At 2 a. m. June 28, 1908, the doctor was called to see her in an acute attack. It was similar to the first but more severe. The patient's abdomen was more distended. Her temperature was 99.8 F. The abdominal pain was more severe. Pulse was 84. Morphin sulphate was given hypodermically to allay the pain. The enemas and other directions were the same as during the first attack. Dr. Louis Rassieur saw the case with Dr. Benson a few hours later. He concurred in the diagnosis of a bowel obstruction and that it was probably due to sigmoid cancer. Patient was sent to the hospital June 29, 1908. Here the sigmoidoscope (Strauss) was introduced. At a depth of 18 cm. a seeming narrowing of the lumen could be seen. During the examination a little liquid feces passed the point of supposed stricture. The following day this procedure was repeated. The sigmoidoscope was introduced for 24 cm. and no stricture could be seen.

First Operation.—A laparotomy was made by Dr. Rassieur on July 2, 1908. An incision was made in the median line below the umbilicus. There was no ascites. The sigmoid presented a constriction. It looked as if a ligature had been passed around the intestine. There were no adhesions. About 15 cm. of intestine were excised, including the part of the mesentery which contained several indurated lymph nodes. An end-to-end anastomosis was made. The sutures were of Connell type and of linen. The abdomen was closed without drainage. The constricted mass of the intestine was hard.

The bowels moved two days after the operation and have since been regular. The wound healed by first intention. On the third day after the operation the patient complained of pain along the course of the left external cutaneous and the left ilioinguinal nerves. The patient's general condition improved rapidly, however. The pain steadily increased in severity, notwithstanding the giving of antirheumatic and antineuralgic drugs. In the latter part of September, 1908, the soft parts over the crest of the left ilium seemed to be somewhat enlarged and of a doughy consistency. The bone also seemingly showed a thickening. An *x*-ray picture verified this view. No other metastasis could be found.

Second Operation.—This was made October 19, 1908, to remove the enlargement of the ilium. An incision was made over the crest of the ilium from the posterior superior spinous process of the ilium to the middle of Poupart's ligament. The muscles and fascia were edematous. The peritoneum was not adherent and fell away on division of the muscles. A tumor of the ilium of osteoclastic nature 5 inches by 3¼ inches by 2⅝ inches was removed with bone drill and Gigli saw. An additional rim one-half inch in diameter was removed from the ilium with rongeur forceps. Then the fascia lata and the divided fascia iliaca were again united to the fascia iliaca. A small cigarette drain led to the bone. Portions of external cutaneous and ilioinguinal nerves were excised.

Postoperative History.—The convalescence after the second operation was uneventful up to the middle of February. Until that date the patient was free from pain; there was no recurrence of the tumor; no hernia marked the site of the removed bone, and a slight limp alone hinted at the disturbed relation of the muscles. On March 16, 1909, we learned, the patient again walked with difficulty. She had pains in the affected lower extremity, extending down into the foot, which kept her awake. She presented a tumor on the left iliopectineal eminence, the beginning of which, she said, was insidious about four weeks before. An operation was advised. Owing to circumstances which we could not avoid, the patient was transferred to the care of other physicians.

Description of First Specimen.—The stricture of the sigmoid was so fine as to forbid the passage of the smallest surgical sound. A cup-shaped ulcer was on the distal side of the stricture. Microscopic examination showed the original tumor to be very small. The contraction and cicatrization were seemingly due to secondary inflammation. The specimen was an adenocarcinoma. In some instances the excretory duct of the cancer tubules could be seen emptying in the end of the Lieberkühn glands. There were few glandular metastases showing tubo-alveolar arrangement and round-cell infiltration.

Description of Second Specimen.—The diameters of the metastases in the bone were stated above. The tumor was osteo-clastic and originated in the medulla of the crest of the ilium. A smear of the medulla, stained with azur No. 2, showed cancer cells. A hardened section stained with Unna's polychrome methylene blue and Unna Taenzer's elastic stain showed an adenocarcinoma with many figures of indirect cell division and remains of bone.

The first and second *x*-ray pictures showed the tumor, which extended on the inside almost to the brim of the pelvis and on the outside almost to the acetabulum. The third *x*-ray picture showed the remains of the bone and an absence of recurrence. The fourth, made Mar. 20, 1909, showed a tumor over left iliopectineal eminence and a questionable shadow on left trochanter. The radiographs were made by Dr. Carman.

In conclusion, we believe the following points of especial interest:

1. Extreme stricture of the sigmoid with such a paucity of clinical signs.

2. A seemingly solitary metastasis and that in the ilium of the same side and apparently none in the usual site.

3. The shortened convalescence after excision of the sigmoid and union without drainage.

4. The value of a second operation to remove a seemingly solitary metastasis, demonstrated by the patient's temporary improvement. We were in hopes that this might even prove a cure.

5. Absence of hernia after removal of so large a portion of the iliac bone.

6. The value of the *x*-ray in the demonstration of bone metastasis.

We wish to add that, after a careful perusal of the literature, not a single case was found in which there was a seeming single metastasis, even in the iliac bone (an accessible field).

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Evolution in Purin Metabolism.—According to the studies of H. G. Wells (Trans. Chicago Path. Soc., May 1, 1909), the invertebrates are able to convert adenin into hypoxanthin and guanin into xanthin, showing the presence of the enzymes, adenase and guanase, but the metabolism proceeds no farther. Passing upward in the scale of animal life to the birds and reptiles we find that nitrogen is excreted chiefly in the form of uric acid. Mammals form uric acid only from the purins and have the power of destroying some of the uric acid formed. The enzymes that destroy uric acid seem to be the last formed in development and are possessed by various mammals in varying degrees and in the same animal often show an uneven distribution in the various organs of the body. This uricolytic power is relatively weak in man. Wells cites the observations of Mendel and Mitchell on embryo pigs as illustrating the biologic law that the individual in its development reflects the entire development of the species to which it belongs (*Am. Jour. of Physiol.*, 1907, xx, 97). They found nuclease and adenase at very early stages, but no xantho-oxidase until the fetal pigs had reached a length of 200 mm. or over. In other words, in its earlier stages of development the pig possesses only the same purin enzymes as the invertebrate, while somewhat later it is equipped as the birds and reptiles may be supposed to be; that is, with xantho-oxidase, but without uricolytic enzymes. The uricolytic enzyme is wanting entirely until after birth, when it soon makes its appearance, but in the suckling pig it is still not so active or abundant as in the adult animal. This enzyme is, therefore, the last of the entire series of purin enzymes which is acquired by the developing individual, just as it seems to be the last to be acquired in the evolution of the animal kingdom.

Therapeutics

PNEUMONIA AND ITS COMPLICATIONS

Since the discovery of the tubercle bacilli by Robert Koch, in 1882, much has been learned in regard to the rôle of micro-organisms in the pathology of disease. These discoveries have been supplemented by and have rendered possible the introduction of antiserums and vaccines in the treatment of some diseases. Of these the antiserum, or, as it has been commonly called, the antitoxin of diphtheria, is the most successful one and the one best known. Diphtheria is recognized as a general toxemia produced by a local infection.

Acute pneumonia, on the other hand, is practically always a pneumococcus septicemia. The pneumococcus (the *Diplococcus pneumoniæ*) which Fraenkel discovered in 1883 is the cause of true pneumonia. This organism is not confined to the lungs or to locally infected areas, but may be found in the blood. It has been shown that antipneumococcus serum has no bactericidal effect on living pneumococci, and that different strains of pneumococci are not affected in the same way by different vaccines; so that animals immunized against one strain are not necessarily protected against others. Hence it has been found desirable to prepare the vaccine from cultures made from the pneumococcus infecting the individual patient. When this is impracticable, a vaccine from a particularly virulent strain may be used.

"The bacterial vaccine consists of the specific organism isolated in pure culture and, after destruction by heat, suspended in normal salt solution."—(Floyd and Worthington, *Boston Medical and Surgical Journal*, Jan. 2, 1908). In acute pneumonia, a pure culture may generally be obtained from the "rusty" pneumonic sputum.

Dr. A. Butler Harris, of London, has recently published (*Brit. Med. Jour.*, June 26, 1909) a report of his investigations and observations on the vaccine treatment of pneumonia. Harris grows the pneumococci obtained from the patient on agar-agar which has been smeared with a thin layer of blood drawn from the finger. When the patient's sputum is not available, he advises the withdrawal of some of the patient's blood from the median basilic vein, and generally thus obtains enough pneumococci for the culture. His technic is well described in his article.

It has been found that the pneumococcus is present at different times, somewhere in the air passages of perhaps 50 per cent. of all individuals, especially during the winter. The most characteristic location for the manifestation of its pathologic action is in the lungs, where the inflammation that it causes usually runs an acute and rather short course. By no means infrequently, however, cases occur in which the lung lesion does not resolve and the pneumonic process continues and the pneumococcus persists, or the pneumococcus has infected other regions which do not tend to heal, such as the pleura, peritoneum, endocardium, joints, veins, and middle ear. These are typical instances in which pneumococcus vaccine should be used.

Harris reports eleven cases of various forms of pneumococcic infection. Three patients died early from failure of the heart. One man, aged 36, died on the fifth day, after having received inoculations on the third, fourth and fifth days. A man, aged 58, was taken with recurring rigors and consolidation of the base of the left lung. He received an inoculation the same day at 6 p. m., and the next morning at 10:30 a. m. was convalescent. The other seven cases were of a chronic character and included delayed pulmonary resolution, empyema, asthma, and joint infection. All were benefited by the inoculations.

The dosage varies from ten to twenty millions of dead pneumococci in children of 3 or 4 years of age to from thirty to eighty millions for adults. The dose may be repeated every twenty-four hours if necessary, or every third or fourth day.

Harris summarizes his conclusions as follows: "1. Successful inoculation for pneumonia is possible. 2. Inoculation does no harm. 3. A vaccine from one or a number of virulent strains should be used. 4. It should be introduced as early as possible. 5. The estimation of the opsonic index is not necessary. 6. The observation of the temperature and physical signs is in pneumonia a sufficient guide in gaging the repetition of the dose."

We can but agree with his final proposition, viz.: that "infections of the lung by the pneumococcus which fail to resolve after an acute pneumonia, as well as pneumococcus infections of other areas, ought certainly to be treated with a pneumococcus vaccine." An autovaccine should be preferred, and the prospect of successful treatment seems good.

DIET IN CHRONIC DISEASES

This is the age of "diets" and fads in diets. Whether the well eat too much or too little, too frequently or too infrequently, too much protein or too little protein, too much carbohydrate or too little carbohydrate, is a subject too large and too varied to discuss here. It is important, however, and necessary to analyze carefully the food and digestive power of a patient who is suffering from chronic disease or disability.

It is certain that unnecessary amounts of or ill-chosen food can cause fermentation and even putrefaction in the intestines. If actual autoinfection is not caused, certainly nervous and circulatory irritants may be absorbed from such abnormal intestinal fluids. These irritants may create disease, and certainly will augment disease that is present.

Dr. William H. Porter, of New York, writes a thoughtful paper (*Post-Graduate*, June, 1909) on the subject of this article, and specifically presents a diet that he says will minimize intestinal indigestion. He calls to our mind the subdivisions of food as:

1. Inorganic, including water and salts.
2. Cellulose, starch, and sugar. } Heat-producing
3. Fats of all kinds. } substances.
4. Proteins.
5. Protein-like compounds, to which an atom of iron and phosphorus is attached in its synthetic formation. These may be distinguished as hemoglobin-yielding and lecithin-yielding substances.

The last two classes are the construction tissue building protein compounds.

Each of these five classes must be represented in the daily dietary in order to insure the most satisfactory nutritive results, and at the same time caution must be exercised that the total amount of food be kept within the "oxygenating capacity" of the system.

The five classes of food enumerated above are contained in both animal and vegetable foods. Accordingly, it is not surprising that there have been advocates of an exclusive vegetable diet; and, on the other hand, that it has been proposed to exclude articles of vegetable origin more or less completely from the diet, food of animal origin only being advised.

In order to correlate an adequate amount of the different classes of food to fulfill the demands of the body for heat-producing, tissue-building, and hemoglobin-yielding, and lecithin-yielding substances with the "oxygenating capacity" of the body, it has been found that a mixed diet, comprising both animal and vegetable substances, is most advantageous.

In health, Nature allows a considerable latitude between the amount of food which can be taken and the "oxygenating capacity" of the body. But in disease conditions are changed, the "oxygenating capacity" is lessened, and care must be taken not to overtax it by excess in ingestion of food beyond the body demands.

With the above generalizations Porter suggests the following as an ideal mixed diet for patients who are suffering from chronic disease:

"For breakfast: Two eggs, eight ounces of milk, two ounces of wheat bread and butter.

"For the mid-day meal: From one-quarter to one-half pound of beefsteak, eight ounces of milk, three ounces of wheat bread and butter.

"For the night meal: From one-quarter to one-half pound of beefsteak, eight ounces of milk, two ounces of bread and butter.

"At bedtime: Eight ounces of milk."

Beefsteak is used as a representation of the meats because it is most easily and perfectly digested; for it may be substituted lamb, mutton, veal, fish, poultry, and game.

If it is desired to enlarge this diet by substituting a vegetable in place of a part of one of the articles enumerated, string beans, green peas, lima beans, spinach, lettuce, asparagus or cauliflower, well cooked, may be permitted.

Porter enumerates as foodstuffs to be avoided "all fruits, either cooked or raw; all cereals and breakfast foods, nuts, sweets and pastry of all kinds, potatoes in all forms, onions, tomatoes, turnips, parsnips, carrots, celery, radishes, cabbage, egg-plant and oyster-plant, corn, etc.; pork in all forms, except as before stated, rich gravies, and all forms of soups." Most of the above articles he finds difficult of digestion and promoters of fermentation and putrefaction in the alimentary canal. Potatoes are easily and rapidly digested and consequently the "oxygenating capacity" of the body is overaxed, so that the protein constituents of the food are not oxidized and assimilated, as they must be if a perfect tate of health is to be maintained.

Finally, Porter sums up his conclusions as follows:

Animal food is more nearly a perfect nutritive than vegetable food.

Animal food is more easily digested and assimilated han vegetable, and therefore more economical to the ystem.

A perfect or ideal diet should comprise both animal nd vegetable food.

The diet, consisting of the exact proper combination of animal and vegetable food, found to be the most perect for the individual patient, combined with whatever edicinal and physical treatment deemed advisable, will ften produce "marvelous" improvement in the patient.

No Milk in Summer Diarrhea.—In the treatment of babies ffected with the infectious diarrheas of the summer season, ilk has no place. Whether we are dealing with a milk fection or not, and usually we are, milk will still furnish a plendid culture medium for the bacteria still inhabiting the sturbed gastrointestinal tract.—J. H. McKee, in *Monthly yclopedia and Medical Bulletin.*

New and Nonofficial Remedies

Since the publication of the book "New and Nonofficial Remedies, 1909," the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections to aid in the revision of the matter before publication in the book are asked for.

The Council desires physicians to understand that the acceptance of an article does not necessarily mean recommendation, but that so far as known it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

(Continued from page 1643)

SODIUM PERBORATE. (See Second Supplement to N. N. R., 1909.) Proprietary Preparation:

PEROGEN BATH—Oxygen Bath Salts. Perogen.—Perogen bath is a preparation consisting of a catalyzer and sodium perborate capable of yielding 10 per cent. of oxygen, the two substances being wrapped separately.

The catalyzer is a light yellow odorless powder, and is made by a method which is the subject of a patent application now pending. The oxygen contents may be determined by any of the well-known methods.

Actions and Uses.—The catalyzer is a medicinally indifferent substance. When the two substances are mixed with water the catalyzer causes the liberation of the available oxygen of the sodium perborate. The oxygen bath thus obtained is said usually to reduce blood pressure and the pulse rate to a much greater extent than the ordinary bath. It is claimed to have marked tranquilizing and somnifacient effects. It is said to be useful in cardiac affections with high vascular tension and excitement, neuroses, insomnia, chronic nephritis, and skin diseases in which hydrogen dioxide is indicated.

Dosage.—One bath daily up to 24 or 18, with occasional intermissions.

Manufactured by Morgenstern & Co., 59 Maiden Lane, New York. U. S. patent and trademark applied for.

METHYL CHLORIDE—Methylis Chloridum.—Methyl chloride, CH_3Cl, is the methyl ester of hydrochloric acid. It occurs, in the compressed state, as a colorless liquid, having an ethereal odor, and a sweet taste.

Methyl chloride is insoluble in water, more readily in alcohol, freely in ether and chloroform, and also in acetic acid. It should be neutral to litmus paper. At about —25° C. (—13° F.) it has a specific gravity of 0.991, and boils at about —21° C. (—5.8° F.). It burns in air with a greenish flame, though it is not highly inflammable. The neutral solution is not precipitated by solution of silver nitrate, nor is there any reaction with potassium iodide and starch paste. In the liquid condition it is a powerful refrigerating agent. At very low temperatures it forms with water a hydrate, $CH_3Cl.9H_2O$. It should not react alkaline to litmus (absence of ammonia and methylated ammonia—methylamine). It should not immediately form a precipitate with silver nitrate. On evaporating it should leave no residue and emit no odor of methylamine.

Action and Uses.—By its evaporation a temperature of —23° (—9.4° F.) is produced, while if evaporation be accelerated by means of a current of air a temperature of —55° (—67°F.) may easily be reached. On account of this property it is used as a local anesthetic in the form of a spray, but its use requires caution, since it is apt to produce blisters. The diluted vapor is said to be non-poisonous. Methyl chloride is said to be an efficient general anesthetic, which has practically no influence on the circulation, but fails to produce complete muscular relaxation. It is used as a general anesthetic mixed with ethyl chloride and ethyl bromide.

Dosage.—When sprayed on the skin the part should be partly protected by a thin layer of cotton wool. When used locally cotton wool soaked in liquid methyl chloride may be applied to the skin over the painful area, but care should be taken that blisters are not formed. In order to avoid this a mixture with ethyl chloride has been recommended.

(To be continued)

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[*For other information see second page following reading matter*]

SATURDAY, NOVEMBER 20, 1909

MEAT EXTRACTS AND BEEF JUICES

While the extreme importance of carefully planned dieting of patients has been recognized for centuries, it is only in comparatively recent years that this subject has been studied by methods as precise and logical as those that have been devoted to other great problems in medicine. At present, however, we have means of learning accurately many of the most fundamental facts regarding the nutritive value and the composition of foods. Therefore, in the increasingly successful struggle now in progress to put therapeutic methods on the same scientific plane as diagnostic methods, it is our duty to scrutinize foods—especially those that are particularly recommended for the invalid or sick—in the same judicial way that we do drugs and other measures. That is, we must form opinions, not on the basis of vague impressions of the apparent results of the use of foods, and especially not on the basis of statements of manufacturers or other interested parties, but primarily in accordance with their composition and the food value that can be determined from this. Investigations like the report of the Council on Pharmacy and Chemistry on medicinal foods, Winton's and Fetterolf's analyses of diabetic and similar foods, and other disinterested studies, already have shown us that with foods, as with drugs, we can find a limited number of proprietary articles that are what they are advertised to be, but unfortunately many more that are not. In some instances the facts are startling as compared with claims made—startling because these preparations have been widely employed in serious conditions, when misapprehension as to the nutritive value of the food used is likely to be highly dangerous.

In many respects the most astonishing report on such preparations is that which appears in the Department of Pharmacology in this issue, dealing with substances purporting to be beef-juice or meat-juice. With many physicians—and with many of the laity—the names of some of the preparations that the report deals with have been names to conjure with. Anything that lays claim to being the best part of good red beef sounds so nourishing that the name itself makes people feel fed. It is humiliating, but most enlightening, to physicians who have used such preparations to learn that these are not beef-juice or meat-juice at all. It is even more important to note the surprisingly low calorific value. Not only have these preparations been sold under names tha have given them an exaggerated value, but their valu under any name is so slight that we cannot escape th conviction that many persons must have been simpl starved while, with firm faith in the reputed value o the extracts, the prostration and emaciation have bee attributed to the disease instead of to the lack of nourishment in the "food." All the advertising argument conceivable, all the specious claims that can be advance cannot change the fact that to give a patient a microscopic fraction of the amount of energy that he necessarily expends is starvation. It is really appalling t see the difference between the claims and the facts. On manufacturer claims that a tablespoonful of his preparation equals in value one hundred grams of raw meat as a matter of fact it contains a little under four calori to the tablespoonful, while one hundred grams of mea even when very lean, contain 125 or more calorie Another preparation, according to the advertisement contains in two ounces the concentrated juice of fou pounds of the best beef; actually it appears to contai absolutely no beef-juice and is merely a thin mea extract.

Doubtless the manufacturers will argue that, no matter what analyses show, the extensive sale of their preparations proves their value; doubtless, too, there ar physicians who will be willing to assert that they hav derived good results from the use of these product Scientifically considered, such arguments are of th *post hoc, ergo propter hoc* variety. Patients who hav recovered when given preparations that are nutritivel worthless have recovered in spite of, and not because o the "food" administered—or because semistarvation wa indicated in these cases. Not only laymen, but eve some physicians, have not yet divorced themselves fro those medieval methods of thought which credit an artificial means of treating disease, be it ever so absur with results that are more rationally attributable to th *vis medicatrix naturæ*. This fallacy is nowhere mor evident than in the therapeutics of so-called medicina foods. Verily, strange therapeutic idols have been worshiped by those who have used such preparations, bu the day of false gods is drawing to its close. Wit further contributions like the one which appears in thi issue, we may hope that vagueness and uncertainty i dietetics will give way to rationality and precision.

THE PATHOGENESIS OF SPONTANEOUS CEREBRA HEMORRHAGE

Since the classical article of Charcot and Bouchar in 1868 it has been common knowledge that cereb hemorrhage is associated with the presence of minu aneurisms in the smaller, intracerebral arteries, an that the hemorrhage is presumably the result of t giving way of these aneurismal dilatations. In six cases of cerebral apoplexy these authors found milia aneurisms, from two to hundreds in each brain, ari on arteries of a diameter of 0.03 to 0.25 millimeter, and established by their research the significance of the aneurisms in the pathogenesis of cerebral hemorrhage. Earlier investigations, however, had already pointed out the existence of these aneurisms, Morgagni himself in 1761 having stated that rupture of the cerebral arteries was a consequence of their widening, whereby the walls became thinned; but it was not until 1859 that the actual source of a hemorrhagic extravasation in the brain was detected in a ruptured miliary aneurism by Gull. The reason for this tendency of the small cerebral arteries to undergo aneurismal dilatation and rupture seems to be twofold: In the first place, these vessels lack a firm external support because of the softness of the brain tissue and the delicate structure of the adventitia surrounding them; in the second place, as Mendel demonstrated in 1891, the blood pressure in the arteries of the basal ganglia is greater than in the other parts of the brain.

Just what changes take place in the vessels during the formation of the aneurisms, and the relative importance of aneurism formation and rupture of undilated vessels as the source of cerebral hemorrhages, are matters concerning which there has not been agreement, and there is also dispute as to whether the dilatations are true or false aneurisms. In an excellent paper, from which the preceding historical review has been abstracted, A. G. Ellis[1] reports an extensive reinvestigation of these old problems by modern methods. In thirty-one cases of cerebral hemorrhage he found macroscopic aneurisms, varying in size from 0.5 to 4 millimeters in diameter, and in four cases ruptured aneurismal sacs were found. Histologic study of the vessels and aneurisms showed that the primary lesion is in the intima, the elastica being primarily at fault as in arteriosclerosis of vessels other than those of the brain. The damaged intima frequently ruptures, and blood forces its way between the coats of the vessel, producing dissecting aneurisms which later, through destruction of the remnants of the vessel wall still surrounding the blood, become converted into false aneurisms bounded by fibrin and altered brain tissue. False aneurisms are also formed by rupture of a vessel after degeneration of media and adventitia has followed the primary degeneration of the intima. In any case, the aneurismal dilatations found on the cerebral vessels are false aneurisms, and not true aneurisms surrounded by one or more layers of the vessel wall; and also the primary vascular lesions are intimal rather than in the media or adventitia as has been contended.

Ellis believes that cerebral hemorrhage does not always come from rupture of aneurisms, for sometimes the sclerosed vessels are found to have ruptured directly without previous dilatation. It is probable, however, that the more usual cause of a spontaneous cerebral hemorrhage is rupture of a false aneurism; and it also seems that the large hemorrhages with great destruction of brain tissue are usually from this cause, since in this way the entire current of blood may suddenly enter the brain substance.

HEROES, THOUGH THEY DID ONLY THEIR DUTY

From the Illinois coal-fields comes a story of horror and disaster. In the lower levels of the St. Paul mine at Cherry nearly four hundred miners were at work. An alarm of fire was given and they rushed for the shaft, only to find their way to safety barred by a wall of flames. At the smoking pit mouth above, the mine foreman called for volunteers to go down into the burning mine and bring out the survivors. Fourteen men stepped forward, at their head the company's physician, Dr. Lyston D. Howe. Of this brave band, twelve lost their lives trying to save their comrades. Dr. Howe and one miner alone escaped. Let the newspaper correspondent tell the rest of the story:

"Standing out above all the rest is the story of Dr. L. D. Howe, the St. Paul Company's physician, who was the first rescuer to enter the mine. Seven times before the other rescuers began to go down into the burning shaft, this young physician went down alone into the flaming pit and each time he brought to the surface his quota of saved. Twenty-five miners owe their lives to him. To-day his hands are badly burned, but he shows no other scars. When asked this afternoon to describe his experiences, he merely shrugged his broad shoulders and said, 'I could not have done anything else than I did. It is not worth talking about. Besides, I am too busy to talk to-day.'"

The following item appears in this week's letter from our London correspondent: "In the early morning an explosion occurred in the Darran Colliery, South Wales, before the workers on the night shift had left. The ordinary approach to the mine was completely blocked, and the only access was through the shaft of another pit four miles away. A relief party, accompanied by Dr. Turner, the colliery surgeon, descended into the pit and endeavored to reach the other shaft. One after another they were overcome by the choke-damp and five died. The physician had a narrow escape. He repeatedly risked his life in leading the relief party and at last collapsed. His companions endeavored to rescue him, but were so overcome by the choke-damp that they had to abandon him. After a time they were able to return and found him lying in the roadway, still alive. He was carried to a place of safety and oxygen was administered. He was then taken in a comatose state to the Cardiff Infirmary."

All honor to these brave physicians who risked their lives to save others. While they did only their duty, they are heroes none the less. No better example of the true physician could be found than the young mine surgeon who only did his duty and was too busy next day to talk about it.

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[1] The Pathogenesis of Spontaneous Cerebral Hemorrhage, Proceedings of the Philadelphia Path. Soc., 1909.

THE ENZYME TREATMENT OF CANCER

The treatment of cancer by injection of preparations containing pancreatic enzymes, as proposed by Dr. John Beard, of Edinburgh, about four years ago, excited so much interest and comment at the outset that it is hardly necessary to recount its principles or objects. It will be remembered that the treatment was based on an embryologic hypothesis as to the part played by the pancreas in controlling cell growth (a hypothesis which, to say the least, has not been generally accepted by embryologists), and all will recall the sensational manner in which the new treatment was exploited in lay journals. To anyone acquainted with the biology of cancer cells and the properties of enzymes the entire proposition appeared unpromising, but none the less there were not a few practitioners who seemed to see good results accruing from the treatment, and some were carried to extremes of enthusiasm. Taking an unprejudiced view of the situation, however, it seemed possible that the trypsin and amylopsin preparations might have some local effects equivalent to those of mild escharotics, and without their disadvantages, but any specific curative effect, such as was anticipated by Beard, that should lead to "the conquest of cancer" was not to be expected or hoped for.

Four years' experience with the treatment has given opportunity for its real value to be established and for the permanence of the results which at first aroused enthusiasm to be finally decided. More than one hundred articles have been written on the subject, and of three thousand physicians interrogated by the Committee on Scientific Research of the New York Skin and Cancer Hospital, about five hundred reported that they had tried the new method. The originator and advocates of the treatment, therefore, cannot complain of lack of investigation and attention on the part of the profession, and if the unfavorable verdict which has generally been reached is ascribed to lack of experience, care or thoroughness by the users, this criticism cannot well be applied to the report recently published by Dr. W. S. Bainbridge, the secretary of the committee mentioned above.[1] In this report are detailed the results of the treatment of cancer in one hundred cases by the method advocated by Beard, carried out in its full details, with careful study not only of the patients' general condition, but also of the blood, urine, and the tumors themselves. The treatment appears to have been given a most impartial and thorough trial, so that there seems little room to take exception to the conclusion reached, namely, that "the enzyme treatment does not cure cancer." It is found that the local treatment of the ulcerating surface and the general régime advocated by Beard have a favorable influence on the local and general condition of the patient, but there is nothing in the nature of a specific cure of the cancer growth, or even of the prevention of metastasis or recurrence; while at times the injection of trypsin may cause dangerou injury, and often it is unbearably painful. Perhaps th most important positive result is described in th author's retrospect in the following words: "Lookin back on the work of the last three years, the most important lesson to be drawn from the enzyme treatment o cancer is that the patient is a human being who, whil suffering from cancer, it is true, may at the same tim be the subject of any of the other ills to which flesh i heir, and who doubly deserves to be treated with all th careful scientific attention which modern medicine an surgery command. By building up the nutrition, aiding the impaired function of elimination, treating complications, giving the patient a better mental as well a physical atmosphere—in other words, treating th patient and not the 'cancer case'—suffering can be wonderfully ameliorated and life, in many instances, prolonged in comparative comfort for months and eve years." But this is a long way from a specific cure—from "the conquest of cancer"—more's the pity.

HYDROTHERAPY

While it cannot be said that qualified medical me ignore the therapeutic use of water (unless here and ther some isolated individual, like one who a few years ag objected to the practice of bathing as insanitary), it ca safely be admitted that most physicians do not habituall employ hydrotherapy in many ways in which it might b beneficial to their patients. Many difficulties stand in th way as regards the mass of the profession. A complet hydrotherapeutic outfit is beyond the reach of the average physician, and the means for using the simple domestic methods are not always available in the homes of th poor. The exploiters of hydrotherapeutic methods i our cities, and even in some of the so-called water-cures often have not the full confidence of the profession. I some of the best hydrotherapeutic establishments on cannot always be sure that the cure is applied in a thoroughly scientific instead of an empirical, routine way The associations of special therapeutic institutions ar not always the best, and sometimes there is a justified suspicion of quackery in the mind of the physician wh might otherwise contemplate sending patients there There are not many places to which physicians can sen a patient and assure him that he will receive the scientific aid that he requires and which he has a right t expect. While some resorts can be conscientiously recommended, they are often beyond the means of a large cla of worthy people. Hence the need, especially in cities, o institutions where a physician can prescribe and in measure oversee the treatment of his patients, feelin sure that nothing will be done for which he cannot himself assume the responsibility. Even in the city of Boston there was not, up to within a very few years, according to Dr. Pratt's article in the present issue, a singl place where one could have a therapeutic douche, a scientific wet-sheet rub, or a carbon dioxid bath given by man or woman familiar with the proper hydrotherapeutic methods. The history given by Dr. Pratt of th foundation, equipment, etc., of the Boston Medical Batl illustrates what might be done in other cities, where similar institutions could be made of great value, not only for the scientific treatment of persons who cannot for financial or business reasons avail themselves of the well-known establishments in this country and abroad, but also for the educational effect on the public and even on the medical profession. It would afford an opportunity for the individual treatment needed under the direction of the physician who best knows the case and who has the confidence of the patient. There is no conscientious therapeutist who does not wish to give his patients every possible opportunity to use all the means that may benefit them. The application of water in its various forms and in the ways approved by experience is one of these.

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[1] Bainbridge, W. S.: The Enzyme Treatment for Cancer, Scientific Report on Investigations with Reference to the Treatment of Cancer, No. 1. Published with the authority of the Committee on Scientific Research of the New York Skin and Cancer Hospital.

THE VALUE OF NASAL EXAMINATION IN THE DIAGNOSIS OF LEPROSY

Several years ago, Sticker advanced the claim that the initial lesion in leprosy is situated on the septum of the nose. Were this the case, the detection of incipient cases of leprosy would become a comparatively easy matter. Impressed with the possible practical value of nasal examination in the diagnosis of leprosy, Brinckerhoff and Moore[1] in Hawaii determined to gather further data in regard to the question of this alleged initial lesion of leprosy. Inasmuch as most of the previous investigators based their conclusions on results obtained from the examination of patients in whom leprosy was relatively advanced and in whom it would be exceedingly difficult if not impossible to determine the primary lesion, Brinckerhoff and Moore examined not only lepers in the early stages for primary lesion on the nasal septum, but especially persons not known to be lepers but among whom it was reasonable to expect that a considerable number of as yet unrecognized instances of the disease would exist. Certain institutions in Hawaii offer exceptionally favorable opportunities for the discovery of cases of leprosy in the earliest stages if the first symptom of the disease actually is an ulcer on the nasal septum. Without discussion of details, suffice it to say that the Hawaiian investigators carefully examined the nasal septum and nasal secretion of 407 suitable persons without finding as many cases of leprosy as expected from the statistical data and on the assumption that this method would be of distinct value in the diagnosis of the disease in its incipiency. Hence they feel decidedly doubtful as to the value of nasal examination for the early diagnosis in all cases of leprosy, and in this conclusion they are supported by the results of their examinations of known cases of leprosy. In four of five cases of incipient leprosy, inspection of the nasal septum and bacteriologic examination of the nasal secretion failed to detect any evidence of leprosy either in the form of actual lesion or in the presence of lepra bacilli in the secretion. In the fifth case they found a single large mononuclear cell containing unmistakable lepra bacilli. On the other hand, in cases of considerable duration they found septal lesions and bacilli in the secretions to be the rule. In one case, in a dispensary patient, in which full history and physical examination could not be secured, a considerable number of lepra bacilli were present in the nasal secretion—an example of the value of routine examination of the nose in detection of dangerous cases of leprosy in a clinic frequented by races with a high incidence of this disease. Brinckerhoff and Moore consequently assign a certain value to nasal examination in the detection of leprosy, even if it does not reveal all cases of the disease, as would be expected if the initial lesion, as once claimed, occurs on the septum of the nose.

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[1] U. S. Public Health and Marine-Hospital Service, Studies on Leprosy, 1909, No. 4.

Medical News

ILLINOIS

Money for Hospital.—Evanston Hospital has received an anonymous gift of $25,000. The money has been applied to the endowment fund, which now amounts to $86,000.

No Provision for Pay of Experts.—The Illinois Occupational Disease Commission, which had made arrangements for an exhaustive study of the conditions in the factories of Illinois, finds its hands tied because the bill enacted by the state legislature, which provides for an appropriation of $15,000, fails to specify expert and medical aid in its list of the purposes for which the money may be used.

Personal.—Dr. Arthur C. McIntyre and family, Troy Grove, have returned from Europe.——Dr. Edwin J. Gause, Unity, county commissioner-elect of Alexander county, took the oath of office November 5.——Dr. Charles B. Fry, one of the oldest practitioners of Mattoon and local surgeon for many years of the Illinois Central and Big Four railroads, announces that he will give up the active practice of his profession.

Elections. At the annual meeting of the Southern Illinois Medical Society, held in East St. Louis, November 5, the following officers were elected: President, Dr. Oscar B. Ormsby, Murphysboro; vice-presidents, Drs. Edward W. Fiegenbaum, Edwardsville, and Andrew Hall, Mount Vernon; secretary, Dr. Charles W. Lillie, East St. Louis; assistant secretary, Dr. Alonzo B. Capel, Shawneetown, and treasurer, Dr. H. E. Telford, Centralia. The next meeting is to be held in Centralia. — At the eighty-ninth semi-annual meeting of the Fox River Valley Medical Society, held in Aurora, November 9, Dr. Edward H. Abbott, Elgin, was elected president; Dr. C. H. Evans, Aurora, vice-president, and Dr. William H. Schwingel, Aurora, secretary-treasurer.——The Kewanee Physicians' Club, at its annual meeting, November 4, elected the following officers: President, Dr. Peter J. McDermott; vice-president, Dr. H. Nelson Heflin, and secretary-treasurer, Dr. Gideon H. Hoffman.

Chicago

Physicians Protest.—An ordinance prohibits vehicles from remaining on downtown streets without attendants for more than an hour, in order to avoid more congestion of already crowded streets. The council of the Chicago Medical Society, at its meeting, November 9, protested against the law. The physicians want the right to leave automobiles on the street while they are in their offices.

Out-Door School.—A plea for the establishment of a permanent large outdoor school for tuberculous children is made in the report issued November 11 by the Chicago Tuberculosis Institute. Great good is predicted from the out-door school which is to be held on the roof of the Mary Crane Nursery, Ewing street, by the United Charities, supported by the trustees of the Elizabeth McCormack fund.

Antitoxin.—The Memorial Institute and the Chicago druggists, with the assistance of the Department of Health, have entered into arrangements whereby the retail price of diphtheria antitoxin, after November 15, will be, 1,000 units, 60 cents; 3,000 units, $1.10, and 5,000 units $1.50. The previous prices were, respectively, $2, $5, and $7.50. The department urges those able to pay these reasonable prices to do so and to leave the state supply of free antitoxin for poor people who are unable to pay anything for it.

MARYLAND

Memorials.—In the improvements now being made at the Hospital for the Women of Maryland, Baltimore, there will be memorials to Drs. William T. Howard, H. P. C. Wilson and J. E. Atkinson, all of whom were formerly members of the staff, and the two first, founders of the institution.

Loving-Cup Given.—The surgical staff of the Baltimore Eye, Ear and Throat Charity Hospital recently gave a dinner in honor of Dr. Samuel Theobald, one of the founders of the hospital, and a member of the staff since 1882. A loving-cup was presented Dr. Theobald by Hon. Charles J. Bonaparte of the board of managers.

Personal.—Dr. Charles H. Rose, Cordova, has been elected a member of the house of delegates.——Dr. Joshua W. Hering, Westminster, comptroller of the state, was given the honorary degree of LL.D. on academy day at the University of Maryland, November 11.——Dr. Frederick H. Baetjer has been appointed associate in actinography, Dr. H. C. Thatcher assistant to Professor Thayer, and Dr. J. T. Sample assistant to Professor Barker, in Johns Hopkins Hospital.

Hope to Abolish Cocain Evil.—Baltimore feels that it has provided a really effective weapon in its endeavor to abolish the cocain evil; this has been done by the Swan ordinance, passed by the city council, the legality of which was upheld by the Maryland Court of Appeals, at Annapolis, November 12. It is said that the dealers in cocain have been making 200 per cent. profit. Hitherto these individuals have had an option of paying a fine or imprisonment; hereafter imprisonment is to be required and, further, even to have the drug in one's possession, unless on prescription of a regular physician, is to be evidence of guilt.

MASSACHUSETTS

Physicians' Building in Worcester.—Plans are being prepared for a twelve-story office building in the center of Worcester to cost $500,000 to be devoted to the use of physicians, dentists and druggists.

Personal.—Dr. Florence A. Sullivan has been elected a member of the Haverhill Board of Health.——Dr. Wilder Tileston, Boston, has been appointed assistant professor of medicine in Yale Medical School and has moved to New Haven.——Dr. George B. Sargent has been reelected secretary-treasurer of the Lawrence Medical Club.——At the annual meeting of the Massachusetts Charitable Eye and Ear Infirmary, Boston, Dr. George B. Shattuck was elected president.——Dr. Ephraim Cutter, West Falmouth, writes that he has been appointed delegate to the 1910 convention for the Revision of the U. S. Pharmacopeia. This reminds him that it will be fifty years since he went before.

NEW YORK

New York City

Gift to Lawrence Hospital.—This institution, at Bronxville, was erected by W. V. Lawrence at a cost of $125,000 and opened last June. Mr. Lawrence has now given an additional $150,000, $50,000 of which is for the home for nurses, and $100,000 for an endowment fund for current expenses.

Montefiore Home Will Move.—At the annual meeting of the trustees of this institution it was announced that the home would soon be moved to a more favorable site up town, the present quarters not being large enough. The treasurer's report showed expenditures of $180,000 during the last year and donations of about the same amount.

Hudson-Fulton Accidents.—Reports received by the Public Service Commission on the local transportation service during the crowded period of the Hudson-Fulton celebration show that there were no fatal accidents. It is estimated that the elevated and surface cars carried nearly six millions a day during that time without a single fatal accident.

Gift to College.—William D. Sloane, who has already done much for the College of Physicians and Surgeons, has given $150,000 which is to be used for the erection of a seven-story addition to the Sloane Maternity Hospital. The new building will enable the student to receive practical instruction in all phases of obstetrics and gynecology in the same building.

Personal.—In recognition of the services rendered the Roman Catholic Church by his writings and lectures, Dr. James J. Walsh has had the decoration of St. Gregory conferred on him by Pope Pius X.——Dr. A. S. Dair, while racing, lost control of his motor cycle, and was thrown down an embankment, sustaining severe injuries.——Dr. Carlos F. MacDonald, while returning from New York to his sanitarium at Central Valley, was thrown from his automobile and narrowly escaped death.

House Staff Resigns.—The house staff of the Washington Heights Hospital has resigned on account of Dr. Herman S. Jacobs, house surgeon, refusing to sign a paper certifying that a client of an insurance company had died, unless he, Dr. Jacobs, received the usual fee for his services. The superintendent insisted that the money go to the hospital fund, and Dr. Jacobs refused to sign the blank, and was reported to the chairman of the medical board, who suspended him. Believin Dr. Jacobs to be in the right, the staff, consisting of Dr. Aaro B. Cohen, senior ambulance surgeon, and Dr. David Linetsky pathologist, decided to resign unless he was taken back. Th resignations were accepted, and the staff left the hospita November 7.

OHIO

School in Tuberculosis Sanatorium.—The first school in tuberculosis sanatorium is said to have been organized a the Franklin County Hospital, Columbus, to look after th mental welfare of ten patients of school age now under th care of the institution.

Staff Resigns.—The mmebers of the medical and surgica staff of the Mahoning Valley Hospital, Youngstown, wit one exception, have sent in their resignations. The reaso assigned for this is that "there seems to be lack of prope persons to take care of the sick. There are no facilities fo taking care of accident or emergency cases."

State Should Supply Antitoxin.—The State Board o Health, at its meeting in Cincinnati, October 13, adopte a resolution that the state supply diphtheria antitoxi free, wherever it is needed. The board also requeste the legislature to enact a law providing for the appointmen of twelve medical inspectors of contagious diseases, an making medical examination compulsory in city schools, an optional in township and village schools.

Personal.—Dr. William A. Pitzele has been appointed member of and elected president of the Board of Healt of Lorain.——Dr. John S. Cherrington, Logan, has returne from Europe.——Dr. William H. Perry, Van Wert, sailed fo Europe, November 17.——Dr. Edgar C. Davis, resident physician at St. Luke's Hospital, Cleveland, was operated o recently for appendicitis.——Dr. Clarence S. Ordway, Toledo has given a contract for the immediate erection of an eighteen room hospital on his property on the East Side.

A New Charity.—The Toledo Lying-in and Babies' Dispensary was opened October 26, under the direction of a board o governors, the medical members of which are Drs. Julius H Jacobson and Park L. Myers. Dr. George B. Booth has bee appointed superintendent of the dispensary and placed i charge of the maternity department, and Dr. Herbert E. Smea has been placed in charge of the babies' department. Th dispensary is designed to provide nursing for patients i their own homes by visiting nurses, and to provide medica attention, .medicine and food to infants and young children

PENNSYLVANIA

Carnegie Gives Land.—Mr. Andrew Carnegie has given t the State of Pennsylvania 450 acres of land at Cresson for a tuberculosis sanitarium.

Favors Aid to Marine-Hospital Officers.—The Commercial Exchange, through its board of directors, adopted a resolution November 11, requesting the Pennsylvania delegation in Congress to support proposed legislation in aid of the United States Public Health and Marine-Hospital Service. The measure is intended to provide more adequate remuneration for the officers of that service and for the payment of a salary t officers retired at the age limit or for physical disqualifications.

Philadelphia

Doctors' Charity Chooses Officers.—At the annual meeting of the Aid Association of the Philadelphia County Medical Society, held November 8, the following officers were elected: President, Dr. James B. Walker; vice-president, Dr. Jacob Shellenberger; secretary, Dr. Lewis H. Adler; treasurer, Dr John B. Turner, and directors, Drs. Roland G. Curtin, Samue W. Morton and Alexander R. Craig. The association wa formed to give aid to the needy members of the county medical society and their families and other physicians i extraordinary cases. Its work is purely benevolent and th names of the beneficiaries are not known to the other physicians.

Personal.—Dr. S. Weir Mitchell has been elected presiden of the St. Andrew Society of Philadelphia.——Dr. I. Newto Snively, who underwent operation for abdominal abscess November 9, is improving.——Dr. William T. Pride, Jr., ha been appointed professor of pathology in the College of Physicians and Surgeons, Memphis, Tenn.——Dr. Albert G. B. Hinkle is recovering from a long and serious illness.——Dr. Jame K. Young was appointed associate professor of orthopedic surgery in the University of Pennsylvania faculty, November ——Dr. Walter L. Pyle gave a reception, November 13, t many of the physicians of the country, who had come t attend the dedication exercises of the new building of th College of Physicians and Surgeons.

Dedication of the New Hall of the College of Physicians of Philadelphia

The new home of the College of Physicians of Philadelphia was dedicated with fitting ceremonies, November 10 and 11. This society, organized January 2, 1787, is the oldest medical organization (not a state society) in the United States.

The society is a scientific and not a teaching body. Until recently the number of its fellows has been very small. It has never aimed to include the rank and file of the profession, but has had a selected fellowship, which even now numbers only 439 fellows, 40 associate fellows, of whom 11 are from Great Britain, and 4 corresponding members.

LARGE MEDICAL LIBRARY

The library of the college, with the exception of the Surgeon-General's Library at Washington, is stated to be the largest medical library in the world. It contains, excluding duplicates, almost one hundred thousand volumes. For the last few years it has increased at the rate of more than two thousand new volumes a year. The college contains some very rare material. It possesses one of the six copies of the first edition of Harvey's "De Motu Cordis et Sanguinis" to be found in the United States and has also the still rarer final leaf containing the errata. Among the many curiosities are a lock of Jenner's hair, Laennec's stethoscope, a set of Perkin's "tractors" and the knocker from the door of Ephraim McDowell. The college also contains the museum of the late Thomas D. Mutter, which was presented to the institution in 1856. This covers a floor space of 3,500 square feet and is provided with several galleries. This museum has an endowment of $30,000 to provide for its care and increase, and for the annual "Mutter Lecture."

THE NEW BUILDING

The new building, with furniture and fixtures, has been rected at a cost of $400,000, of which $100,000 was presented y Mr. Andrew Carnegie. The structure is a modern twotory fire-proof building of steel construction, with brick walls and limestone trimmings. It is 108 by 150 feet, situated n a lot 130 by 184 feet and is surrounded by three streets, hus assuring light and protection from fire on all four sides. The first floor contains the executive offices and is provided with two large lecture rooms with a capacity for one hundred persons, known as the Thomas Cadwalader Room and William Thompson Room.

The second floor contains a large auditorium capable of seatng 500 persons. This room was furnished by the friends of Dr. S. Weir Mitchell and is known as Mitchell Hall. Several ther memorial rooms are provided, and all, except one, have een named after deceased fellows. Special provision is made or fellows who are engaged in prolonged research work by a ozen small private rooms, in which they may study, and on eaving the room lock the door. This is a saving of time and rouble both to the student and library officials, and has the dvantage of freedom from all interruption.

LIBRARY AND READING ROOM

The windows of the library are provided with wire glass in etal frames and there is further protection from fire by rollng steel fire shutters, which drop automatically at a certain mperature. The library is also cut off from the rest of the uilding by fire doors. Space in the library has been provided r 300,000 volumes and ample provision has been made for rge future extension whenever necessary. A large reading oom is provided, which will accommodate fifty readers, and e journal room, opposite, contains accommodation for fifty lditional readers. There are 850 medical journals on file in is room. Six shelves without partitions run around the tire room, three of which are horizontal. Above each horintal shelf there is another shelf inclined about forty-five grees. On the inclined shelf the latest number of each jourl is placed, while immediately below it, on the horizontal elf, are all loose preceding numbers of the same journal, aiting binding as soon as the volume is completed. The rary is open to all the non-medical public as well as to the tire medical public of whatever school.

ACADEMICAL PROCESSION

The fellows and guests assembled and proceeded to the trance to the new building, where the presentation was de by Dr. William J. Taylor, secretary of the building comittee. The hall was accepted on behalf of the president and icers and in the name of the fellows of the College of Physins of Philadelphia by the vice-president, Dr. George E. Schweinitz.

THE GUESTS

Dr. James Tyson, president, introduced the visiting guests, who spoke, in part, as follows:

John Shaw Billings, M.D., representing the New York Public Library:—"I offer congratulations, not only of the New York Public Library, but those of other large public libraries, on your success in obtaining and properly housing this collection of books which is perhaps the most complete in the world. It has an added value in that it contains the books of Dr. John Stockton Hough. I speak also as a delegate of the Carnegie Institute of Washington and present congratulations from that body."

Charles Loomis Dana, M.D., representing the Academy of Medicine of New York:—"In bringing the message of fraternal greetings and congratulations on your present great feat, I speak not alone as a representative of a kindred institution, but with a note of real personal feeling, for I have experienced the hospitality of this college and know its worth and work. The New York Academy of Medicine is the junior of this college by sixty years. It owes its existence to the widows and orphans of medical men and shows how the poor and humble may be an inspiration to mighty things. Through it New York first organized a board of health and the academy has since its beginning aided nearly every measure for public health and medical science. In six decades our membership has grown from 184 to over a thousand and a waiting list exists."

Reginald Heber Fitz, M.D., spoke for the Boston Medical Library: "The College of Physicians of Philadelphia and the Boston Medical Library meet on common ground in their effort to take their place among those seeking nothing for themselves but all for the race."

William Sydney Thayer, M.D., representing the Medico-Chirurgical Faculty of Maryland:—"I present congratulations, not perhaps of a sister society, but of a child, for a large number of our founders gained inspiration from members of this venerable institution, and we in Maryland have ever sought refreshment from the quickening current which has flowed from the lips of your students, philosophers and poets. May this institution ever serve to broaden the horizon of the physician, to stimulate justice, liberality, tolerance, and bring him nearer to his fellow man, giving to the world the highest usefulness, counsel, and advice."

Frederick P. Henry, M.D., honorary librarian, Library of the College of Physicians of Philadelphia:—"Our library is in the front rank of the medical libraries of the world and second to none as a working library. I would call particular attention to the numerous small rooms for special research in which the student may have absolute privacy. The books are a collection of animate objects which have not only stimulated but compelled progress. They forced us out of our home in the Mercantile Library in 1854 and again they forced us out of the old picture house in the Pennsylvania Hospital grounds in 1863, and finally they drove us, with metaphorical whips and scourges, out of our last home and forced us like a swarm of bees into this hive of learning. Like a swarm of bees also there was needed a metallic sound to make us settle and gold has been literally poured out at our feet. The bookstacks have space for 300,000 books with ample room for extension, so that the youngest member need not anticipate the expense of another removal during his life time. I cannot offer you what you already possess, the freedom of this great library, but I can congratulate you and ourselves on the fact that it is contained in the finest building of its kind in either hemisphere and that the jewel is worthy of its casket."

CONFERRING OF ASSOCIATE FELLOWSHIPS

Archibald Byron Macallum, M.A., M.B., Ph.D., Sc.D., LL.D., F.R.S., was presented by Albert Philson Brubaker, M.D., who said in part that for his services to the cause of higher education and for the supreme worth of his personal character Dr. Macallum had been honored in large measure by universities and scientific associations at home and abroad, for which reasons the fellows of the College of Physicians desired to express their appreciation by conferring on Professor Macallum the title of associate fellow.

To the presentation Dr. Tyson responded and in like manner to the subsequent presentations: "Selected from among those eminent scientists of the country by unanimous vote of the council, confirmed by a like vote of the college, you have been made an associate fellow of the College of Physicians of Philadelphia, in evidence of which I present to you the certificate of the college, signed by the president, vice president, the secretary and treasurer and the censors of the college."

Oliver Fairfield Wadsworth, M.D., was presented by George E. de Schweinitz, M.D., as "A pioneer in the early medical work of the country; a teacher who has sent forth students fully equipped; a clinician distinguished for accuracy and keenness of observation, an ophthalmologist, physician and surgeon who has upheld the standard of the profession."

Edward Gamaliel Janeway, M.D., LL.D., was presented by James C. Wilson, M.D., as a "master clinician, distinguished writer, comprehensive teacher, wise consultant, and courteous gentleman."

Charles Loomis Dana, M.D., was presented by Charles K. Mills, M.D.:—"When the College of Physicians of Philadelphia selects for a special honor we are assured that the choice is determined by exceptional merit. Such merit is possessed by the candidate whom I have the honor to present. Born among the rugged hills of New England, he has by a life of ever-increasing distinction made faithful return for his inheritance of capacity. His success in neurology, his chosen department of medicine, was assured from the outset. He is the author of one of the best text-books on neurology and psychiatry ever issued from an American press."

The New Building of the College of Physicians of Philadelphia

Frank Billings, M.D., was presented by John H. Musser, M.D., who said in part:—"Beloved physician of patriotic vision, skilful in interpretation, masterful in treatment, scientist, wise and earnest seeker of truth, you have emblazoned the path of many young men who, inspired by your conceptions, have been earnest workers in medical science. As president of the State Board of Charities of Illinois you have shattered the political bonds of the various institutions under your care and have brought to the inmates of the institutions careful management and scientific treatment. Recognizing the commanding features of your career the fellows of the College of Physicians have by one voice asked that you be presented to the president and receive the certificate of associate fellowship, knowing full well that you will honor it far more than it can ever honor you."

George Washington Crile, M.D., was presented by Dr. William L. Rodman:—"The candidate whom I present has placed new paths in surgery and has compelled a gratified profession to acknowledge him as a leader. Perhaps his most noteworthy publication was on hemorrhage and transfusion. Busy as he must have been in the preparation of such a monograph he has found time to devise new surgical operat instruments and to contribute largely to current medi literature."

Franklin Paine Mall, M.D., was presented by George Piersol, M.D.:—"In bringing about the larger recognition anatomy in surgery Dr. Mall has rendered conspicuous servi During his career as educator he has striven to arouse a l for research, and largely through his efforts this country n possesses two journals of acknowledged merit devoted exc sively to anatomy."

Cablegram congratulations were received from the Ro College of Surgeons of Edinburgh, the College of Surgeons England, and from William Osler. A set of resolutions ca from the Boston Medical Library and letters from two fello Drs. J. Cheston Morris and Horatio C. Wood, and from representative of the library of the Surgeon-General's off U. S. Army, Dr. Robert Fletcher, who were unable to present.

DEDICATORY ADDRESS

The president, **James Tyson**, M.D., delivered the dedicat address:—"Of the three occupations of men which are nified by the title of profession—namely, the ministry, law, and medicine, that of medicine has been especially ch acterized by a desire on the part of its members to unite mutual improvement. The first effort toward organized m ical societies in the English colonies of North America app to have been in Boston in 1735. The College of Physici was organized in 1787 and while the third of the medi societies organized in Philadelphia was the tenth of Ameri societies, so far as can be learned it is the oldest in existe of American societies which is not a state organization. early as 1767 Dr. John Morgan began to agitate the subj of a College of Physicians, but was rather severely sat on one of the proprietors, Thomas Penn. As a result the char was refused and the project abandoned for the time bei On Jan. 2, 1787, however, the first meeting after its full org ization was held. Dr. John Redman was the first presi and held office for eighteen years. The vice-president was John Jones, great grandson of Dr. Thomas Wynne, who c over with Penn in the ship *Welcome*. The constitution vided that the officers should be chosen annually, and practice continues to the present day. The first paper read before the college was by Dr. Rush at the second meeting, Feb. 8, 1787, on 'The Means of Promoting Medical Knowledge.' The college early assumed a guardianship over the health, safety, and even morals of the community.

"The circumstance which made the first decade in the life of the college the most stirring and interesting in its history was the presence of yellow fever. On Aug. 25, 1793, a special meeting was held 'to consider what steps the college should take consistently with duty to their fellow citizens in connection with the prevalence of a fever of very alarming nature in some parts of the city.' Directions for preventing the further progress of the fever with comments on the inefficiency if not the danger of fires kindled as a means of checking the progress of the fever and placing more dependence on the burning of gunpowder were promptly sent to the citizens.

"It was further stated that 'the benefits of vinegar and camphire are confined chiefly to infected rooms, and they cannot be used too frequently on handkerchiefs or in smelling bottles by persons whose duty calls on them to visit or attend the sick.' On Nov. 26, 1793, in answer to the inquiry from Governor Mifflin to President Redman whether or not yellow fever was an imported disease a reply was adopted to the effect that the fever was imported in vessels about the middle of July. Cleanliness of the streets, the use of gunpowder as a disinfectant, and of slacked lime in privy wells was recommended. In 1798 when the fever again broke out as a result of a special meeting of the college a committee was appointed to wait on the Board of Health to recommend the removal of all families between Walnut and Spruce Streets and the east side of Front and the river; also to remove the shipping between Walnut and Spruce Streets to a proper distance. The fever prevailed with intermissions and remissions from 1793 to 1798. Two founders of the college died of it and many more physicians were very ill. At one time only three were able to do duty outside their own houses.

"In 1798 was organized the American Academy of Medicine of Philadelphia. It is said to have been organized with a view to the study of yellow fever, but it was also in evident opposition to the College of Physicians.

"The college in its infancy and for some time afterward was very poor. In February, 1883, Dr. S. Weir Mitchell presented $5,000, subsequently increased to $7,000, to establish an entertainment fund. This generous gift and its purpose was followed by the appointment of an entertainment committee which has been called upon to exercise its function on several occasions. The most important event in the history of the college after its organization was the Centennial Anniversary, celebrated Jan. 3 and 4, 1887. On January 2 the actual anniversary, the day was bitterly cold and is especially associated in my mind with the presence of Dr. R Palmer Howard, then professor of medicine in McGill College, Montreal, who was my guest and whom I took in the afternoon to old St. Peter's church on Pine Street, where lies buried John Morgan, one of the most brilliant and accomplished founders of the college.

"The occasion of the centennial also marked the completion of the then new college hall at Thirteenth and Locust Streets by the addition of the third story at a total cost of $67,256.50, including the site, which cost $14,408. Yet the total investment is insignificant as compared with what has been expended for this, our latest home, appointed as no building for a like purpose ever was. One of the most important functions of the college is the stand it has taken against encroachment on the right to use, humanely, animals for investigating the action of medicines and determining the causes, prevention, and cure of disease. The subject of quarantine has at all times received interested attention. The college has always been ready to render, to the extent of its ability, aid to members of the profession who have suffered in public calamity. In February, 1891, a committee was appointed to represent the college before the legislature in advocacy of a bill to establish a state board of medical examiners and licensers, and in opposing a bill providing a state board of medical education. The bill establishing the State Board of Medical Examiners was passed and has been of great service in advancing the standard of medical education.

"Of the library I may state that the total number of bound volumes up to Nov. 1, 1909, is 81,018; general library, 63,890; Lewis library, 13,536; S. D. Gross library, 3,375; Obstetrical Society library, 217. There are also unbound reprints and transactions, 8,202; unbound theses and dissertations, 23,711, and unbound pamphlets, 70,213. Between 2,000 and 3,000 volumes are purchased annually and many are donated by authors, publishers and friends."

THE BANQUET AND THE RECEPTION

On the evening of the dedicatory exercises a banquet was held in the Bellevue-Stratford Hotel. Nearly 500 persons were present. Dr. George E. deSchweinitz was toastmaster and the following toasts were responded to: "The Old College and the New," Dr. S. Weir Mitchell; "Libraries and Their Foundations," Mr. Andrew Carnegie; "The College Library and Its Treasures," Dr. William W. Keen; "The College and Its Civic Relations," Hon. Hampton L. Carson; "The College and Its Traditions," Dr. Arthur V. Meigs.

On November 11 the new building was thrown open to the inspection of the public and in the evening a reception was attended by over 500 persons. Preceding the reception the guests and visitors gathered in the assembly hall and were addressed by Dr. S. Weir Mitchell. Dr. James Tyson, president of the college, presided.

GENERAL NEWS AND COMMENT

Individual Drinking Cups.—The Norfolk and Western Railway has installed in each of its coaches slot devices from which individual drinking cups may be secured by passengers.

Prize for Aid for Deafness.—Professor Cozzolino of Naples, Italy, was the official delegate from Italy to the International Congress for Otology at Budapest, and he has since founded a $200 prize to be awarded at the next international congress, to be held at Boston in 1912, for the best work on the treatment of progressive deafness or a mechanical device for relieving it.

Personal.—By order of the Secretary of the Navy, November 11, the controversy as to whether line officers or medical officers shall command a hospital ship was decided when Surgeon George Pickrell, U. S. Navy, was detailed to command the hospital ship, *Solace*.——Dr. Varone Suarez, Havana, has been appointed secretary of sanitation of Havana, Cuba, vice Dr. Mathias Duque, resigned.

Prize for Work on Typhus Fever.—The Mexican government has authorized the National Medical Academy to announce a typhus prize fund of $25,000 (50,000 pesos): $10,000 will be awarded to the discoverer of the cause of exanthematous typhus, and $10,000 for the discovery of its mode of transmission or a curative serum, and $5,000 to the investigator whose work is judged most useful in helping toward such a discovery. The competition is international but all articles must be in Spanish and be in the hands of the secretary of the Academia N. de Medicina, Mexico, before Feb. 28, 1911.

Hookworm Commission.—Mr. John D. Rockefeller, who has given $1,000,000 to investigate and combat the hookworm disease, has selected the following commission to have charge of the administration of the fund: Drs. William H. Welch, Baltimore, Simon Flexner, New York City, and Charles Wardell Stiles, U. S. P. H. and M.-H. Service; President Edwin A. Alderman of the University of Virginia; Chancellor David F. Houston of Washington University, St. Louis; P. P. Claxton, professor of education in the University of Tennessee; J. Y. Joiner, state superintendent of education of North Carolina; Walter H. Page, editor of the *World's Work*; Principal H. B. Frissell of Hampton (Va.) Institute, Frederick T. Gates, Starr J. Murphy, and John D. Rockefeller, Jr.

Lombroso's Brain.—According to the wishes of the late Professor Lombroso, his autopsy was held in the amphitheater of the medical school at Turin. A number of professors and students were present. Evidences of interstitial myocarditis and atheromasia of the coronary arteries were found but the arteries in the brain were in good condition. Also in compliance with the wishes of the deceased, the brain was removed from the skull and given to Professor Boero to be preserved in the Institute of Normal Anatomy. It weighed 1,308 grams. Lombroso had written a romance and poems by the age of 10, the next year two tragedies modeled on Alfieri's, and had published two monographs on Roman archeology before he was 12. A year or two later he took up sociologic studies based on linguistic analysis of the Greek, Hebrew, Sanskrit, Coptic and Chinese, and before he entered the university had written two works on natural science.

New Medical Association.—The American Association for the Study and Prevention of Infant Mortality was organized at New Haven, November 13, as the result of the convention of the American Academy of Medicine for the discussion of that topic. The following officers were elected: President, Dr. J. H. Mason Knox, Jr., Baltimore; vice-presidents, Prof. C. E. A. Winslow, biologist-in-chief of the laboratory of sanitary research, Massachusetts Institute of Technology, Boston, and Homer Folks, secretary of the New York State Charities Aid Association, and secretary, Dr. Henry I. Bowditch, Boston.

CANADA

Civic Medical Officer.—The active attention of the executive committee of the New Brunswick Medical Association is at present engaged on the question of the appointment of a civic medical officer or civic health officer, whose duties are to include the examination of public school children and the care of the health of the children. At the last meeting of the executive committee a resolution to this effect was adopted.

Offenders Sentenced.—Mrs. Susan Labertis, a colored woman of Woodstock, charged with breach of the medical act, in that she practiced medicine without a license, was found guilty in the Toronto police court, September 7, and fined $50 and costs. ——Charles Williams, christian scientist of Virden, Man., is said to have been sentenced to serve two years in prison for failing to call in medical aid while treating for pneumonia a child who subsequently died.

Medical College Opens.—The opening lecture of the annual session of the medical faculty of McGill University was given by Professor Woibach, October 1. Principal Peterson, who presided, reported the generous gift of Lord Strathcona, which has made possible the new medical building of the University. It was announced that arrangements have been made with the authorities of Montreal General Hospital to maintain an additional clinic for the benefit of English-speaking students.

Personal.—Dr. Frederick J. T. Old, Port Colburne, has been elected president, and Dr. Ernest L. Garner, Welland, secretary-treasurer of the Welland County Medical Association. ——Dr. John J. McFadden, Neepawa, Man., has been elected medical superintendent of the Brandon Hospital for the Insane, vice Dr. James J. Anderson.——Dr. George Bayham, Winnipeg, has returned after ten months abroad.——Dr. and Mrs. Henry Meek, London, have returned from Europe.——The Manitoba Medical College has appointed Dr. E. J. Evatt to take charge of the department of anatomy.——A complimentary dinner in honor of Dr. Leonard G. Rowntree, Baltimore, was given at the Tecumseh House, London, by the Faculty of the Medical School and the executive of the alumni association.——Dr. Archibald R. B. Williamson has been appointed medical health officer of Kingston, Ont., vice Dr. John H. Bell.——Dr. John W. Wigham, Toronto, has been appointed associate coroner for that city, and Dr. Hugh C. McLean, Guelph, associate coroner for Wellington county.

Annual Meeting of Medical Council.—On October 13 and 14, the annual meeting of the Council of the College of Physicians and Surgeons of Manitoba was held, and the following officers elected: President, Dr. Thomas M. Milroy, Winnipeg; vice-presidents, Dr. John J. McFadden, Neepawa; registrar, Dr. John S. Gray, Winnipeg (reelected); treasurer, Dr. James Patterson, Winnipeg (reelected); representatives on the council of the University of Manitoba, Drs. Charles W. Clark, Thomas M. Milroy, Arthur W. Moody, and James N. Hutchison, and representative of the college on the Board of Studies of the University, Dr. Thomas M. Milroy. At a meeting of the council, held later, it was decided to raise the registration fee from $75 to $125, to take effect Jan. 1, 1910, and to abolish the annual fee of $2.——The Manitoba College of Physicians and Surgeons has offered to hand over to the University of Manitoba, without reservation, the new medical college, site and equipment, valued at $100,000, provided the university is freed from denominational control and is absolutely placed under the control of the state.

LONDON LETTER

(From Our Regular Correspondent)

London, Nov. 5, 1909.

Outbreak of Scarlet Fever and Diphtheria

London is at present suffering from a serious outbreak of scarlet fever and diphtheria, the number of cases considerably exceeding the usual autumnal rise in these diseases. Patients are being removed from their homes to the fever hospitals at the rate of 600 a week and the number of cases admitted amount to 3,805.

Hindus Demand that Appointments Be Thrown Open to Them

The civil medical administration of the teeming millions of our vast dependency of India is controlled by the officers of the Indian medical service, who are all Europeans. The government has established a number of medical colleges for the training of natives in western medicine under professors appointed from the Indian medical service. When these natives become qualified they form what is called the subordinate medical service. They are eligible for civil and military practice but not for the higher appointments. In the Indian army (which consists of natives officered by Europeans) they can attain no higher rank than that of captain. As the number of European physicians in India is small compared to the population the native physicians are now numerous and they fill a large number of government appointments in the hospitals, on plague duty, in the jails and in the sanitary administration generally. They form the great majority of the private practitioners; excepting the medical missionaries, there are scarcely any European physicians outside the army in the country. As stated in a previous letter to The Journal, Lord Morley, the secretary for India, has come to the conclusion that the demands on the medical service of the Indian army by civil practice are too great, that they must be restricted in the future and that civil appointments shall be made so far as possible in the future of private practitioners. The members of "the independent medical profession," i. e., the native physicians, have taken the opportunity of pressing their claims. They have held a meeting at Bombay and unanimously adopted a memorial asking that all civil medical appointments under the government shall be thrown open to natives and the present monopoly of the higher posts by the Indian medical service be abolished. They recommend that the Indian medical service shall be purely military. They also desire that multiple professorships at the medical colleges shall be abolished and that professors should not be allowed also to hold appointments on the staffs of hospitals. They anticipate that if their recommendations are adopted a saving of $1,000,000 annually to the state will result. As there are now many highly competent and well trained native physicians in India it does not seem that the reasonable request that they shall be allowed to compete for medical appointments in their own country can be refused.

A Physician's Heroism

In the early morning an explosion occurred in the Darran colliery, South Wales, before the workers on the night shift had left. The ordinary approach to the mine was completely blocked and the only way of access was by the shaft of another pit four miles away. A relief party, accompanied by Dr. Turner, the colliery surgeon, descended the pit and endeavored to reach the other pit. One after another they were overcome by the choke-damp and five died. The physician had a narrow escape. He repeatedly risked his life in heading the relief party and at last collapsed. His companions endeavored to rescue him but were so overcome by the choke-damp that they had to abandon him. After a time they were able to return and found him lying in the roadway still alive. He was carried to a place of safety and oxygen was administered. He was then taken in a comatose state to the Cardiff Infirmary. Twenty-nine lives were lost from the explosion.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Oct. 28, 1909.

The Affair of the Ophthalmologic Clinic

The difficulties in finding a first-class ophthalmic surgeon willing to accept the appointment as successor to Schnabel are ever increasing. At first there was an apparent tendency on the part of the government to neglect the recommendation of Professor Hess of Würzburg by the medical faculty, then Hess refused to accept the office, without very substantial changes and adaptations, which required money. The government not complying with his wishes he declined the honor. Then Professor Dimmer of Graz, recommended in the second place, was offered the clinic. He made conditions nearly identical with those of Hess; enlargement of the clinic, reform of the present insufficient laboratories and teaching accommodations, and modern outfit. This was refused, whereupon he too declined. The splendid new general hospital, parts of which have been opened already, provides a real palace for an ophthalmic clinic, but this will not be erected before 1914. Thus, five years would have to be spent in the old building. Anyone who knows the present building will easily understand the attitude of the two surgeons. The students are now in danger of not enjoying the teaching of a first-class ordinary professor, although the surgeon in charge of the clinic at present is also a very good man. On the other hand, the standing of the Vienna medical school must be seriously hampered by such conditions.

Honors to a Dead and to a Living Teacher

In memory of the late Professor Albert, a surgeon whose name is well known beyond the frontiers of Austria, a relief tablet was unveiled in the hall of the university a short time ago. The tablet shows the surgeon at the side of a young woman anesthetized, explaining to his students the operation he is performing. It is a fine piece of art; the likeness is very striking to all those who had the privilege of knowing the surgeon. Albert was professor of surgery in Vienna from 1881 till 1900; he was a keen observer, a strict logical thinker, and one of the most successful teachers known in medicine. His methods of teaching were actually the sole reason that the Vienna school retained for many years the standing gained for it by Billroth. At the foot of the tablet a wreath has been placed by the surgical clinic, bearing the inscription: "Magno medico, maximo magistro, grata animo."

A few days later, a living physician, Professor Leopold Oser, celebrated his seventieth birthday among a number of his devoted friends and scholars. He is one of the pioneers in the study of the the gastro-intestinal tract; the chief methods of investigation of the pathology of the stomach are due to his clear mind. He was also one of the initiators of the Vienna Poliklinik, which has developed since to such importance as an annex to the general hospital as regards teaching. A very valuable contribution by Professor Oser to the pathology of cholera was and is still regarded as one of the best treatises on this subject. Among the numerous honors received by Oser was also a splendid address from the Vienna Medical Society (*Gesellschaft der Aerzte*), of which he was one of the presidents.

The Institute for Teaching of Physics

A similar incident is now attracting attention toward the unsatisfactory conditions in certain branches of our university institutes. Every medical student here must study physical science for at least one year at the physical institute. This is over sixty years old and was inadequate twenty-five years ago. It is an old, unhealthy, cold building with poor acoustic properties, capable of holding, in the laboratories and lecture hall, altogether about 100 students. Four hundred students have taken up these studies just now, and when the new professor, Dr. Lecher, a renowned investigator and teacher, began his lectures a few days ago, the impossibility of admitting all or even half the students caused an outburst of indignation from them. To force the government to a radical reform a strike was organized; the professor, who naturally sympathizes with his students, was asked to stop all his classes until all those who had a right to hear his lectures were able to do so. So the shameful condition now exists that students are debarred from learning because some very economical official does not care to have the ordinary slow course of red-tapeism disturbed. The daily press has aroused public opinion and now things will become very lively unless a definite step forward is soon made.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Oct. 27, 1909.

The City Government and the Medical Profession

The mayor (*Magistrat*) of Berlin has again given the medical profession occasion for serious complaint. As I have previously told you examination bureaus were established about a year ago by the state and by the city (and suburbs) in which hygienic examinations were made free of charge. While all the other stations undertake examination of tuberculous material without fee, the city government of Berlin has refused to permit such examination by the municipal laboratory. The alleged reason for this determination is that there is no call for such examinations by the city laboratory since the well-to-do people can get the work done by their private physicians or in private laboratories and the tuberculosis dispensaries are ready to perform similar service for the patients of the krankenkassen and the poor. The city council did not concur in this decree of the administration, and requested the mayor to permit free examination of tuberculous material, but no change was made. A few days ago Privy Councillor Proskauer, of the Institute of Infectious Diseases, on account of unpleasant experiences, sent a new request to the mayor for permission to make free examinations for tuberculous patients. His request was refused and a new regulation announced which provides that half the fee of six cents (0.25 marks) must be advanced by every physician who sends a specimen of sputum for examination. The examination is made dependent on the payment of this sum. If this advance payment is not made within three days, the material for examination shall be destroyed. This senseless order, so contrary to the purpose of an examining laboratory, will be understood if one reflects that the president of the board in charge of this branch of the city government is a physician 71 years of age, who for a long time has been unfit to supervise the important work of his office, to say nothing of carrying it on. Although the medical profession in society meetings and in the press has repeatedly proposed that the organization of the personnel of the municipal health office be improved and especially that this unfit representative of the municipal administration should retire, the municipal authorities have so far continued the inadequate arrangements. It is to be hoped that the storm of protest which has been raised among physicians and in the press by this latest order will have the effect of securing finally an organization of sanitary matters suitable to the capital of the German empire.

Care of Patients With Advanced Pulmonary and Laryngeal Tuberculosis.

The imperial chancellor in a circular letter directed to the various federal governments recommended for consideration certain principles which have been laid down by the imperial health office regarding the establishment of institutions for the care of sufferers from advanced pulmonary and laryngeal tuberculosis. These propositions are as follows:

In addition to the regulations which have the purpose of making the germs from tuberculous patients harmless the attempt should be made to isolate patients with open pulmonary or laryngeal tuberculosis unless they are already in sanatoria. For this purpose it is recommended:

1. As many of this class as possible should be retained for the longest possible time in the general hospitals. In these institutions the consumptives should be separated from other patients in special rooms or, if it is feasible, in wards in separate buildings which should be constructed on the plans approved for sanatoria, with open porches, etc. Provision for such arrangements should be made in all general hospitals in process of construction.

2. Where a need exists, as in large cities on account of the overcrowding of the general hospitals, tuberculosis hospitals should be erected in the neighborhood of the city in some healthful, wooded locality.

3. In the tuberculosis hospitals or in the tuberculosis departments of the general hospitals the cure of the patients should be made a prominent aim in addition to the isolation. The construction of institutions which shall serve for the reception of unimprovable tuberculous invalids in the last stages (*Pflegeheime, Invalidenasyle*) is not at present recommended.

4. Measures should be provided by which indigent families of consumptives who have been received into the hospitals for the longest possible stay shall be assisted in a financial way during this period. Those numerous consumptives who, partly on account of still persisting ability to work and partly from other reasons, will not enter the hospitals should be placed under conditions that will, as far as possible, limit the liability of infection of their environment. This task devolves on the institutions charged with the care of such patients, more particularly the tuberculosis dispensaries (*Fürsorgestellen*) which, in addition to the utmost practicable isolation of patients in their homes, should take care for the betterment of dwellings and the education of the patients and their environment in hygienic principles. In the fulfilment of this task they need the abundant support of the municipal authorities and communities.

5. Provision should be made for a sufficient number of laboratories in which gratuitous examination of sputum shall be made.

6. The managing boards of all institutions serving for the reception of consumptives, including popular sanatoria and tuberculosis dispensaries should be constantly in touch with each other in order to establish uniform rules by which the entrance and discharge of patients from time to time shall be governed.

Cholera in Prussia

In the last few days a few cases of cholera have been discovered in East Prussia, all of which, however, are to be attributed to introduction from Russia and therefore give no occasion for alarm.

Contemplated Increase in the Price of Medicines

The demand of the pharmacists for an increase in their charges for medicines on account of the general increase in the cost of living is likely to be granted by the ministry. In this way, however, the increase of expense indeed never comes to an end for the increase of one item involves an increase in others. If the price of medicines and medical services is raised, the butcher and the grocer naturally demand more for their wares and if the butchers receive more money, the doctors and the pharmacists will naturally charge more for their services. It is thus a vicious circle.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Oct. 29, 1909.

Lectures on Educational Hygiene

The French League for Educational Hygiene (*Ligue française pour l'hygiène scolaire*), the purpose and workings of which I have already described (The Journal, Sept. 29, 1908, li, 1094), has organized under the auspices of the School of Higher Social Studies (*Ecole des hautes études sociales*), during the winter semester of 1909-1910, a series of lectures on educational hygiene. The lectures and subjects are as follows: Professor Calmette, director of the Pasteur Institute of Lille, "Hygiene in Education"; Dr. Gallois, "Organized Cooperation of Parents and Teachers to Improve the Physical, Intellectual and Moral Hygiene of the Schools"; Dr. de Pradel, "Cooperation Between Physicians and Teachers"; Dr. Pierre Regnier, "Reduction of the Number of Hours for Study in Order to Give Time for Physical Education"; Dr. Cayla, "Educational Walks and Tours." Besides these lectures given by physicians, a certain number will be given by the members of the teaching profession on the subject of open-air schools, rural and family boarding-schools, vacation colonies, open-air games in city schools and the teaching of manual crafts in the schools. Teachers and physicians will be invited to take part in discussions following the lectures.

Opening of the American Hospital in Paris

On October 28 took place the official opening of the American hospital at Neuilly-sur-Seine (one of the suburbs of Paris), Boulevard du Château 55, in the presence of M. Doumergue, Minister of Public Instruction, Messrs. Henry White, United States ambassador, John J. Hoff, vice-president of the council of administration, the members of the board of directors and the medical staff. The hospital contains twenty-five beds in separate rooms, with bathrooms, the equipment being according to the latest hygienic requirements. The hospital, which was founded by certain Americans residing in Paris, will receive in the first place sick and needy Americans, who will be cared for free. Well-to-do Americans may likewise be cared for; from these the hospital will exact no fixed charges, but will receive donations toward the general fund. Two beds will be reserved for emergency cases without regard to the nationality of the patient.

Monument to Professor Liégeois

The monument, raised by international subscription, to Prof. Jules Liégeois, one of the founders of the famous Nancy school, whose tragic death was mentioned in The Journal, Sept. 12, 1908, li, 929, was unveiled October 24 at Damvillers, department of the Meuse, Liégeois' native city. The monument consists of a bust of the professor and is on a granite pedestal in the center of the public square of the city hall of Damvillers. Besides an official delegation from the University of Nancy, other French and foreign scientists were present at this tribute to the memory of the first jurisconsult who studied the relation of hypnotism and suggestion to criminal law and legal medicine.

Cholera in Belgium

According to official information, there had been, on October 28, six deaths due to cholera at Boom, Belgium. This is the first time that cholera has been officially acknowledged in Belgium since 1892. The foreign governments were informed.

Pharmacology

MEAT AND BEEF JUICES

Report of the Council on Pharmacy and Chemistry

The following was submitted to the Council by a subcommittee:

> *To the Council:* While meat extracts contain only traces of coagulable proteids and have little food value, meat juices are prepared by a process which ensures the presence in the finished product of considerable quantities of coagulable proteids and they therefore have considerable value as foods. Many preparations which are sold as beef juices or meat juices have no right to these designations. Since the public and physicians are likely to be misled by the names given to these products and by the false claims which are made for them as foods and depend on them in the nourishment of the sick, it is important that their composition and their value as foods should be known.
>
> In the following report is presented the results of an examination of some of the commercial products found on the American market. The report shows that *Wyeth's Beef Juice* (John Wyeth & Bro., Philadelphia), *Bovinine* (The Bovinine Co., New York), *Carnine* (Carnine Co., Fougera & Co., New York), and *Valentine's Meat Juice* (M. J. Valentine, Richmond, Va.) are sold under names which are incorrect, that their composition is not correctly stated by the manufacturers and that false and misleading statements are made in regard to their value as food.
>
> It is recommended that the products named be refused recognition for conflict with rules 1, 6 and 8. Since these preparations are typical of many others on the market, and as their use is a menace to the public health it is recommended that the report be published.

This report was adopted by the Council.

W. A. Puckner, Secretary.

Beef or meat juices are clearly to be distinguished from beef or meat extracts. The word "juice" applies solely to the fluid portion remaining in fresh meat after proper cooling and storing and may be obtained by pressure or diffusion with or without a low degree of heat. Under heavy pressure freshly chopped meat will yield from 25 per cent. to 40 per cent. of a thick reddish juice and if the meat is previously frozen or heated to 60° C., as much as 50 per cent. may be obtained. This gives some idea as to the probable cost of preparing beef juice at home. The chief characteristics of meat juice are the presence of a considerable proportion of coagulable protein and a low content of meat bases. The above represents the nature of these commodities as usually understood by the medical profession as is clearly shown by this quotation:[1]

> "One or two teaspoonfuls of this (meat juice) are added to a teacupful of cold or warm water, which, however, must not be boiling, or otherwise the albumin would be coagulated, but it may, however, be sufficiently warm to drink comfortably."

Beef juice is considered by some physicians of much dietetic service and believed to represent liquid food in concentrated form. W. O. Atwater,[2] relative to this product, says:

> "Beef juice obtained from the best steak which has been merely warmed through over the coals and then entirely deprived of soluble substance by a screw press, is undoubtedly the most concentrated of the liquid foods."

The latter authority gives a number of analyses of beef juices prepared under known conditions.

DEFINITION OF MEAT JUICE

Meat juice is defined by the standards committee of the Association of Official Agricultural Chemists as the fluid portion of muscle fiber obtained by pressure or otherwise, and may be concentrated by evaporation at a temperature below the coagulating point of the soluble protein. The solids contain not more than 15 per cent. of ash, not more than 2.5 per cent. of sodium chlorid (calculated from the total chlorin present), not more than 4 nor less than 2 per cent. of phosphoric acid (P_2O_5), and not less than 12 per cent. of nitrogen. The nitrogenous bodies contain not less than 35 per cent. of coagulable proteins and not more than 40 per cent. of meat bases.

Meat juices of commerce are supposed to be made by subjecting properly prepared meat to heavy pressure with subsequent concentration of the juice *in vacuo* at a low temperature. The latter is necessary because if the temperature is raised to any material extent the valuable coagulable, soluble proteins referred to above, are precipitated and lost. In order to establish a basis of comparison relative to the composition of natural raw beef juice a number of samples were prepared under known conditions and submitted to analysis. The results contained in the subjoined table clearly show that meat juices made under known conditions vary according to the mode of preparation, but it is evident that practically one-half of the nitrogen is present as coagulable protein.

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[1] Brunton, Sir Lauder: "Disorders of Assimilation, Digestion, etc.," p. 183.

[2] Bull. No. 21, U. S. Dept. Agricult., Office of Experiment Stations.

FOOD VALUES

In order to arrive at the food value of any commodity it is necessary to consider its chemical composition, available potential energy, absorbability, etc. On referring to the analytical table it will be found that the amount of inorganic material in meat juices Nos. 7 and 10 is unduly high. It appears that sodium chlorid, *per se*, has been added to both Bovinine and Wyeth's Beef Juice probably as a preservative in the latter and for condimental purposes in the former. The relative and absolute proportions of phosphatic material in both products is excessive. The other constituents present in the ash are those usually found in meat products.

The amount of sugar and glycerin in Carnine is interesting. These agents may be added for preserving purposes but the resulting product, on account of its syrupy appearance, leads to the belief and is so represented, that it is a concentrated food. Glycerin is also present in Bovinine and Valentine's meat juice. Bovinine in addition contains about 8 per cent. alcohol.

The total nitrogen content of the trade products excepting Carnine, is greater than the amount of nitrogen present in meat juices proper, but the relative amount of nitrogen present as coagulable protein—the valuable part of meat juice—is much greater in the latter. In fact, the amount of coagulable protein present in Valentine's Meat Juice may be considered *nil*, which indicates that an unduly high temperature is used in its preparation. In this connection it should also be noted that even a moderate elevation of temperature influences the chemical composition of meat juices. For example, the coagulable matter present in Nos. 3, 4 and 5, is approximately one-half that present in Nos. 1 and 2, which appears to indicate that the best product can be made without the use of any heat whatever. Several of the trade products, namely Nos. 7, 8 and 9, contain about as much coagulable material as meat juice made by heating beef to 60 C. According to the formula appearing in a circular of the Bovinine Company, a part of the coagulable matter is present in the form of egg albumin, but the company claims egg albumin is not used at present. In the case of Carnine, the coagulable matter appears to be introduced by the use of blood itself. The exact nature of the coagulable protein matter in Wyeth's Beef Juice has not been ascertained. It is well-known to manufacturers and physiologic chemists that it is practically impossible to manufacture a genuine meat juice possessing a reasonable amount of coagulable proteins, which is stable without a preservative.

Meat juices, in addition to the coagulable protein material, contain other protein bodies such as albumoses and peptones. These bodies are largely formed from the original protein bodies present in the meat juice during the process of manufacture. They are highly nutritious and largely and readily absorbed from the alimentary canal but the amount of these bodies present in the trade products is relatively small excepting in Bovinine, which is not a meat juice, particularly when the high prices are considered.

A considerable proportion of the nitrogenous matter contained in Valentine's and Wyeth's products is present in the form of amino bodies frequently included in the general term, "extractives." These bodies may be oxidized in the body and thus supply heat in a manner similar to alcohol, but it should be remembered that there still appears to be a wide difference of opinion among various observers on this point. Some appear to be of the opinion that the amino bodies are devoid of food value in that these bodies appear in the urine practically unchanged. It would, therefore, appear that the value of the amino bodies is largely of a stimulant character.

The food value of meat juices, therefore, resides largely, if not solely, in the coagulable and other protein material present. Comparing the calorific value or potential energy available in meat juices proper on this basis with that present in the commercial products, excluding Bovinine, it will be seen that on the average the genuine meat juices—that is, those made by pressure, direct from the meat itself as wanted—are much superior to the commercial products, notwithstanding the marked concentration in some cases. The calories given in the accompanying table do not include sugar, alcohol or any other added material of this character.

WYETH'S BEEF JUICE

"Wyeth's Beef Juice" is not a true beef juice, but resembles rather a diluted meat extract. It contains much added inorganic matter, is low in coagulable proteins, and considering the degree of concentration, relatively deficient in nutritive value. Some of the claims contained in the circular accompanying this preparation, in view of its composition set forth above, may be of interest:

COMPOSITION OF MEAT JUICES

Number.		Name of Preparation.	Volatile matter 100 C.	Inorganic matter.	Sodium chlorid.	Phosphoric pentoxid (P_2O_5).	Ether extract, Glycerol and undetermined matter.	Total nitrogen.	Coagulable proteins (N x 6.25).	Other proteins (N x 6.25).	Amino bodies (N x 3.12).	Calories per 500 gm. obtained from protein factor 4.8.	Calories per 500 gm. obtained from amino bodies factor 0.56.
			Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.			
1	Made in Laboratory.	Chuck beef, cold pressed..	86.85	1.86	.20	.31	1.32	1.74	6.13	2.94	.90	217.68	2.52
2		Round beef, cold pressed..	85.76	1.53	.12	.37	.75	2.08	8.56	2.37	1.03	262.32	2.88
3		Chuck beef pressed at 60 C.	91.90	1.29	.19	.29	.81	1.09	2.56	2.50	.84	121.44	2.35
4		Chuck beef pressed at 60 C.	89.56	1.27	.16	.37	2.98	1.09	3.00	2.63	.56	135.12	1.57
5		Round beef pressed at 60 C.	90.65	1.36	.16	.36	2.09	1.16	4.25	.31	1.34	109.44	3.75
6		Chuck beef heated 6 hours before pressing 60-100 C.	98.11	.39	.05	.12	25	.24	....	1.00	.25	24.00	.70
7	Trade Products.	Beef Juice, John Wyeth & Bro., Philadelphia, Pa..	58.84	16.21	6.71	3.27	12.51	3.15[1]	2.88	3.56	6.00	154.56	16.8
8		Bovinine, The Bovinine Co. 75 W. Houston St., New York City	80.40[3]	1.55	1.05	.09	3.64[5]	2.36	3.38	10.75	.28	339.12	.78
9		Carnine Co., Lefranco, Paris, France; Imported by Fougera & Co., Agts., New York City.........	24.80[4]	.86	0.09	0.33	68.94[6]	.96	2.25	2.56	.59	115.44	1.65
10		Meat Juice, M. J. Valentine, Richmond, Va	57.64	10.26	1.77	3.41	20.41[7]	3.06[2]	.19	5.44	6.06	135.12	16.97

1. Including .20 per cent. as NH_3; 2, including .22 per cent. NH_3; 3, 8.17 per cent alcohol found; 4, vacuum 70 C.; 5, 3.1 per cent. glycerol found; 6, 47.50 per cent. cane sugar—14.2 per cent glycerol found; 7, 8 per cent. of glycerol found.

The several samples of beef juice were prepared from practically fat free, finely comminuted, chuck and round beef, first by pressure at the ordinary temperature; second, by heating the prepared meat for several hours at 60 C., then submitting to pressure. Sample No. 6 was made from chuck beef, prepared as above, by heating six hours at from 60 to 100 C., and expressing after cooling. It is not a beef juice proper but was prepared, analyzed and added to the list for information. Its composition resembles several commercial articles closely. A number of products represented and sold as meat juice in the United States were analyzed and the results recorded in the accompanying table.

> "Wyeth's Beef Juice . . . , containing two fluid ounces and representing three pounds of prime lean beef. . . ."
>
> " . . . beef extracts made by the Liebig process are utterly devoid of the valuable and nutritious albuminous constituents of meat. . . ."
>
> [Wyeth's Beef Juice] "should not be compared with ordinary beef extract. . . ."

BOVININE

Bovinine, advertised as a "condensed beef juice prepared by a cold process" is a mixture of alcohol, glycerin, added sodium chlorid, and apparently some form of defibrinated blood. According to the manufacturer's literature egg albumin was used formerly but this ingredient is said to be no longer employed. It is not a meat juice in any sense of the word. Numerous misrepresentations will be found on the label and in the literature of Bovinine, of which the following are typical:

> "The blood of selected steers prepared by a cold process, furnishing a perfect food, free from insoluble elements."
>
> "The rapidity with which Bovinine is absorbed and assimilated in the stomach . . ."
>
> "It supplies complete nutrition to the patient."
>
> "Bovinine contains all the elements of the animal, vegetable and mineral kingdoms for the production of new blood with great rapidity. Its principal constituents have been selected with a view to furnish the largest amount of nutriment in the most condensed form and all the resources of modern chemical analysis have been brought to bear on this important problem."

A series of experiments carried out with dogs under anesthesia, by injecting Bovinine into the stomach, the pyloric end of which was ligated, shows that Bovinine is not readily absorbed and assimilated by the stomach as claimed. The amount of protein material found in the stomach at the end of one-half hour to one hour and a quarter was practically equal to the amount introduced by the Bovinine.

It is also represented that Bovinine is of great service in case of an irritable stomach. This is not borne out by experiment. Bovinine fed to dogs by the mouth, either alone or mixed with food, induced vomiting, which was less marked when Bovinine was given with the regular diet. An examination of the urine of these animals showed a marked diminution of the amount of indican, while the ethereal sulphates were enormously increased, both absolutely and relatively, when Bovinine was given. Experiments on rabbits have shown that Bovinine injected into the peritoneal cavity was invariably followed by large quantities of albumin in the urine, which persisted for from 24 to 48 hours. Thirty to 50 c.c. per kilo given by mouth daily caused emaciation and weakness; in some cases, irritation of the gastrointestinal canal, with death of the animal in from 7 to 12 days.

CARNINE

Carnine is a French preparation imported into the United States by Fougera & Co., of New York City. In physical appearace it looks like highly concentrated food, but analysis shows that it consists of a small proportion of defibrinated blood dissolved in a mixture of syrup and glycerol, the whole agreeably flavored. It is represented as a "juice of rare meat, prepared by cold process. Each tablespoonful represents 100 gm. of raw meat, or 3½ ounces." It is clear that Carnine is not a meat juice in any sense of the word.

VALENTINE'S MEAT JUICE

Valentine's Meat Juice resembles in physical appearance taste, odor and by chemical analysis a diluted meat extract. The nutritive value of meat extracts is virtually *nil*, as is well-known by the medical profession. Notwithstanding the composition of Valentine's Meat Juice and the fact that beef extract represents little nutritive value, the manufacturer makes the following misleading representations:

> "The two-ounce oval bottle, adopted for the Meat Juice contains the concentrated juice of four pounds of the best beef, exclusive of fat; or the condensed essence of one and a half pints of pure liquid juice which is obtained from the flesh of beef."
>
> "The use of *hot water* with the Meat Juice *changes its character and impairs its value.*" [Italics in original.—Ed.]

The company must certainly be aware of the fact that its product contains little, if any, coagulable proteids.

CONCLUSIONS

In conclusion; neither Bovinine nor Carnine is a meat juice, the former is anything but palatable and the latter soon cloys. "Valentine's Meat Juice" and "Wyeth's Beef Juice" are virtually diluted meat extracts which are known to possess little food value. A physician depending on any of the foregoing products to supply material nourishment, in case of serious illness, is deceiving himself, starving his patients, and may be lessening their chances for recovery. If a patient recovers while using these commodities, it is certainly not due to the food value contained in them.

ENTERONOL

An Invitation to The Journal to Humbug the Profession

The Journal has received a circular letter from the Enteronol Company, in which the following liberal offer is made:

> "We are willing to take one-fourth or one-half page 'ad' in your Journal for a year at the regular rate, on condition that you accept payment therefore in our GUARANTEED 7 per cent., preferred stock at par; or if you desire, in ENTERONOL at the net wholesale price to physicians."

Not that this offer is made exclusively to The Journal:

> "A large number of medical journals have accepted the foregoing proposition; many carrying this advertising for several years already."
>
> "Our company is cooperative; we paying no cash for advertising. The company is owned principally by physicians, medical journals, and druggists."

The journals of which we have record that carry the enteronol advertisement are: *Kansas City Medical Record, Milwaukee Medical Journal, Toledo Medical and Surgical Reporter, Proctologist, Pediatrics,* and the *Atlanta Journal-Record of Medicine.* If the statements made by the Enteronol Co. are true, we might infer that these journals are being paid for advertising space either with "preferred stock" or with the nostrum itself. As we have previously shown, however, the veracity of the enteronol advertising matter is by no means unimpeachable.

Enteronol, it will be remembered, was exposed in The Journal, March 21, 1908. It is advertised as the "greatest antiseptic and germicide known to science," and possesses (?) such remarkable power that it "destroys the germs of typhoid fever, acute and chronic diarrhea, dysentery, cholera infantum, cholera morbus, summer complaint, Asiatic cholera, etc., within two hours." "The original product is found only high up on the sides of the loftiest mountains in the world—the Himalayas of India."

THE "LITERATURE" FORMULA

Of course it has a "formula":

Ipecac
Sub. nit. bismuth
Latalia rad.
Camphor

Lupulin
Caffein
Rheum

This seems very open and above board, except as to quantities, until one tries to find out what "latalia rad." is; then it is discovered that it is the "mysterious stranger" of pharmacognosy. Experts to whom this "remedy" was submitted were unable even to find mention of such a drug or plant as "latalia rad." Nor was this the only fake found concerning the stuff; carefully conducted experiments repeatedly carried out in the Association's laboratory failed to disclose even a trace of bismuth subnitrate or caffein. These experiments did show, however, that the tablets contained an amount of aluminum corresponding to over 25 per cent. of crystallized alum. This led to the conclusion that alum, whose presence is not even hinted at in the "formula," is the chief constituent of enteronol and as a corollary that the formula is meaningless and worthless.

THE LABEL FORMULA

There is a curious lack of coordination between the "formula" as printed on the label and that given in the "literature." The Food and Drugs Act, it will be remembered, makes lying on the label illegal, and therefore dangerous; statements in advertising matter that does not accompany the product, however, are not controlled by that law. The "formula" in the "literature" we have already given; the "formula" on the label gives the following ingredients:

Ipecac
Sub. nit. bismuth
Opium, ¼ gr.
Camphor

Lupulin
Caffein
Rheum

Two things about this are worth noting: One is that the name of the ingredient on which the manufacturer lays so much stress—latalia rad., the mysterious Himalayan plant—is absent from the label. This would seem to indicate that what has already been intimated by The Journal—namely, that latalia rad. is a figment of the imagination—is a fact. The second noticeable thing about the label "formula," as distinct from the "formula" in the advertising matter, is that on the label we find there is opium in the preparation. Why is no mention made of the presence of this potent drug in the advertising matter?

To determine how nearly the present statements made by the Enteronol Company approximate truthfulness, our chemists were asked to examine the nostrum as it is now sold. Their report follows:

LABORATORY FINDINGS

An original package of enteronol tablets was purchased on the open market and submitted to the Association laboratory for examination. In general appearance, odor and taste the new tablets are similar to those previously examined. The formula for the old tablets was given as "Ipecac. Sub. nit. bismuth. Latalia rad., Camphor. Lupulin. Caffein. Rheum." and is still used in the circulars. But the label on the trade package no longer mentions "latalia rad." Since the presence of "latalia rad.," in the old tablets, was questioned, and as new labels have ceased to display the name, it was thought possible that caffein and bismuth might now be constituents of enteronol, as the drugs are still mentioned in the new formula on the label. Accordingly, enteronol was examined chemically to verify the statements on the label regarding the presence of caffein and bismuth in the tablets.

The specimen submitted to the laboratory some time ago was found to contain neither bismuth nor caffein. By employing the same methods as were used before (the usual tests for detecting caffein and bismuth), neither caffein nor bismuth could be demonstrated. It is thus evident that this new specimen of enteronol, the statement on the label to the contrary notwithstanding, contains neither bismuth nor caffein—at least, in appreciable quantities.

One would think that the discrepancy between "formulas" and facts would prove of interest to the stockholders of the Enteronol Company, especially as we are told that the policy of the company is to have "practical men as stockholders." We are informed:

> "Therefore, we have physicians, advertising experts, printers, publishers, engravers, boxmakers, lithographers, druggists, lawyers, traveling salesmen, officers and men holding executive positions in various manufacturing and commercial corporations, editors of medical publications, bishops, clergymen and missionaries—men from all the fields particularly valuable commercially for our great enterprise."

Yet if the physician-stockholders do not care to concern themselves about the composition of the nostrum from the sale of which they derive dividends, it can hardly be expected that the boxmakers or traveling salesmen will be interested.

STOCK FOR SALE

Medical journals are not alone in being invited to participate in the exploitation of this nostrum, *vide* a circular letter from the Enteronol Company addressed "To Investors":

> "We offer at par of $10 each, 1,000 shares of our Guaranteed 7 per cent. Preferred Stock, cumulative dividends, payable quarterly . . . Profits on business done last year were 54 cents for every dollar expended . . . *We guarantee absolute security for your investment. Safer than a bank.*" [Italics ours.—Ed.]

We are told that at present the Enteronol Company manufactures two products: a castor-oil preparation, known as fig-ol, and enteronol. Very shortly, however, the company expects to "add seven equally efficient products."

> "The average cost to manufacture, ready to ship, a dollar's worth of these goods is less than ten cents."

> "In enteronol alone, the company has fortunes and the only thing needed to bring tremendous results and dividends of 100 per cent. is the proper amount of judicious advertising."

Here are some samples of the judicious (?) advertising:

> "One Christian missionary, the Rev. Paul Singh of Jubbulpore, India, testifies that he cured thirteen severe cases of Asiatic Cholera with a box containing less than thirty tablets" [of enteronol].

> "Wm. F. Oldham, bishop of Southern Asia, writes us that enteronol cured nine cases out of ten of Asiatic Cholera. Now just think of India and China with their 800,000,000 people who are dying by the thousands of a disease which we have the power to cure so easily."

How like a discourse by that delightful character of Mark Twain's—the visionary Colonel Sellers—this reads. As he said about his "Infallible, Imperial, Oriental Optic Liniment:"

> "Why in the Oriental countries . . . every square mile of ground upholds its thousands on thousands of struggling, human creatures—and every separate and individual devil of them's got the ophthalmia."

The prospective stockholder is told that an ordinary business concern reaches the limit of financial possibilities in a few years, but:

> "Not so with the Enteronol company—it is a mail-order business and the world is its territory."

Even so with Colonel Seller's "Optic Liniment:"

> " . . . it's a patent medicine whose field of operations is the solid earth."

And we are told elsewhere that "about four-fifths of the outstanding stock is held by the medical profession alone"!

And this stuff is advertised in medical journals!!

We are sometimes in danger of being too optimistic regarding the results of the propaganda for reform in proprietary medicines. Cases like this act as a corrective.

Correspondence

Eye Changes in Pellagra—Credit to Dr. Welton

To the Editor: In going over the report of the Conference on Pellagra at Columbia, S. C., November 3 and 4 (The Journal, November 13), I find that the reporter has given me credit for some conclusions which should rightly be credited to Dr. Carroll B. Welton of Peoria, Ill., namely, in the report of my paper (page 1661), that portion beginning, "Paralysis of the eye muscles is found in the later stage of the disease," and ending, "The finding of marked eye changes adds to the gravity of the prognosis in pellagra and indicates, in a large percentage of cases, an early fatal termination." These conclusions were quoted as a matter of general interest, due credit being given Dr. Welton, from a paper by him which appears in the same issue of The Journal, page 1636. I very much regret we have been put in this false position.

J. F. Siler, Captain Medical Corps, U. S. Army.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

EOSINOPHILIA: ITS CAUSE AND SIGNIFICANCE: LITERATURE

To the Editor:—What is the most generally accepted view regarding the cause and significance of eosinophilia? Please refer me to the most recent literature on the subject R. L. S.

Answer.—Eosinophilia is apparently due to the entrance of some toxin into the blood but the nature of the exciting cause is not certainly known. Infections are usually accompanied by a relative or absolute decrease of eosinophiles. Exceptions are seen in scarlatina and malaria. Malignant diseases seldom show eosinophilia. Affections of the genitals are accompanied by eosinophilia. It is found in myeloid leucemia and in bronchial asthma, especially in the sputum. Eosinophilia is likely to occur in any case in which intestinal worms are present, particularly in uncinariasis and trichiniasis. The discovery of eosinophilia is of service in the diagnosis of helminthiasis, in distinguishing non-malignant from malignant disease of the viscera, etc. It tends to make the prognosis favorable in scarlatina, chlorosis, pernicious anemia, and after hemorrhage.

Following are titles of some of the most recent articles on the subject:

Stäubli, C.: Zur Kenntnis der lokalen Eosinophilie, *München. med. Wchnschr.*, 1906, lii, No. 43.

Simon, C. E.: Eosinophilia, *Internat. Clin.*, Series 15, Vol. iv.

Blumenthal, A.: Note sur l'eosinophilie hématique et locale, *Jour. méd. de Bruxelles*, 1906, xi, 737

Schinckel, R.: L'éosinophilie bulleuse, *Ann. Soc. de méd. de Gand,* 1906, lxxxvi, 237.

Laons, H.: L'éosinophilie considérée comme moyen de pronostic, *Compt. rend. Soc. de biol.*, Paris, 1907, lxii, 489.

Mosny, E., and Harvier, P.: Sur un cas d'éosinophilie méningée d'origine locale sans éosinophilie sanguine, *Arch. de méd. expér. et d'anat. path.*, Paris, 1907, xix, 273-281.

Widal, F., and Faure-Beaulieu: Eosinophilémie et histoéosinophilie, *Bull. et mém Soc. méd. d. Hôp. de Paris*, 1907, Series 3, xxiv, 966-968.

Folger, A. F.: Ueber lokale Eosinophilie (Gewebeosinophilie) bei zooparasitären Leiden, *Ztschr. f. Infektionskr. . . . d. Haustiere*, 1908, iv, 102-131.

Bazzicalupo: Connection between Eosinophilia and Antibodies in Serum, *Gazz. d. osp*, March 22, 1908, xxix, No. 35; abstr. in The Journal A. M. A., May 9, 1908, l, 1575.

Lincoln, M.: Hodgkin's Disease with Eosinophilia; Report of a Case with Autopsy, *Boston Med. and Surg. Jour.*, May 9, 1908.

Neilson, C. H., and Marchildon, J. W.: Eosinophilia Produced by Potassium Iodid, The Journal A. M. A., April 25, 1908, l, 1350.

Bartlett, C. J.: Report of a Case of Acute Trichiniasis Without Eosinophilia, *Yale Med. Jour.*, 1908-9, xv, 229.

Ebhardt, F.: Untersuchungen über das Vorkommen und die Bedeutung lokaler Eosinophilie bei tierisch parasitären Organerkrankungen unter gleichzeitiger Berücksichtigung einiger infektiöser Organleiden, *Deutsch. tierärztl. Wchnschr.*, 1909, xvii, 161.

Brissaud, E., Joltrain, E., and Weill, A.: Eosinophilie sanguine et locale dans les sporotrichoses humaines et expérimentales, *Compt. rend. soc. de biol.*, Paris, 1909, lxvi, 305.

Weinberg and Alexander, M.: Quelques données sur l'éosinophilie dans les helminthiasis, *Bull. Soc. path. exot.*, Paris, 1908, i, 459-463.

Weinberg and Mello, O.: Recherches expérimentales sur l'origine de l'éosinophilie dans les helminthiasis, *Bull. Soc. path. exot.*, Paris, 1908, i, 463-471.

REFRACTION FOR GENERAL PRACTITIONERS

To the Editor:—Please tell me where I can obtain a short or condensed work on simple refraction for family physicians or general practitioners, as I think every physician should be qualified to do refraction work. J. B. Dillon, M.D., Paragould, Ark.

Answer.—One of the best works is Thorington's treatise on the refraction of the eye. The subject is also satisfactorily treated in a number of ophthalmic text-books, such as Jackson's "Diseases of the Eye," Wood and Woodruff's "Commoner Diseases of the Eye," etc. It must not be assumed that even the elements of the "fitting of glasses" can be learned by the reading of any book, however earnestly pursued. Even the rudiments of practical refraction work, like the practice of auscultation, or cystoscopy or urinalysis, call for something more than mere literary knowledge. Indeed, the most important part of lens prescription consists in the use of mechanical appliances whose successful employment requires considerable practice with the aid and under the eye of a competent instructor. Unless one has obtained this practical instruction during one's college career it would be necessary to spend a month or longer in securing it before one could conscientiously undertake to prescribe glasses. The physician's education gives him a decided advantage over the optician and the "optometrist" in this work. It should be realized, however, that only painstaking and intelligent work will enable the physician to compete successfully with those who "examine eyes free." His eventual aim should be to consider, not only how to measure refractive errors, but, as a part of this work, to determine the balance of the eye muscles, the state of the ocular fundi (by the use of the ophthalmoscope) the condition of the anterior parts of the eye and, finally, to decide to what extent, if any, the neighboring organs and the general health are responsible for the ocular symptoms. These the physician would be able to do, while the optometrist could not. In other words, in doing this work the practitioner will find his collegiate training of decided value. He ought, with an equal amount of study and application, to make a much better and more effective refractionist than his competitor, the "doctor of optometry," who is really attempting to solve, without a medical education, problems that are essentially medical.

The Public Service

Medical Department of the Army

Changes for the week ended Nov. 13, 1909.

Murtaugh, J. A., capt., ordered to report at San Francisco, for examination for promotion.

Christie, A. C., Johnson, H. H., and Gostin, B. S., 1st lieuts., relieved from duty in the Philippines Division; will sail January 15, for San Francisco.

Kennedy, J. M., major, ordered to take temporary charge of the office of the Chief Surgeon, Dept. of California.

Webber, H. A., major, granted leave of absence for 2 months.

Dear, W. R., Wright, F. S., Treuholtz, C. A., Dunbar, L. R., and Davis, A. D., 1st lieuts., relieved from duty at their present stations; will proceed to San Francisco, and sail January 5, for Philippine service.

Wallace, G. S., 1st lieut., M. R. C., granted leave of absence for 14 days.

Jarrett, A. R., 1st lieut., M. R. C., relieved from duty at Fort Hamilton, N. Y.; will proceed home and then stand relieved from active duty in the Medical Reserve Corps.

Merrick, J. N., and Jenkins, F. E., 1st lieuts, M. R. C., relieved from duty in the Philippines Division; will sail January 15, for San Francisco.

Scott, H. O., dental surgeon, granted leave of absence for 2 months, on arrival in the United States.

Craig, E. J., dental surgeon, relieved from duty at Fort Leavenworth, Kan., and ordered to proceed to his home for annulment of contract.

Public Health and Marine-Hospital Service

Changes for the seven days ended Nov. 10, 1909:

Stoner, G. W., surgeon, granted 7 days' leave of absence from Oct. 30, 1909, under paragraph 189, Service Regulations.

Carter, H. R., surgeon, granted 15 days' leave of absence from November 10, 1909, on account of sickness.

White, J. H., surgeon, granted 4 days' leave of absence en route to station.

McIntosh, W. P., surgeon, granted 10 days' leave of absence from Nov. 10, 1909.

Oakley, J. H., surgeon, granted 1 day's leave of absence, Nov. 5, 1909.

Francis, Edward, P. A. surgeon, detailed as Assistant Director of the Hygienic Laboratory, effective Nov. 5, 1909.

Francis, Edward, P. A. surgeon, directed to proceed to Detroit, Chicago and Milwaukee, on special temporary duty.

Burkhalter, J. T., P. A. surgeon, granted 7 days' leave of absence from Nov. 8, 1909.

McCoy, G. W., P. A. surgeon, directed to proceed to Berkeley, Cal., on special temporary duty.

Creel, R. H., P. A. surgeon, on the arrival of Surgeon W. G. Stimpson, directed to proceed to Baltimore, and report to the medical officer in command for duty and assignment to quarters.

Spratt, R. D., P. A. surgeon, granted 20 days' leave of absence from Nov. 17, 1909.

de Valin, Hugh, P. A. surgeon, granted 1 month's leave of absence from Nov. 10, 1909.

Wollenberg, R. A. C., asst.-surgeon, relieved from duty at Naples, Italy, and temporary duty at Detroit, and directed to proceed to San Francisco, and report to Passed Assistant-Surgeon W. W. King for duty.

Atilles, P. del V., acting asst.-surgeon, leave of absence granted for 30 days from Aug. 18, 1909, with pay, and 15 days from Sept. 17, 1909, without pay, amended to read 30 days from Aug. 23, 1909, with pay, and 2 days from September 23, 1909, without pay.

Mason, W. C., acting asst.-surgeon, granted 5 days' leave of absence from Nov. 18, 1909.

Miranda, R. U. Lange, acting asst.-surgeon, leave of absence granted for 1 month from Oct. 8, 1909, without pay, amended to read 7 days from Oct. 8, 1909, without pay.

Richter, H. C., acting asst.-surgeon, granted 15 days' leave of absence from Oct. 15, 1909.

Terry, M. C., acting asst.-surgeon, leave of absence granted for 21 days from Oct. 1, 1909, with pay, and 9 days from Oct. 22, 1909, without pay, amended to read 21 days from October 2, 1909, with pay, and 2 days from Oct. 23, 1909, without pay.

Health Reports

The following have been reported to the Marine-Hospital Service, during the week ended Nov. 12, 1909:

SMALLPOX—UNITED STATES

Alabama: Mobile, Oct. 17-23, 1 case.
Georgia: Macon, Oct. 16-31, 3 cases.
Illinois: Chicago, Oct. 24-30, 2 cases.
Indiana: Muncie, Oct. 1-31, 9 cases.
Kansas: Labette County, Parsons, Sept. 1-30, 1 case; Scott County, 1 case; Shawnee County, Topeka, 2 cases.
Louisiana: New Orleans, Oct. 1-30, 1 case.
Michigan: Saginaw, Oct. 10-15, 3 cases.
Montana: Dawson County; Sept. 1-30, 2 cases; Silver Bow County, 1 case.
New York: Buffalo, Oct. 24-30, 2 cases.
Ohio: Springfield, Oct. 17-30, 6 cases.
Oregon, general, July 1-31, 21 cases, Aug. 1-31, 15 cases; Portland, Sept. 1-30, 8 cases.
Texas: San Antonio, Oct. 1-30, 1 case.
Utah, general, Sept. 1-30, 59 cases.
Wisconsin: La Crosse, Oct. 24-30, 1 case.

SMALLPOX—FOREIGN

Brazil: Bahia, Sept. 25-Oct. 8, 25 cases, 15 deaths; Pernambuco, Aug. 16-31, 11 deaths; Rio de Janeiro, Sept. 27-Oct. 10, 3 cases.
China: Shanghai, Sept. 25, present among natives.
Great Britain: London, Oct. 3-9, 1 case.
India: Bombay, Sept. 29-Oct. 5, 4 deaths; Madras, Sept. 25-Oct. 1, 2 deaths; Rangoon, Sept. 19-25, 1 death.
Italy, general, Oct. 11-17, 37 cases; Genoa, Oct. 1-15, 1 case; Naples, Oct. 11-17, 4 cases.
Mexico: Medellin, Oct. 18-24, present in vicinity; Monterey, 1 death; Soledad, 3 cases; Veracruz, Oct. 24-26, 10 cases, one case from Orizaba; October 26, 1 case on s. s. *Montevideo*.
Russia: Moscow, Oct. 3-9, 2 cases; Odessa, 12 cases, 5 deaths, Riga, Oct. 3-10, 1 case; Warsaw, Sept. 5-11, 2 cases.
Spain: Almeria, Sept 1-30, 3 deaths; Barcelona, Oct. 12-18, 4 deaths; Huelva, Sept. 1-30, 14 deaths; Valencia, Oct. 9-16, 1 case; Vigo, 1 death.
Uruguay: Montevideo, Aug. 1-31, 8 deaths.

CHOLERA

Belgium: Boom, Oct. 26-30, 9 cases, 6 deaths, vicinity of Antwerp
China: Amoy, Sept. 19-25, 22 deaths; Shanghai, Sept. 25, present among natives.

Germany: Andreischen, Nov. 1, 3 cases; Heydekrug, 1 case; Lalian district, 3 cases; Neiderung district: 3 cases.
India: Bombay, Sept. 29-Oct. 5, 6 deaths; Rangoon, Sept. 12-25, 10 deaths.
Java: Batavia, Sept. 12-25, 200 cases, 100 deaths.
Russia: St. Petersburg, Oct. 9-15, 266 cases, 111 deaths; Moscow, Oct. 3-9, 1 death; Riga, Oct. 10-16, 4 cases, 2 deaths.

YELLOW FEVER

Brazil: Para, Oct. 9-16, 4 cases, 2 deaths; Pernambuco, Aug. 16-31, 1 death.
Mexico: Merida, Oct. 20-21, 2 cases, 1 death.

PLAGUE—UNITED STATES

California: Contra Costa County, Oakland, Oct. 26, 1 case.

PLAGUE—FOREIGN

Brazil: Bahia, Sept. 25-Oct. 8, 18 cases, 13 deaths; Rio de Janeiro, Oct. 3-10, 1 case.
China: Amoy, Sept. 19-25, 38 deaths.
Japan: Kobe, Sept. 26-Oct. 2, 7 cases, 3 deaths.
India, general, Sept. 19-25, 4,650 cases, 3,595 deaths; Bombay, Sept. 29-Oct. 5, 15 deaths; Rangoon, Sept. 12-25, 5 deaths.

Marriages

Sir Wilfred Thomason Grenfell, M.D., Battle Harbor, Labrador, to Miss Anna MacClannahan of Chicago, November 18.

Eugene Albert Smith, M.D., Milwaukee, Wis., to Miss Daisy Arloine Lamoreaux of St. James, Minn., November 4.

Arthur Harris Johnson, M.D., Greensboro, N. C., to Miss America Seay, at the Shores, Virginia, November 2.

Robert Thrift Ferguson, M.D., Gaffney, S. C., to Miss Mary Steele Parrish, at Richmond, Va., November 2.

W. Elton McWhirt, M.D., Globe, Ariz., to Miss Maude Estelle Sherrick of Libertyville, Iowa, November 4.

Robert Henry Stephens, M.D., Treynor, Iowa, to Miss Margaret Ward of Council Bluffs, Iowa, November 4.

Charles Freeman Starr, M.D., Mason City, Iowa, to Miss Alma Taylor of Emmetsburg, Iowa, October 28.

William Sebald Keller, M.D., Cincinnati, to Miss Harriette Richardson of Glendale, Ohio, October 26.

Daniel Alden Barreli, M.D., to Miss Martha Louise cFarland, both of Auburn, Maine, November 5.

Christian P. Glahn, M.D., Palmyra, Mo., to Miss Nellie G. olman of Hurdland, Mo., November 3.

Walter Freeman Brown, M.D., to Miss Mabelle Stewart oore., both of Philadelphia, October 21.

Walter W. Covell, M.D., Brownlee, Neb., to Miss Martha B. und of Kearney, Neb., September 29.

Ralph Vernon Moore, M.D., Amboy, Ill., to Miss Catherine heridan of Freeport, Ill., November 3.

James Herbert Young, M.D., Newton, Mass., to Miss Irene amilton of Newark, N. J., October 28.

Charles P. Feeley, M.D., to Miss Matilda A. Sennott, both Cambridge, Mass., November 2.

Robert J. Gregg, M.D., to Mrs. Gertrude H. Moorehouse, th of Dulzura, Cal., recently.

Robert Irving Bullard, M.D., to Miss Ellen Merriman, both Springfield, Ill., November 4.

Deaths

Marcus Patten Hatfield, M.D. Chicago Medical College, 1872; many years a member of the American Medical Associa- on; professor of diseases of children in Chicago Medical llege from 1875 to 1896; since 1898 professor of pediatrics the Chicago Clinical School; clinical professor of pediatrics the Medical Department of the University of Illinois; presi- nt of the medical board of La Rabida, the Jackson Park sh Air Sanitarium; attending physician to the children's partment of Wesley Hospital and Chicago Protestant Or- n Asylum; author of several works on the diseases of ldren and hygiene and editor of the *Chicago Clinic*; died at home, November 11, from tuberculosis, aged 60.

ohn Harvey Davisson, M.D. College of Physicians and Sur- ns, Baltimore, 1876, and Cathell gold medalist of his class; member of the American Medical Association; one of the organizers of the Southern California Medical Society and of the California Hospital Association; formerly president of the California State Board of Health; for four terms a member of the Los Angeles Board of Health; formerly professor of physiology and materia medica in the Fort Wayne (Ind.) College of Medicine; local surgeon at Warsaw to the Pennsylvania System, and secretary of the Surgeons' Association of the Pennsylvania Railway; died at his home in Los Angeles, November 1, from nephritis, aged 60.

Gabriel Grant, M.D. College of Physicians and Surgeons, New York City, 1850; a member of the American Medical Association; in 1852 a practitioner on the Isthmus of Panama; afterward health commissioner of Newark, N. J.; surgeon of the Second New Jersey Volunteer Infantry for more than three years during the Civil War, until forced to retire on account of a wound received in battle; died at his home in New York City, November 8, aged 83.

Augustus F. Anderson, M. D. Medical College of Georgia, Augusta, 1845; a member of the Medical Association of Georgia; assistant surgeon of the Sixth South Carolina Infantry, C. S. A., during the Civil War and for a number of years thereafter a member of the local pension board; a member of the legislature in 1878; died at his home near Lowryville, S. C., November 1, from heart disease, aged 91.

Aaron W. Riker, M.D. Albany (N. Y.) Medical College, 1856; president of the village of Fenton, Mich., for several terms a member of the village council, and for twenty years a member of the school board; for many years district surgeon for the Detroit, Grand Haven and Milwaukee Railway; died at his home in Fenton, October 31, from fatty degeneration of the heart, aged 78.

William M. McQuerry, M.D. Transylvania University, Lexington, Ky., for more than forty years a practitioner of Texas; a member of the State Medical Association of Texas, and a charter member of the Brown County Medical Society; a lieutenant in the Confederate service throughout the Civil War; died at his home in Zephyr, September 24, aged 76.

William Kirker Coleman, M.D. Medical College of Ohio, Cincinnati, 1881; a member of the American Medical Association, and a member of the local pension examining board; president of the Adams County (Ohio) Bank; and until recently superintendent of the State Hospital for Epileptics, Gallipolis; died at his home in West Union, November 5, aged 56.

Edward Taylor M. Rickard, M.D. Lincoln (Neb.) Medical College, 1897; College of Physicians and Surgeons, Chicago, 1906; of Weeping Water, Neb.; a member of the American Medical Association; while making a professional call near Weeping Water, November 8, was instantly killed by being crushed under his overturned automobile, aged 46.

Henry Palmer, M.D. University of Michigan, Ann Arbor, 1887; formerly a member of the Michigan State Medical Society; for several terms mayor of St. Johns, and health officer and supervisor of Clinton county; a member of the local pension board; died at his home in St. Johns, November 2, from diabetes, aged 52.

Robert W. Chapman, M.D. Kentucky School of Medicine, Louisville, 1886; a member of the State Medical Association of Texas and a practitioner since 1882; for several years a member of the medical examining board of the Second Judicial District of Texas; in 1895 elected state representative, and re-elected in 1907; died at his home in Geneva, January 4, aged 49.

Charles Frederick George, M.D. College of Physicians and Surgeons, New York City, 1865; a member of the New Hampshire Medical Society; associate physician at the Eliot Hospital, Manchester; died suddenly at his home in Goffstown, November 3, from cerebral hemorrhage, aged 68.

Luther A. Davison, M.D. New York University, New York City, 1882; of Hartford; a member of the Connecticut State Medical Society; while returning after making a professional call, November 1, had a cerebral hemorrhage, and died at the Hartford Hospital, aged 60.

Edward Aubert Bessen, M.D. College of Physicians and Surgeons, San Francisco, 1900; a member of the American Medical Association; visiting physician at the French Hospital, San Francisco; died at his home in that city, November 4, aged 42.

Samuel D. Robbins, M.D. Tulane University, New Orleans, La., 1876; formerly acting assistant surgeon United States Marine Hospital Service at Vicksburg, Miss.; founder of the Mississippi State Charity Hospital; died in Vicksburg, November 4.

George C. Waiss, M.D. Rush Medical College, Chicago, 1894; a member of the American Medical Association; consulting gynecologist to the Hospital of St. Anthony of Padua; died at his home in Chicago, November 11, from appendicitis, aged 42.

Valentine Braun, M.D. Starling Medical College, Columbus, Ohio, 1853; a member of the Toledo school board and council, and in 1865 treasurer of Lucas County; died at the home of his niece in Toledo, October 19, from senile debility, aged 80.

William D. Ray, M.D. Tulane University, New Orleans, La., 1892; a member of the State Medical Association of Texas; local surgeon of the Southern Pacific Railroad at East Bernard for ten years; died at his home, September 26, aged 58.

Samuel Moses Post, M.D. University of Michigan, Ann Arbor, 1871; a member of the Michigan State Medical Society; a member of the local pension board; died suddenly at his home in St. Johns, November 6, from heart disease, aged 61.

Franklin B. Ives, M.D. Rush Medical College, Chicago, 1850; a practitioner and clergyman of Bureau County, Ill., for many years, and later a resident of California; died at his home in Long Beach, November 1, from senile debility, aged 86.

Andrew Franklin Brown, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1859; formerly of Laddonia, Mo.; president of the Citizens' Bank, Wentzville, Mo.; died at his home in that place, October 10, from gastritis, aged 70.

James Franklin Davis, M.D. Jefferson Medical College, Philadelphia, 1859; of Clinton, S. C.; a surgeon in the Confederate service during the Civil War; died at the home of his cousin, near Clinton, November 4, aged 74.

Edward Joseph Hogan, M.D. College of Physicians and Surgeons, New York City, 1867; a member of the American Medical Association; died at his home in New York City, November 7, from heart disease, aged 72.

Sylvester M. King, M.D. Hahnemann Medical College, Chicago, 1878; for many years a member of the local pension board of Monroe County, Iowa; died at his home in Albia, November 1, from pneumonia, aged 73.

Jacob Hamaker Drawbaugh, M.D. College of Physicians and Surgeons Baltimore, 1886; a member of the American Medical Association; died at his home in Shiremanstown, Pa., September 4, from tuberculosis, aged 50.

Charles Henry Burnham, M.D. Medical School of Maine, Brunswick, 1866; a member of the New Hampshire Medical Society; died at his home in Jefferson, N. H., November 3, from cerebral hemorrhage, aged 66.

Sarah Jane Williams, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1871; city physician of Springfield, Mass., in 1872; died in Boston, Sept. 27, 1908, from general paralysis, aged about 69.

Lathrop Russell Charter, M.D. Castleton (Vt.) Medical College, 1841; a charter member of the West Virginia State Medical Association; died at his home in West Union, September 28, from acute nephritis, aged 92.

Richard H. Rhoden, M.D. Missouri Medical College, St. Louis, 1886; a member of the American Medical Association; surgeon to the Fremont (Neb.) Hospital; died at his home in Fremont, October 30, aged 47.

Styles M. Taylor, M.D. Memphis (Tenn.) Hospital Medical College, 1892; for twenty-seven years a practitioner of Texas; died at his home in Yale, near Mount Vernon, September 10, from typhoid fever, aged 55.

Morris Lewis Davis, M.D. Starling Medical College, Columbus, Ohio, 1879; New York University, New York City, 1884; died at his home in Agency, Iowa, May 21, 1908, from gastric ulcer, aged 63.

Bert Jerome Longwell, M.D. University of Nashville (Tenn.), 1903; of Wheeling, W. Va.; died in St. Joseph's Hospital, Logansport, Ind., October 20, from nephritis, aged 36.

James F. Irvin, M.D. University of Pennsylvania, Philadelphia, 1853; died at his home in Des Moines, September 25, from cerebral hemorrhage, aged 80.

L. Joseph Struzynski, M.D. University of Dorpat, Russia, 1850; died at his home in Joliet, Ill., November 5, from senile debility, aged 86.

Silas James Chesebrough, M.D. Albany (N. Y.) Medical College, 1844; is reported to be dead at his home in Syracuse, N. Y.

Lemier Congdon, M.D. University of Buffalo (N. Y.), 1852; died in his rooms in Springfield, Mass., November 4, aged 74.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGA ZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

MEDICAL ORGANIZATION IN VERMONT AND NEW HAMPSHIRE

By J. N. McCormack, M.D.
Chairman of the Committee on Organization
BOWLING GREEN, KY.

I have never had a more delightful experience, or come contact with a more cultivated profession and people, th during the sixteen days' itinerary in Vermont and Ne Hampshire. The Green and White Mountain lake and vall regions may have less of grandeur and sublimity than Swi zerland, but they rival it in picturesque beauty and excel it fertility. In fact, but for the lack of the loftiest, sno capped peaks and glaciers, and the absence of women from t fields and other out-of-door labor, the small valley and hillsi farms were so carefully cultivated, the houses, gardens a orchards looked so neat, tasteful and prosperous, and indu tries of every kind were so varied and profitable that one w constantly reminded of that beautiful and thrifty countr It was in all of its glory, too, in the latter part of Septemb and the beginning of October, with ideal weather most of t time, and the rich coloring of the forests and fields was beyo any power of my pen to describe.

The public meetings were admirably planned and adve tised, the suggestions of Dr. Green having been followed both letter and spirit, and taken one with another, t audiences and discussions were better and more appreciati than in any other section I have visited. Governor Quim presided at one of the meetings in New Hampshire, U. S. Se ator Burnham at another, and congressmen, judges and oth leading officials or citizens took an intelligent and often enthusiastic part in the discussion at each appointment. T standards of education are higher and more general here th in the West and South, and I have found that the people a responsive to reform just in proportion to their intelligence.

Except in Burlington, Concord and a few other places, t medical meetings in the afternoon were not so well arrang or attended. In fact, one could not avoid the impression th there was danger of the public becoming more progressi than the profession in all these matters, just as the pe often seem to lead the pulpit in moral reforms. For instan at his great marble works a little way out from Rutla Governor Proctor has provided for his 3,200 employees a their families one of the purest and best protected of wat supplies, model schools, churches, a hospital, librar Y. M. C. A. building, and isolation hospital for consumptive in a broad way which might well be held up as an obje lesson for employers of labor everywhere, both for i humanitarian and economic advantages. This wise youn layman had no doubt obtained much of his first inspiratio from Drs. Caverly and Holton and their associates on t State Board of Health, but he had worked out and demo strated the practical value of health and life in a way th gave me much to think over, as no doubt has been the ca with every medical man who comes in touch with his pr gressive methods. Other instances like this, only a little le conspicuous, might be cited in abundance.

The lack of medical organization, in the sense in which understand it, and for which I am striving, was as evident it was unaccountable. Personally and collectively the pr fession here is of the highest grade and composed of the mo cultivated men with whom I have ever come in contact, a I have never found any more warm-hearted and approachab Their leaders are not better than the leaders of the West a South, but they have a far smaller percentage of low-grade m than are seen elsewhere. This grows out of the facts that it an older civilization than any other in this country th escaped the ravages of the civil war, that it has more wealt and better general education, and especially that it never had the multiplication of medical schools and the preponderance of low-grade, cheap schools which have so cursed the West and South until recent years, and which still exist in some sections. Though the individual standard is so high, though the work in the state societies and boards is in the hands of men whose abilities are recognized everywhere, and though the latter have accomplished so much in many lines, I found but one society which meets as often as once a month, most of them meeting quarterly or semiannually, and often with but half or two-thirds of the eligible physicians in the membership. In one of the most important cities in Vermont, one of great historic interest and cultivation, and with a large medical population, the county society meets once a year, when they can get a quorum, which they had not had for two years. In New Hampshire, probably by an oversight, membership in the state society may be retained without joining the county society, a mistake which was made in several other states early in the reorganization movement, and only remedied after it had produced inevitable confusion and discord. The main difficulty seemed to be that even the leaders of the profession had not caught the spirit and purpose of organization, with county societies and weekly or semiweekly meetings and postgraduate studies as the foundation and main factors in bringing the physicians of each community together, with the opportunity of knowing each other better and ultimately bringing about in our more or less discordant ranks the good fellowship and cooperative spirit which has always existed in the legal profession. Boards of health, medical boards, hospitals, and practical public laboratories are far more important to the people than courts, just in proportion as health and life are more important than any mere property interests, but because lawyers naturally associate with each other in their every-day work, with the breadth and good fellowship resulting therefrom, they have always had a prominence and guiding influence in public affairs, local, state and national, which we have never had, and ought not to have, until we can get together in each county and community and artificially reproduce the harmonious conditions which exist naturally in the legal profession.

The results of lack of organization were in evidence on every hand. Medical fees were surprisingly low, and especially so when the high grade of the profession and the cost of living and equipment are considered, and poverty in the rank and file of the profession exists to an extent not recognized by its leaders or the people. As is my custom, I tested this by careful inquiry in typical counties as to the percentage of physicians who own their homes and are comparatively free from debt at middle life, or who could attend their state and national associations, or go away for a postgraduate course or a vacation, without injustice to their families, and usually found it very small. Discord was as marked and unpleasant in several counties as I have ever found it elsewhere. Christian Science and similar fads flourish; a larger percentage of the cream of the practice seems to have passed out of the hands of the regular profession than in any other part of the country, and there seems no end to this drift unless our profession and especially our schools—still distinctly its least progressive element, in spite of the high character and ability of those comprising the faculties—can be aroused to he importance of occupying the field of psychotherapy, mechanotherapy, and similar therapies in such a scientific way s will leave no place for faddists and quacks. I have found o other profession more responsive to appeals for better hings than that here, or more capable of doing them, and as hey at once took up the postgraduate work, the plans for requent public meetings and other progressive methods in lmost every county, I shall be disappointed if most excellent esults do not follow.

My thanks are due to Drs. Beecher and Sullivan, secre-aries of the Vermont and New Hampshire state societies, espectively, and to the local committees having the meetings n charge at each appointment for arrangements which were o complete as to leave nothing to be desired, and to both the rofession and people for a reception and for hospitality as ordial and charming as it was constant.

Bismarck, N. D., Nov. 6, 1909.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

Dr. John H. Blackburn, Director
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Third Month—Fourth Weekly Meeting

Chicken-Pox, Varicella

Etiology: Contagiousness, age, transmission, incubation.

Symptoms.

Diagnosis: Differentiate from smallpox, impetigo contagiosa.

Acute Infectious Diseases Accompanied at Times by Eruptions

Typhoid Fever: Characteristic rash. Erythema, urticaria, herpes, sudamina, desquamation after typhoid.

Typhus Fever: Characteristic petechial eruption.

Influenza: Erythema, urticaria, herpes, sudamina.

Dengue: Primary and secondary exanthemata.

Malaria: Herpes, erythema, urticaria, purpura, pigmentation.

Epidemic Cerebrospinal Meningitis: Characteristic petechial rash, herpes.

Rheumatic Fever: Sudamina, erythema purpura, erythema nodosum.

Serum Eruptions: Frequency. Date of appearance. Character of eruption, urticarial, erythematous, vesicular, petechial. Distribution of rash.

Monthly Meeting

Differential Diagnosis of Smallpox.

Bacteriology of Scarlet Fever, of Smallpox.

Prevention of the Spread of the Exanthemata; Vaccination and Quarantine; Treatment of the Patient; Disinfection.

Society Proceedings

COMING MEETINGS

American Physiological Society, Boston, December 28-30.
Southern Surg. & Gynecological Assn., Hot Springs, Va., Dec. 20-21

AMERICAN PUBLIC HEALTH ASSOCIATION

Thirty-seventh Annual Meeting, held at Richmond, Va., Oct. 19-22, 1909

The President, Dr. Gardner T. Swarts, Providence, R. I., in the Chair

The officers elected were given in The Journal, Nov. 6, 1909, p. 1573.

Second Decennial Revision of International Classification of Causes of Death

Dr. Cressy L. Wilbur, Washington, D. C.: The second decennial revision of International Classification of Causes of Death is the most important event that has occurred affecting vital statistics during the past year, and the possibility of twenty-three nations joining in this revision reflects much credit on the American Public Health Association. We are at the beginning of a great undertaking, namely, the preparation of a national nomenclature of diseases and causes of death. I believe that the most important practical measure which can come up for consideration next year will be the preparation of a series of uniform statistical tables relating to births, stillbirths, deaths, sickness, marriages, and divorces for use in the federal, state and municipal reports and bulletins. It has been largely a matter of speculation to know whether the figures taken from different reports were comparable or not. I would propose to the officers of the association and also members of the council of the section on vital statistics that they cooperate by the appointment of special committees, whose work can be aided by the Bureau of the Census in the preparation of uniform tables to be used in registration reports.

A complete agreement was had as to the form of questions for the cause of death. The note on the face of the blank is as follows: "State the disease causing death, or in deaths from violent causes, state first the means of injury; second, whether accidental, suicidal or homicidal." As to the changes from the previous classification, I have been notified that

Census Bulletin No. 104 has been printed and two copies have been sent to me. This contains the title of the classification, and each title which has not been changed or modified from the former series is noted by an asterisk.

Management of Milk-Borne Outbreaks of Typhoid

Dr. C. V. Chapin, Providence, R. I.: An outbreak of typhoid fever occurred among the customers of a certain dairy in Providence. The only evidence that the milk supply is the cause of typhoid fever is in the excess of patients among the persons supplied. Out of 600 dealers in Providence, 155 have had one or more cases of typhoid fever during the last four years. In a study of sixteen outbreaks the distribution of the cases in point of time suggested that the infection was not continuous, but depending on a single distribution of the milk. As shown by Davies, Craig, and others, carriers cause infection only in an irregular and intermittent manner. The occurrence of two or three cases in a route of from 100 to 1,000 families within a week requires careful investigation. When the milk supply is found to be defective, and the source not determined, it should be shut off or Pasteurized, and when typhoid is found among those who handle the milk the patient should be removed from all contact with it. Precautionary measures should be carried out for three or four months from the beginning of the last case.

Campaign Against Yellow Fever on the Isthmus of Tehuantepec

Dr. Francisco Valenzuela, Mexico City: The importance of the international traffic across the Isthmus of Panama has brought to that territory a number of nonimmunes, which has led to a great increase in the number of victims. The campaign according to the doctrines of Finlay was organized under Dr. Garcia at the city of Tehuantepec in May, 1904, and subsequently extended to the whole of the isthmus. The excellent results obtained are a matter of congratulation to all. The passenger traffic is under the charge of sanitary agents on board the cars of the Tehuantepec Railway. When a passenger is found to be ill the agent investigates the case, taking into consideration the sanitary condition of the country from which the sick person comes. A report is forwarded to the sick man's destination as well as given to the agent on the train with which the passenger desires to connect. This traveling agent collects all the news possible, thus enabling the chief of the service to receive daily and timely reports of all cases of an alarming character. Isolation of the sick, destruction of the mosquitos by fumigation and the covering of ponds and swamps with oil to destroy the larvæ are the three principal factors in suppressing yellow fever.

Scope and Value of Lectures

Dr. Herbert D. Pease, New York City: Our form of government places the responsibility of government on the citizens as a whole. Never in our history has the public been more alive to the details of administration than at present. In my opinion, we may say that the cardinal principles in educational work in hygiene are as follows: A simpler statement of the known, the unknown and the debatable. The manner and method of expression must be secondary but they are nevertheless of vital importance for success. The speaker must insist on getting the audience and then he must hold them or he is inefficient. Without money the task is greater, but is by no means hopeless. In the pioneer work against tuberculosis those who have had the least money have made greatest progress because lack of means has necessitated more volunteers. To be assured of an audience one must advertise and continue to advertise by special letters, handbills and multiple letters, and even newspaper advertisements. In advertising the subject of a lecture should at all times receive the greatest emphasis; then follow with the names of the speakers, allowing the time and place to come after this. Every epidemic should be used as an opening gun in the campaign against that particular disease. The larger advertisements should be put out first and later followed with the cards, multiple letters, etc. First should be presented in the lecture the problems already solved, next those not entirely solved, and third topics about which there is controversy. Pictures or lantern slides should be used in effective lectures on certain subjects. These slides may be interspersed with moving picture slides, which adds a certain amount of interest to the program.

(*To be continued*)

UTAH STATE MEDICAL ASSOCIATION

Fifteenth Annual Meeting, held at Ogden, Sept. 21-22, 1909

(*Concluded from page 1679*)

Mistakes in Tabes Dorsalis

Dr. W. Brown Ewing, Salt Lake City: At the outset I must disclaim any intention of finding fault with the surgeons or the specialists in any line of medicine, but insist that extreme care should be taken in making the initial examination of the patient, so as to avoid errors. This disease occurs between the ages of 30 and 50. The classic symptoms should be well-known and easily lead us to a diagnosis in typical cases, but a number of unusual symptoms occur in some cases. There is liability of confounding the various crises of tabes dorsalis with gastric ulcer, diseases of the throat and rheumatic complaints. Often the early symptoms of the disease are referable to the bladder, such as cystitis. The attention of the surgeon should be called to tabetic joints, which may closely resemble various surgical conditions. I have long had a settled conviction that there is great danger in the overtreatment with mercury in patients giving a syphilitic history, and there is liability of spinal disease following excessive use of this drug, the symptoms of which are mistaken for the symptoms of tabes. A masterful inactivity is often the best treatment. As a rule, it is unwise to operate on tabetic joints, since the trophic changes are such that good results cannot be expected.

DISCUSSION

Dr. P. E. Jones, Salt Lake City: There is scarcely any other disease of the spinal cord whose diagnosis can in most cases be made with such uniform certainty as tabes dorsalis, and yet it is a notable fact that this disease is more frequently mistaken for various local disorders than perhaps any other. I have seen a diagnosis of gastric ulcer, or of appendicitis, made and the patient sent to the operating room with no visceral disease present at all. I have seen patients with painful joints and extremities kept on the salicylates for weeks under the mistaken diagnosis of rheumatism. I have seen patients with irritable bladder and disturbances of micturition treated for a local trouble when the seat of the disease was in the cord. The essential point is to think at once of the possibility of tabes and look for the distinctive objective symptoms, the principal ones being absence of tendon reflexes and immobile pupils. When the full ataxic stage of the disease has been reached, even "he who runs may read." Dr. Ewing calls attention to the possible ill-effects of the long-continued use of mercury. I have been long convinced of the ill effects of this potent but toxic drug.

Dr. Frederick Clift, Provo: I believe that the early symptoms of tabes are often overlooked and that many a patient goes on for years under treatment for some other ailment until the disease is so far advanced that little, if anything, can be done to arrest its progress or mitigate its effects. Mercury has its indications, but I, too, am inclined to think that great harm may result from its prolonged use in this disease.

Dr. A. C. Behle, Salt Lake City: I recall one case of tabes dorsalis in which a diagnosis of gastric ulcer with stenosis was made. The diagnosis was made by a general practitioner but the patient was referred to a prominent surgeon and the diagnosis was accepted without further examination. Gastroenterostomy was performed for the relief of the condition, and a secondary operation for "vicious circle." The patient remained in the hospital for thirteen weeks afterward, but still continued to suffer distress in the region of the stomach and had other gastric symptoms. On seeing the case I was satisfied that the patient was suffering from tabes, but in order to verify my conclusion I sent him to Dr. Ewing for a diagnosis, requesting the man to say nothing regarding the history of the operations he had undergone. Dr. Ewing promptly made a diagnosis of tabes and gave an unfavorable prognosis. While we may recognize the disease as incurable, I think that we should give our attention to cystitis and urethral irritation, for these patients want relief from these distressing symptoms of the disease. The picture of mental dejection we so often see will change to a relatively peaceful state of mind if these troublesome symptoms are given proper attention, for when we ignore these ailments it tends to encourage our patients to seek the advice of charlatans and the various mental healing sects.

Dr. S. L. Richards, Salt Lake City: A man was sent to me from the southern part of the state. While branding cattle he suddenly felt a peculiar sensation in his lower extremities with decided weakness. In a short time he was unable to use his legs. A diagnosis of hemorrhage of the cord was made. I began to get shaky about my diagnosis when I took him to a specialist who expressed the opinion that the patient had all the cardinal symptoms of tabes dorsalis. The patient was sent back home with an unfavorable prognosis. Four months later I learned that he had entirely recovered and is now perfectly well. The sudden mode of onset made me think of hemorrhage of the cord rather than tabes, for the latter comes on gradually, whereas in this case the paralysis developed within ten days from the onset of the symptoms.

Dr. G. Robinson, Provo: I have seen this disease confused with multiple neuritis. Recently a patient came to me with a diagnosis of tabes, but the history of the case showed it to be one of multiple neuritis of alcoholic origin. No examination was made of the reflexes to determine the presence or absence of the reflexes. This should not be overlooked. The Argyll-Robertson pupil is characteristic of tabes. An unfavorable prognosis was given, yet the patient has continued to improve. Wrist-drop and foot-drop, which were present when I first saw the patient, have practically disappeared, and the only symptom present of tabes is absence of the knee-jerk, which is not a symptom of unvarying importance as it may occur in healthy individuals. The disease is often confused with anterior poliomyelitis. We should exhaust every means at our command in making a diagnosis, but we should not rely too much on any one or two symptoms, as we may be misled.

Dr. C. F. Osgood, Ogden: Does Dr. Ewing know of any invariable index for determining the time when mercury should be suspended in any given case? How are we to know when enough has been given and more would work mischief?

Dr. W. Brown Ewing, Salt Lake City: My plea is for more care in the making of the diagnosis. The discussion emphasizes my experience. I never saw a case of wrist-drop in tabes. One may find deformities of the foot and relaxation of the muscles and tendons around the joints, with a tendency to clubfoot, but I never saw a case of true wrist-drop or foot-drop in this disease. I confess that I do not know when to discontinue the use of mercury; that is, I do not always know how far to push the drug. In the treatment of the third stage of syphilis I have used antisyphilitic treatment of the most intense character and pushed it to the limit, but I have never yet gone over eight days in the use of mercury without producing constitutional effects of the drug.

New Observations on Spinal Anesthesia

Dr. A. W. Morton, San Francisco: The technic is that which I have employed since 1900. My experience with spinal anesthesia covers 4,000 cases. I have demonstrated the method that I use in producing spinal anesthesia in all the principal cities in this country, and in many foreign medical centers. Tropococain is prepared in doses of 1 grain each, which is sterilized by exposing it to a temperature of 300° F., dry heat, for fifteen minutes. The sterilized drug is placed in small glass tubes, and closed by fusing the end of the tube. The tube may be closed with a cork dipped into sterilized paraffin. The needle used is of steel wire No. 9 gage, 3½ inches long, with a short bevel, and is so made that it can be readily attached to an ordinary Luer glass syringe. As to the technic, the needle is introduced at a point between the third and fourth lumber spaces, in the median line, and is pressed steadily through the tissues into the spinal canal. The cerebrospinal fluid escapes through the lumen of the needle and flows into the barrel of the syringe. Diminished resistance, after the needle has been inserted the proper distance, indicates that the spinal canal has been reached. The syringe has the dose of tropococain already in it, with the piston closed. The syringe is then attached to the needle and the piston is slowly withdrawn; as this is done, the cerebrospinal fluid will pass into the barrel of the syringe, dissolvign the tropococain in the cerebrospinal fluid; which is immediately returned to the subarachnoid space by pressing the piston in. Within 10 minutes, with the maximum dose of tropococain (1½ grains), analgesia extends all over the body. When it is desired to produce analgesia in the upper part of the body, a syringe of 20 c.c. capacity is used, the required amount of cerebrospinal fluid drawn off into the syringe and, after the solution of the drug is effected, returned to the spinal canal as already described. The tropococain dissolves more quickly if the barrel of the syringe is rotated from side to side but without withdrawing the needle. As a rule, analgesia lasts from an hour and a half to two hours, and is so deep that operations may be undertaken with the satisfaction of knowing that the sense of pain is totally abolished. If for any reason the operation is to be prolonged beyond the usual time, the dose may be repeated according to the technic already described. Tropococain has a local action, passing directly into the nerves at the spinal centers, and it acts on the body as high as it passes into the cerebrospinal fluid. Very little enters the circulation proper and it is practically free from toxic effects. It paralyzes the nerve cells that carry the sensation of pain. It has little disturbing effect on the tactile, heat or motor cells of the body. It is especially indicated in organic disease of the heart, lungs, or kidneys, where a general anesthetic is contraindicated. It prevents shock. Its use is indicated in the aged. There is practically no disturbance of the gastrointestinal tract. It is indicated in operations on the tongue and superior maxilla; in fact, any operation about the buccal cavity where there is danger of pus and blood entering the larynx. It is a satisfactory anesthetic in removal of goiters. In obstetric work it produces complete relaxation of the cervix and perineum, and does not interfere with uterine contractions; for this reason it prevents lacerations and hastens labor, which is painless. The after-effects are not alarming. If the heart's action becomes inhibited under its influence, the administration of the proper dose of adrenalin, or 1/100 of a grain of atropin is indicated. Vomiting occurs in about 3 per cent. of all cases and usually occurs about ten minutes after the injection is made. Headache occurs but is rare. It is relieved by having the patient maintain the reclining position with an ice-cap applied to the head.

Value of Early Diagnosis in the Treatment of Epidemic Cerebrospinal Meningitis

Dr. R. C. Smedley, Salt Lake City: Through the efforts of Flexner the profession has been led to a better understanding of the pathology of this disease; he has placed within our reach a therapeutic measure of unquestionable efficacy. An early and positive diagnosis of this disease should be made by lumbar puncture. If the cerebrospinal fluid withdrawn is cloudy, give the first full dose of serum at once without waiting for the bacterial examination, although further doses are only to be given if the *Diplococcus intercellularis* is found in the cerebrospinal fluid. The serum is of no value in other types of meningitis. At every dose give as much as possible—the amount given, however, should equal the amount of cerebrospinal fluid withdrawn. Repeat the dose every twenty-four hours or at shorter intervals; repeat daily till four full doses have been given. In all cases, if diplococci persist after four full doses, continue injections until they disappear. After that the treatment depends on the requirements of the case. A medium-sized aspirating needle is introduced into the spinal canal between the third and fourth lumbar vertebræ. If the fluid withdrawn is clear, it does not necessarily rule out the existence of epidemic cerebrospinal meningitis. The addition of one-third alcohol (95 per cent.) will cause marked turbidity if meningitis is present. If the fluid is turbid place it on ice for a short time to favor clot formation or centrifuge and examine with a microscope. The cover-glass preparation is stained with aqueous saturated solution of methylene blue. If more than one lymphocyte or polynuclear leucocyte is found in the field it indicates leucocytosis, which points to the probability of cerebrospinal meningitis. In the early stage of the disease the *Diplococcus intercellularis* is found in varying numbers, mainly free; after the first injection of the serum these micro-organisms partially disappear, and after subsequent injections tend to disappear entirely. The serum must be brought into direct contact with the spinal fluid. It is of practically no value given subcutaneously. Improvement occurs as a rule after the first injection. The temperature falls and some cases show a tendency to terminate by crisis. The mind clears up, but rigidity of the spine persists for some time. Flexner's serum reduces the mortality of this disease to a figure somewhere between 10 and 25 per cent., as compared with from 57 to 91 per cent. without the serum.

DISCUSSION

Dr. W. R. Tyndale, Salt Lake City: The value of an early diagnosis must be apparent to every one. We should always have the symptoms of this disease in mind, since sporadic cases are easily overlooked when epidemics do not exist. The early symptoms of all acute, infectious diseases are very much the same, but high fever, vomiting and retraction of the head should make us be on the alert, for if the serum treatment of this disease may be relied on to accomplish anything it should be administered early in the disease and before serious destructive changes have taken place.

Dr. W. R. Calderwood, Salt Lake City: I believe that the mortality of this disease can be materially reduced by the early and intelligent use of this serum. Too much stress cannot be laid on making an early diagnosis. Flexner's serum seems to be the remedy that promises the best results.

Dr. Ralph T. Richards, Salt Lake City: Dr. Smedley suggests that the needle employed for aspirating the suspected cerebrospinal fluid be introduced between the third and fourth lumbar vertebræ. You will often fail to obtain the fluid in this location, but if the needle is inserted between the second and third lumbar vertebræ, you will seldom fail to find it.

Dr. J. T. Sharp, Salt Lake City: In 1906, I saw many cases of this disease and came to the conclusion that the mortality of epidemic cerebrospinal meningitis is very high. In some cases the early symptoms are difficult to recognize; in some the nervous symptoms are of the most violent character. The point I desire to make is this: I was struck by the pathologic picture disclosed by the autopsy. I had the privilege of doing several of these autopsies, and as I took the skull-cap off I was impressed with the utter helplessness of trying to combat a disease so destructive in its consequences—pus, blood and leucocytes were everywhere, the membranes were congested, adherent and oozing with pus. If Flexner's serum is really curative, and I have no doubt it is, it should rank as one of the great discoveries, and if there is just one horse that is generating this serum, my earnest hope is that he will not die.

Dr. Philo E. Jones, Salt Lake City: Does Dr. Smedley know of any ill effects that are likely to follow the repeated introduction of the needle into the spinal canal? I have read that these subdural injections are not wholly devoid of danger.

Dr. R. C. Smedley: The best place to introduce the needle into the spinal canal is a matter of choice. I am sure that the fluid can be obtained at a point between the third and fourth lumbar vertebræ. Some prefer the second interspace. In view of the grave pathologic lesions found beneath the skull-cap, it is important that the serum be brought into direct contact with the subdural injection. I have not had my attention drawn to any ill effects following the injection of the serum, even when these injections are repeated. But I believe that cases have been reported of sudden collapse following these spinal injections. While in Boston I saw several patients who were treated as long as six weeks with the serum, daily injections being made or on alternate days, and with no bad results. Now and then medical literature reports a fatality following the use of the serum. Possibly the position of the patient may have something to do with such accidents. I believe that faulty technic may throw suspicion on some remedial measures that are otherwise safe and efficient.

Degenerative Changes in the Spinal Cord in Pernicious Anemia

Dr. J. R. Morrell, Ogden: Lack of uniformity in the symptoms of pernicious anemia suggests an underlying infecting agent, having a marked hemolytic power whose toxins cause the gastric and intestinal disturbances and degenerative changes in the cardiac musculature and in the central nervous system. The pathologic changes in the spinal cord bear no direct proportional value to the intensity of the clinical symptoms. In well-marked cases the degenerated areas of the cord can be seen with the naked eye, appearing as darker areas in the white substance of the cord. In the seven cases studied and made the subject of this report, the regions of the cord involved were not constant, but varied considerably. In five out of six cases of pernicious anemia, pathologic changes in the cord were demonstrable, and in four of these they were quite extensive. The structural changes were most marked in the cervical region. In two cases there was considerable ataxia during life, and in one, associated for a time with marked spasticity. All cases showed at some time more or less nervous involvement.

DISCUSSION

Dr. W. Brown Ewing, Salt Lake City: In the description of the pathologic findings of the cord in pernicious anemia there seems to be a striking similarity to those found present in syringomyelia. The regions of the cord involved, as illustrated by Dr. Morrell, are certainly much like the findings in syringomyelia, and some of the symptoms are likewise very similar. The involvement of the cord is considerably more extensive than I had supposed a post-mortem examination would disclose.

Dr. J. R. Morrell: I did not mention that changes in the cord may occur independently of pernicious anemia. What we have grown to regard as typical lesions may exist without any appreciable changes in the blood.

Puerperal Fever

Dr. E. I. Rich, Ogden: Puerperal fever is an infection carried to the parturient woman by an infected agent. It is generally a mixed infection. The streptococcus is most frequently found and is present in nearly all serious and fatal cases. The gonococcus comes next. The staphylococcus and colon bacillus and a number of putrefactive anaerobic bacilli are frequently found, and in rare cases the Klebs-Loeffler bacillus and the pneumococcus. The recently emptied uterus presents a particularly favorable field for the invasion and growth of micro-organisms. As to the sources of infection, bacteria must either be present in the passages to the uterus or must be introduced from without. The gonococcus is the only pyogenic organism that can live and thrive in the normal vaginal secretion of a pregnant woman. The infecting organism invades the walls of the uterus along the lymphatics or veins and is thus conveyed to neighboring tissues and organs. In making a diagnosis, too many jump at the conclusion that fever following childbirth means infection. The entire body should be carefully examined and a diagnosis arrived at by a process of exclusion, after first thoroughly unloading the bowels. In the last 300 deliveries I have not once used a douche because of fever, and in only four or five cases in which lacerations were present. Of course, if the uterus is filled with infected blood clots or putrid material, after careful cleaning out is done with the hand or a large, dull curette, there is no valid objection to irrigation. In puerperal septicemia the uterus must be cleared of all necrotic and putrefactive material without disturbing the underlying protective wall of leucocytes. In virulent streptococcus cases Nature does not have time to form a protective wall of leucocytes. In these cases we must rely chiefly on constitutional treatment, as the poison is beyond our reach. One thorough irrigation with hot normal salt solution (3 gallons), followed by at least ½ gallon of 50 per cent. alcohol and sterile hot water, with one teaspoonful of iodin to a quart of this solution may be employed. Hysterectomy in acute puerperal sepsis is now generally condemned.

Nose and Throat Conditions of Interest to the General Practitioner

Dr. R. R. Hampton, Salt Lake City: The location of the tonsil is such that bacteria entering the oronasal cavity, from the day of birth, are directed toward the tonsillar crypts, which act as receptacles or culture tubes in which bacteria of every variety, entering the fauces, may be cultivated. The mucus in the crypts serves as a culture medium. The glands which furnish this mucus are located just outside the tonsillar structure. These peritonsillar mucous glands are most numerous at the base of the tonsil near the bottom of the crypts, which explains how tonsillar abscesses at times follow tonsillitis. Bacteria multiplying in the crypts, elaborate vaccines which are taken into the tonsil by the lymph currents, and thus entering the system they are absorbed. These toxins cause the tissue cells to generate opsonins which prepare the pyogenic bacteria for phagocytosis. The salivary corpuscles now seize the bacteria, and together they are pressed out into the oral cavity in the act of swallowing. In swallowing, the superior constrictor muscles compress the peritonsillar glands and force the mucus into the crypts, and this same force or pressure forces the contents of the crypts into the orval cavity. The tonsil, with its crypts, makes it possible for the system gradually to absorb the vaccines from the crypts, and thus produce immunity without systemic toxemia. The tonsil is most needed during the first three years of life; it probably functionates until puberty or later. Tonsillar disease is often insidious and goes unrecognized until the damage to the neighboring organs, and often to the general health of the patient, is almost irreparable. The diseased tonsil is more or less hypertrophied in all parts, and while not obstructive as a rule, they are sometimes very large, extending upward and backward often as far as the Eustachian tube on which they may press, interfering with the air passage and blood circulation of the ear and causing disturbances of function. The drainage of these diseased tonsils is extremely faulty, and the result is that pent up secretions become foul smelling and exceedingly irritating. Whatever the function of the tonsil is we do not know, but we do know that a diseased tonsil is a menace to the general health. Health is impaired by direct infection. Tuberculous glands of the neck and often pulmonary tuberculosis may be traced directly to diseased faucial tonsils. Instead of injury to the voice, the only effect of removal of the tonsils is a decided improvement in the voice. Middle ear deafness may have its origin in at least three ways: from the extension to the tympanum of inflammatory conditions in the adjacent tissues of the Eustachian tube or pharynx; to alterations in the vascular supply in that cavity; to the interference with proper and adequate ventilation of the tympanum from the Eustachian tube. Middle-ear disease may be caused by bacteria that gain entrance through the tonsils, which argues that the tonsil should be examined in middle-ear trouble. The tonsillar mass may interfere with the function of the Eustachian tube. In normal conditions this tube is patent, but not open. In deafness look for diseased tonsils and operate when they are found. Postnasal obstructions should be removed before orthodontia is attempted.

Necessity for Early Treatment of Strabismus

Dr. Fred Stauffer, Salt Lake City: It is only by early treatment that we can hope for cure in strabismus, and by cure is meant the restoration of binocular single vision. The principles involved in this paper deal chiefly with the comitant squint and do not apply to paralytic strabismus. To understand the causes of squint and its treatment it is imperative to understand the physiology and refraction of the normal eye. Donders, in his researches for the cause of squint, found that a large majority of patients with non-paralytic comitant convergent squint were hypermetropic. The squinting eye is often astigmatic, or has other defects that interfere with a clear image. While the majority of convergent squints are hypermetropic, there are many hypermetropic persons who exercise perfect binocular single vision. It remained for Claude Worth of London to fill the breach through his researches and critical study of over 2,000 cases of squint. He discovered the fusion sense of which there are several degrees of development. Convergent squints appear early in life—at the age when the child begins to pay close attention to surrounding objects, usually between the ages of one and three years. The object of treatment is to restore parallelism of the visual axes and restore binocular single vision. If one eye is permitted to squint for a considerable time it becomes amblyopic from disuse. In some cases the squint eye is congenitally amblyopic. If treatment is not commenced before the fifth or sixth year there is little hope of restoration of binocular vision. The rational thing to do is to paralyze accommodation temporarily with atropin, and after measuring the refractive error with the retinoscope, prescribe a lens for constant wear that will make the eye emmetropic. Thirty per cent. of convergent squints treated early by this method are curable. If this fails there is generally insufficient development of the fusion sense. The fusion sense can be trained by the use of some form of stereoscope, such as Worth's amblyoscope. A child who is old enough to develop a squint is old enough to wear correcting glasses. Early treatment cannot be too strongly urged, because it eliminates the necessity for operative interference, and because if treatment is long delayed it becomes impossible to restore binocular vision. Non-paralytic divergent squint comes on later in life and generally requires operation. When fusion training and correcting lenses fail, operative treatment is indicated. The age of 5 years is late enough for operative treatment, which allows ample time for other treatments. The point I desire to emphasize is the necessity for commencing treatment as soon as the child begins to squint.

Diagnostic and Therapeutic Value of the Roentgen Ray

Dr. C. F. Osgood, Ogden: Radiology to-day occupies a prominent place in medicine and surgery. The *x*-ray is not a panacea for all ailments, but is limited in its use. For diagnostic purposes it is often indispensable, especially in determining the existence of obscure fractures or dislocations, many of which are diagnosed as sprain. The use of the *x*-ray prevents such blunders. In the diagnosis of pleural effusions and enlargement of the heart, the fluoroscope gives valuable confirmatory evidence, as the exudate is quite resistant to the ray. The line of demarcation is more marked in purulent than in serous exudates. In the treatment of pathologic conditions it is an agent of proved efficiency. Of the diseases most successfully treated by the *x*-ray, mention may be made of epithelioma, lupus, chronic eczema, tuberculous adenitis, exophthalmic goiter, and leucemia. I have successfully treated with the ray three cases of epithelioma with no recurrences, two of chronic eczema, one very old case of lupus and one of leucemia. In lupus it is preferable to the Finsen light.

Etiology of Phlegmasia Alba Dolens

Dr. Eugene H. Smith, Ogden: This is a condition dependant on various causes and occurring as a complication or sequel to different diseases. It often indefinitely prolongs an otherwise rapid convalescence. It occurs most frequently following disturbances of circulation in the pelvis, but it also follows operative procedures in the upper abdomen. It occurs as a complication or sequel to appendicitis, yet it may develop when no operation has been undertaken. As to the frequency of its occurrence during the puerperium, statistics vary from 12 to 10,000, to 23 to 6,000. Operative intervention or other obstetrical procedures seem to play no part in its production, as it follows as frequently the clean case as the case in which trauma and infection were probable factors. Thrombosis not infrequently occurs in typhoid fever, pneumonia, tuberculosis and influenza. In its production in these conditions, debility, recumbency and infection must play a part. When the veins of the lower extremities are involved the left side is most frequently the seat of affection. Of predisposing causes, the anatomic arrangement of the iliac and femoral vessels seems to favor its occurrence. The left iliac vein is subject to pressure from distention of the sigmoid or rectum, thus favoring thrombosis of the left side by retarding the blood stream, The venous stasis and dilated condition of the vessels in varicose veins is a local and predisposing cause, favoring the development of phlebitis and thrombosis. In other words, mechanical interference is a local predisposing factor. Hemorrhoids like varicose veins, with the added element of possible infection, share in the production of circulatory disturbances. Pathologic states of the interior of blood vessels cause the formation of thrombi. as endocardial inflammations, and lead to emboli. favoring the development of thrombosis. Of systemic conditions increased coagulability of the blood is a factor in the production of thrombosis. This is likely to occur during the puerperium because of the process of involution and the loss of blood. not to mention the normal increase of the fibrin elements in the blood which occurs in pregnancy. It would seem that the probabilities are strongly in favor of the non-infectious nature of operative cases. It is probable that a combination of several factors may bring about its occurrence without the participation of microorganisms. Trauma is probably the most active factor in the production of many cases.

MINNESOTA STATE MEDICAL ASSOCIATION

Forty-first Annual Meeting, held at Winona, Oct. 12-14, 1909

The President, Dr. Cornelius Williams, in the Chair

The officers elected were given in The Journal, Oct. 30, 1909, p. 1493.

President's Address: The Physician's Place in the Community

Dr. Cornelius Williams, St. Paul: The proper position of the medical man in the community is not fully appreciated, either by the physician himself or by the lay citizen. Long years of communal isolation have bred ideas that have become convictions on the part of the public. The physician is stamped, as it were, with a kind of bar sinister. By common consent, the doctor is relegated to the doing of certain prescribed duties and the bearing of certain burdens demanded and required because of the bar sinister—and gratis. The physician, because he is a physician, is required to give freely of his time and skill whenever and wherever needed without hint of compensation. As well would it be to require of the artisan that he should build hospitals, and the dealer that he should completely furnish them, as that a physician should give gratis of his time and labor and skill by which and through which alone their conduct is possible. My proposition is that the bar sinister should be broken, that the physician should receive full and usual compensation for his work, in fact, that he should come into his own. How shall this be brought about? It cannot be done by "educating the public," because one cannot educate a class by mere reasoning and argument to do a thing contrary to established custom. I mean that all gratuitous service on the part of the physician to the public shall cease. There is properly no mystery about medicine as a science or an art, and there is no reason why the whole people should not acquire a knowledge of the fundamental truths that underlie medicine as a science and of its practice as an art. and an understanding of such art and science will make the human animal physically and intellectually superior.

This elevation of the race must come through medicine, and this is the mission of the medical profession. There are very divergent views, as to where the initial work must fall. I declare that it is only by a participation in politics that the physician may accomplish his whole mission, and that such participation is one of his highest duties. From the very nature of his position his duties place him in the rôle of police; he must suppress or regulate whatever is injurious to the peace, health, morality, general intelligence and thrift of the community and its internal safety. Isolated in the sense that there is no concert of action, the medical man is a negligible quantity, as to any influence, either for good or bad legislation, but, united into a guild of workers, the medical body would be a great power to determine the outcome of an election and to direct the measures of government.

I then propose the formation of a medical guild to comprehend every medical man in the state. The object shall be to become the highest political power in the highest sense of the word. In my opinion, the foundation of a medical guild, together with another insurance guild, would be an ideal method for the closer alliance of the medical profession for mutual protection against an enemy in any form.

In most instances in our state the judiciary is of the highest order, but there are certain rules of practice that are obsolete and injurious, particularly as pertaining to the trial of cases involving the practice of medicine and surgery. Even the judicial mind may seem to be warped by what is technically known as passion and prejudice. The medical guild would seem to be the only effective way of eliminating men of such minds and methods.

The medical guild then, if I may be permitted the expression, might be called a communal deobstruent, whose office would be to purge society of some of its evils, and to modify some of the evils of intestinal malassimilation of the body politic, to raise the opsonic index of that body, and to afford the proper and measured antitoxin required to correct a morbid condition induced by insanitary ways of living. I would expect that the propositions contained in this paper will meet the treatment usually accorded to the pioneer who breaks out of the beaten path, but I am convinced that the things suggested are practical of doing, and that their doing would be of exceeding benefit to the community, and would inaugurate a new era in medicine.

SYMPOSIUM: EPIDEMIC ANTERIOR POLIOMYELITIS

Previous Epidemics of Anterior Poliomyelitis

Dr. Haldor Sneve, St. Paul: Over fifty epidemics of this disease have been recorded. Medin, of Stockholm, gave the first account. Later his pupil, Wickman, also of Stockholm, made the most careful study ever made of any epidemic disease, and showed that the disease is an acute infection, contagious, and may assume clinically one of numerous forms of disease heretofore regarded as distinct, such as the cerebral infantile palsy (of Strümpell), the ophthalmoplegia of Wernicke, the bulbar palsy of Duchenne, Landry's paralysis, transverse myelitis, and abortive forms. Giersvold, of Norway, has given us the same facts. We needed the masterly pathologico-anatomic studies of Harbitz and Scheel, of Norway, to give a correct insight of the nature of the disease process. They showed it to be a specific leptomeningitis, the virus starting from the pia as a base, following the blood-vessels into the whole of the cerebrospinal tract, destroying or temporarily affecting the ganglion cells, especially where the blood supply is the most rich. Geirsvold gave the only positive evidence of the nature of the virus. He found a diplococcus in the spinal fluid in twelve cases, and inoculated animals with the germ, producing paralysis and death. For the present we must accept the diplococcus described by him as the active causative agent. Entry is probably through the nose and throat.

Four-fifths of the cases occur in children under 6 years of age, the proportion of males to females being 3 to 2. Epidemics seem to follow rivers and appear mainly in the months of July, August and September. The period of incubation is from one to five days. The onset is usually sudden with meningeal symptoms, and fever in the neighborhood of 101 F. Healthy children are as liable to be attacked as the weak. The mortality is about 10 per cent. in children and 25 per cent. in adults. About four-fifths of the patients have paralysis, and 25 per cent. of these completely recover; 75 per cent. of the remainder recover partially. Abortive cases present the greatest difficulty in diagnosis as they may appear to be cases of influenza, meningitis or of polyneuritis, and we can only suspect them when occurring in the presence of an epidemic. A study in the Rockefeller Institute seems to indicate that diagnosis of this disease by a serum reaction is impossible. Lumbar puncture may reveal the Geirsvold microbe besides being a valuable therapeutic measure.

The first thing in treatment is rest; hexamethylenamin may be given in the acute stage. Antiseptic gargles and nose washes may have prophylactic value; 1/10 grain of calomel every hour, with salicylates, may be given when indicated. Dry cupping or ice bags or counter irritation may be used over the spine. The paralyzed limbs should be supported; later strychnin may be given; in about two weeks massage, vibrations, electricity, and elastic bands or orthopedic appliances should be employed. This is not a new disease, but is even mentioned in the Bible. That Mephibosheth became lame was ascribed to carelessness of the nurse in letting him fall. Sporadic cases are with us always and occasionally an exacerbation occurs which we call epidemics.

Minnesota Outbreaks of Anterior Poliomyelitis in 1908

Dr. A. S. Hamilton, Minneapolis: Three epidemics of anterior poliomyelitis, all more or less extensive, appeared in Minnesota in 1908. At Hibbing, 16 cases were reported; at Northfield, 30; and at Barnum and Moose Lake, 45 cases. In addition there were numerous isolated cases of the disease scattered widely through the state, and in a few localities, in addition to the above, the number of cases was sufficient to constitute a limited epidemic. All epidemics came in the autumn and the cases disappeared after the onset of cold weather. Together there were probably 150 or more cases in the state; 13 deaths were reported to the State Board of Health as due to poliomyelitis. Clinically the cases were much the same as have been observed this year and also in preceding epidemics. At Barnum, however, the number of instances where more than one case occurred in the same family was very much greater than usually reported.

Discussion on Poliomyelitis

Dr. Donald B. Pritchard, Winona: Anterior poliomyelitis was epidemic in Winona during the past season, the first case occurring in June and the last in August. The cases were reported to Dr. Bracken who sent down Dr. Hill, and instead of 6 or 7 it was found that there were about 25 cases. Dr. Hill went into the history thoroughly and found the cases occurred in the dry and dusty season. The distribution was over a distance 2½ miles long by 1¼ miles wide. There seemed to be no connection between the cases; families in which there were from 6 to 10 young children having only one case. In one family with 2 children both had it. The cases seemed to occur in the part of the city that was not sprinkled, and we even found cases where only one side of the street was sprinkled on the unsprinkled side. It was remarkable to see how that basis held out. In view of this fact we had the streets sprinkled, beginning on the fifth of the month and on the twelfth we had the last case.

Dr. E. D. Keyes, Winona: I saw about 6 cases during July, and one patient who came in about a month ago from the country. This last was a case of ascending paralysis in a girl 17 years old. The cases with one exception were isolated cases, the exception being in a family of 12 children in which 2 had the disease. The cases were scattered over the whole city and there seemed to be no connection between one case and another. It was an epidemic condition rather than contagious disease. The general behavior of the disease seemed to indicate that dust played some part in carrying the infection.

Dr. F. W. Bullen, Hibbing: During the summer of 1908 there were 15 cases of acute anterior poliomyelitis in Hibbing and vicinity, the first 2 cases occurring June 15 and July 4, and the balance during the last week in July and the first week in August. The weather was dry and dusty. In only 2 instances did 2 cases occur in the same family. Ten of the families traded at one grocery store and 2 children of members of the firm had the disease. One case was that of a young man of 24, one boy of 6, the other patients being 1 and 3 years of age; 5 were females and 10 males. The initial symptoms were those of acute gastroenteritis. Vomiting was an early symptom and diarrhea was present in nearly all cases. Temperature ranged from 101 to 104 F., continuing from 3 to 6 days. Sore throat occurred only once. Kernig's sign was present only once. Paralysis appeared on the third to the seventh day, of the flaccid type, and the paralyzed extremity was usually painful on motion only. There was only one fatal case, death being due to paralysis of respiration. No autopsy was permitted. This was thought to be a case of acute polioencephalitis complicating a poliomyelitis, but may have been an infantile hemiplegia. Another patient showed convergent strabismus on the fifth day with no other paralysis. This patient completely recovered in 9 months. The case of the young man of 24 somewhat resembled Landry's paralysis. He also had urinary retention for several days. The rest of the cases were of the ordinary spinal type; 2 were of the abortive type with complete recovery in less than 3 months. Of the 15 patients one died, 6 have completely recovered, one has been lost sight of, and 7 still show more or less atrophy and paralysis. There has been only one case this summer, a boy of 2½ years, with paralysis of the lower extremity only.

Dr. H. W. Hill, Minneapolis (Minnesota State Board of Health): There were at least 150 cases of anterior poliomyelitis in the state last year. The distribution of the cases was very wide. The number given represents perhaps only one-fourth of all the cases, since many cases were not recognized and many were not reported. We do not know how many cases we had, but those of the abortive type were legion. This year the cases were much better reported. I was in one locality where fifty cases had been reported, and I was able to satisfy myself that one out of four was probably poliomyelitis. An interesting feature is the two types of disease. One which we call the Scandinavian type is accompanied by sore throat, but in the type we have here in Minnesota the sore throat is not present. In regard to nationality, in Winona we found that a great many Poles had the disease, while in other localities we found the prevalent type existing in families living under insanitary conditions and with poor nutrition. We have not been able to find any evidence that the disease is infectious or contagious. While a few older people were attacked, it may safely be said that the disease is confined to children. In studying it epidemically we have gone into everything we could think of. We went into the question of eating dirt, and of eating vegetables raw out of the garden. We could not find through the state entomologist that any particular insect was more prevalent than in former years; we found weeds very abundant, but in following up that lead it came to a blind end. We were unable to find anything in that way except the dust. We found in all cases where the dust had been the greatest it was of the character that carried horse manure. Another interesting feature is that Dr. C. S. Shore, of Lake City, a veterinary surgeon, reports a disease among colts and young horses almost identical with anterior poliomyelitis.

Dr. H. E. Robertson, University of Minnesota: I performed three autopsies this fall on undoubted cases of poliomyelitis:

Case 1 was that of a boy 2½ years old. He was ill 8 days. After the usual febrile disturbance there was paralysis of both arms and legs, on the right side first, and finally of the bulbar centers. Autopsy was limited to spinal cord. On opening the dura, marked excess of clear cerebrospinal fluid escaped. On section of cord, in upper portion of cervical enlargement was a pin-head-sized hemorrhagic area located in the right anterior horn of the gray matter. The area was soft and bulged on gentle pressure. It extended up and down the cord for a distance of about 5 mm. Cultures from the cerebrospinal fluid showed the presence of a Gram-positive diplococcus, non-pathogenic to guinea-pigs or rabbits.

Case 2 was that of a boy of 9, ill about 60 hours. Complete autopsy was performed and examination of organs was negative except for swelling of lymphoid tissue noted in spleen, lymph nodes, thymus and follicles of intestines. Brain and cord surfaces were deeply congested and clear cerebrospinal fluid was present in excess. Transverse section of cord showed small hemorrhagic foci in the gray matter of the anterior horns, the highest in the right side of the medulla, varying in location from side to side as far down as lower thoracic portion. Cultures from the cerebrospinal fluid gave a Gram-positive diplococcus.

Case 3 was that of a girl aged 3, ill 14 days with paralysis of arms and legs and death from respiratory failure. Aside from congestion and softening of spleen and congestion of pia-arachnoid, the gross lesions were confined to the pons and cord. Hemorrhages were present in the anterior horns as far up as the peduncles of the cerebrum. Only the lower thoracic cord was free from hemorrhages. Cultures from this case were made by Dr. Chesley of the State Board of Health. A

Gram-positive diplococcus was obtained from spleen, heart's blood, lateral ventricle of the brain, cerebrospinal fluid, throat and middle ear. This organism resembles in morphology and cultural characters the coccus described by Giersvold and also by Fox.

Microscopically the lesions in every case have resembled each other: (1) Congestion of vessels, especially those leading to anterior horns. (2) Perivascular infiltration of polymorphonuclear and mononuclear cells, the latter being both lymphoid and endothelioid in type. (3) Infiltration of pia and nerves running from anterior horns. (4) Necrosis of gray matter of anterior horns, especially the ganglion cells, with diffuse infiltration of polymorphonuclear and mononuclear cells. (5) Hemorrhages into gray matter of anterior horns. (6) Thrombosis of vessels in region of hemorrhages (seen only in Case 3). (7) Dilated lymph channels. (8) Occasional infiltration along lines of vessels extending into base of brain and also posterior horns of cord.

Dr. A. J. Chesley, Minneapolis: The Minnesota State Board of Health laboratory has received for examination specimens from 24 cases of poliomyelitis. Spinal fluids were sent in from 16 cases, but 5 showing no growth and 4 being badly contaminated, only 7 were suitable for investigation. From 6 a Gram-positive diplococcus, corresponding in every detail to the description of Giersvold's diplococcus given by Fox, was obtained in pure culture and further experimentation is now in progress. Hearty cooperation of physicians is urged in obtaining nose and throat cultures, spinal fluid, blood, etc., for examination from every case, and in securing permission for post-mortem examinations to be done by competent pathologists as soon after death as possible, that every facility may be had in the effort to determine the cause of this disease, and a specific remedy for its treatment or prevention.

Dr. W. A. Jones, Minneapolis: Eight years ago I saw about 12 cases of general paralysis which agreed closely with the epidemic of the present time. I called them simple neuritis. I believe, as has been suggested, that we are laboring under a misnomer in designating all these cases as anterior poliomyelitis, but, on the other hand, I do not agree with the suggestion that we ought to call everything of this nature anterior poliomyelitis.

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES

Eighteenth Annual Meeting, held in Washington, D. C., Oct. 5-8, 1909

(Continued from page 1683)

The Venereal Peril

Lieut.-Col. Henry I. Raymond, U. S. A., based his paper on "The Eradication of Specific Urethritis from the Army by means of the 'K' package, Reenforced by Military Law and Discipline," on the following postulates:

Specific urethritis is the cause of more non-effectiveness in the army than any other one disease, the venereal diseases alone being responsible for a non-effectiveness equal to the loss of the services of an entire regiment for every day in the year, as shown by Col. John V. R. Hoff, U. S. Army, in his paper on "The Venereal Peril" (read by title).

Soldiers will expose themselves to venereal infection as long as human nature remains unsanctified. Moral suasion alone is inadequate to effect the desired revolution.

To effect escape from the physical ills of a sinful practice is a legitimate end of sanitary endeavor. It is not encouraging vice. The young man who avoids promiscuous intercourse from principle will not be misled through proffered immunity from infection.

A rational method of prophylaxis or prevention of specific urethritis has been devised, its general adoption in the army requiring the enactment and enforcement of a new military regulation making the contraction of gonorrhea a military offense.

There were issued to 576 individual enlisted men out of a garrison of 1,800 who applied for them at Fort Sam Houston, Texas, "K" packages. Of this 576, all of whom supposedly exposed themselves to the possibility of infection, in no case in which the remedy was intelligently applied, did it fail in efficacy. That portion of the garrison which did not make use of the package presented 66 cases of gonorrhea.

Those who did not use the "K" package and who contracted gonorrhea were wilful and neglectful, those who used the package and contracted gonorrhea were indifferent and careless; both classes were proper subjects for military discipline.

When there was no rational method of preventing the disease the contracting of gonorrhea was properly considered not a military offense, but now it may be viewed from a different standpoint.

So strong is the evidence that the "K" package, intelligently applied, will prevent infection, that no exemption should be made, but the unfortunate victim who may claim to have made use of the preventive should be held to have been negligent in its application if not untruthful in his allegation.

Weekly inspections should be made for venereal disease, and any attempt at concealment should be regarded as an aggravating circumstance before the summary court.

The weakest link in the chain of prevention of venereal disease in the army is the lack of a feeling of personal accountability on the part of the enlisted man, fostered by a sense of security from punishment for physical disablement through his own misconduct or through his indifference to rational preventive measures intended to secure his immunity from the ill consequences of his immoral acts.

Disease and Battle Casualty

Major Louis Livingston Seaman, U. S. V., stated that in most of the great wars of history three-fourths of the mortality has resulted from disease and only one-fourth from battle casualty. Most of this loss is preventable and constitutes a crime against humanity and patriotism. Service in six campaigns has convinced Major Seaman of the utter inadequacy of the medical departments of nations, with one notable exception. When it is remembered that this department combats the enemy that kills 80 out of every 100 that die in war, and that all the other machinery of the army kills but 20 per cent., and also that the medical department with its small numbers and limited authority, has to fight the invalidism that sometimes renders an army ineffective before the enemy, one is forced to the conclusion that the situation demands medical reform.

In order to focus the attention of military sanitarians on this subject, Major Seaman has offered a prize of $500, open to the world, in any language, for the best essay on the following subject: "What Should Be the Organization and Status of the Medical Department of Any Army, in Order that its Sanitary and Hygienic Conditions May be Maintained at their Highest Efficiency, so that in the Emergency of Battle, its Units May Best Respond to the Call of its Commanders?" The award of this prize will be made by the Executive Committee of the Seventeenth International Medical Congress, which meets in London, in 1912.

Care of Wounded in Ships

Medical Inspector Bunzo Tomatsuri, Imperial Japanese Army, believed that all surgical interference should be aseptic. Space should be provided in ships of war for original surgery, with possibility of uninterrupted communication by means of elevators and ladders. The greatest care should be taken of the wounded after first aid has been rendered. The provision for transportation and subsistence of the wounded still leaves much to be desired. He recommended the use of sandbag splints for immobilization.

Organization of Naval Medical Department

Medical Inspector Lloyd W. Curtis, U. S. N., discussed the organization of the medical department and the sanitary service of the fleet under present conditions, and described the organization which in his opinion would best meet the requirements of the fleet in view of further expansion, and render the most efficient service both in peace and war. He gave an outline of the duties of medical officers, the medical personnel of the fleet and their duties, the relations of the medical department to line officers. The office of fleet surgeon at present answers no particular purpose.

Best Training for Medical Officers

Surgeon Charles F. Stokes, U. S. N., who considered the question of what should constitute the best training for medical officers, the hospital corps and the ambulance parties of the fleet for sanitary service and as aid to the wounded in time of peace and war, insisted on previous service in civil hospitals and a rigid and exacting examination. He finally believed in the unification of action through the medium of postgraduate instruction in the Naval Medical School. The keynote of instruction in the school should be the cultivation of the senses, and independence of the laboratory and the *x*-ray. The association of naval medical officers with civil practitioners is inspiring. The hospital corps should be intelligent men. The advent of female nurses has made a great change and a signal advance in naval hospital conditions. Medical officers should instruct line officers in first aid work, and the line officers in their turn should instruct the men.

Medical Director John C. Wise, U. S. N., believed in the value of the great metropolitan schools for medical study. Deficiency in preliminary education is the greatest evil in the medical profession to-day. He deprecated the amount of time spent in the laboratory, as graver questions than those of bacteriology are not given so much attention as they deserve.

Medical Inspector Henry G. Beyer, U. S. N., gave his opinions as to the best training for medical officers intended for the positions of fleet and squadron surgeons, and of the principles which should determine their selection for the postion, and also took up the duties and responsibilities of fleet and squadron in relation to fleet sanitary efficiency.

Medical Department of Ship in Action

Medical Director John C. Wise, U. S. N., detailed the most important constituents in principle, and practice of the efficient organization of the medical department of a ship during action, including provisions for, and methods of, rendering first aid to the wounded, and described a scheme for uniform instruction in first aid to sick and wounded. There is a vast difference between the service to the wounded at sea and on land. At sea the horizontal planes are different, the means of communication between levels or decks are vertical, and in addition, every inch of space on a ship is on the firing line. The Geneva flag protects only the hospital ships. The ship's company should be instructed in first-aid methods. The medical department during action should be stationed at sheltered points, and the hospital corps men at places where they can be most useful. Dressings should be provided in plentiful store, freely distributed and never kept en masse. The transportation should be governed by circumstances.

Hospital Ships

Surgeon George Pickrell, U. S. N., to whom was assigned the topic of the precise functions of the hospital ship and its relation to the fleet in peace and war, urged the necessity of hospital ships in time of peace. He recalled one instance when 22 patients on one battleship needed transfer. A floating hospital should be attached to each squadron.

Surgeon Charles F. Stokes, U. S. N., considered the factors that make the hospital ship an aid to the efficiency of the fleet; emphasized the importance of one in the selection of the personnel, the type of ship and its equipment; the necessity for an extensive disinfecting plant; the imperative necessity of isolation wards; the early recognition of tuberculosis and the importance to the welfare of the fleet, of proper provisions for prolonged treatment of the disease; and the necessity for extensive laboratory facilities. The hospital ship should be the medical store ship of the fleet, and the fleet surgeon and other medical officers should keep in close touch with the hospital ship. He suggested the advisability of the organization of a medical society in the fleet, with the headquarters on the hospital ship. Junior medical officers should be detailed to serve for short periods on the hospital ship. He then discussed the final disposition of the sick, neutrality, the preparations for battle, the station of the hospital ship during battle, the importance of accurate and complete records and the final disposition of the wounded.

(*To be continued*)

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Thirty-fifth Annual Meeting, held at St. Louis, Oct. 12-14, 1909

(Concluded from page 1677)

Stricture of the Male Urethra

Dr. E. O. Smith, Cincinnati: Stricture of the urethra is an abnormal narrowing of some part of that channel which interferes with the free outflow of urine, due either to muscular spasm or to organic changes in the walls of the urethra. Abnormal narrowing of the external meatus should be divided very carefully. If cut too widely the patient will be left without projectile force. Spasmodic contraction of the urethra is usually due to acid urine, sexual excesses, fissure of anus, hemorrhoids, pin worms, cantharides, turpentine, etc. Strictures following traumatisms are much more stubborn to treatment and the band of scar tissue may have to be dissected out through an external incision. The popular idea that a rapid cure of gonorrhea causes stricture is not based on facts, but, on the contrary, the longer the duration of the gonorrheal inflammation the more liable is the patient to have a stricture. In fact, it is the exception for a urethra to become absolutely normal after one prolonged attack of specific urethritis. The urethra behind the constricting band becomes dilated, a pouch is formed which is a most excellent container and incubator for the germs of sepsis, which may lead to periurethral abscess and possibly urethral fistula. All this argues for an early treatment of stricture. Stricture is suspected when there is gleet, frequent micturition with a tardy beginning of the stream, dribbling after urination, with possibly some hypogastric pain. In examining for stricture great care and gentleness must be practiced, otherwise a false passage may be produced. Treatment is both general and local, and diet bland and not stimulating. Alcohol and tobacco are to be excluded, and sexual excesses avoided, and also exposure to cold and wet. Local treatment is that of gradual dilatation. Begin with the largest sound or bougie that can be easily passed; this may be only a filiform. The size of the sounds used is gradually increased. Treatments should be every four or five days in the beginning, with careful attention to surgical cleanliness. Urethral chill and shock can usually be prevented by giving the patient 10 grains of quinin and 5 drops of tincture of aconite about 20 minutes before the treatment. Epididymitis may, but seldom does, follow the passage of a sound. Strictures that do not yield to the gradual dilatation treatment are the exception. Internal urethrotomy should not be attempted except by those skilled in genitourinary surgery, as there is a possibility of doing great damage. External urethrotomy is seldom necessary in the treatment of stricture, other than those due to traumatism.

Burns

Dr. A. H. Barkley, Lexington, Ky.: Burns are the most frequent injury in civil life, cause the most agonizing suffering, and frequently condemn the patient to life-long mutilation of the most repulsive character. The severity of a burn depends on the character and degree of the heat, the length of time it is applied and the thickness of the cutaneous surface. A man, aged 56, an engineer, was burned by hot water and steam. He is 5 feet 10 inches and weighed 160 pounds at the time he was injured. He has nineteen square feet of skin on his body. Of this ten square feet were burned off, in four square feet the burn was of the third degree. Recovery was complete. The interesting points in the case are the area of skin burned, absence of contractures, no complications and healing without skin-grafting.

Treatment of Some Forms of Neuralgia by Deep Injections

Dr. D'Orsay Hecht, Chicago: My first patient was injected Nov. 20, 1906, and my last Sept. 30, 1909. During the period between these dates I have injected forty-eight patients with tic douloureux; eight besides this number were rejected because they were unsuited for this treatment. In all cases the diagnosis was made on the strength of the short, sharp paroxysms of pain so characteristic of the condition, and after careful inquiry into all conditions of the teeth, jaws, mouth.

nose, and accessory nasal sinuses, which sources are frequently responsible for pain which may quite closely simulate the disease. One must be mindful of the fact that tumors involving the fifth nerve, as well as syphilis and migraine, can give rise to pains that may simulate trifacial neuralgia. In many of the cases external skiagraphs were taken, and when these were felt to be unsatisfactory or unreliable, intrabuccal film skiagraphs were supplemented for the purpose of eliciting better detail, thereby affording a better means of localizing possible dental or oral sources of irritation. Among the rejected cases were those in which pain was caused by the presence of abnormal dental conditions, post-influenzal nasopharyngeal infections, sinus disease and hysteroid conditions. In point of therapeutic results, 32 patients were distinctly benefited, 8 were improved, 5 were unimproved, and 3 were aggravated. Of the 32 benefited, 1 patient was free for 1 year and 8 months. The shortest free interval has been 2 weeks. Recurrences have varied, in the successful cases on an average of 1 year. Some have returned for reinjection on the first reappearance of pain in 4 months, some 6, some 10 months, some 1 year, some 16 and 18 months. The variability is accounted for by the personal equation and the accuracy with which the alcohol was deposited in, at or near the nerve. In the entire series the patients required from 1 to 5 injections, this number sufficing for a permanent cure in the non-symptomatic neuralgia. An 8 per cent. salt solution of body heat injected in the amount of from 90 to 120 c.c. has seemed to act to better advantage than lesser amounts of different temperature.

What Women Should Know in Regard to Uterine Cancer

Dr. J. Henry Carstens, Detroit: I have suggested that the medical profession agitate this subject in the lay press and on every occasion talk cancer. The physician should talk about it in order to arouse the public as to its importance, because it is a great menace. I have suggested to the members of the Michigan State Board of Health that they get up a circular which should be in the hands of every woman in the cancer period of life. This circular should be in the possession of county societies and of every physician and should be given to every woman in the cancer age. The menopause comes on gradually, rarely suddenly. It is not preceded by excessive flowing, or discharge, or pain in a healthy woman. By the cancer period is understood those years after forty, although rarely it may occur earlier. The first symptoms of cancer are: 1. Profuse flowing, even if only a day more than usual. Flowing or spotting during intervals or after the use of a syringe or the movement of the bowels. 2. Leucorrhea, if not existing previously. If existing, but becoming more profuse, watery, irritating or producing itching, it is a very suspicious symptom. 3. Loss of weight if no other cause is apparent. Pain in the region of the uterus, back or side. If any of the above symptoms occur after the age of forty or thirty-five a woman should seek prompt relief and insist on a thorough investigation of the cause and prompt treatment. Cancer is always at first a local disease and can be removed if early recognized, and an absolute permanent cure brought about.

Problem of the Insane and the Defective

Dr. L. M. Crafts, Minneapolis, read a paper on this subject which embodied a consideration of past methods of care or neglect of these conditions by society, the present lines of care and nurturing of them, enabling their more frequent and prolonged survival and activity, including procreation. He also took up the conditions in the present social state tending to greater strain on the nervous system, with the increasing lines of neuropathic heredity thus engendered. His paper dealt with the various state and national statistics bearing on the question and pointed out the present absolute lack of regulation or control of the free activity of these classes, in producing a posterity. He offered suggestions for advisable legislation for effective control of such individuals.

Reflex Neuroses Arising from Nasal Abnormalities

Dr. J. A. Stucky, Lexington, Ky.: Six salient points, as given by Ziegler, should be borne in mind when searching for reflex neuroses, and to these I would add a seventh. 1. Eye and nose must first of all be thoroughly examined and excluded or accepted as exciting cause. 2. Careful differentiation should be made of those reflexes manifested in common by the eye and nose. 3. Eyestrain from whatever cause, whether ametropia, subnormal accommodation or intranasal pressure, should be corrected to exclude the eye as a factor. 4. Pressure contact in the nose in every instance must be relieved. 5. Every obstruction to free breathing in the superior part of the nose should be removed. 6. Recurrence of any reflex neurosis demands reexamination, renewed search for and correction of original exciting cause. 7. Lithemic conditions, faulty intestinal metabolism of whatever type, must be corrected and deserve careful consideration in every reflex neurosis whatever be the exciting cause.

Acute Dilatation of the Stomach

Dr. Edwin Walker, Evansville: The treatment of acute dilatation of the stomach consists of prompt evacuation of the stomach by the stomach tube, followed by copious lavage. It would be an excellent practice in all postoperative cases in which vomiting is prominent to resort to this measure. In order to release the pressure on the duodenum the patient should lie on the abdomen, with the foot of the bed elevated or, in extreme cases, in a knee-chest position. It is astonishing in grave cases to see the prompt relief given by these measures. The lavage should be repeated when the fluid reaccumulates or if the condition of the patient does not improve. Strychnin and physostigmin have been given. Rectal feeding should be given.

Muscle Rigidity: An Important Physical Sign of Disease Within the Chest

Dr. F. M. Pottenger, Monrovia, Cal.: Muscle rigidity is a feeling of resistance noticed on palpating the muscles overlying inflammatory conditions of the pleura and pulmonary parenchyma, due to (1) acute spasm of the muscles when the inflammatory process is acute; (2) pathologic change in the muscles when the inflammation is chronic. Muscle rigidity affects both the superficial and deep muscles. It is easily found when the inflammatory process is acute, for then the muscle stands out in acute spasm, or when the process is chronic in character and wide in extent the pathologically changed muscles are easily felt. It is difficult to find if the process is small in extent and not very active. It is important as a differential point in diagnosis between an acute and quiescent process in the lung. If the muscles are in spasm my experience would warrant the statement that the underlying process is acute. Muscle rigidity is not only a valuable sign, but it offers a rational explanation for one other sign, thus limited motion, lessened respiratory murmur, harsh respiratory murmur, prolonged expiration, ankylosis of the costosternal joint, curvature of the spine and increased resistance and slightly altered pitch on percussion.

Prophylaxis of Pellagra

Dr. C. H. Lavinder, Washington, D. C., in a paper on this subject reviews very briefly the theories as to etiology and discusses two points: first, the communicability of the disease, and, second, the practical application of its alleged relation to the use of spoiled corn as a food stuff. He considers that our experience in the United States is too limited for us to base conclusions thereon and that it would be unwise to reject the accumulated observations and deductions of other able men in other countries whose experience has been so much wider and fuller than our own. Since practically all observers agree that the disease is not communicable, and since quarantine measures are not in force against it, he thinks it is not necessary in the present state of our knowledge to adopt quarantine measures. So far as its relation to spoiled corn is concerned, he admits that much of the evidence is unsatisfactory, but since practically all theories of the disease take corn into more or less essential consideration and since Italy, in her determined fight against pellagra, has based most of her procedures on this theory and is claiming a fair share of success, we cannot at present do otherwise in our prophylactic measures than recognize some relationship between corn and pellagra.

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Regular Meeting, Oct. 6, 1909

The President, Dr. James Tyson, in the Chair

Extrasystolic Arrhythmia Simulating Heart-Block

Dr. George W. Norris: The paper is a report of four cases, one of which presented very unusual and perplexing features. This case was first believed to be one of auriculoventricular heart-block, but on careful study proved to be one of extrasystolic arrhythmia. The curious feature of the case was that the patient's peripheral pulse rate would suddenly drop from 80 to 40. This change could for a considerable period of time be brought on at will by a few simple procedures, such as a rapid change of posture, taking a deep inspiration, or compressing the abdomen. Later, in the course of the disease, this tendency became less marked, and a typical pulsus alternans developed. The post-mortem examination revealed well marked arteriosclerosis, with fatty and fibroid changes in the heart muscle.

DISCUSSION

Dr. William Pepper: An interesting point to me is the lack of our ability to feel these small extrasystoles. Even with the finer instruments, at times, one cannot perceive them at the wrist or in the brachial artery. I do not say that we are able to tell whether in the small beats the valves open or not, but I think that when we are unable to detect by instrumental means any wave in the peripheral arteries, then probably the aortic valves have not opened.

Dr. S. Solis Cohen: I should like to ask Dr. Norris to test in various ways what has been well termed the reserve force of the heart, to include the effect of local applications of heat and cold over the precordium. A rough but ready way of determining the amount of good cardiac muscle remaining is to note by the finger the response of the heart to momentary applications of heat followed by cold. When the response is good the prognosis is rather favorable. When this application increases the arrhythmia the prognosis is bad.

Dr. Robert N. Willson, Jr.: In studying certain problems in tuberculosis of the guinea-pig I noticed on taking out the heart that when it was exposed to the air the pulsation which almost immediately after removal of the heart from the pig assumed the character of a fibrillary tremor, again changed its nature. The ventricular contractions stopped almost completely, and the auricular systoles continued their rhythm. Then the auricular contraction seemed to cease and the ventricular resumed and later again discontinued. Then for a time and occasionally both were synchronous. Finally, before the contractions stopped altogether, the ventricular systoles gradually increased in power and extent, and the contractions seemed to recede toward the auricle and then toward the great sinus and then disappear. If these phenomena are produced in any such way in the human body in disease, it must needs be that very trifling alterations in the conditions of the body, chemical changes, etc., assume great importance in alteration of the normal beat. This would account for many of the conditions which we now try to explain along chemical lines. If the human heart acts as does the guinea-pig's, then I think the conditions in disease are not understood. We know simply that dissociation of the auricles and ventricles is possible. The causal factors and the governing laws still remain obscure.

Dr. John B. Roberts: I have been interested in watching the intermission of the pulse in two boys who have had measles. In one the intermittent pulse was present for a year and a half after the attack and finally disappeared. My explanation was that there was a mild myocarditis. In the other at the time of the intermission of the pulse I have noticed the extra beat of the heart, suggesting the motion of a fish lying in the bottom of a boat. This, I suppose, was the extrasystole. The boy seems to be better under belladonna than under digitalis, although the improvement may be due to the fact that he is regaining the general tone of the muscle and that the irritability is subsiding under the increased time rather than from the belladonna.

Dr. A. A. Eshner: This case emphasizes my view that there is a relation between the varied forms of myocardial degeneration that for convenience's sake we classify clinically as myocarditis and the condition of heart block. It seems to me that degeneration of the heart muscle, whether fibroid or gummatous, not necessarily involving the auriculoventricular conducting bundle of His, may cause degeneration in conductivity or contractility or in the other attributes of the muscular wall of the heart and give rise to disorders of rhythm that we include under the general designation of arrhythmia, and of which heart-block must be considered as an extreme type. I should imagine that the underlying factor in the circulatory variations was the state of the myocardium and that by reason of its inefficiency it was unable to compensate for the increased burden thrown on the heart by reason of the increased blood-pressure.

Dr. G. W. Norris: It has been repeatedly shown that partial ligation of the aorta in animals will produce extrasystoles. It is quite common to find arrhythymias in young children, particularly after febrile attacks. The type is better designated as sinus arrhythmia. It is probably due to over-action of the vagus nerve affecting the sinus rhythm. Therefore, when belladonna, which depresses the vagus nerve, is given the arrhythmia disappears. While I do not mean to indicate that we have by any means cleared up the whole question, taking up the matter on the basis of the myogenic theory, and considering the five functions of the heart muscle independently, we are able to theorize just as Ehrlich's hypothesis of the blood complement has furnished the bacteriologist with a working basis. Dr. Eshner, in his remarks about blood pressure, stated what I had intended to say.

Spasm of the Arteries and Report of a Case of Vasomotor Neurosis

Prof. Paul Lazarus, of Berlin, presented, by invitation, this paper. Professor Lazarus spoke on the vasomotor neuroses, and dealt with functional in contradistinction from anatomic disorders. Under ordinary conditions the circular muscular fibers of the arteries predominate in action over the longitudinal fibers, thus maintaining normal vascular tone. This may be increased by a variety of influences acting from without or from within. Vasomotor neuroses may be of two types, hypertonic or hypotonic, or there may be a combination of the two. Among them may be included migraine, exophthalmic goiter, sclerodactyly, scleroderma, Raynaud's disease, erythromelalgia, paresthetic meralgia, dermographism, angina pectoris, pseudoangina, Stokes-Adams syndrome, paroxysmal hemoglobinuria and hematuria, the crises of locomotor ataxia and vasomotor ataxia. He cited an instance in which arteriosclerosis developed in the train of long-continued increase in blood-pressure apparently of functional origin. He cited another instance in which in the sequence of emotional shock pallor, cyanosis, atrophy and gangrene developed in the upper part of the body, while hyperemia and hypertrophy developed in the lower part. He pointed out that no functional disturbance could take place without vasomotor or nutritive change.

DISCUSSION

Dr. S. Solis Cohen: There seem to be three elements in the origin of vasomotor disorders: (1) A constitutional liability of the patient; (2) an exciting cause; (3) the point which to me is most obscure—a local determinant. Just why the same patient should have at one time migraine; at another a condition simulating hepatic colic, at another hemianesthesia or asthma or urticaria or circumscript edema of the skin or mucous membranes, is yet to be determined. In some instances, a very slight mechanical force, scarcely to be termed trauma, determines it. At other times the exciting agent, a toxin or thermic change, acts locally, as when the hand plunged into ice water exhibits Raynaud's phenomena or intestinal fermentation gives rise to enteralgia. I do not know why one of my patients who has recovered from Graves' disease should be troubled with recurrent spasm of the temporal artery so that vessel can be seen becoming more distended and more tortuous above the point of constriction, this being accompanied with intense pain which lasts for a minute or two and which can be relieved immediately by the administration of nitroglycerin to relax the spasm, nor do I know why hemoglobinuria follows application of ice to the loins, or to the feet, as happens in another patient. Evidently there is a local determinant in each case. The important point is that we should diagnosticate the individual rather than the attack.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

California: Los Angeles, December 7. Sec., Dr. Charles L. Tisdale, Butler Bldg., San Francisco.

Delaware: Regular, Dover, December 14; Homeopathic, Wilmington, December 14. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

Iowa: State House, Des Moines, Dec. 7-9. Sec., Dr. L. A. Thomas.

Kentucky: The Armory, Louisville, December 14. Sec., Dr. J. N. McCormack, Bowling Green.

Maryland: 1211 Cathedral St., Baltimore, December 14-17. Sec., Dr. J. M. Scott, Hagerstown.

Pennsylvania: Regular and Homeopathic, Philadelphia, December 14-17; Electic, Harrisburg, December 14-17. Secretary of the Medical Council, Nathan C. Schaeffer, Harrisburg.

Virginia: Lynchburg, Dec. 14.17. Sec., Dr. R. S. Martin, Stuart.

Michigan May and June Reports

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examinations held at Detroit and Battle Creek, May 24-26, and at Ann Arbor, June 8, 1909. Besides the written examination a practical test in refraction was required. The number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75.

At the examinations held May 24-26, the total number of candidates examined was 62, of whom 57 passed, 1 failed, and 2 were conditioned. The papers for two candidates have not been completed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
American Medical Missionary College	(1909)	82.7, 83.6, 88.7, 89.6, 90.2, 91.5
Hahnemann Medical College and Hospital, Chicago	(1908)	76.7
Northwestern University Medical College	(1908)	85.3
Louisville and Hospital Medical College	(1908)	78.4
Kentucky School of Medicine	(1908)	81.4
University of Michigan, College of Medicine	(1890) (1908) (1909)	87.3 88.7 86.
University of Michigan, Homeopathic College	(1908)	86.3
Detroit College of Medicine	(1909)	77.6, 78.1, 79.3, 80.5, 81.3, 81.9, 82.1, 82.6, 82.9, 83.4, 83.7, 83.7, 84.1, 84.2, 84.3, 84.3, 84.4, 85.3, 85.4, 85.5, 86.4, 86.6, 87.5, 87.6, 87.7, 87.7, 88.3, 88.4, 88.5, 89, 89.5, 89.5, 89.9, 89.9, 90.
Detroit Homeopathic College	(1909)	76.9, 78.1, 78.5, 78.9, 80.7
Eclectic Medical Institute, Cincinnati	(1907)	81.2
Jefferson Medical College	(1904)	78.5
Imperial University, Warsaw	(1904)	82.5
FAILED		
University of Michigan, Homeopathic College	(1908)	74
CONDITIONED		
Louisville Medical College	(1902)	*77
Detroit College of Medicine	(1909)	**79.1

* Conditioned in surgery.
** Conditioned in eye, ear, nose and throat.

At the examination held June 8, the total number of candidates examined was 79, of whom 70 passed, 1 failed and 3 were conditioned. The papers for five candidates have not been completed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
American Medical Missionary College	(1907)	75
University of Louisville	(1908)	86.6
Rush Medical College	(1909)	86.7
University of Michigan, College of Medicine	(1909)	78.4, 79.8, 80.7, 81.8, 82.6, 82.8, 83, 83.3, 83.5, 83.8, 83.9, 84, 84.1, 84.2, 84.2, 84.2, 84.4, 84.7, 84.7, 84.8, 85.2, 85.2, 85.2, 85.3, 85.5, 85.5, 85.5, 85.9, 86.2, 86.7, 86.8, 86.8, 86.8, 86.8, 86.9, 86.9, 86.9, 87, 87, 87.1, 87.3, 87.4, 87.4, 88.1, 88.1, 88.3, 88.7, 88.7, 88.9, 89.2, 89.5, 89.5, 89.9, 90.7, 91.1, 91.7.
University of Michigan, Homeopatbic College	(1909)	82.6, 85.1, 86.1, 86.2, 86.4, 87.1, 87.2, 87.4, 88.2, 88.8, 89, 90.3.
FAILED		
Kentucky School of Medicine	(1907)	71.5
CONDITIONED		
University of Michigan, College of Medicine	(1909)	*77.1
University of Michigan, Homeopathic College	(1909)	*80.5, **82.8

* Conditioned in Obstetrics.
** Conditioned in Histology.

Pennsylvania June Reports

The Medical Council of Pennsylvania reports the written examinations held at Philadelphia, Pittsburg and Harrisburg, June 22-25, 1909. The number of subjects examined in was 7; percentage required to pass, 75.

At the examination held by the State Medical Society of Pennsylvania, the total number of candidates examined was 354, of whom 334 passed and 17 failed. Three candidates did not complete the examination. The following colleges were represented:

College	Year Grad.	Total No. Examined.
PASSED		
University of California	(1891)	1
Georgetown University	(1891) (1908) (1909)	3
Chicago College of Medicine and Surgery	(1909)	2
Rush Medical College	(1909)	1
University of Louisville	(1907) (4, 1909)	5
Baltimore Medical College	(1909)	9
Woman's Medical College, Baltimore	(1908)	1
College of Phys. and Surg., Baltimore	(1908) (2, 1909)	3
Baltimore University	(1903)	1
University of Maryland	(1899) (1903) (1905) (1906) (2, 1909)	6
Johns Hopkins University	(1907) (1908) (2, 1909)	4
Maryland Medical College	(1908) (3, 1909)	4
University of Michigan, College of Medicine	(1909)	1
Syracuse University	(1908)	1
University of Buffalo	(1909)	1
Columbia University, Coll. of Phys. and Surgs.	(1907)	1
Cleveland College of Physicians and Surgeons	(1908)	1
Western Reserve University, Cleveland	(1909)	3
Starling Medical College	(1898)	1
Univ. of Pennsylvania	(1906) (1907) (2, 1908) (63, 1909)	67
Woman's Medical College of Pennsylvania	(1907) (1908) (11, 1909)	13
Temple University	(1909)	16
Jefferson Medical College	(1905) (2, 1906) (3, 1908) (62, 1909)	68
Medico-Chirurgical College, Philadelphia	(1907) (2, 1908) (61, 1909)	64
University of Pittsburg	(1907) (3, 1908) (49, 1909)	53
University of Toronto, Ontario	(1898) (1904)	2
McGill University, Canada	(1909)	1
University of Innsbruck, Austria	(1908)	1
FAILED		
Howard University	(1907)	1
Illinois Medical College	(1907)	1
Medical College of Indiana	(1898)	1
Louisville and Hospital Medical College	(1908)	1
University of Louisville	(1909)	1
University of Maryland	(1909)	1
Atlantic Medical College	(1909)	1
Leonard Medical School	(1909)	1
Jefferson Medical College	(1909)	1
University of Pittsburg	(2, 1908) (3, 1909)	5
Medico-Chirurgical College, Philadelphia	(1909)	1
Temple University	(1908)	1
University of Naples, Italy	(1898)	1

At the examination held by the Homeopathic Medical Society of Pennsylvania, the total number of candidates examined was 44, all of whom passed. The following colleges were represented:

College	Year Grad.	Total No. Examined.
PASSED		
Atlantic Medical College	(1909)	1
New York Homeo. Med. Coll and Hosp.	(1908) (1909)	2
Cleveland Homeopathic Medical College	(1909)	1
Jefferson Medical College	(1908)	1
Hahnemann Med. Coll. and Hosp., Philadelphia	(1909)	39

At the examination held by the Eclectic Medical Society of Pennsylvania, the total number of candidates examined was 27, of whom 25 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Total No. Examined.
PASSED		
Illinois Medical College	(1908)	1
Bennett Medical College	(1909)	2
National Medical University, Chicago	(1908)	1
Atlantic Medical College	(4, 1908) (7, 1909)	11
Maryland Medical College	(1907) (3, 1909)	4
Baltimore Medical College	(1907)	1
Baltimore University	(1903)	1
University Medical College, Kansas City	(1905)	1
Eclectic Medical Institute, Cincinnati	(1909)	3
FAILED		
Baltimore University	(1902)	1
University of Pittsburg	(1907)	1

Rhode Island October Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, Oct. 7-8, 1909. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. All applicants were required to give a laboratory test in analysis of urine. The total number of candidates examined was 14, of whom 8 passed and 6 failed. The following colleges were represented:

College	Year Grad.	Per Cent
PASSED		
Yale University	(1907) (1909)	87.7 95.
George Washington University	(1909)	92.
College of Physicians and Surgeons, Baltimore	(1909)	90.
University of Maryland	(1909)	81
University of Michigan	(1883)	80.
Dartmouth Medical School	(1887)	81
Cornell University Medical College	(1908)	91.
FAILED		
Atlantic Medical College	(1909)	61
Baltimore Medical College	(1907) (1909)	72.8 76.
College of Physicians and Surgeons, Baltimore	(1909)	75.
Laval University, Quebec	(1904) (1909)	68.4 74.

Book Notices

L'HYPOPHYSE ET LA MEDICATION HYPOPHYSAIRE. Par M. le Docteur Arthur Delille, Membre Adjoint de la Société Anatomique. Paper. Pp. 336. Paris: G. Steinheil, 1909.

The present volume is valuable not only because of the records of experimental work by Dr. Delille but because it contains a thorough review of the rapidly increasing literature of the subject. The conflicting views concerning certain phenomena are set forth, and an effort is made to reconcile the discrepancies, particularly those regarding the effects of hypophysectomy. The experimental work by Dr. Delille is concerned almost entirely with the effect of extracts of hypophysis when injected into animals and man during health and in disease. There is no discussion regarding the technic of operating on the gland. Dr. Delille discusses the experiments of Masay, which attempted to create for experimental purposes, by the administration of a so-called hypophysotoxic serum a condition analogous to that following surgical removal of the gland. This serum was prepared by immunizing guinea-pigs with an extract of hypophysis. He criticises the value of the conclusions drawn because no account was taken of the possible effect of the serum on the rest of the body, particularly the other glands, but he admits that work by this method would be valuable if careful observations were made concerning the effects of the serum. In the essential points Delille is in harmony with Cushing (THE JOURNAL, July 24, 1909, liii, 249), but he differs in several details. He finds that in animals an anterior lobe extract causes moderate hyperactivity of the hypophysis and thyroid, but Cushing states that it does little or nothing.

Some of Delille's conclusions are especially interesting, as for example, the signs and symptoms of diminished and increased activity of the gland. He sums up those of hypophyseal insufficiency and dyshypophysism as follows: hypotension, tachycardia, distressing sensations of heat, profuse sweats, oliguria, anorexia, asthenia, disturbances of nutrition (loss of flesh; obesity in certain cases, trophic changes, etc.), psychic troubles, insomnia, disturbed growth (physical and mental backwardness), diminution of resistance to intoxications, special signs of intracranial compression due to pituitary tumor. The evidences of hyperhypophysism he says are: hypertension, polyuria, glycosuria, troubles of nutrition (loss of flesh; often obesity, etc.); the number of blood-cells equal or above normal; hypertrophic processes of development (gigantism, acromegaly); psychic troubles, somnolence; nearly always a genital insufficiency; frequently hypothyroidism; and special signs of intracranial pressure due to pituitary tumor. Cushing states that polyuria, sometimes associated with glycosuria, is a somewhat characteristic symptom of hyposecretion of the anterior lobe instead of hyperhypophysism. Moreover, he regards adiposity as a more constant and more important sign of hyposecretion than does Delille.

Concerning the indications for hypophyseal medication Delille seems to hold perhaps too radical an opinion for the present state of knowledge when he makes the following statement: "The direct hypophyseal organotherapy will find its indication in every case in which one wishes to raise the arterial tension, slow the pulse, increase diuresis, suppress troublesome sensations of heat and profuse sweats, ameliorate the appetite and sleep, cause the disappearance of asthenia, attenuate certain psychic troubles, exercise a stimulating action on nutrition and development; in short, hypophyseal organotherapy will be prescribed in every case in which the certain or probable diagnosis of hypophyseal insufficiency shall be made. One should abstain from this medication with patients who have a hypertension."

As regards the administration of the extract Delille says: "One should use by preference the total extract, for it is, in equal doses, nearly as active as the posterior lobe; besides it is easier to prepare and consequently less expensive. The properties of the anterior lobe are still too mysterious to warrant the use of its extract in practice. The daily dose of the total extract which one should advise ought not to be more than that of half of one fresh gland of the beef, save in exceptional cases. The patient should be strictly watched in the course of the treatment; the arterial pressure should be taken regularly and one should depend on it to increase or diminish the doses, to suspend or to resume medication."

LEHRBUCH DER GREISENKRANKHEITEN. Herausgegeben von Prof. Dr. J. Schwalbe, Berlin. Paper. Pp. 914. Price, 26 marks. Stuttgart: Verlag von Ferdinand Enke, 1909.

The necessity for a special work on the disease of old age does not at first seem perfectly clear. While it may be argued that there is as much justification for a work of this sort as for one on diseases of children, most readers will feel that the peculiar problems presented by infant-feeding, the rapid progressive changes of infancy and childhood, the partiality of so many acute infectious diseases for childhood, and certain anatomic and physiologic peculiarities of the young, offer valid reasons for the existence of treatises on the diseases of children, which reasons do not quite have their counterpart when the maladies of old age are considered. One must admit, however, that certain characteristics of old age are worth emphasizing and perhaps even embodying in a special volume; one thinks at once of the regressive and atrophic changes in tissues, the vascular scleroses, the frequency of carcinoma, the vulnerability to pneumonia, etc.

These peculiarities are well brought out in this work. Of necessity, much that is not peculiar to old age is embodied. Perhaps we ought not to say of necessity, for we are inclined to think that had there been a liberal omission of much of the description that would apply to disease of all ages (which knowledge should be assumed as possessed by the reader), and if there had been more concentration of the peculiarities of the various affections in old age, the value of the book would have been increased.

Most of the articles are good, as the names of the writers would lead us to expect. Some of these writers are themselves old, but they write with the vigor of youth and the wisdom of advanced years. Some articles are unusually full, e. g., Hope-Seyler's on respiratory diseases, and Ortner's on typhoid fever. Fürbringer's article on prostatic hypertrophy is reasonably complete, yet carcinoma of the prostate is covered in half a page. Ebstein might appropriately have gone more into details on arteriosclerosis.

The book may be commended as thoroughly reliable, though we feel that the physician who needs help in the diagnosis of treatment of a disease in the aged, be it pneumonia, typhoid, gastritis or carcinoma of any organ, will be more apt to turn for help to his work on general medicine or to special works than to this book, which, after all, is much on the order of a compend of symptoms and signs of disease as seen in the old with the treatment.

CAUSES OF DISABILITY AS APPLIED UNDER ACCIDENT AND HEALTH INSURANCE POLICIES. Designed for the Use of Insurance and Fraternal Examiners, General Practitioners and Students of Medicine, Attorneys and Corporations. By Charles Hamilton Harbaugh, M.D., Medical Director American Assurance Company. Cloth. Pp. 650, with illustrations. Price, $6. New York: The Spectator Co.

The average physician is sadly deficient in his knowledge of the laws of accident and industrial insurance and of the proper method of making examinations and writing out reports concerning his findings in this class of cases. The object of this work is to supply this knowledge; but on reading it one is impressed by the fact that it is apparently written in the interests of the accident-insurance companies rather than in the interest of the physician or of scientific medicine; invidious comparisons are frequently made between the life-insurance examiner and the accident-insurance examiner.

Physicians are urged to "develop themselves into adjusters for the companies they represent." "A doctor who adjusts for an accident-insurance company is so well intrenched with his company that it is almost an impossibility for another physician to secure any examinations from the company."

For all of this examining and adjusting and playing the interests of the company against those of the patient, the compensation is altogether inadequate, for it is stated that "accident-insurance companies seldom pay more than two or three dollars for each examination." That the advice given in settlement of cases is at times to the advantage of the company at the expense of what is just to the insured, is well shown on page 102, under "Diseases of the Brain." "When the diagnosis of an abscess of the brain exists and there is a history of a severe injury, such as a fracture of the skull or a bad concussion, it is best for an insurance company to effect an advance settlement with an individual who may be carrying an accident-insurance policy by allowing one or two months of this disability. Should an adjustment not be secured, the abscess may terminate in death, and if this occurs within ninety days from the date of the accident, the company may be liable for a death claim for the amount of the policy and this would be much more than if the above time of total disability had been paid.

"Insurance companies do not care to take chances on these cases and prefer to make a settlement in advance."

While the volume contains information of value to those engaged in this particular line of work, one cannot but be impressed by the fact that much of it is written from a biased point of view.

Text-Book of Hygiene. By George H. Rohé, M.D., Late Professor of Therapeutics, Hygiene and Mental Diseases in the College of Physicians and Surgeons, Baltimore, and Albert Robin, M.D., Professor of Pathology, Bacteriology and Hygiene, Medical Department Temple University. Fourth Revised Edition. Cloth. Pp. 582, with illustrations. Price, $3. Philadelphia: F. A. Davis Co., 1908.

This work, during the lifetime of Dr. Rohé, enjoyed not a little well-deserved popularity, which, after his death, for lack of revision, suffered partial eclipse It now appears edited by Dr. Albert Robin, assisted by special writers on such topics as military, naval, school and personal hygiene and quarantine.

The editor has had an arduous task before him, that of adding, subtracting and correlating in such a way as not to detract from the ensemble and style of the book as Rohé left it. The result is perhaps as satisfactory as could be attained by any means (short of radical rewriting of the whole book). There might have been a more general modernizing of much of the sources of statistics and opinions throughout the book; this criticism is particularly applicable to the retention of Pettenkofer's theory in references to typhoid fever and Asiatic cholera. The pruning-knife, too, might have been more vigorously used in several places in the chapters dealing with air, soil, antiseptics and disinfectants and the infectious diseases.

A few typographic errors have crept in, noticeably in the disarticulation of the last paragraph on page 563 from its context at the end of the second paragraph on page 562. The photographic reproductions, Figures 7, 46, 47 and 50 are very indistinct, owing, doubtless, to the unsuitability of the paper for this sort of work. Figure 45 is reversed. The book in its general make-up is pleasing and its contents well within the bounds of accuracy.

The Practical Medicine Series. Edited by Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School. Vol. II. General Surgery. Edited by John B. Murphy, A.M., M.D., LL.D., Professor of Surgery in Northwestern University, Chicago. Cloth. Pp. 617, with illustrations. Price, $2. Series 1909. Chicago: The Year-Book Publishers.

The volume on General Surgery of the Practical Medicine Series for 1909 is well up to the high standard of excellence which has characterized its predecessors. The accomplished editor of this *multum in parvo* has so thoroughly reviewed the surgical literature of the past year that very little of importance has been omitted. We can heartily endorse and commend to the particular notice of hospital authorities the remarks of the editor on the necessity for reform in the methods of administration of anesthetics. The administration of anesthetics by persons without special training, as practiced to-day in many of our hospitals, is, in the light of modern knowledge of the subject, almost criminal. While the greater part of the book is devoted, as might be expected, to the surgery of the abdomen, in which wonderful progress is to be noted, the whole field of general surgery is well covered. With its full index this little volume is a valuable accession to the library of either surgeon or general practitioner.

Suture of Arteries: An Experimental Research. By E. Archibald Smith, M.B., Ch.B., Victoria University, F.R.C.S., England. Cloth. Pp. 70, with illustrations. Price, 90 cents. New York. Oxford University Press, 1909.

The paucity of literature in the English language on the subject of suture of arteries, the little that exists being mainly scattered in journals, has led Smith to prepare this little monograph. The first two sections are devoted to historical description of the various methods of operation and brief lists of cases in which they have been employed. The third and fourth sections are devoted to a description of the method of suture devised by the author, and an account of research work done by him. From his experimental work and the study of reported cases, Smith concludes that successful suture of blood vessels depends, under strict asepsis, on the bringing together of intima with intima with the minimal amount of suture exposed to the blood current. This, he believes, can be most certainly accomplished by a quilled suture method of his own device. The principal methods in vogue are clearly described and illustrated. The typography of the book is excellent, but it is to be regretted that the fairly complete bibliography is nearly two years behind the date of the preface.

Principles of Pharmacy. By Henry V. Arny, Ph.G., Ph.D., Dean and Professor of Pharmacy in the Cleveland School of Pharmacy, Pharmacy Department of Western Reserve University. Cloth. Pp. 1175, with 246 illustrations. Price, $5 net. Philadelphia: W. B. Saunders Co., 1909.

There are already in the field a considerable number of works on pharmacy, but the subject has by no means been exhausted. In the preface Professor Arny states that the "frank intention of this book is to explain the Pharmacopeia from its pharmaceutical standpoint. At the same time, however, the book disclaims all attempts to be a text-book in chemistry or botany."

Professor Arny treats the subject in seven sections or parts. In Chapter 1 of the first part the origin, history and scope of the Pharmacopeia are explained in detail. The later chapters of Part I are taken up with a description of the technic of pharmaceutical operations. Part II considers the official Galenical preparations and such others as are worthy of notice. In Parts III and IV the chemical relations of drugs are considered. The official pharmaceutic tests and assays are grouped together in Part V, a feature not found in other treatises on pharmacy, although an arrangement somewhat similar to this has been purposed for the next U. S. Pharmacopeia. The prescription in all its phases is considered in Part VI. Part VII is a manual of laboratory exercises involving all of the operations of practical pharmacy, and including exercises in equation-writing and chemical arithmetic.

A few verbal inaccuracies may be noted, but they are not such as greatly to impair the value of the work. While some might doubt the need of introducing the rudiments of physics and chemistry, the sections on these subjects will be of use to the practicing pharmacist whose preliminary training is limited. On the whole the book is well written and should prove particularly valuable to the student of pharmacy and even to the physician as a reference work.

Electricity in Gynecology. By May Cushman Rice, M.D., Professor of Gynecology and Clinician in the Illinois School of Electrotherapeutics. Cloth. Pp. 159, with illustrations. Price, $1. Chicago: L. I. Laing & Co., 1909.

For those who believe in electricity as a curative measure, Dr. Rice has written an epitome of the therapeutic indications for electrical treatment. She has given concise and definite information as to the action of different currents, including cataphoresis and electrolysis. After explaining the therapeutic value of the poles, Dr. Rice gives a simple method of polarizing a battery that will insure definite results. The cataphoretic application of thiosinamin is mentioned for dissolving scar tissue. The questionable value of the *x* ray in the treatment of carcinoma is very sanely considered as a valuable adjunct to surgery and a boon to the sufferer of inoperable carcinoma. In Dr. Rice's remarks on fibroid she has overlooked the risk of using electricity without a microscopic examination, which alone will determine whether or not the tumor is malignant; neither is she concerned with the possibility of a secondary malignant growth developing in a fibroid tumor. In the treatment of acute inflammations, the question of the element of the phagocytic action of the blood is entirely ignored, and from the results which she has obtained in acute conditions, and the length of time requiring a symptomatic cure, the convalescent period does not seem to be shortened. The deductions offered as to the efficacy of electricity in cellulitis and salpingitis are not convincing, or in many respects scientific.

Medicolegal

Power of Claim Agent to Employ Physician

The Appellate Court of Indiana, Division 2, says that the case of Southern Ry. Co. vs. Hazlewood (88 N. E. R. 636), was brought by the latter, a physician, to recover the value of services rendered a brakeman injured in the company's service. The evidence showed that the brakeman was injured during the night and was taken to a place where he was examined by the company's regular surgeon, who at that time gave him no medical attention beyond prescribing a headache powder; that the next morning his father, a physician who lived at a distance, came to see him, and dismissed the company's surgeon, whereupon the plaintiff became the attending physician. A claim agent, or "assistant law agent," called on the injured employee the same morning. There was evidence that he told the brakeman to keep the plaintiff, and the company would pay for it. The brakeman was later removed to a hospital, where on at least two occasions, the claim agent inquired how he was getting along, told him to let the plaintiff continue his treatment, and that the company would pay the bill. The plaintiff testified that the claim agent said that the brakeman was dissatisfied with the company's surgeon, and that he wanted him to go ahead and look after him, and that he should rest easy about the bill: that the company would as soon pay him as any other physician, and for him to keep account of his bill, and the company would pay it. The plaintiff ordered a spinal brace for the patient of a surgical instrument house in Louisville and the bill was sent to the company's general superintendent and paid. The brakeman testified that the settlement was made between himself and the company by its agreeing to give him $5,300 and pay his hospital expenses and doctor bills.

The court holds that the first paragraph of the complaint, which was what is called a common count "for services rendered at the special instance and request of the defendant," was sufficient, as railroad companies may employ surgeons generally.

The company urged that the claim agent had no authority to employ a physician. But he had authority, the court says, to compromise the claim against it, and to minimize damages recoverable from it. The settlement which he made was adopted. The employment of a competent surgeon might be one step in minimizing such damages and in procuring such settlement. It was therefore germane to the employment. The company, having held him out as possessing authority, was in any event precluded from denying it.

The case of Louisville, etc., R. Co. vs. Smith, 121 Ind. 353, strongly relied on by the company, was not in point. The authority of a conductor and a claim agent rests on a different basis. The natures of the two employments are essentially different. The duty of the "assistant law agent" was to visit injured persons, and to settle or to compromise with them. The employment of a physician is reasonably incidental to those duties, and whether he acted within the scope of his authority was a matter of proof.

The promise of the railroad company to pay the plaintiff was not within the statute of frauds, so as to be required to be in writing, for two reasons: (1) The debt was the debt of the company; (2) where a promise is made to a debtor to pay his debt to a third person, and sufficient consideration has passed between the debtor and promisor, an action may be maintained without the discharge of the original debtor.

A judgment for $196 in the plaintiff's favor is affirmed.

Evidence and Certainty Required to Sustain Malpractice Cases

The Supreme Court of Oklahoma holds, in Kernodle vs. Elder (102 Pac. R. 138), that, in suing a physician for malpractice in setting and treatment of a fractured limb, where here is no guaranty of cure or contract for extraordinary skill, and where the evidence fails to show that the results are not uch as usually and ordinarily result in such cases where reated by an ordinarily skilful physician using ordinary care, hen there is a failure of proof, and the plaintiff is not entitled o recover. Where in such a case it is apparent from the ecord that the claim of the plaintiff cannot be sustained, on reversal the court will not remand for new trial, but will direct a dismissal.

There are no classes of cases, perhaps, which go to juries, or, indeed, with which lawyers and courts are called on to deal, the court says, where results are so uncertain and so frequently unsatisfactory as cases involving damages against physicians for alleged malpractice in their efforts to alleviate the ills to which human flesh is heir. It is nearly always the defendant's judgment which is on trial; and on the hearing the jury and the parties are all sitting and speaking after the fact, while the unfortunate physician when he acted was perhaps required by the conditions to grope, deliberate, and often speedily act, and always before the fact. After he has acted and the results are different than he desired or expected, and different than were expected or desired by the patient, if a suit is brought, the physician is confronted with all of the after-acquired knowledge, and his responsibility is weighed from that standpoint rather than from the true one. A preponderance of the evidence in cases of this character is sufficient to sustain a plaintiff's cause. No more should be required, and no more is required; but it should be certain on the part of the court and the jury that they are acting from actual evidence before them, properly referable to the cause, and that the judgment, when against the physician, is based on such evidence, and not on bias, conjecture, or inference.

In this case the plaintiff claimed that he fractured the bone of his right hip joint, and that the defendant negligently and unskillfully diagnosed the difficulty, in that he dressed and bandaged the limb as if the break were between the knee and the hip, and as though the fracture were in the vicinity of the knee, and that by reason of this error on his part the fracture itself was left wholly unattended and uncared for. The evidence showed that the plaintiff, who was a man of the age of 56 years and of fairly good health and activity, fell on the ice and fractured the femur bone of his right leg at or near the neck. He called in the defendant to treat him, and the defendant arrived in about two hours after the accident, placed the plaintiff under the influence of chloroform, and made an examination. The plaintiff and a number of other witnesses, members of his family and neighbors, testified that the defendant informed him and them that the limb was fractured at a place above the knee, between it and the upper part of the femur, perhaps about the middle. It also appeared that the defendant applied a "Buck's extension," which consisted of, in this case, a splint in the shape of a board, attached to the limb on the under side, to which was fastened a rope which extended to a window frame, with a 5½-pound iron attached, for the purpose of tiring and extending the muscles to bring the broken parts of the bone in apposition. The physician remained with the plaintiff all of that night, and on the morning of the second day thereafter he returned, bringing with him what is commonly known as a "Hodgen splint," an appliance which he had made, consisting of an iron, bent much in the shape of a hairpin, the two sides laced together with webbing or cloth, and of about the length and shape of the leg. Into this the limb was placed with the foot near the loop, the open end being toward the body, the inside piece being about 10 inches shorter than the outside piece. This entire frame was then swung about 2 inches clear of the bed, allowing the limb to lie in this splint, which was attached to a pulley from the ceiling or window ledge by ropes or cords. That in this condition the plaintiff remained in bed about three weeks, during which time he was waited on by the physician. The plaintiff testified that his limb was left by this treatment in a weak or stiff condition in the hip, which interfered with its use; that it hurt him in walking, and he stated: "I cannot use it as well as I could before it was hurt; it is stiff, and the muscles won't expand;" also, that he could not walk without the use of a cane or crutch.

The plaintiff also stated that after the treatment by the defendant he had applied to two local physicians for treatment, one of whom testified that he made an examination of the limb and was present when the same was examined with the *x*-ray. That the examination revealed an impacted fracture at the neck of the femur, the result of which, he stated, necessarily shortened the limb. He further testified that in a case of this character it was very likely that treatment would not produce the best results, and that the limb would be shorter than its normal length.

From the testimony of the local physicians it appeared that the injured limb was from 1 inch to 1½ inches shorter than the other, and from this evidence no other inference could be drawn than that this was as good a result as could be reasonably expected, considering the age and condition of the plaintiff. At all events, there was an absolute lack of any evidence, the court says, showing that in cases of this character, under any kind of treatment, the limb is ever perfect afterward or equals in length the uninjured limb. In this case the burden was not on the defendant to show that the plaintiff's limb was in as good condition as medical science and skill could place it after its injury, but the burden was on the plaintiff to show that it was not. This, in the court's judgment, he totally failed to do.

Should it be shown by the evidence that the limb which the plaintiff had was not such a limb as a physician of ordinary skill and using ordinary care and diligence should have left him with, after treating it, then the burden would be on the plaintiff, in order to sustain the verdict in this case, to show by the evidence that this result was brought about through lack of skill on the part of the physician, or through some wrongful or negligent act of omission or commission on his part. Neither of these conditions should be supported merely by theory, conjecture or inference, but they should be based on tangible, substantial evidence which the court and the jury may grasp and understand.

The plaintiff asked for $1,000 damages. He obtained a verdict for $500. But with all of the evidence before it on which the plaintiff could possibly predicate the hope of recovery, and there being in the court's opinion a total want and absence of the necessary elements to entitle him to recover, the court remanded the case with instructions to dismiss it.

Death from Erysipelas Following Injury is Attributable to the Latter

The Supreme Court of Montana says, on the second appearance before it of the case of McAuley vs. Casualty Company of America (102 Pac. R. 586), that it had a different record before it from what it had the first time. According to the latter, the court was clearly justified in concluding that a person could become ill from erysipelas in some manner other than by inoculation from an outside germ, through an abrasion of the skin. But all of the testimony on the second appeal showed that a person can contract erysipelas in but one way, namely the introduction of the germ of the disease through an abrasion of the skin. The only logical conclusion was therefore that Mrs. McAuley died from erysipelas—which the physicians said at the trial was a form of blood poisoning—caused by the germs of that disease entering her system through an abrasion of the skin of her leg, which she suffered in alighting from a street car.

It was contended by the casualty company, however, that this was not sufficient to fix a liability on it under its contract, for the reason that the disease germs might have been communicated to the hurt, not at the time of the accident, but from the hands of her husband, or from bandages or liniments which were immediately thereafter used and applied. But the court is of the opinion that this contention could not be sustained. These contracts of insurance, like all others, must be construed with a view to carrying out the intention of the parties. The manifest intention of these parties was that, if Mrs. McAuley was injured while riding as a passenger on a street car, the plaintiff beneficiary should be indemnified, to a certain extent, for his loss.

That the disease germs were communicated to Mrs. McAuley's leg from the hands of her husband, or from the bandages or liniment, was mere conjecture; there was no word of testimony on the subject. The jury found that she injured her leg at the time and place in question, and the proof showed that erysipelas manifested itself within the usual time. If a man not learned in the medical profession—one of the neighbors, for instance—were asked what caused Mrs. McAuley's death, he would undoubtedly reply that she scratched her leg getting off a street car, and that blood poisoning set in, from which she died. This is the way people generally understand these matters; and why shou the courts adopt any other or different method of lookir at the ordinary affairs of life? The injury and the erysipel and the death were proven facts in the case. If Mrs. McAule had not injured her leg in alighting from the car, there wou have been no occasion to apply bandages or liniment, an the probabilities were she would still be alive. The defenda company induced the plaintiff to insure the life of his wi against accidental death; he paid the premium, and she ther after died from the effects of an accidental injury. The cou has no hesitancy in agreeing with the jury that the injury her leg was the proximate cause of her death, and affirms judgment for the plaintiff.

Current Medical Literature

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

November 6

1 Parasitism and Natural Selection. R. G. Eccles, Brooklyn.
2 *Acetone Treatment of Inoperable Carcinoma. D. W. Tove New York.
3 *Differential Diagnosis Between Certain Forms of Tertia Malaria and Enterogenic Intoxication. H. A. Houghto Bayside, L. I.
4 *Spastic Constipation, A Symptom. J. N. LeConte, Altanta, G
5 Mongolian Idiocy. A. M. Hellman, New York.
6 *Non-Specific Uses of Antidiphtheritic Serum. F. M. Fernande Havana, Cuba.

2. **Acetone Treatment of Inoperable Carcinoma.**—Tove reports eight cases of inoperable carcinoma treated with aceto as first used by Gellhorn. The patients had passed beyond t reach of any radical operation and in some cases the canc had consumed the greater part of the cervix and vagina. T treatment, in a simple and harmless way, has given the patients a period of comparative ease and comfort. Tovey say that the treatment is of value only in inoperable cases, an does not give a permanent cure, but ameliorates the chi symptoms and makes the life of the patient endurable. T terrible odor, discharge, and hemorrhages are all relieved, an when they return the treatment can be given again witho harm. The hemorrhages, septic absorption, and odor are a stopped.

3. **Tertian Malaria and Enterogenic Intoxication.**—Accordi to Houghton many so-called cases of malaria of indefinite ty are in reality cases of intestinal intoxication from non-dige tion of foods, or the action of bacteria on digested but una similated foods.

4. **Spastic Constipation.**—According to LeConte, spastic co stipation depends on a spastic contraction of the longitudin and circular fibers of the intestinal wall, caused by inflan mation or irritation. It is generally found in nervous, hig strung persons, especially women. The symptoms are attack of sharp pain along the colon or radiating from the umbilicu especially before the expulsion of gas or feces, dull aching pai in the intervals, and small scybalous or flattened stools, passe in two or three stools each day with much pain. Laxativ give much pain and act in large doses. Mucus in considerab quantity may be passed. Harsh, irritating foods, such as a used in the atonic variety, are harmful here. The diet shou be bland and should consist of materials that can all be pass through a fine sieve. The condition is associated with muco colitis in many cases.

6. **Non-Specific Use of Antidiphtheritic Serum.**—Fernand advocates the use of antidiphtheritic serum in a number non-diphtheritic diseases, in the nature of infections, eith general or local. He has found it useful in suppurative kera itis of whatever origin, in infectious ulcers of the cornea, a penetrating wounds of the eye, in several respiratory affectio bronchopneumonia, and measles.

Boston Medical and Surgical Journal

November 4

7 Diagnosis of Renal Tuberculosis. A. L. Chute, Boston.
8 Renal Tuberculosis, Pathogenesis and Pathology. L. Dav Boston.
9 Prognosis and Treatment of Renal Tuberculosis. R. F. O'N Boston.

10 Difficulties of Diagnosis in Renal Tuberculosis. F. B. Lund. Boston.
11 Direct Transfusion of Blood. Comparison of Methods. J. C. Hubbard and A. R. Kimpton, Boston.

New York Medical Journal

November 6

12 Attic Suppurations. M. J. Ballin, New York.
13 Present Status of Vaccine Therapy. H. A. Duncan, Philadelphia.
14 Intramuscular Injections in Treatment of Syphilis. V. C. Pedersen, New York.
15 The Technic of Round Ligament Shortening Through the Internal Ring, Combined with Coleotomy. C. W. Barrett, Chicago.
16 Cholelithiasis Simulating Duodenal Ulcer. H. Weinstein and R. Cronson, New York.
17 Celsus on Diseases of the Stomach. C. G. Cumston, Boston.
18 The Fowler Position in Treatment of Peritonitis with Description of the Gorham Bed. G. Griffin, Albany, N. Y.
19 *Influence of Hydrogen Peroxid on Hydrochloric Acid Secretion. E. H. Goodman, Philadelphia.
20 A Foreign Body in the Urethra. J. H. Dowd, Buffalo, N. Y.

19. **Influence of Hydrogen Peroxid on Hydrochloric Acid.**—Goodman has repeated the experiments of Petri in fifteen patients. Fifty cubic centimeters of a 3 per cent. solution of peroxid of hydrogen were made up to 300 c.c. with water, making approximately a 0.5 per cent. solution. An ordinary Ewald test meal was given and examined in the usual manner and was later followed by the peroxid test meal. No difficulty was experienced in getting the patient to take the latter, and no unpleasant sensations were complained of, with the exception of one patient, who said the "water had a fishy taste." There was a striking diminution in the quantity of free hydrochloric acid when a weak solution of hydrogen peroxid was substituted for tea in a test meal. Occasionally only a moderate decrease was observed, but in the majority of cases the decrease was astonishing, in some instances a total absence of free acid being noted. Not one of these six patients in whom the free acid was lacking, complained of any unpleasant sensations however. Only one patient, a neurasthenic and sullen youth, offered any opposition to the peroxid on account of the taste. Therapeutic application of the facts learned from these studies was made in a few instances. For use in the ward, a 0.5 per cent. hydrogen peroxid solution was made up in bulk and under the name of special water, was given to certain patients. The first patient to receive this water was suffering from headaches and gastric fermentation, and while under observation there developed an array of diurnally varying pains and symptoms. Another patient had the usual symptoms of hyperchlorhydria and suffered a great deal at night with burning sensation in the epigastrium. This was so intense that he was usually wakened out of a sound sleep by the pain. Hydrogen peroxid quickly relieved the distress, and although he stated that the special water made him sick for the time being, he became accustomed to it and drank no other water during his stay in the hospital. He was discharged cured, no other medicine being used except peroxid.

Northwestern Lancet, Minneapolis

November 1

21 *Relation of the Medical Profession to the State. C. Williams, St. Paul.
22 Ulcer of the Stomach and Duodenum. A. T. Mann, Minneapolis.
23 The Empty Intestine Treatment of Typhoid Fever. A. D. Hard, Marshall, Minn.
24 Treatment of Postpartum Hemorrhage with Momberg's Rubber Tube. F. L. Adair, Minneapolis.

21. Abstracted in Report of Minnesota State Medical Assoiation in Department of Society Proceedings in this issue.

Medical Fortnightly, St. Louis

October 25

25 Open Operative Treatment of Fracture of the Patella (continued). A. P. Heineck, Chicago.

American Journal of Medical Sciences, Philadelphia

November

26 *Intestinal Perforation During Typhoid in Children. J. H. Jopson and J. C. Gittings, Philadelphia.
27 General Movement of Typhoid Fever and Tuberculosis in the Last 30 Years. G. M. Kober, Washington, D. C.
28 *Experiments Relating to Bacterial Content of the Feces, with Researches on the Value of Certain Intestinal Antiseptics. J. Friedenwald and T. F. Leitz, Baltimore.
29 Case of Carcinoma on Diverticulitis of Sigmoid. H. Z. Giffin and L. B. Wilson, Rochester, Minn.
30 *Cervical Rib and Its Relation to Neuropathies. S. P. Goodhart, New York.
31 The Interpretation of Aphasia. F. X. Dercum, Philadelphia.
32 School Life: Its Relation to the Child's Development. T. M. Rotch, Boston.
33 *Compression of Pulmonary Veins, the Pressure Factor in the Etiology of Cardiac Hydrothorax. G. Fetterolf and H. R. M. Landis, Philadelphia.
34 A Practical Hospital Polygraph. T. B. Barringer, New York.
35 *Locomotor Ataxia and Paralysis Agitans in the Same Patient. A. A. Eshner, Philadelphia.
36 *Cerebral Tumor Presenting an Unusual Clinical Course. R. D. Rudolf and J. J. Mackenzie, Toronto.

26. **Intestinal Perforation During Typhoid in Children.**—Jopson and Gittings studied the cases of perforation in typhoid occurring in children, and reported since 1903, with a view to confirming, if possible, the findings of Elsberg, and, at the same time, to consider briefly those points in the clinical course of typhoid in children that have a bearing on the diagnosis of perforation and to compare these with the symptoms commonly observed in adults. They collected from various sources 2,274 cases of typhoid in children in which perforation occurred thirty-five times (1.54 per cent). In collecting cases of perforation in children for study they fixed the usual age limit of fifteen years; they analyzed only cases in which operation was performed and perforation proved; they did not consider cases of peritonitis occurring without perforation, nor did they study cases of perforation of the appendix in which this lesion was manifestly due to a preexisting or coincident appendicitis not due to typhoid ulceration. Reported since the publication of Elsberg's paper in 1903, are 45 cases in subjects 15 years of age and younger, the exact age being given in 44. The youngest (4) were aged 5; 2 recovered, and 2 died. There were 3 patients aged 15 years, all of whom died. Of 21 patients under 10 years, 12 recovered, 9 died, a mortality of 43 per cent.; of 23 patients 10 years of age or over, 10 recovered and 13 died, a mortality of 56.5 per cent. In 31 cases the type of the disease previous to perforation was mentioned; 8 were mild, 15 were moderate, and 8 were very severe. Of the mild cases, 5 patients recovered, 3 died in cases of moderate severity, 8 patients recovered, 7 died. In the very severe cases 2 patients recovered and 6 died. The influence of the severity of the attack on the prognosis in cases of perforation as shown by these figures seems to be considerable. The child who is toxic and exhausted by prolonged hyperpyrexia is in poor condition to resist the additional complication and operative intervention. In 44 cases the time of perforation was definitely stated. The danger of perforation is greatest at the end of the second and during the third week. Nine patients were in relapse at the time of perforation; in another, a probable relapse, the duration of the disease was not stated, thus making ten cases in all. The date of the perforation ranged from the seventh to the fifteenth day of the relapse. Of these patients, 6 recovered and 4 died, a percentage of recoveries higher than that observed in unrelapsed cases. In 87.5 per cent. (21 out of 24 cases) pain was an initial symptom; in one case it was mentioned as not being initial; in two other cases it had been present during the illness to such an extent as to constitute a difficulty in diagnosis. In 89 per cent. (25 out of 28) the pain was severe. In the remaining 11 per cent. it was stated to be not severe. In 58.6 per cent. (17 out of 29) the pain was general in distribution. In 24.1 per cent. (7 out of 29) it was confined to the right side of the abdomen, especially the right iliac region. In 10 per cent. (3 out of 29) it was noted in the left side. In one case it was noted in the "upper" and once in the "lower" abdomen. In 10 out of 17 the pain was persistent, in 4 of which it continued to increase in severity. In 3 out of 17 it was intermittent in type; and in 4 it was distinctly stated to be "not persistent." Tenderness was noted as being present in 36 out of 45 cases. It was recorded as "general" in 15; prominent in the right iliac fossa in 9; confined to the "lower abdomen" in 2; and once to the hypogastrium. Rigidity is almost invariably present. It was noted as being absent in only 1 of 32 cases of the series in which full data were given, and in 1 it was absent early but appeared later. In 26 cases, vomiting was present 20 times and absent 6. Of the 20 cases, it occurred as an initial symptom in 4. Distention was noted as being present in 19 cases and absent in 11. Distention was present in only 50 per cent. of the patients who recovered and in 91 per cent. of the patients who died. In sixteen cases the normal area of liver dulness was diminished or almost obliterated; 5 times this was noted in early cases. Effusion, as indicated by movable dulness in one or both flanks, was noted as being present in 8

cases. In 12. information as to the temperature was entirely wanting. Of 33 cases there were 15 in which the temperature was depressed at some time subsequent to perforation, and in 11 of these it was specified that there was an immediate drop. In 6 there was no change. In 5 there was a rise at the time of, or shortly after perforation; and in 7 the temperature was fairly high. In 33 per cent. of the cases was it specifically stated that there was a pronounced initial drop in temperature; so that it is probably absent in more than half the cases occurring in childhood. A chill at the time of perforation was recorded in 6 cases. In 34 cases more or less satisfactory observations on the pulse rate were furnished. The majority of cases in children, as in adults, show an increase in the rapidity of the pulse rate: and in a considerable number, a weakening in the quality of the pulse may be looked for as an accompaniment of intestinal perforation. Shock was distinctly stated to be a marked symptom in 10 out of 45 cases, the most prominent alteration being in pulse and facies, and sometimes temperature—a rapid increase in the first; a pinched, pale, anxious expression in the second, and a fall in temperature, being the concomitant features. In 3 cases in which there was no shock the facies showed no change. The study of the data on respiration was unsatisfactory. Leucocytic counts were recorded in only 14 cases, in 6 of these repeated observations were made. They suggest that a falling count is unfavorable, while a high count or a rapidly rising count is of better prognostic significance.

The important diagnostic symptoms which are shown by a study of these cases are: pain, tenderness, and rigidity, which in children, as in adults, are early in their development and fairly constant in appearance. Next in importance, because less frequent, but of significance when present, are a drop in temperature, a rise in the pulse rate, and some degree of shock, often preceded or accompanied by vomiting, with perhaps a preceding or accompanying chill. A wave of leucocytosis will sometimes be recorded, and is at least as significant, if not more so, than in adults. Distention and obliteration or diminution of liver dulness are of little value in making the diagnosis in children, while effusion is mainly of value in confirming it. Other points are an absence of abdominal respiration, inhibition of peristalsis, and possibly a rise of blood-pressure, hitherto unstudied, in early life. The accident of perforation may be simulated in children, as in adults, by a number of other conditions.

28. **Bacterial Content of Feces.**—According to the authors, regulations of diet, together with the evacuation of the bowels, is the most effectual method that they have at hand of reducing the excessively high bacterial content of the intestine. Betanaphthol and bismuth salicylate appear to be the most effectual intestinal antiseptic drugs in normal individuals, while the aspirin and ichthalbin effect slight reduction, and salol gives no results whatever. The results produced by means of intestinal antiseptics in patients suffering with gastrointestinal disturbances, do not seem to be marked, whereas the best results are obtained by regulation of diet.

30. **Cervical Rib.**—The salient points in the case presented by Goodhart are: 1. Onset of symptoms at an unusually early age (7 years). 2. Severity of symptoms, which are practically limited to the nervous system. 3. Hypesthesia in the region supplied by the inner cord of the brachial plexus (ulnar distribution). 4. Progressive atrophy of the small muscles of the hand, including the thenar and hypothenar eminences. 5. Cervico-dorsal scoliosis. 6. Stationary character of the symptoms referable to the cervical rib, in the absence of surgical intervention. 7. Demonstration of the exact location of the roots of the brachial plexus in their relation to the supernumerary rib on the left side; digital pressure on each producing numbness and tingling in corresponding area of arm. 8. Diminution in size of the third normal rib on the left side, well-shown in the radiogram. 9. Beginning symptoms due to pressure on the opposite side. 10. Surgical removal of both cervical ribs.

33. **Cardiac Hydrothorax.**—The explanation which Fetterolf and Landis offer to account for these effusions that accompany heart disease is as follows: The fluid comes not from the parietal, but from the visceral pleura, and the outpouring is caused, so far as the pressure factor is concerned, by dilated portions of the heart pressing on and partly occluding the pulmonary veins. Two sets of blood-vessels enter the lungs, the bronchial arteries and the pulmonary arteries. The former are nutritional in function and are derived from the aorta or from the first aortic intercostal. They enter the hilum of the lung and follow the posterior surface of the bronchi, some of their terminal branches reaching and supplying the pleura. The pulmonary arteries, in addition to carrying venous blood to the lungs, send twigs to the pleura. In this membrane there is a capillary anastomosis between the terminal branches of the bronchial and pulmonary arteries, on the one hand, and the venous radicles which are tributary not to the bronchial but to the pulmonary veins, on the other. It is evident, therefore, that the venous blood from the visceral pleura is poured into the pulmonary veins, and, as a corollary, that any obstruction to the flow through this vein, if of sufficient power and duration, and if accompanied by whatever condition of the blood essential to transudation, would produce leakage through the visceral pleura into the pleural sac. Points in favor of the theory are that it explains equally well right-sided, left-sided and bilateral collections of fluid, and also accounts for certain intrapulmonary conditions found clinically and postmortem in association with hydrothorax.

35. Abstracted in The Journal, June 5, 1909, p. 1875.

36. **Cerebral Tumor.**—The patient, whose case is reported by Rudolf and Mackenzie, for the greater part of her life had suffered from severe headaches, with some aphasia during the paroxysms. At the menopause the headaches rather lessened in acuteness, but the aphasia tended to last slightly, so that she would hesitate in speech and occasionally use the wrong words, both in speaking and in writing. Next she got an attack of what seemed like acute cerebral compression without localizing symptoms. This passed off, and she was as well as before for nearly ten weeks. Then the compression recurred, and again passed off, but recurred at intervals of a month, until the fifth proved fatal. Between the attacks she would seem nearly well, and on the day before the fatal one, spoke unusually well, and walked downstairs. The case during life seemed to be probably one of some sort of cyst, which periodically filled and after producing almost fatal compression emptied itself in some way. After the post-mortem, on stripping the dura from the cerebrum, it was found to be adherent over a large tumor mass which lay on and in the left cerebral hemisphere. There were a few small flat white tumor nodules on the inner side of the posterior portion of the dura over the left hemisphere and falx cerebri. A very large tumor was situated between the tentorium and the occipital lobe on the left side; this was attached firmly to the tentorium and was easily lifted away from the brain substance. There was considerable edema of the pia-arachnoid; the vessels of the left side were markedly congested and the convolutions were flattened. There was some dilatation of the lateral ventricles. The histologic characters of these tumors seemed to point without doubt to their being endotheliomata arising from the dura. The large soft tumor was of the ordinary cellular type of endothelioma; the large hard tumor and the small metastatic nodules in the neighborhood would fall into the class of so-called fibroendotheliomata.

American Journal of Urology, New York

October

37 Total Enucleation of the Enlarged Prostate. P. J. Freyer, London, England.
38 Principles Underlying the Newer Methods in the Diagnosis of Kidney Disease. J. Robertson, London, England.
39 Pyelonephritis of Pregnancy and the Puerperium. C. G. Cumston, Boston.

Old Dominion Journal of Medicine and Surgery, Richmond

October

40 *Sleep Paralysis of the Ulnar Nerve. A. Gordon, Philadelphia.
41 Associated Cardiovascular and Nervous Syndromes. A. G. Brown, Richmond.
42 *Present Status of the Treatment of Goiter. Le G. Guerry, Columbia, S. C.
43 *Clinical Aspect of Hyperthyroidism. M. Tompkins, Richmond.
44 Nasal Pressure as a Cause of Headaches of Apparently Ocular Origin. C. M. Miller, Richmond.
45 Pharmacologic Observations on the Action of Various Potent Remedies: Alcohol. L. B. Wiggs, Richmond.
46 Foreign Bodies Migrating into the Human Body. B C. Nalle, Charlotte, N. C.

40. **Sleep Paralysis of Ulnar Nerve.**—Gordon says that it is the traction or over-extension of the arm but not a prolonged

postoperative lying position that is apt to produce an ulnar paralysis. If the latter were the real factor, ulnar palsies would be encountered very frequently, which is of course not the case. The ulnar palsy under the circumstances is probably the result of stretching of the nerve in its upper portion near the axilla. In sleep a similar phenomenon may be observed when an individual sleeps with the arms elevated, abducted, and behind the head. If the sleep lasts a long time the over-extension of the arm, and consequently of the nerve, is sufficient to interfere with the function of the nerve. Whatever the mechanism of ulnar neuritis in such circumstances may be, ulnar neuritis occurring during sleep is an infrequent phenomenon. As to the nature of the affection, all that can be said is: the normal function of the nerve has been interrupted; the over-extension of the nerve has brought on some molecular displacement which was sufficient to interfere with the proper conduction of stimuli through that nerve in a centripetal or centrifugal direction. Over-extension of a nerve is apt to tear its fibrils and its blood-vessels, and thus produce hemorrhages and inflammation. That an inflammatory state is not present is evident from total absence of pain at any stage of the disease and from the rapid improvement that follows treatment. This consists only of daily massage and of strict precautions against over-extension of the limb not only at night but also during the day.

42, 43. Abstracted in The Journal, Oct. 23, 1909, p. 1421.

Ophthalmic Record. Chicago

October

47 Injuries from Foreign Bodies Examined by the Roentgen Rays, with Results of Operation. W. M. Sweet, Philadelphia.
48 Instruments for Opening from the Lachrymal Sac Directly to the Nasal Cavity. H. Gifford, Omaha, Neb.
49 *Rapid Method of Staining the Trachoma Bodies of Halberstaedter and Prowazek. F. H. Verhoeff, Cambridge, Mass.
50 *A New Law. J. H. Rhoads, Philadelphia.
51 Blood Pressure in its Practical Relations to Ophthalmology. E. Jackson, Denver, Colo.

49. **Rapid Method of Staining Trachoma Bodies.**—Verhoeff uses Wright's well-known modification of Leishman's stain with satisfactory results. The stain is applied in exactly the same manner as in the staining of the blood films. The specimen is conveniently obtained by scraping the cocainized conjunctiva with one edge of a cover glass instead of a knife, and by making use of the tears as a diluent instead of a salt solu-ion as generally advised. If desired, the cover glass may be previously sterilized by flaming it. The tears and scrapings ollected along the edge of the cover glass are then gently spread over the surface of another cover glass and allowed to lry in the air. The preparation is then flooded with the stain-ng fluid which is allowed to act one minute. Distilled water s then added, about 8 drops, until a slight scum is formed on he surface of the mixture, which is allowed to remain three r four minutes. The preparation is then differentiated by vashing off the staining mixture with distilled water and llowing the water to act about one minute. The differ-ntiation may be followed by placing the cover glass film side p on a slide and watching the process under a low power of he microscope. The preparation is then quickly dried with ne filter paper and mounted in balsam.

50. **A New Law.**—This new law, discovered by Rhoads, is: he angle of refraction is the law of the perspective. All arallel lines are seen to approach each other at a one-minute ngle. This angle controls all vanishing points, and all lines nd planes; in fact, the size of all objects and the angle of all nes, whether large or small, broken, crooked, curved or traight. And, moreover, it matters not whether they are iewed downward from a balloon, upward from a coal mine, or utward from an observer at any conceivable incline. The orizon has nothing whatever to do with the vanishing of any nes or objects, unless they happen to be nine feet apart when ey leave the observer. The angle within which the human e cannot see is conceded to be one minute—the average may a little less, not greater—therefore, the eye separating two bwebs at twelve inches from it would place them at 3/1000 an inch apart. At ten feet from the eye the angle would be 1000 of an inch wide. At three-quarters of a mile the gle would be twelve inches apart, while at three and a half iles it will be separated five feet two inches, which is just wide enough to admit a trolley track. This angle continued to the horizon would gap about nine feet. Prolong this angle over the edge of the horizon to the half-risen moon and objects would have to be seventy miles apart on the face of the moon to be visible to the unaided eye, and continuing this angle on to the sun, spots on the disc of the sun, viewed through a smoked glass, by the naked eye, must be over 27,000 miles in extent to come within, or rather without this angle, to be seen by the human eye. To project these lines on to the nearest measured star, which requires three years for its light to reach us, and they would be wide open to the extent of 42,000,000,000 miles, and double stars would have to be placed at the extreme corners of this vast isosceles triangle, or they would be blended into a single star. Rhoads believes that each pair of parallel lines in perspective is an isosceles triangle, and the length of its sides is governed by the width of its base; especially is this true if they are less than nine feet apart when they meet between the observer and the horizon. If they are wider than nine feet they gap on the horizon.

Parallel lines four inches apart would come together at 1,320 feet, only on twenty-sixth of the distance to the horizon. Parallel lines one foot apart come together at three-quarters of a mile, less than one-sixth distance to the horizon, and parallel lines two feet apart come together at a mile and a half from the observer. While lines nine feet apart come together on the horizon, all lines wider than nine feet, if on a level plane, gap at the horizon, but if they go up a mountain side or off into the air they meet where the one-minute angle brings them together, *i. e.*, where the human eye can no longer separate them.

Journal of Cutaneous Diseases, New York

October

52 Increase of Certain Contagions Following the Great Fire in San Francisco. D. W. Montgomery and H. Morrow, San Francisco.
53 Acute Septic Pemphigus. J. Grindon, St. Louis.
54 Bromid Eruption Mistaken for Blastomycosis. O. S. Ormsby, Chicago.

Mississippi Medical Monthly, Vicksburg

November

55 Diagnosis and Treatment of Acute Intestinal Obstruction. J. W. Armstead, Sidon.
56 Carbon Dioxid Snow: Its Uses and Method of Application. J. H. Fox, Vicksburg.
57 *Congenital Umbilical Hernia into the Cord. C. E. Catchings, Woodville.
58 Hookworm Disease or Uncinariasis. B. Z. Welsh, Wool Market.
59 Hystero-Salpingo-Oöphorectomy Duplex for Fibroids. W. R. McKinley, Columbus.

57. **Congenital Umbilical Hernia into Cord.**—In the case reported by Catchings the cord was greatly distended at its point of insertion into the abdomen forming a tumor about two and one-half inches in diameter, and about three and one-half inches long. One side or half of this tumor was opaque, while from the other side the contents could be partly determined through the hernial coverings, owing to the thinness of the layers. It was a case of congenital hernia into the cord. Manipulation to reduce the contents was of no avail. The hernia was reduced by operative means. The contents of the hernia were cecum and appendix, a portion of the ileum and some omentum, all firmly adhered to the opaque side of the tumor. The infant recovered.

Journal of Abnormal Psychology, Boston

October

60 Case of Psychochromesthesia. T. H. Raines, Savannah, Ga.
61 Psychology of General Paresis. A. Schmiergeld, Ward's Island, N. Y.
62 Certain Pulse Reactions as a Measure of Emotions. I. H. Coriat, Boston

Detroit Medical Journal

October

63 *General Anesthesia in 5,400 Patients. A. V. Wenger, Grand Rapids, Mich.
64 Appendicitis in Children. G. Van A. Brown, Detroit.

63. **General Anesthesia.**—Five thousand, four hundred anesthesias with no fatalities is the experience recorded by Wenger. He urges that patients be prepared more thoroughly than is the general rule. Eliminate, so far as possible, the moving of patients after partial or complete anesthesia. When ether or chloroform are the drugs to be administered, use the

open method, drop by drop, so that elimination may progress in a comparative ratio to absorption. Except when contraindicated, give morphin from $\frac{1}{8}$ to $\frac{1}{4}$ of a grain, and atropin from 1/200 to 1/100 of a grain, hypodermically, from 15 to 45 minutes before anesthesia is begun, for the purpose of reducing the amount of drug and controlling mucus secretion. Keep the mouth clear of the mucus that is secreted, which, when laden with ether or chloroform and swallowed, is the most frequent cause of postoperative vomiting. If this is well looked after the frequency of vomiting will be much reduced. Always have a hypodermic syringe charged with at least 1/20 grain of strychnin and 1/100 of a grain of digitalin, and whenever possible, a second hypodermic charged with atropin 1/75 of a grain at hand. When anesthetizing the center of attention should be the business in hand, not the operation. Give only enough attention to the operation to guide in the degree of anesthesia. Be careful and gentle with the eyes. Keep in mind the fact that pupilary reflex and conjunctival reflex from drug vapor are sufficient guides and that they are fully as accurate as the reflex obtained by the finger touching the conjunctiva or cornea. Begin all anesthesias with ether or chloroform slowly, carefully watching the color of the patient and the condition of the pulse, respiration and skin. If the patient is markedly cyanosed it will often be found that a change from ether to chloroform or *vice versa* will relieve the condition. In tedious operations the patients should receive an infusion of saline solution, from one-half to three pints, according to indication. Always examine urine, heart, lungs and mouth, and always ascertain that all clothing is loose about the patient's body and neck.

Annals of Ophthalmology, St. Louis

October

65 *Ocular Symptoms of Arteriosclerosis. W. E. Bruner, Cleveland.
66 Accuracy in Measurement of Refraction. E. Jackson, Denver.
67 Conjunctival Infection in Manila. R. T. Edwards, Phrapatoom, Siam.
68 Reflex Asthenopia from Intranasal Pressure. M. L. Foster, New York.
69 Apparently Idiopathic Recurrent Vitreous Hemorrhage. N. M. Black, Milwaukee.
70 Flat Sarcoma of the Uveal Tract and Angiosarcoma of the Orbit. H. G. Goldberg, Philadelphia.
71 The Choice of Operation for Iridotomy. M. Radcliffe, Philadelphia.
72 Complete, Hard Cataract, with Extraction, at the Age of Fourteen. H. A. Kiefer, Los Angeles.
73 Angioid Streaks in the Retina, with Report of Case. W. Zentmeyer, Philadelphia.
74 Hereditary Blindness and Its Prevention (concluded). C. Loeb, St. Louis.

65. Abstracted in The Journal, June 5, 1909, p. 1872.

Vermont Medical Monthly, Burlington

October

75 Autointoxication. C. W. Peck, Brandon.
76 Tuberculous Hip Disease. N. W. McMurphy, Gilmantown, N. H.
77 Fractures of Bones of the Face. G. S. Bidwell, Waterbury.
78 Fractures of the Femur. L. W. Burbank, Cabot.
79 Dislocation of the Lower Jaw. H. H. Hayward, Tunbridge.
80 Bronchopneumonia. J. H. Judkins, Northfield.

Southern Medical Journal, Nashville

October

81 Treatment of Cancer of the Skin. J. M. King, Nashville.
82 Inguinal Hernia and its Successful Cure by Operation with Local Anesthesia. W. W. Battey, Augusta, Ga.
83 Maxillary Sinus Disease and its Surgical Treatment. M M. Cullom, Nashville.
84 Uncinariasis. C. P. McNabb, Knoxville, Tenn.
85 *Diagnosis of Syphilis by the Wassermann Reaction. W. Litterer, Nashville.
86 Treatment of Tuberculous Peritonitis. W. A. Bryan, Nashville.
87 Gonorrhea and the Public Health. T. Frazer, Asheville, N. C.
88 Intestinal Parasites and the Diagnosis of Neurasthenia. W. Allan, Charlotte, N. C.
89 The Opsonic Index. G. S. Foster, Manchester, N. H.
90 Cholelithiasis Complicating Typhoid; Operation Durin; the First Week; Recovery. J. M. Mason, Birmingham, Ala
91 *Harelip Twins. C. H. Cargile, Bentonville, Ark.

85. This is practically identical with the article by this author which appeared in The Journal, Nov. 6, 1909, p. 1537.

91. **Harelip Twins.**—Cargile records a case of "harelip twins," on whom he operated when they were about three months old. The deformities were not alike, one being single hare-lip with only slight deformity of the dental arch, while in the other, though the palate was perfect, there was double fissure of both lip and arch with anterior projection of the intermaxillary bone.

Western Medical Review, Omaha

October

92 Etiology and Pathology of Acute Articular Rheumatism. P. G Woolley, Omaha.
93 Symptoms and Diagnosis of Acute Articular Rheumatism W. O. Bridges, Omaha.
94 Rheumatism in Children. F. W. Lake, Omaha.
95 Rheumatism and the Heart. J. M. Mayhew, Lincoln.
96 Cerebral Rheumatism and Chorea. T. C. Little, Omaha.
97 Iritis. W. D. Shields, Holdrege, Neb.
98 History of the Wyoming Medical Society for the Past Six Years. G. L. Strader, Cheyenne, Wyo.

University of Pennsylvania Medical Bulletin, Philadelphia

October

99 *Compression of the Superior Mesenteric Artery on the Systemic Blood Pressure. W. T. Longcope and A. T. McClintock, Philadelphia.
100 Development of Public Health Work in Philadelphia. A. C. Abbott, Philadelphia.
101 Practical Considerations on the Sinus Maxillaris. J. P. Schaeffer, Ithaca, N. Y.
102 Opportunities for the Practice of Sanitary Science. H. B. Wood, Philadelphia.
103 Some Fermentative Properties of Bacteria. D. H. Bergey, Philadelphia.
104 Anomalous Origin and Distribution of the Coronary Arteries. G. Fetterolf, Philadelphia.

99. **Compression of Superior Mesenteric Artery.**—It is evident from the physiologic experiments performed by Longcope and McClintock that constriction and ligation of the superior mesenteric artery will bring about immediately a slight but definite rise in blood-pressure, which is sustained over a short period of time, and so far as can be learned it is not possible to produce this same result by compression of any other branch of the aorta below the diaphragm. Two explanations are offered. The superior mesenteric artery supplies a relatively large area of the body, and the effect of constriction may be analogous to that resulting from compression of the aorta at the diaphragm. By obstructing the vessels a considerable proportion of the peripheral circulation is cut out, the peripheral resistance is increased, and the pressure, therefore, rises. Another explanation is, however, possible. Following complete ligation of the vessel there is, of course, marked anemia of the entire small intestine. This sudden anemia may induce, through a reflex action, an elevation of blood-pressure.

Colorado Medicine, Denver

October

105 The Progress of Medicine. P. J. McHugh, Estes Park, Colo.

Medical Herald, St. Joseph

October

106 A Study in Reflexes. L. M. Crafts, Minneapolis.
107 Acute Pancreatitis. D. S. Fairchild, Des Moines.
108 High Potential Currents and Low Frequencies. I. C. Barnes, Topeka, Kan.
109 Presentation of Case Three Years After Ligation of Common Femoral Artery for Large Aneurism in Scarpa's Triangle: Cure. L. J. Dandurant, St. Joseph, Mo.

Bulletin Johns Hopkins Hospital, Baltimore

November

110 The Two Sylviuses. F. Baker, Washington, D. C.
111 The Epidemic of the Indians of New England, 1616-1620. H. U. Williams, Buffalo, N. Y.
112 *Use of Silver Wire in Opening the Kidney. E. K. Cullen and H. F. Derge, Baltimore.

112. **Silver Wire in Opening Kidney.**—In man and dog there are, as a rule, two main arterial trunks supplying the kidney, one passing to the anterior, the other to the posterior portion. While studying the tree-like branching of these arterial trunks, the thought occurred to Cullen and Derge: Could it be possible to open the kidney in such a manner as to avoid the two main trunks, and, at the same time, do as little damage as possible to the finer branches. Anatomically, the proper procedure in performing a nephrotomy would be to cut from within outward, and some blunt instrument which would push the vessels aside would probably give the most satisfactory results. In order to determine the feasibility of this supposition, a series of nephrotomies was performed on dogs, and the results obtained were very definite and gratifying. A No. 3 silver wire was used as the blunt instrument, and proved very satisfactory, its pliability and low tensile strength making it almost impossible to tear any of the larger branches providing ordinary care was exercised in pulling the wire slowly outward. Two series of experiments were performed t

determine, first, whether the direction of the incision had any appreciable effect on the resulting hemorrhage; that is, whether the hemorrhage would be less if the knife were passed from the region of the kidney pelvis out through the cortex and capsule, than from the capsule into the pelvis; secondly, whether the hemorrhage would be lessened and more readily controlled if a silver wire were used in lieu of the knife in splitting the kidney from within outward. In the first series of experiments, in which the knife alone was used, all the incisions were made in a plane at right angles to the curved vertical axis of the kidney. Two incisions were made in each experiment, one by passing the knife from cortex to pelvis, and the other by transfixing the kidney in antero-posterior manner close to the pelvis, and bringing the knife out through the cortex. Both of these incisions were made at a level of about 2 cm. from either pole and carried through the center of the lobule situated between the central and upper or lower polar lobule. In each instance, irrespective of whether the incision from pelvis to cortex was placed near the upper or lower pole, the hemorrhage was appreciably less when the knife was directed from pelvis to cortex than from cortex to pelvis. In the second series of experiments, both the knife and silver wire were used, and the experiments divided into two separate groups:

In the first group, the knife was used in making the incision near one pole and the silver wire near the other pole. The silver wire was usually employed first. A No. 3 or No. 4 silver wire threaded on a Kousnietzoff-Cullen straight liver needle was passed transversely through the kidney at the upper level of the pelvis. The capsule was then nicked with a knife from he point of entrance of the wire around to the point of exit. This procedure was found necessary to avoid trouble—some bleeding from the tearing of the capsule. With the kidney irmly held in the hand of the assistant, the wire was readily brought out through the cortex by a gentle see-saw motion. On examination, the cut surfaces appeared almost as clean-cut s if the knife had been used. In several instances bleeding, which was only a slight venous ooze, was so slight that a mere pproximation of the two surfaces checked all bleeding, and had it been possible to keep the surfaces pressed closely ogether the kidney could have been safely dropped back into osition without a single suture being necessary.

Alabama Medical Journal, Birmingham

October

13 Tetanus. S. G. Stubbins, Birmingham.
14 Present Theories Concerning Internal Secretion. H. Swedlow, Birmingham.
15 Ophthalmic Signs in Arteriosclerosis. B. D. Sibley, Birmingham.
16 Management of the Growing Girl. E. H. Sholl, Birmingham.
17 Non-Operative Gynecologic Methods. L. A. Jenkins, North Birmingham.

Journal of Nervous and Mental Disease, Lancaster, Pa.

November

18 Tumor of Hypophysis Cerebri. D. O. Hecht, Chicago.
19 Angiosarcoma of the Left Hemisphere. C. E. Riggs, St. Paul, Minn.
20 *Care of the Insane Epileptic. C. T. La Moure, Rochester, N. Y.

120. **Care of Insane Epileptics.**—La Moure advocates the stablishment of a separate state hospital for the care and eatment of the so-called insane epileptics and the transfer all epileptics from other state hospitals to such state hostals for epileptics. With such arrangement many of the ficulties existing at present will, he thinks, be obviated. eyond constituting a sufficient population to establish a rge institution devoted to the solution of these problems, it further pointed out that if this class were removed from esent surroundings the vacancies thus created would provide om for an equal number of a non-epileptic class, thus tendg to relieve the over-crowding which now exists.

Laryngoscope, St. Louis

October

1 Nasal and Nasopharyngeal Conditions as Causative Factors in Aural Disease. G. A. Leland, Boston.
2 Idem. N. H. Pierce, Chicago.
3 Idem. D. B. Kyle, Philadelphia.
4 Surgery of the Esophagus, Laryngologically Considered. C. Jackson, Pittsburg.
5 Three Esophageal Cases. H. P. Mosher, Boston.
6 Space and Time as Aural Concepts. P. Fridenberg, New York.
7 Elongated Styloid Process. C. W. Richardson, Washington, D. C.
128 Progress in the Surgical Treatment of Chronic Stenosis of the Larynx and Trachoma. J. R. Winslow, Baltimore.
129 The Telephone Therapy. J. G. Wilson, Chicago.
130 Direct Intubation of the Larynx. H. P. Mosher, Boston.
131 Acute Attic Suppuration with Hernia of the Drumhead Leading to Transient Labyrinthitis. H. Gradle, Chicago.

Journal of the Tennessee State Medical Association, Nashville

October

132 *Indications for Surgical Intervention in Peptic Ulcer—Choice of Operation. J. A. Gaines, Nashville.
133 *Rational Drug Therapy. E. R. Zemp, Knoxville.
134 *Lung Puncture as a Therapeutic Measure. T. J. Coble, Shelbyville.
135 Perineal Prostatectomy. G. B. Livermore, Memphis.
136 Definite Terms in Diseases of the Stomach. E. H. Jones, Murfreesboro.
137 A Word from the Druggists. H. C. Shapard, Shelbyville.
138 Cancer of the Stomach: Pylorectomy. B. B. Cates, Knoxville.
139 Eczema of Infancy and Childhood. J. Clear, Clinton.
140 Episcleritis, Treatment. G. H. Price, Nashville.

132, 133, 134. Abstracted in THE JOURNAL, May 1, 1909, p. 1452.

Journal of Ophthalmology and Oto-Laryngology, Chicago

October

141 Surgical Correction of Deformities of the Nasal Septum. E. Pynchon, Chicago.
142 Historical Review of the Development of the Cataract Operation. L. Stricker, Cincinnati.

Journal Arkansas Medical Society, Little Rock

October

143 Polypharmacy and Therapeutics; Then and Now. L. P. Gibson, Little Rock.
144 Acute Dilatation of the Stomach and Duodenum. C. H. Cargile, Bentonville.

Journal of Advanced Therapeutics, New York

October

145 Standardization of High Potential Electric Currents. E. C. Titus, New York.
146 Sciatica. F. B. Granger, Boston.
147 The Correction of Flat-Foot (continued). H. McIntosh, Boston.
148 Cases Treated by Static Electricity. A. B. Condict, Delhi, India.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

October 23

1. Experimental Psychology and Hypnotism. G. H. Savage.
2 *Cancer Research. H. C. Ross and C. Macalister.
3 *The Diagnosis of Malignant Disease by the Antitryptic Index. H. W. Bayly.
4 *Investigation of Serratus Magnus Infection in Cancer of the Breast. T. B. Henderson.
5 Cancer in New Zealand. P. W. Hislop and P. C. Fenwick.
6 *Rodent Ulcer Treated by Potassium Bichromate. W. Gemmill.
7 *Ascites Due to Liver Cirrhosis Treated by Operation. G. G. Turner.
8 Primary Carcinoma of the Appendix. D. M. Greig.

2. **Cancer Research.**—Ross and Macalister place on record some facts regarding a chemical substance which causes a remarkable train of events when it is absorbed by human lymphocytes in that it promotes, first, excitation of ameboid movement, then reproduction, and lastly, it causes death. These events are closely related to each other, and follow in quick succession under experimental conditions. More than a year ago they noted that there appears actually to exist in the body-fluids of persons suffering from carcinoma a substance which causes the first of these events in the chain—namely, the excitation of ameboid movements. A mixture of methylene blue and atropin excites ameboid movements in leucocytes. So does the blood of a cancer patient. The same mixture will cause lymphocytes to extrude flagella with a particle of chromatin at their ends; so will the plasma of a cancer patient. Ross and Macalister have shown that an extrusion of chromatin also appears to be a phenomenon which occurs in cancer cells, and that cancer cells appear to produce "something" which aggravates the disease. It is possible, they say, that this "something" is chromatin, and in support of this theory is the fact that an extract which probably contains chromatin or a derivative of it accelerates the action of the artificial auxetic. The deduction is that this chromatin thrown out by the cancer cells may be the element which, by affecting some other unknown substance, may promote a repetition of the changes which cause the three events in the chain to which they have referred.

The promoter of the first of these events (exciter of ameboid movement) has already been described as existing in the blood of cancer patients, and to a greater extent in the juice of a growth. If chromatin, or a derivative of it, is the "something" which aggravates the disease, in order to produce a chain of events similar to that which has been observed in lymphocytes, it will have to aggravate the action of a substance resembling in effect that contained in the anilin dye which causes, first, reproduction and then death. It may also be noted that chromatin is a product of katabolism which, as has been suggested, may predispose to the disease in persons over the age of 40.

Experimentally one can induce mitoses in lymphocytes and these cells present characteristics resembling in many ways those appertaining to cancer cells. Cancer cells frequently show the first (heterotype) mitotic phase; but whether the mitoses induced in lymphocytes are of the first gametic variety remains to be proved. The research which Ross and Macalister have conducted has shown that the actual phenomena of mitosis in human lymphocytes can now be demonstrated. The remarkable differences between these cells and the other leucocytes are now apparent. Lymphocytes respond to the auxetic and endeavor to reproduce themselves, whereas leucocytes do not. The cytoplasmic (Altmann's) granules of leucocytes can be stained without harm to the lives of the cells. The nuclear granules of the lymphocytes, on the other hand, are composed of chromatin, and somatic death occurs when they stain. The fact that the nucleoli of lymphocytes form the centrosomes is also interesting, but not unique, from a cytologic point of view.

3. **Antitryptic Index and Malignant Disease.**—By the antitryptic index is meant the power of inhibiting tryptic digestion possessed by any given serum, compared with such inhibitory power possessed by a normal standard serum; or, in other words, the ratio of the powers possessed by different serums for neutralizing tryptic ferments. Bayly observed that most processes involving cell destruction, whether bacterial, mechanical, or cytolytic, produce a raising of the antitryptic index. The phenomenon, therefore, can be in no way regarded as specific, but this lack of specificity, though it narrows the scope of the reaction, still leaves an ample margin where its utility as an aid to diagnosis in malignant disease is clearly shown. It has been observed that the serum of patients with gastric ulcer gives a nearly normal reaction, and a diagnosis between this condition and carcinoma of the stomach can therefore be facilitated by the antitryptic test. Of 30 cases of cancer studied by Bayly, 26 (86 per cent.) show a markedly raised index. Of the remaining 4 cases (10 per cent.) 3 show practically normal indices, and one shows a subnormal index. This case was a very advanced one.

If bacterial infection is present, this method at the moment cannot claim any great diagnostic value, but in the absence of such infection its great help in affording a diagnosis between malignant disease and gastric or intestinal ulcers, non-malignant strictures, aneurisms, or non-malignant conditions of the bladder (such as stone), pelvic conditions in the female, is apparent. The negative evidence afforded by a normal antitryptic index is also of great value in excluding malignant disease.

4. **Serratus Magnus Infection in Breast Cancer.**—The observation of a number of cases of breast cancer which presented nodular recurrences about the lower half of the scar, led Henderson to believe that in certain instances such recurrences might be due to the almost invariable practice of leaving intact the serratus magnus muscle, perhaps already infected by outlying extensions of growth. If, he says, there are lymphatics in the pectoralis major which communicate at an angle with those in the pectoral fascia, the same arrangement is more than likely to hold good in the case of the serratus magnus, and it will be found in the future to be a routine necessity to remove the "exposed" portion of this muscle in the surgical treatment of those mammary cancers which overlie it.

6. **Rodent Ulcer Treated by Potassium Bichromate.**—The case under consideration was a woman of 82, with a history of having a "sore of the nose" for two years. On examination the condition was found to be typical of rodent ulcer. On account of the extent and position of the ulcer, it was thought impracticable to employ surgical means for its removal. A 10 per cent. aqueous solution of potassium bichromate was painted on the surface of the ulcer night and morning for a few days, until a marked inflammatory reaction in the surrounding tissues occurred, the ulcer being protected between times by a piece of lint retained in position by strips of sticking-plaster. The bichromate was then stopped, and a dressing of boracic ointment applied until the surrounding inflammation was allayed. The ulcer then appeared to be in a healthier condition, the floor having been partly destroyed and granulations becoming evident.

The process was repeated twice, potassium bichromate being painted on the ulcer night and morning as before, with a similar result, and being followed by the application of boracic-acid ointment. The effect of the potassium bichromate was the production of a sloughing of the unhealthy tissue over the whole floor, which extended also under the rolled edge of the ulcer. Healthy granulation was promoted, and after the completion of the third series of applications of the bichromate, the epithelium spread rapidly over the ulcer, which healed completely, leaving a somewhat irregularly pitted scar. From the beginning of the treatment till the ulcer was apparently cured occupied a period of three months.

7. **Omentopexy for Ascites Due to Liver Cirrhosis.**—Turner reports two cases: (1) Cure of ascites due to alcoholic cirrhosis; double radical cure of hernia subsequently; patient alive and well two years and nine months later. (2) Syphilitic cirrhosis; omentopexy; death.

Lancet, London

October 23

9 Recent Advances in Knowledge of Sleeping Sickness. A. G. Bagshawe.
10 Congenital Heart Affections, Especially Diagnosis of the Various Malformations. G. Carpenter.
11 Chronic Glanders in Man, with Reference to an Unusual Type Affecting the Upper Respiratory Tract. O. L. Addison and G. S. Hett.
12 *Two Interesting Bilharzial Conditions. F. C. Madden.
13 Late Rickets (?) in a Previously Healthy Child Aged 13 Years. F. Hernaman-Johnson.
14 *Calcified Left Ovarian Dermoid. F. Ivens.
15 Obliterative Arteritis. R. A. Bennett.
16 Importance of Early Recognition of Tuberculous Mediastinal Glands in Children. J. Allan.
17 Carcinoma of the Appendix. A. M. Kennedy.

12. **Bilharzial Conditions.**—Madden reports cases of bilharzial deposits in the subcutaneous tissue of the penis, bilharziosis of the glans, prepuce and body of the penis, and of bilharziosis of the glans penis ending in epithelioma.

14. **Calcified Left Ovarian Dermoid.**—In Iven's case the tumor was separated from its pedicle, transplanted on to the right broad ligament and vesical peritoneum; removal on the tenth day of the puerperium from a xii-para.

Medical Press and Circular, London

October 13

18 Dechlorination in Treatment of Chronic Nephritis. J. S. Fowler.
19 *Hemorrhagic Diphtheria. J. D. Rolleston.
20 Quacks, False Remedies, and the Public Health (continued). D. Walsh.
21 Mushroom Poisoning. J. Maheu.

October 20

22 *Sudden Death. W. L. Brown.
23 Quacks, False Remedies, and the Public Health (continued). D. Walsh.
24 *Causation in Health and Disease. F. Moulton.
25 Diagnosis and Treatment of Nephritis. J. T. MacLachlan.

19. **Hemorrhagic Diphtheria.**—According to Rolleston, cutaneous hemorrhages occurring during the early stages of diphtheria with or without hemorrhages from the mucous membranes and associated with other features of malignancy, occur in about 5 per cent. of all cases. The severity of the diphtheria attack is usually due to neglect of treatment at an early stage, but is sometimes due to precocious malignancy (syphilis). Hemorrhagic diphtheria is confined to children. It is not affected by the season, sex, or previous health. Reaction to antitoxin is delayed, and the usual sequelæ of serotherapy are much less frequent in hemorrhagic than in milder forms of diphtheria. The mortality of hemorrhagic diphtheria is over 80 per cent. All the patients who

recover suffer from extensive paralysis. Treatment should be large doses of antitoxin and frequent doses of adrenalin.

22. **Sudden Death.**—Sudden death, according to Brown, occurs at two epochs; (1) from birth up to 3 years of age; (2) from 30 onward. From 3 to 14 there is practically immunity, while from 14 to 30 very few cases occur. In the first period, females are affected more commonly than males, perhaps because male children tend to be bigger and stronger; while in the second period males are affected more commonly than females, because in adults the great cause of sudden death is vascular degeneration, to which males are notoriously more liable. Children under 3 are liable to die suddenly from apparently trivial illnesses. This liability is much the greatest during the first year. The post-mortem findings show a much greater variety of causes in children than in adults. Among these Brown found pulmonary collapse, suprarenal hemorrhage, and lymphatism. Among adults, the causes of sudden death are aortic regurgitation, which is the great valvular lesion producing sudden death, hemoptysis from advanced phthisis, vascular degeneration, which is the great cause of sudden death, especially premature degeneration—that is, while an active life is still being led; rupture or dilatation or an atheromatous artery is then much more likely to occur. Other causes are granular kidney without other obvious cause of death; atheroma of coronary artery; ruptured aneurism; pneumonia, cerebral hemorrhage; and persistent thymus.

24. This article also appeared in the *Lancet*, Oct. 9, 1909.

Clinical Journal, London

October 13

26 Postdiphtherial Paralysis. H. H. Tooth.
27 Functional Disorders of Stomach and Intestines; Diagnosis from Organic Disease and Treatment (to be continued). S. Martin.
28 Some of the Difficulties in the Diagnosis and Treatment of Appendicitis. R. Bucknall.

October 20

29 Gout. S. West.
30 Functional Disorders of the Stomach and Intestines; Their Diagnosis from Organic Disease and Treatment (continued). S. Martin.
31 Significance of Pain. H. MacNaughton-Jones.

Journal of Tropical Medicine and Hygiene, London

October 1

32 Fowl Spirochetosis. A. Balfour.

Journal of Obstetrics and Gynecology of the British Empire, London

October

33 *Critical Inquiry into the Causes of the Internal Rotation of the Fetal Head. R. H. Paramore.
34 Statics of the Pelvic Viscera, and Their Relationship to the Operative Treatment of Uterovaginal Prolapse. G. A. Casalis.
35 Age of Onset of Menstruation in Egyptian Girls. B. S. Elgood.

33. **Internal Rotation.**—Paramore is of the opinion that the factors concerned in causing internal rotation of the head are: (1) the expulsive force from above; (2) the obstructing, central fixing force from below; (3) the shape of the pelvis; (4) the shape, size, consistence and position (flexion) of the fetal head.

Annals of Tropical Medicine and Parasitology, London

October

36 *Mechanism of Production of Hemoglobinuric Fever. J. O. W. Barratt and W. Yorke.

36. **Production of Hemoglobinuric Fever.**—This is the report of the blackwater fever expedition to Nyasaland of the Liverpool School of Tropical Medicine, 1907-1909. The report is very full and it is only possible to refer very briefly to some of the conclusions drawn by the investigators. The first point studied was the hemolysis of red blood cells by quinin and also by acid, alkali and urine. The authors found that quinin bihydrochlorid and quinin in the alkaloidal state produce hemolysis of red blood cells, as do also hydrochloric acid and sodium hydrate, and that the action of quinin in the alkaloidal state in producing hemolysis resembles a catalytic action. Hemoglobin breaks up at a monomolecular rate under the action of quinin in the alkaloidal state. These four hemolytic agents possess, in equimolecular concentration, nearly the same hemolytic power, quinin in the alkaloidal state being weaker, and quinin bihydrochlorid stronger than hydrochloric acid and sodium hydrate, which occupy an intermediate position. Owing to the toxicity of quinin its concentration in the blood cannot reach an amount sufficient to allow of its direct hemolytic action on red cells taking place during life. The red blood cells during blackwater fever are not hemolyzed by quinin bihydrochlorid more readily than in health. In the presence of urine, hemoglobin, whether contained in red blood cells or in solution, is broken up. In the former case this proceeds at a monomolecular rate, no hemoglobin being dischared from the red cells into the urine, until destruction is nearly complete.

In studying the mechanism of production of suppression of urine in blackwater fever, the authors found that during experimental hemoglobinuria dependent on hemoglobinemia, as also in the hemoglobinuria of blackwater fever, granular casts of varying size, sometimes very soft, sometimes firm and dense, often containing degenerated nuclei derived from the epithelium of the renal tubules, were met with in the urine. During suppression in blackwater fever the urine contained very large firm casts with exceedingly coarse granules, often surrounded externally by epithelioma derived from the ducts of Bertini, in which these casts were formed. The amber-colored urine passed during partial suppression contained a large amount of coagulable proteid. The average daily amount of urine passed during nine days of partial suppression was in one case 28 c.c., in another case 66 c.c. They conclude that suppression of urine in blackwater fever is of mechanical origin, due to a blocking of the renal tubules. During simple uncomplicated hemoglobinuria of blackwater fever the sole pathologic condition existing in the kidneys appeared to be the presence of brown granular material in the lumen of the renal tubules. Venereal disease does not appear to influence either the tendency to blackwater fever or its severity when present. The clinical histories of the 17 cases studied are given in full.

Australasian Medical Gazette, Sydney

September

37 The Consumption Problem. C. Reissmann.
38 Therapeutics of Pulmonary Tuberculosis. A. Stewart.
39 Bacteriologic Examinations in Diphtheria. R. J. Millard.
40 Flies in Dissemination of Disease. J. B. Cleland.
41 Rôle of Water in the Spread of Human Helminthiasis. T. H. Johnston.
42 Fracture of the Base of the Skull. W. T. Hayward.
43 Acute Pancreatitis. E. J. Frayne.
44 Hemorrhage and Jaundice in New-born Infants. J. A. Cameron.
45 Three Ectopic Gestations in One Patient. F. J. T. Sawkins.

Bulletin de l'Académie de Médecine, Paris

October 5, LXXIII, No. 31, pp. 135-740

46 Robert-Houdin's Ophthalmologic Instruments. (Sur quelques instruments destinés à l'étude de la vision entoptique.) P. Yvon.
47 *Organotherapy in Addison's Disease. (Opothérapie surrénale dans la maladie d'Addison.) E. Boinet.

47. **Organotherapy in Addison's Disease.**—Boinet reports a case of well-defined Addison's disease in which the extreme languor, asthesia and emaciation indicated a rapidly fatal outcome, but under organotherapy the symptoms subsided and the patient, a man of 34, has been in good health during the ten years since. The gland substance was eaten fresh and a glycerin extract was injected two or three times a week. There are still traces of pigmentation, confirming, he thinks, the assumption of the nervous origin of this symptom. Béclère has reported a similar case of permanent recovery under organotherapy. The suprarenal treatment evidently acts by stimulating to hypertrophy the parts of the suprarenal capsules which are still intact, thus ensuring adequate functioning. Boinet cites five other cases that have been reported in France with marked improvement under organotherapy and adds three from his own experience, all the symptoms, except the pigmentation, showing great benefit from the suprarenal treatment. Two of these patients were women of 60 and 66, and the third was an omnibus conductor of 40 who was given treatment in the form of adrenalin by the mouth, 7 or 8 drops a day of the 1 to 1,000 solution. This was kept up for a month without signs of intolerance, and the patient regained his strength and resumed his work. In four other cases the suprarenal treatment failed to arrest the disturbances. One patient overdosed herself, with intolerance as the result and

nervous disturbances, the disease running its usual course. In the second case in this group a fibrocaseous tuberculous process terminated in the syndrome of acute suprarenal insufficiency. The patient was a mechanic of 35 with the classical syndrome of the disease, which was much ameliorated by injection of suprarenal extract for nearly a year. After a very fatiguing day he was given a subcutaneous injection of $\frac{1}{3}$ mg. of adrenalin. This was followed by symptoms of acute suprarenal insufficiency, rapidly fatal. In the two other cases the rapidly fatal acute syndrome of suprarenal insufficiency followed soon after injection of one or two minute doses of adrenalin. In the condition which Boinet calls "Addisonism," that is, the Addison syndrome with pigmentation and capsular insufficiency resulting from sclerosis of the gland, as well as in the condition, without pigmentation, resulting from sclerous inflammation, the prognosis of superposed acute pulmonary affections is much graver than ordinary. This condition of Addisonism is more promising for organotherapy than the cases of fibrocaseous suprarenal tuberculosis. Suprarenal sclerosis is frequently encountered during or toward the end of pulmonary tuberculosis, while extensive fibrocaseous tuberculosis of the suprarenals is generally primary and is restricted to these glands. The secondary suprarenal process, causing Addisonism, in the course of tuberculosis of the lungs or intestines, is sometimes favorably influenced by ingestion of sheep suprarenal glands. In one such patient, the pigmentation has subsided and the symptomatic improvement has been marked. Sézary has recently compiled 17 cases of sclerous inflammation of the suprarenals presenting the syndrome of gradual suprarenal insufficiency with pigmentation—it is possible that the cases of recovery from Addison's disease under organotherapy all belong in this category and were not cases of true Addison's disease from primary and extensive tuberculosis of the suprarenal capsule.

Obstétrique, Paris

September, New Series II, No. 9, pp. 629-692

48 *Indications for Delivery by Rapid Dilatation of the Cervix. (L'accouchement par dilatation rapide du col.) P. Bar.
49 Historical Sketch of Maternities at Paris. C. Maygrier.
50 Twin Monster. (Monstre double derodyme tribrachie humain.) L. Tribondeau.

48. **Rapid Delivery.**—In this communication read at the international medical congress Bar compares the various methods for rapid delivery and the advantages according to the individual indications. He has used the Bossi dilator in 13 cases with no fatalities, but the cervix was lacerated in every case and the tear was very extensive in all but 3. In 20 cases in which he dilated the cervix with his fingers, laceration occurred in 30 per cent., and 2 of the women succumbed to hemorrhage. Bonnaire had also 16 per cent. of severe lacerations in 159 cases of digital dilatation. The inflatable bag has been applied by Bar for dilatation in 171 cases; the entire lower segment was not torn in any case and no fatal hemorrhage occurred, but slight lacerations were the rule. Lacerations in the cervix are liable to lead to immediate complications and by cicatricial tissue growth to favor secondary infection of the cervix later. Except in large multiparæ artificial rapid dilatation of the cervix is unable to open the way entirely for delivery and the comparatively insignificant lacerations caused by the fingers, bag or instrument tear further as the child is born, the laceration being liable to extend far up into the cervix and environing tissues.

Revue de Chirurgie, Paris

October, XXIX, No. 10, pp. 571-721

51 "Position" Treatment of Fractures of the Clavicle. Couteaud.
52 *Walking Apparatus in Treatment of Fracture of the Tibia, etc. (La marche directe dans les fractures de jambe—méthode du Professeur Pierre Delbet.) P. Mocquot and J. Caraven).
53 Congenital Dislocation of Hip-Joint. Date of Occurrence and Pathogenic Varieties. (Les luxations congénitales de la hanche.) P. Le Damany.
54 *Flap Method of Suturing Blood-Vessels. (Nouveau procédé de sutures artérielle et veineuse.) A. Pirovano

52. **Walking Casts for Fracture of the Tibia or Ankle.**—A number of the 29 patients whose cases are reported were reexamined recently and the findings confirmed the good results of treatment with a cast which allows the patient to use the limb in walking from the first. There is no pain, edema, atrophy of muscles or stiffness of joints with these walking casts, as when the limb is immobilized. In the cases reported the healing was complete in a short time, the patients leaving the hospital cured by the fortieth or sixtieth day, with good functional use of the leg. The technic for making the casts is illustrated.

54. **Flap Method of Suturing Blood-Vessels.**—The stumps of the vessel are cut square across and then slit on each side for about a quarter of an inch. The two stumps are then approximated, the flaps spreading apart as the stumps are pressed together until the farther end of the slits on each stump are brought close together and sutured, the projecting flaps on each side being ligated at their base. Instead of a circular suture, there are thus only two linear sutures while the lumen of the vessel is not rendered any smaller.

Deutsche medizinische Wochenschrift, Berlin

October 14, XXXV, No. 41, pp. 1777-1816

55 *Treatment of Eczema. (Prinzipien der Ekzembehandlung.) W. Scholtz.
56 Value of Portable Apparatus in Orthopedics. O. Vulpius.
57 Treatment of Syphilis with Mercury and Atoxyl Salts. (Wirkung des atoxylsauren Quecksilbers auf die menschliche Syphilis.) Miekley.
58 *Deprivation of Salt in Affections of Urinary Passages During Pregnancy. (Ueber Chlornatriumentziehung bei Erkrankungen der Harnwege während der Schwangerschaft.) O. Jaeger.
59 *Rectal Saline Infusion in Treatment of Pyloric Spasm in Infants. (Rektale Kochsalzinfusionen als spezifische Behandlung des Pylorospasmus der Säuglinge.) H. Rosenhaupt.
60 Enrichment of Tubercle Bacilli by Antiformin. (Die Tuberkelbazillen-Anreicherung mittels Antiformins.) Hüne.
61 *Mutual Charges for Medical Services Between Physicians. (Gegenseitige ärztliche Honorierung.) J. Schwalbe.

55. **Treatment of Eczema.**—Scholtz expatiates on the importance of considering both the etiology and the pathologic anatomy in the treatment of eczema, including in the etiology external and internal, direct and indirect, primary and secondary causes. Washing the part is injurious, not so much from contact with the water as from the fact that the epithelium is deprived of the natural oil, its best protection. Toxic influences from within are an important factor, so that internal treatment is frequently necessary for a complete cure, no external measures proving permanently successful until the autointoxication is conquered. His experience confirms the service sometimes rendered by Roentgen treatment in chronic eczema.

58. **Restriction of Salt in Urinary Disturbances During Pregnancy.**—In this communication from the late Professor Pfannenstiel's clinic, Jaeger states that not only nephritis and eclampsia but also cystitis and pyelitis in pregnant women were not only attenuated but given a turn for the better by systematic withdrawal of salt accompanied by restriction of the amount of fluids ingested. These measures fail of course, like all others, in the severer cases, but they frequently prove effectual in banishing the edema of pregnancy nephritis and mitigating the other symptoms. The patient should abstain from all articles of food which contain large amounts of salt in the raw condition or require much salt to make them palatable; for this reason, meat and soups are excluded from the diet. Milk contains too much fluid to be advisable as the main reliance, and to many women it is repugnant. The diet is mainly sweetened, unsalted egg dishes, omelettes, etc. Unsalted butter is freely given, also rice cooked in milk, sago, baked potatoes, puddings and gruels with plenty of milk and sugar, vegetables without much salt, especially cauliflower, green peas, carrots and mushrooms, fruit and weak tea, lemonade and milk, but no coffee. This menu allows sufficient variety and the patients keep up their weight on it. This diet is given unfailingly to all patients with affections of the urinary passages. He gives several instances to show the benefit derived from this salt-poor diet and bed rest in severe nephritis, as by its aid the fetus may be carried along to a viable condition. If bed rest, salt-free diet, wet packs and diuretics failed to relieve, and the fundus of the eye showed morbid changes, premature delivery was then induced, but this was seldom necessary in his experience, as the restriction of salt and of the intake of fluids almost invariably proved successful. Not more than from 1,200 to 1,500 c.c. of fluids are allowed during the day. In conclusion he cites the case

f a primipara with nephritis in both kidneys, right staphyococcus pyelitis and mild cystitis, all of which subsided nder the influence of the above measures.

59. **Rectal Saline Infusion in Treatment of Pyloric Spasm in nfants.**—Rosenhaupt calls attention to the specific action of alt solution in inhibiting the secretion of gastric juice. ecent research seems to indicate that the only rational and ausal treatment of pyloric spasm is by checking the secretion f gastric juice. He has consequently been treating pyloric pasm in infants with rectal saline infusion and the results ave convinced him that this is a specific means of treating his affection. It has failed only once in his experience, and this case autopsy revealed an abnormally contracted tomach.

61. **Mutual Charges for Services Between Physicians.**—chwalbe discusses the traditional custom that physicians reat their colleagues and their families without charging for heir services. He shows how this custom was natural a cenury ago when the few medical men in a town or region were ntimately acquainted with each other, but now conditions re entirely changed, and he urges that the custom be dropped. xpatiating on its many drawbacks at present. Many medical en shrink from applying to a colleague for his gratuitous ervices when, if they were laymen, they would not hesitate call on him, expecting to remunerate him according to the sual rates. The medical man is thus worse off than the yman. If he seeks to express his gratitude for services ndered by a gift, neither he nor the recipient feels satisfied. n the other hand, medical men sometimes have their rvices called into requisition by colleagues with scarcely a ord of thanks. Schwalbe discusses the subject from all oints of view and calls on the profession to cast away this ntiquated custom, no longer corresponding to the present nditions. Fees for mutual medical service have nothing to with professional honor, and whether medical men charge eir colleagues for their services or not is not a question of edical ethics. He suggests that physicians who are intimate iends or professionally closely associated should not charge r mutual services. All others, those whom he does not now personally, the specialist is justified in charging for his rvices. It is every physician's right to pay for services renred, medical or otherwise, and the consultant is under no bligation to refuse the fee. If he does not like to take a fee om his colleague, he can devote the money to some charitable rpose. The charge for the medical service should be, at most, the medium grade of fees, not the highest. It is further to expected that he will not insist rigorously on payment; the atement that the colleague is not able to pay the fee, or t until after a certain delay, should suffice to have the arge cancelled. In this way professional courtesy would be ercised in the ideal sense, but, as a rule, the principle should maintained: *Beneficia nec obtrudantur nec exigantur.* avors should neither be thrust on one nor exacted."

Deutsche Zeitschrift für Chirurgie. Leipsic

September, CI, Nos. 3-4, pp. 205-412

2 Secondary Abdominal and Thoraco-abdominal Hydatid Disease. (Zur Kenntnis und Kasuistik der sekundären abdominalen und thorakoabdominalen Echinokokkenkrankheit.) G Parlavecchio.
3 *Implantation of the Ureters in the Intestines. (Implantation der Ureteren in den Darm.) D. G. Zesas.
4 *Operative Treatment of Pseudarthrosis After a Fracture. O. Creite.
5 Clinical and Bacteriologic Study of Actinomycosis. (Zur Kenntnis der menschlichen Aktinomykose.) H. Shiota.
6 The "Mesenterio-mesencolic Ligament" and its Connection with Ileus. A. Neumann.

63. **Implantation of the Ureters in the Intestine.**—Zesas es a historical review of the subject and tabulates the tails of 147 cases in which Maydl's technic was followed d of 24 in which the implantation was by the "axial" chnic. The end-results so far as known are also given. In e 147 cases in which Maydl's operation for exstrophy of the dder was done, only 20 of the patients were females. The eration proved successful in 103 cases; 44 patients died, luding 16 from pyelonephritis. The outcome with the ydl technic is compared with the results of operations by er technics, and the various advantages of each are disssed.

64. **Operative Treatment of Pseudartbrosis after Fracture.**—Creite gives a summary of the thirty cases in which operative measures were applied at Braun's clinic at Göttingen. All but one of the patients were males. Better results were obtained with the Dieffenbach technic than with resection and suture. This consists in driving into each stump a smooth round ivory peg, for which holes are drilled. The irritation of the foreign body stimulates production of callus, while the fixation from the pegs aids in restoration of normal conditions. The peg was driven across the bone and cut off where it emerged; when possible, it was driven so as to hold the stumps firmly together. The pegs were not removed afterward as Roentgen examination showed no reason for their removal. Consolidation was complete on an average in two months; the shortest interval was five and the longest twenty-eight weeks. A steel peg was used in one case, and no healing followed. In comparing the results of the different technics he admits that the ivory pegs were used only for the tibia while among the resected cases were some with the fracture in the arm or thigh, naturally more difficult to cure. All that he seeks to establish, however, is that for certain appropriate cases the ivory peg technic gives good results and can he relied on.

Medizinische Klinik, Berlin

October 3, V, No. 40, pp. 1501-1538

67 *Neuroses of Digestive Apparatus. (Zur Kenntuis der Neurosen des Verdauungstraktes.) A. Pick.
68 Colles' Law (Das Collessche Gesetz). W. Knoepfelmacher and H. Lehndorff.
69 Hemophilic Hemorrhage After Removal of Adenoids. (Verlauf einer Blutung nach einer Adenoidoperation bei einem Bluter.) R. Kafemann.
70 *Ascending Infection of Urinary Passages. (Zur aszendierenden Infektion der Harnwege.) E. Nohl.
71 Volvulus of Ascending Colon. G. Seefisch.
72 Paratyphoid C Bacillus as Cause of Acute Gastroenteritis. E. Hübener.
73 Influence of Carbonated and Oxygenated Baths on Viscosity of Blood. (Beeinflussung der Blutviskosität durch Kohlensäure- und Sauerstoffbäder.) E. Broking.

67. **Neuroses of Digestive Apparatus.**—Pick concludes his article by emphasizing the importance of causal treatment; many of the cases reported as psychogenic dyspepsia he is convinced were in reality enterogenic psychopathies. When the trouble is of psychogenic origin, suggestion, encouragement and training are in order, but when these fail and in all cases of primary gastric neuroses he advises local, medical, physical and dietetic measures. Alkalines and hydrochloric acid are sometimes effectual when their action fails to correspond to the chemical findings in the stomach content; alkalines may thus render useful service even when there is deficiency of gastric juice. Menthol has also proved valuable in treatment of nervous dyspepsia; the pain, vomiting, loss of appetite and flatulence may subside at once and permanently. He has found the menthol most effectual combined with an alkaline. Local application of heat is useful in the cases with hyperesthesia and hypersecretion; cold is generally not tolerated. In differentiating a nervous stomach trouble, the intolerance for drinking water often suggests the clue; with gastric ulcer solid foods cause greater disturbance.

70. **Ascending Infection of the Urinary Passages.**—Nohl calls attention to the possibility of ascending infection from even the slightest vulvitis, and the frequency of cystitis and pyelitis as the source of certain febrile affections of obscure origin in girls. The vulva may be apparently sound but some minute process may maintain the infection and entail recurring ascending infection of the urinary apparatus above, such as he has encountered in his practice.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XX, No. 4, pp. 565-726. Last Indexed October 16, p. 1342

74 Experimental Research on Changes Induced by Stones in Urinary Apparatus. (Die nach der Anwesenheit von Steinen auftretenden Veränderungen im Harnapparate.) Kumita.
75 Teleangiectatic Granuloma. K. Reitmann.
76 *Pathology and Pathogenesis of Acromegaly. A. Exner.
77 *Function of the Celiac Ganglion. A. Exner and K. Jaeger.
78 Secretion in Goiters. (Zur Lehre der Sekretion in der Struma.) Lobenhoffer.
79 *Dilatation of the Cecum as Independent Morbid Entity and its Relation to Appendicitis. (Typhlatonie.) F. Fischler.
80 Torsion of the Stomach. (Volvulus ventriculi und die Achsendrehung des Magens.) A. Payer.

76. **Acromegaly.**—Exner publishes his research on the 3 cases of malignant hypophysis tumors removed by Hochenegg,

with retrogression of the acromegaly in the first 2, while in the third case the growth was too extensive to permit of complete removal. The close connection between the hypophysis and the functioning of the ovaries was evident in all; the thyroid gland increased in size after the operation in the first 2 cases. Exner points out features in the cases which show the close analogy between the conditions in pregnancy and in persons with deficient ovarian functioning on one hand and the conditions in acromegaly. In all there are changes in the hands and feet, abnormal growth of hair on the body, all of which return to normal on the conclusion of the pregnancy or removal of the hypophysis tumor. His research on the pathology and pathogenesis of acromegaly included transplantation of hypophyses in animals; it was followed by a gain in weight much beyond that of the controls. Study of the cases and results of experimental research have thrown light on a number of interesting points in regard to the mutual relations of individual organs.

77. **Functions of the Celiac Ganglion.**—In the case described, the retroperitoneal nerves had evidently been involved in a tumor which soldered the pancreas and rear wall of the pylorus together. The effect on the intestines was such as to simulate stenosis at several points, and experiments on animals confirmed the assumption that the celiac ganglion possesses fibers which have an inhibiting action on the movements of the intestines. When this ganglion is not functioning, the contractions of the intestines and peristalsis are much more intense and lasting than under normal conditions.

79. **Dilatation of Cecum as Independent Affection.**—Fischler has encountered 41 cases in which there seemed to be an isolated dilatation of the cecum, the syndrome suggesting chronic appendicitis in many respects, but it is evidently a morbid entity in itself. The appendix may or may not be involved in the process, but its removal does not effect a cure. The trouble is a muscular insufficiency of the cecum, the result of a localized catarrhal condition. The symptoms resemble those of dilatation of the stomach, the defective peristalsis, the sounds, the abnormal fermentations and gas formation, the catarrhal changes and the inability to pass the contents along. The affection is long in development and may persist indefinitely. He enumerates the various points differentiating the condition from Nothnagel's pseudoappendicitis, acute and chronic appendicitis, wandering kidney, affections of the adnexa and disturbances resulting from adhesions. In treatment, the aim should be to cure the chronic catarrh in the cecum. Albu demands a very exacting course of treatment for this, several weeks in bed, with tepid packs to the abdomen in case the disturbances are severe, vegetable food in the form of purées to keep the bowels regular, with oil, glycerin and soap enemas and a purgative twice a week, with belladonna suppositories three times a day and constant avoidance of physical exertion. But Fischler thinks that such a severe course of treatment is not required. The first thing is to exclude chronic appendicitis; this belongs to the surgeon. After the appendix has been removed, if this is necessary, the diet is regulated, reducing the amount of food as a whole, and inquiring to learn whether too much albumin, fat or carbohydrates is being taken in proportion to the total. Any excess of either should be stopped, and all substances liable to induce flatulence should be avoided for a time, dropping further from the diet any article of food which the patient has learned he cannot tolerate, milk in one case, beer in another, etc. Regular exercise is indispensable, especially that which calls the long muscles of the abdomen into play; when there is pain, it is best to avoid injudicious exertion. Massage is also useful, but the patient must be trained to apply it correctly, helping with light massage to push the contents of the cecum onward. The symptoms due to meteorism soon yield to appropriate massage, but applied ignorantly it is liable to increase the tendency to atony. Purgatives must be strictly avoided, as they aggravate the inflamed condition in the bowel. Oil and other enemas may be useful for a time, but they do not reach the seat of the trouble. The most important indication is to transform the intestinal flora, and this is best accomplished, he has found, by bismuth. He gives the subnitrate mixed with equal parts of magnesia usta to which a little pulverized rhubarb is added. A teaspoonful or less of this mixture is take in water, after meals, three times a day, and benefit ha always followed its persevering use. In case of much diarrhe he prefers bismuth salicylate as it is more constipating an has a stronger disinfecting action. He found bolus alba usefu in 2 cases with much diarrhea and pain. Aside from these h gives no other drugs, but sometimes orders a wet pack a night over the region of the cecum. The patient soon learn to appreciate the benefit from the combined method of mixe but restricted diet, suitable regular exercise, massage and careful avoidance of allowing the abdomen to become chilled nigh or day, with occasional resort to the bismuth mixture a needed. He gives a detailed account of 3 typical cases out o his total of 41. An operation was required in 5. Two of th 3 cases reported were particularly instructive as the patient were physicians.

Münchener medizinische Wochenschrift

October 5, LVI, No. 40, pp. 2041-2088

81 Tuberculin in Diagnosis and Treatment, and Metabolism during Tuberculin Reaction. Saathoff.
82 Antiproteolytic Substance in Infants' Serum. (Ueber die antiproteolytische Substanz im Blutserum gesunder und kranke Säuglinge.) F. Lust.
83 Postoperative Reaction Glioma. (Das reaktive Gliom.) L Merzbacher.
84 Chemistry of Tuberculous Sputum. Prorok.
85 *The Cammidge Pancreatic Reaction. O. Schumm and C Hegler.
86 *Application of Cold to Back of Neck in Asthma and Rhinitis (Therapeutische Kälteapplikationen auf den Nacken.) J Marcuse.
87 Chronic Inflammatory Tumors in Abdominal Wall Afte Herniotomies. (Ueber chronisch entzündliche Bauchdecken geschwülste nach Hernienoperationen.) E. Kreuter.

85. **The Cammidge Pancreas Reaction.**—Schumm and Hegle state that in many cases the response to the Cammidge tes is merely a positive grape sugar test. They have simplifie the Cammidge technic somewhat, and say that with thei modification the test is more sensitive.

86. **Application of Cold to the Back of the Neck to Reliev Asthma.**—Marcuse confirms Muck's announcement in regard t the efficacy of the sudden application of a jet of cold water t the back of the neck as a means of controlling an attack o asthma. His experience has demonstrated that this is one o the most powerful means of acting on the respiration. Th patient stoops over, and cold tap water is poured on the back of the neck from a pitcher holding over a gallon, held abou two feet above; this is kept up for from half a minute to a minute and a half, or a strong jet of water is applied throug a tube from the hydrant. He applies the water thus daily o two or three times a day, when the patient is being systematically treated for asthma, with or without preceding electri light baths. Muck advocates this measure as a means o relief in congested conditions in the nose, and Jurasz t arrest threatening espistaxis.

Therapeutische Monatshefte, Berlin

October, XXIII, No. 10, pp. 519-566

88 *Treatment of Stuttering. (Behandlung des Stotterns.) H Gutzmann.
89 Action of Iodin. (Iodwirkung.) W. Henbner.
90 Importance of Supervising the Weight and Keeping th Appetite Good During Mercurial Treatment. (Bemerkunge über das Verhalten des Körpergewichts und die Diäteti während der Hg.-Inunktions-Kur.) P. Eisen.

88. **Treatment of Stuttering.**—Gutzmann is in charge of th university institute at Berlin for treatment of disturbances i speech, and his experience has convinced him of the extrem importance of careful study of the conditions in each indivi ual case, not only the external and internal elements of th speech, but the character, temperament and secondary psych phenomena, and after careful diagnosis, teaching the patie to imitate the processes of normal speech as he practices t elements in turn. To treat stuttering properly, he declare the physician must be a good internist besides his speci training in the nature and phenomena of stuttering. Amo the points he has found particularly useful are training t patient to speak in a lower and monotonous tone, witho stress on any syllables, the whole speech soft and gentle; wh adult stutterers are particularly nervous he gives a litt bromid preliminary to the exercises. A child who stutte does not get the training in speaking and expressing

thoughts readily and in reading aloud which other children obtain, so that these children are backward in this respect after the stuttering is conquered. The main trouble in stuttering is in the defective use of the lips, tongue or throat, defective inspiration or expiration, even when the patient is speaking without stuttering. This is one of the reasons why psychotherapy fails—the underlying cause for the trouble has not been removed. Surgical treatment is effectual only in removng mechanical obstacles preliminary to the training of the organs to proper speech. The stutterer's dread and other secondary psychic phenomena subside spontaneously when he earns to control his speech. Gutzmann remarks in regard to quack advertisements that the "guarantee to cure" stuttering may afford a handle for prosecution of the quack as seeking to obtain money under false pretenses. Application of hypnosis to cure stuttering he regards as usually worse than the affection itself; he has frequently encountered cases in which hypnosis had been systematically applied by physicians over a long period without results. Dietetic and general tonic measures are always a powerful aid in the cure of stuttering.

Therapie der Gegenwart, Berlin

October, L, No. 10, pp. 459-504

91 *Indications for Restriction to a Milk Diet. (Ueber ältere und neuere Indikationen der Milchdiät.) E. Magnus-Alsleben.
92 *Gauging Residual Air with Emphysema, with Special Regard to Chondrotomy. (Residualluftbestimmungen an Emphysematikern, unter besonderer Berücksichtigung der W. A. Freundschen Operation.) F. W. Strauch.
93 *Influence of Roentgen Rays on Composition of Blood and Urine in Mixed-Cell Leucemia. (Fall mischzelliger Leukämie mit Röntgenstrahlen behandelt.) W. A. Boekelmann and C. J. C. van Hoogenhuyze.
94 Epidemic Occurrence of Appendicitis. (Das epidemische Auftreten der Appendizitis.) W. Klink.
95 *Necessity for Improvement in Preparation of Food for the Sick. (Bedeutung der diätetischen Küche für die Schonungsdiät.) W. Sternberg.
96 Influence of Deep Breathing on Metabolic and Respiratory Disturbances. (Einfluss tiefer In- und Exspirationen bei Stoffwechsel- und Luftwegeerkrankungen. (Chinesische Riechpulver.) R. Budberg.
97 Operation for Phimosis—Circumcision. C. Gerson.

91. **Exclusive Milk Diet.**—The indications for an exclusive milk diet have been considerably restricted of late years, specially in regard to nephritis and gastric ulcer. On the ther hand, it is being recommended more than ever in the treatment of certain forms of heart disease, nervous prostraion and in obesity. An exclusive milk diet has also been ound useful in severe neuralgia. Hoffmann lauds it especially or this purpose, and His advocates avoidance of meat, at east.

92. **Operative Treatment of Emphysema.**—Strauch has had pportunity to examine three patients after the Freund operaon had been performed, one both before and after the operave treatment for emphysema. The spirometer showed that omparatively little benefit had been derived from the operaon: there was still an excessive amount of residual air, high otal capacity and small vital capacity.

93. **Blood and Urine in Leucemia After Roentgen Exposures.**—The case of mixed cell leucemia reported is interesting, pecially on account of the careful and prolonged study of the etabolism during Roentgen treatment and afterward on a iet free from nuclein, the research extending over six onths. The findings are given in tabulated form, listed nder thirty-two headings.

95. **Improved Methods in Preparing the Food for the Sick.**—ernberg pleads again for the introduction into the household nd the hospital of the methods of preparing the food praceed by French chefs. High art in culinary matters is charterized by extremely fine division of the substances, such as possible only by grinding in a large mortar with heavy stle and forcing through very fine sieves. The lack of these the ordinary kitchen deprives the diet for the sick of its ost important features. Ordinary strainers rest on the top the vessel and it is impossible to apply much force. He lvocates the drum hair sieve used by chefs, with meshes no rger than a fine needle. Considerable improvement is posble even with an ordinary kitchen sieve in the shape of a un, if the sieve is turned upside down on the table so that rce can be applied in putting the articles through it. He ves illustrations of chopped meat prepared for the ordinary cer diet and of the same meat as prepared by a chef, nearly half of the amount remaining on the strainer as connective tissue residue. This the chef uses for his soup stock, but in the hospitals or household it is all given to the ulcer patient in his chopped meat. It is important in putting the mass through the sieve to use a pestle for the purpose, rather than a spoon. He adds in conclusion that it is high time for dietetic therapy and technic to catch up with the progress in every other therapy and technic. The greater part of the work in high art cooking is in the preparation of the food before it is ready to cook.

Wiener klinische Wochenschrift, Vienna

October 7, XXII, No. 40, pp. 1359-1394

98 Congenital Predisposition to Appendicitis. (Ueber angeborene Lageanomalien des Wurmfortsatzes und angeborene Disposition für Appendizitis.) H. Albrecht.
99 Pathogenesis of Angiosclerosis. J. Tornai.
100 *Concussion of the Brain. (Ueber Gehirnerschütterung.) K. Ewald.
101 *Technic for Safely Evacuating Infectious Fluids. (Zur Frage der Entleerung infektiöser Flüssigkeitsansammlungen, insbes. des Darminhaltes bei Ileus.) H. v. Haberer.
102 A Specific Anaphylactic Reacting Body in the Blood with Tumor. (Zur Frage des Nachweises eines spezifischen anaphylaktischen Reaktionskörpers im Blute von Tumorkranken.) E. Ranzi and H. Pfeiffer.
103 Technic and Importance of the Wassermann Reaction. R. Müller.

100. **Concussion of the Brain.**—Ewald has been examining recently 45 patients treated since 1902 for concussion of the brain. He was surprised to find that only 11 had entirely recovered; the earning capacity in 23 was not materially impaired, although 12 patients had occasionally to leave work for a few minutes, hours or days on account of headache or vertigo. In 11 of the 45 cases extreme irritability had developed, but in one case it had subsided again. The memory was impaired in 9 cases. In 26 cases headache was complained of, continuous in a few. His experience shows that when the headache persists longer than six months permanent recovery seldom follows. In 12 other cases in which there was fracture of the base of the skull complete recovery was found in only 3 cases; the symptoms of vertigo, headache, irritability and restless sleep were more pronounced in this group. The 3 complete recoveries were in men who had had both fracture and concussion.

101. **Technic for Evacuating Infectious Fluids.**—Haberer gives an illustrated description of an apparatus which he has found extremely useful for evacuating the contents of the colon in ileus or of an ovarian cyst. Two tubes pass through the stopper into a large jar, one connected with an air pump, the other tube terminating in a trocar, fitting inside a small cylinder which presses firmly against the tissues as the trocar is introduced. The tissues are drawn up into this cylinder by the aspiration at the same time as the contents of the organ punctured are aspirated into the jar through the trocar. There is thus no danger of escape of the infectious fluid.

Zentralblatt für Chirurgie, Leipsic

October 9, XXXVI, No. 41, pp. 1401-1432

104 *Viscosity of the Blood in Surgical Affections and Operations. (Blutviskosität bei chirurgischen Krankheiten und Operationen.) W. Müller.
105 *Improved Technic for Vein Anesthesia. (Zur Venenanästhesie Bier's.) Momburg.

October 16, No. 42, pp. 1433-1464

106 *Technic for Anesthesia by the Rectum. (Ueber Rektalnarkose.) F. Dumont.

104. **The Viscosity of the Blood in Surgical Affections.**—Müller has been examining the viscosity of the blood in 230 patients with surgical affections at König's clinic at Altona during the last two years. He has made 1,050 separate investigations; these have shown that the viscosity of the blood depends on the number and the hemoglobin content of the red corpuscles and on the albumin content of the serum. After an aseptic operation in which the peritoneum is opened the viscosity of the blood increases rapidly during the next day and then in the next four days gradually decreases to normal, and in the following two days drops considerably below normal, then gradually returns to normal by the end of the week. In case of acute inflammation the viscosity is abnormally high, but the gradual decline below normal forms the same characteristic curve as he shows by several examples. He calls this decline below normal the phase of exhaustion. The importance of these curves is shown in the fact that any focus of

inflammation keeps the viscosity high, so that the rapid and regular postoperative decline is a sign of freedom from complications.

105. **Improved Technic for Vein Anesthesia.**—Bier's technic for this method of restricted anesthesia was described with an illustration in The Journal, May 1, 1909, page 1466. Momburg states that this technic has the disadvantage that the central constricting band gradually causes more and more discomfort to severe pain in the course of ten or fifteen minutes. This can be prevented by applying, after the anesthetic has been injected, a third constricting band just below the upper band and then removing the latter. The third band causes no discomfort as it is applied just within the margin of the anesthetized area. It can be applied over the minute incision made to expose the vein.

106. **General Anesthesia by the Rectum.**—Dumont protests that nothing but the fumes of ether should be allowed to pass into the rectum. His communication on rectal anesthesia was summarized in The Journal, Feb. 6, 1909, page 515. The unfavorable experiences that others have reported are due, he affirms, to neglect of the precautions which he advocated; chief among them is the interposition of a glass bulb between the jar of ether and the rectal tube. The ether has to traverse this bulb on its way to the rectum. It is brought into the bulb in a smaller, inner tube, the end curving downward inside the bulb, thus facilitating the dropping to the bottom of the bulb of any droplets that may condense from the fumes. In an operation of 80 minutes' duration 60 c.c. of condensed fluid accumulated in the bulb.

Gazzetta degli Ospedali e delle Cliniche, Milan

October 7, XXX, No. 120, pp. 1265-1272

107 *Etiology of Nephritis. E. Maragliano.

October 10, No. 121, pp. 1273-1288

108 *Treatment of Nephritis. (I nuovi orizzonti della terapia delle nefriti.) A. Calabrese.

109 *Primary Splenomegaly. S. Micheli and C. Bozzolo.

October 12, No. 122, pp. 1289-1296

110 *Prophylaxis of Malaria. A. Graziani.

107. **Etiology of Nephritis.**—Maragliano declares that the present conceptions and classification of nephritis are erroneous; in nephritis the kidney is merely the exponent of a general morbid condition affecting the entire organism, defective oxidation processes, some profound modification in the cellular activity, with consequent accumulation of intermediate waste products. The nephritic kidney still retains its permeability; even in advanced degeneration there are always portions of the kidney left in good condition. These suffice for all purposes of elimination as a large part of the kidney tissue is a reserve supply in excess of what is required for ordinary functioning. The kidney is thus always permeable and it eliminates what it receives. The imperfect waste matters found in the urine in cases of nephritis do not testify to retention by the kidney, but merely to imperfect oxidation processes. Instead of testing for permeability and retention it is more logical, he asserts, to compare the total nitrogen and the ureic nitrogen as found in the urine and the blood. The problem is to decide the relations between the diseased kidney and the disturbances in the cellular processes. He adds that isolated brief periods of retention may occur from some nervous, inhibiting action or from obstructing of the tubules, but this is transient and elimination of an extra amount of waste follows. The disturbance in the cells results in production of some nephrolytic substance and the action of this on the kidneys, superposed on the general disturbances from the primary cause, produces the syndrome of nephritis. Both acute and chronic nephritis are curable if the primary morbid cause can be expelled. The kidney has a tendency to recuperate, and this change in the conception of nephritis puts an end, he declares, to the traditional fatalism in regard to the prognosis.

108. **Treatment of Nephritis.**—Calabrese protests against exaggeration and exclusiveness in dieting in nephritis; there is no need to exclude salt, he says, unless tests show that there is retention of chlorids. Unusual quantities of fluids need not be advised unless there seems to be a tendency to functional paralysis on the part of the kidneys. In this case water is better than drugs to stimulate kidney functioning unless the heart is weak and dilated, in which case the intake of fluids should be restricted. Venesection applied to the foot drains the congestion in the renal artery most effectually, but the main reliance is on measures to promote oxidations, and the elaboration of the albuminoid molecule by inhalation of oxygen and administration of iodids and alkalines. Organotherapy and serotherapy to date are still on trial. Surgical intervention is purely symptomatic and should not be considered until after failure of all medical means.

109. **Primary Splenomegaly.**—Micheli concludes his review of primary splenomegaly by stating that only primary tuberculous splenomegaly and Banti's disease, which he identifies with adults' splenic anemia, can be regarded as true primary splenomegaly. Bozzolo discusses treatment and relates his experience in 3 cases of Banti's disease in which splenectomy was done in 1900, 1902 and 1905 respectively. The patients were women between 29 and 45, and the cure has been complete to date, but in 3 other cases the patients did not survive the operation, and in 3 others it could not be concluded. The gravity of the operative traumatism, the multiplicity and toughness of the adhesions, the hemorrhagic diathesis and the lesser resistance of male patients, explain the difficulties and dangers of operative intervention in these cases. It seems to be always followed by gastrointestinal hemorrhage, pneumonia or fever, and should not be advised in all cases, especially not in advanced stages. A less difficult operation, possibly omentopexy, might answer the purpose. Tansini combined this with splenectomy in one successful case. In primary tuberculous splenomegaly, on the other hand, the patient can only gain by the splenectomy, even when the liver is involved in the process. Removal of the tuberculous spleen has given encouraging results to date in the cases on record. The liver lesions are arrested and retrogress.

110. **Prophylaxis of Malaria.**—Graziani has been studying the effect on the organism of long-continued administration of minute doses of quinin such as are advised as a prophylactic measure in endemic foci of malaria. The growth of young animals under the influence of minute doses of quinin for 100 days was compared with that of controls, the series including 24 rabbits and 30 guinea-pigs. The bactericidal and phagocytic power of the serum was tested for the malaria germ and the typhoid bacillus both in the animals and in clinical cases. The animals given the quinin (subcutaneous injection of 0.005 gm. per kilogram) lost weight or failed to take on weight in comparison with the controls. No influence could be detected on the bactericidal and phagocytic power of the serum, but the power of producing antitoxins seemed to be diminished, suggesting that prolonged administration of even these small doses of quinin might render the course of an infectious disease more serious and recovery more difficult. He cites in conclusion Serafini's remark that hygiene does not regard with approval any method of prophylaxis based on the introduction into the organism of any drug; it creates an abnormal, nonphysiologic condition, and is permissible only as a temporary expedient.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

The Causation of Sex. A New Theory of Sex Based on Clinical Materials. By E. Rumley Dawson, L.R.C.P., M.R.C.S., Fellow of the Royal Society of Medicine. Cloth. Pp. 196, with illustrations. Price, 6 shillings. London: H. K. Lewis, 1909.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Second Series. Vol. XIV. Q.—RZEHAK. Cloth. Pp. 829. Washington Government Printing Office, 1909.

Those Nerves. By George Lincoln Walton, M.D., Consulting Neurologist to the Massachusetts General Hospital. Cloth. Pp 202. Price, $1. Philadelphia. J. B. Lippincott Co., 1909.

Transactions of the American Urological Association Sixth Annual Meeting, 1907; Seventh Annual Meeting, 1908 Edited by Charles Greene Cumston, M.D. Cloth.

Handbuch der Biochemie des Menschen und der Tiere. By Carl Oppenheimer, in Berlin. Installments 20 and 21. Paper Price, 5 marks each. Jena: Gustav Fischer, 1909.

Sixteenth Annual Report on the Births, Marriages Divorces and Deaths in the State of Maine. For 1907. Cloth Pp. 191. Waterville: Sentinel Pub. Co., 1909.

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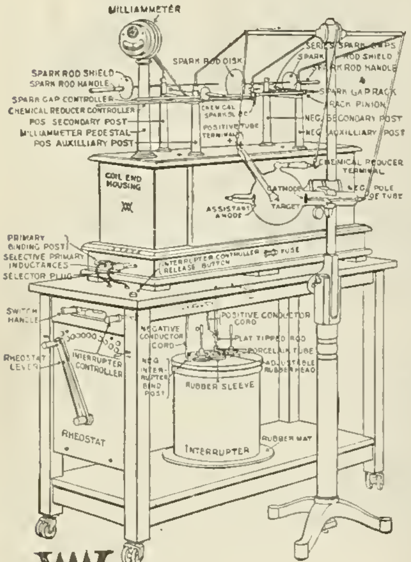

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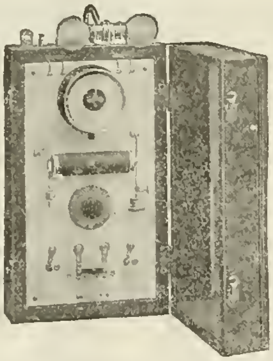

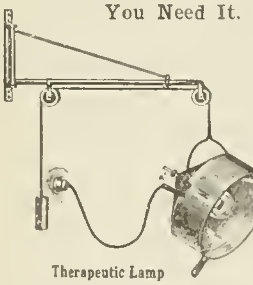

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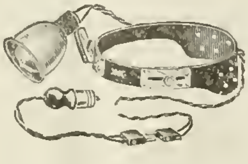

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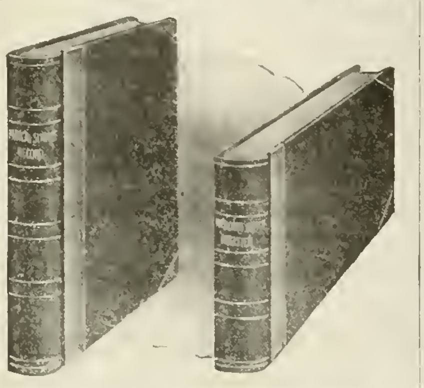

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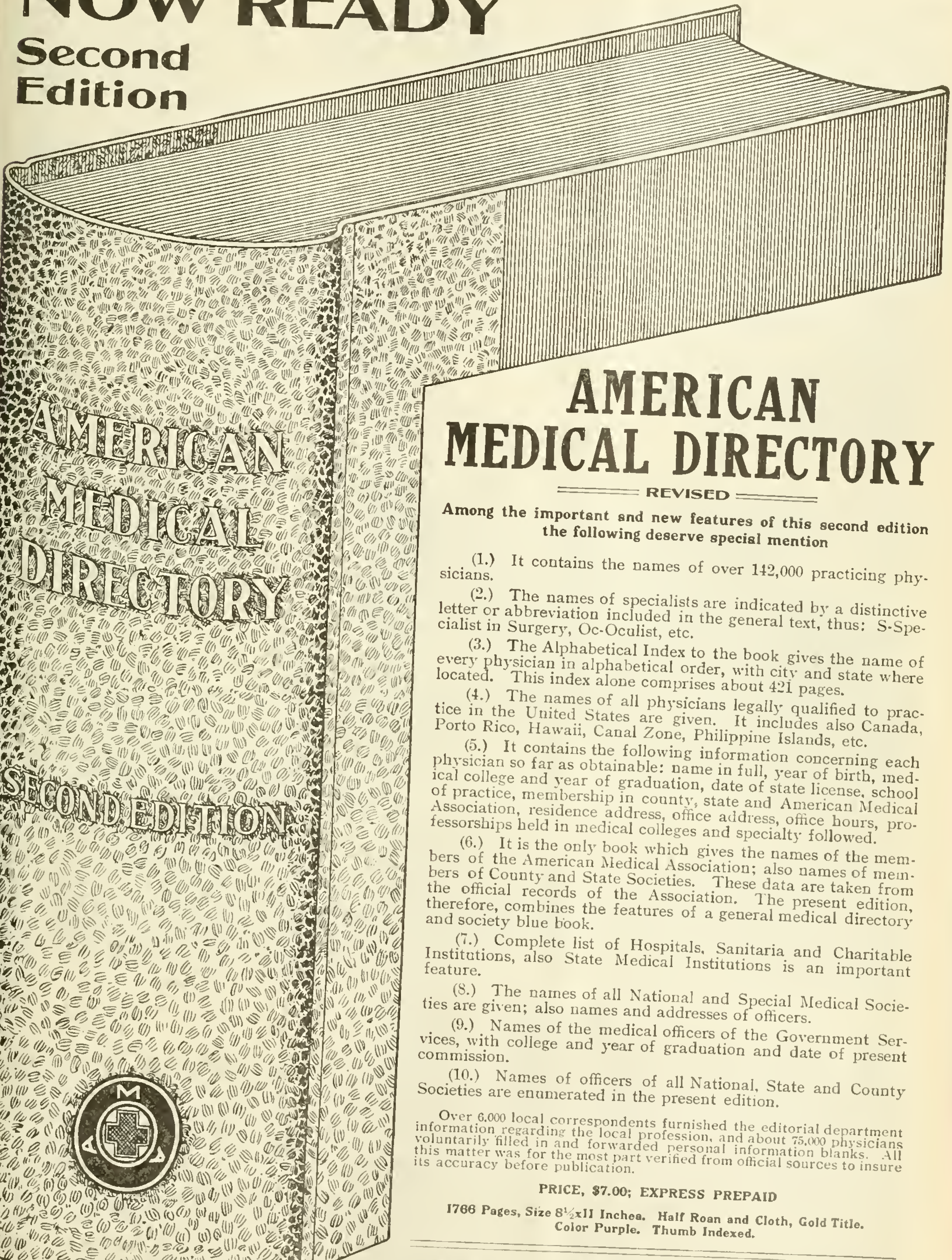

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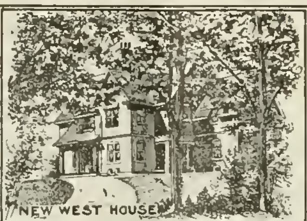

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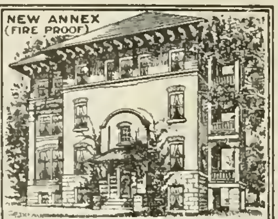

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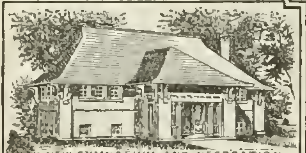

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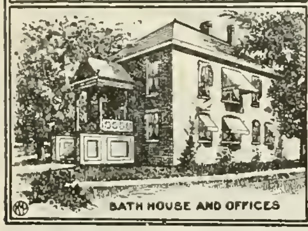

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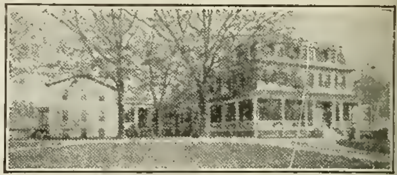

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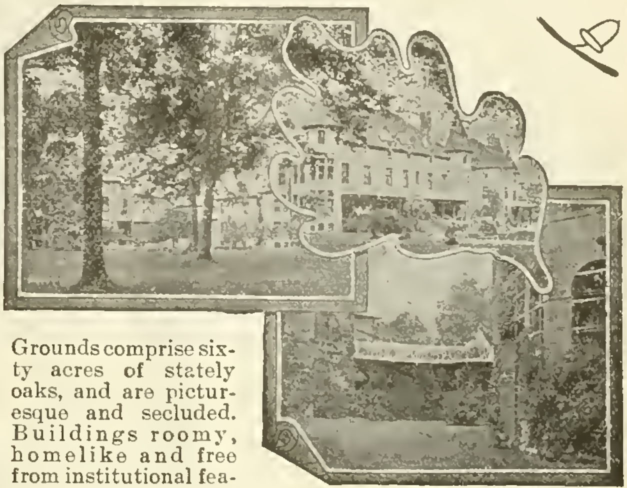

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Original Articles

THE VALUE AND LIMITATIONS OF SALT-FREE DIET AND RESTRICTION OF FLUID IN NEPHRITIS *

VICTOR C. VAUGHAN, M.D.
ANN ARBOR, MICH.

Whatever one says under this title must be said with some caution and with a right reserved to change opinion with advance in knowledge. Although nearly one hundred years have passed since the question of the nature of the toxic constituents of the urine was first submitted to experimental inquiry, it cannot be regarded as yet settled. We can not to-day name all the poisonous constituents of the urine. I am not going into the literature of this subject in this paper, because it is too voluminous, in many points contradictory in its findings and unsatisfactory in the conclusions reached. The following points seem to be fairly well established:

1. Urea and uric acid are not important constituents of the urine so far as their toxicity is concerned. I mean to say that neither of these can be regarded as the active agent in the causation of those symptoms that result from failure to function on the part of the kidney.
2. About 85 per cent. of the toxicity of the urine is due to its inorganic constituents, the most toxic of which is potassium chlorid.
3. There are present in normal urine certain organic poisons, the nature of which has not yet been ascertained.
4. Although the inorganic constituents, notably potassium chlorid, are markedly poisonous, they can not be regarded as standing in a direct causal relation to that complex of symptoms which we designate as uremia. A small fraction of a grain of potassium chlorid, as I have frequently demonstrated, injected into a ventricle of the brain of an animal, may cause prompt death, but neither the symptoms nor the postmortem findings are those of uremia.

Of one thing I feel quite confident, and that is in withholding salts from our nephritics we are not withholding the direct cause of uremia. The best that we can hope for in the use of a salt-free diet is to protect the kidneys by decreasing to a certain extent their labor and thus conserving their capacity as organs of elimination. The inorganic salts, and certainly the chlorids of sodium and potassium, are not, singly or combined, the active and direct cause of uremia. Any inorganic salt above that needed in the processes of metabolism is without benefit to the body and increases unnecessarily the stress of work thrown on the kidneys, and, when these are already diseased, it is in accord with good sense to lighten their burdens so far as can be done without danger.

There are some reasons for suspecting that the inorganic salts of normal urine, carrying about 85 per cent. of the toxicity of this fluid, and the organic constituents, carrying the remaining 15 per cent. of toxicity, partly neutralize each other. At least it has been repeatedly found that the ash of urine is decidedly more toxic than the whole urine. This fact has been observed by Bouchard, Stadthagen and others. I have repeated this test several times with the urine of both herbivorous and carnivorous animals, also that of man, and have invariably found it true. It has been suggested that it is due to the conversion of the chlorid into a more poisonous carbonate on incineration, but I have been unable to find any evidence of carbonate in the ash which I have injected, and it has occurred to me that possibly there may be some neutralization between the inorganic and organic constituents. This is a problem that seems worthy of more extended study.

There is evidence that an absolutely ash-free diet may soon disturb the health of a normal individual. Taylor[1] has prepared such food and used it himself. He says:

> "The symptoms were those of lassitude until about the sixth day, when I noticed a great deal of cutaneous irritation and generalized muscular twitching with excitation of the reflexes. The equilibrium of the entire system became disturbed; I lost the power of sleep; the irritability was extreme. At this time the acetone complex appeared apparently suddenly. I therefore realized that I was near the danger point, stopped the experiment, resumed ordinary diet and within a few hours after the ingestion of alkalis, the symptoms disappeared entirely."

This experiment was repeated on two men by Goodall and Joslin,[2] who failed to induce the acidosis experienced by Taylor. This matter also needs further study. In all of these experiments the amount of sodium chlorid in the daily urine diminished to about 0.2 gm.

In dogs long-continued feeding of a salt-free diet materially reduces the acidity of the gastric juice. So far as I know, no experiments along this line have been made on man. It has been repeatedly shown, however, that it is difficult and probably impossible to reduce the amount of salt in the living tissues below a certain, fairly well-defined minimum. Life is no longer possible when this reduction passes this point. The molecules of living cells do not function when the content of inorganic salt falls below this minimum, which varies in different animals and in the different organs and tissues of the same animal. Notwithstanding all the excellent work that has been done on metabolism, we are hardly warranted in making more exact or positive statements on this subject. It is generally held that the chlorids of the urine are not in organic combination, but, as I have stated, it has been repeatedly found that the ash of urine is more toxic than the whole urine. Moreover, single inorganic salts may be more poisonous when injected intravenously than mixtures of several salts. There are, therefore, reasons for suspecting that the inorganic constituents of the urine are not only in part neutralized by the organic, but also in part by one another. The fallacies of Bouchard's method of determining the toxicity of the urine has been repeatedly pointed out, and his conclusions can not be accepted as final. Besides, it should be evident that poisoning due to the retention of normal constituents of the urine and uremia are two quite distinct and different things. Many years ago Rees reported a case in which there was only one kidney, and, this becoming blocked by a calculus, there resulted complete anuria. The man died, but not from uremia. Cases of prolonged suppression have been repeatedly observed and, although these may terminate fatally, death is not due to uremia. In uremia the poison results from a radical change in metabolism, and the active agent produced is not one of the normal constituents of the urine. It is possible that protein sensitization may give us more exact information concerning the nature of the poison elaborated in uremia. But the one point that I wish to emphasize in this paper is that poisoning from anuria and uremia are two distinct things, and, while the inorganic salts are the most poisonous constituents of the urine, their retention in the body can not be regarded as the cause of uremia—certainly not the direct cause.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Taylor: Tr. Assn. Am. Phys., 1907, p. 245.

[2] Goodall and Joslin: Tr. Assn. Am. Phys., 1908, p. 92.

In 1903 it was suggested by Widal that nephritic edema is due to chlorid retention, that with the disappearance of the edema the elimination of chlorid is increased, and that the proper treatment of the edema of nephritis should provide a diet that is largely salt-free. The reasoning in this statement seems to be good, but the experience of clinicians has not been so satisfactory as the earlier reports led us to expect. In Widal's first case the edema seemed to fluctuate directly with the amount of salt in the food and it was suggested that the milk diet, so long and favorably known in the treatment of nephritis, might owe its success largely to the fact that it contains only a small amount of sodium chlorid. Moreover, there is some clinical evidence that edema does increase the danger of uremia. At least uremic symptoms have been seen to disappear with the disappearance of edema and to return with the accumulation of fluid in the tissue. That there is a causal relation between edema and uremia does not, however, seem probable, because the latter is frequently seen in interstitial nephritis when the former is absent or but slightly developed. Edema in nephritis is due to diverse causes, and certainly not always to salt retention. In acute nephritis it seems to be due to the effect of the poisons on the walls of the vessels. In many cases of chronic nephritis, edema is due to circulatory disturbances and is best combated by agents directed to these causes. In amyloid nephritis it is again toxic. In a certain small percentage of cases of chronic parenchymatous nephritis the edema is apparently markedly influenced by the quantity of salt in the food, and it is in these that the best results are obtained by reduction of the salt in the food. Even in these the improvement is limited to the reduction of the edema. I do not deny that this is of sufficient advantage to be worth doing. It seems to me that the greatest good is to be secured by restricting salt in the food of those patients who may be called prenephritics. We frequently meet with patients of this kind. They are men and women past the prime of life who have been unduly energetic, often of good habits, with the exception of the tendency to overwork. The heart has been unduly taxed; they get out of breath easily; occasionally they grow dizzy. Blood-pressure is high. There may be a trace of albumin in the urine or the most careful and frequent examination may fail to show this abnormality. I am in the habit of advising patients of this class to have their food prepared without the addition of salt. I do this for the following reasons: 1. They can educate themselves to eat unsalted food. I am positive that we eat too much highly salted food. 2. With unsalted food they drink less. Vesicular fulness can be induced by water as well as by beer. 3. The kidneys are relieved of excessive work in eliminating excess of both salt and water. Otherwise I have never been satisfied that I have seen any benefit in any form of nephritis in denying the patient the satisfaction of his thirst.

Milk contains about 2 gm. of sodium chlorid per liter, and on an exclusive milk diet three liters per day supply the necessary calories for the average man. On such a diet the individual receives daily about 6 gm. of salt, and this seems to be all one needs in health or in disease. A mixed diet of unsalted meat, potatoes, bread, butter, fruit, sugar, cream or milk and coffee or tea of equal caloric value contains in the daily ration about 3 gm. of salt, and this may be increased by the addition of an equal amount if the taste is objectionable.

Time will not permit me to take up the interesting subject of the mechanism of nephritic edema, but I will call attention to a recent contribution to this subject by Bence,[3] who has shown that there is an increase in the volume of blood and edema appears in renal insufficiency even when there is no fluid taken into the alimentary canal; but, of course, both of these conditions are increased when much water is ingested. It seems only good sense, therefore, to limit the consumption of fluid in nephritis so far as possible without distress to the patient, but it should be understood that edema develops in experimental animals in which nephritis has been induced by the subcutaneous injection of uranium salts even when such animals are denied any fluid.

THE CAUSES OF HYPERTENSION IN NEPHRITIS *

JOHN H. MUSSER, M.D.

PHILADELPHIA

Of the causes of hypertension in nephritis we have no exact knowledge. The theories which have been elaborated are based mainly on deductions from clinical experience or to a slight extent on experiment. Neither the clinical experience nor the experimental evidence is at all conclusive; but each in its way points to an explanation through the action of some chemical substance influencing the circulatory system. What this substance is and how it acts we do not know.

Clinically we have the very important observation that hypertension and heart hypertrophy come in that group of renal diseases in which uremia is also prone to occur, while both fail in practically all other forms, as tuberculosis, pyonephrosis, hydronephrosis, cystic kidney and the kidney of acute sepsis. In other words, hypertension, like uremia, is an evidence of renal insufficiency. It is naturally suggested that the poison of uremia is identical with that causing hypertension, or, if different, is formed at the same time and due to the same causes; or possibly one is a derivative of the other as the result of some process of chemical disintegration. If the same poison, it is possible to conceive that in small amounts it affects the vasomotor apparatus (hypertension) and in large amounts exerts a toxic effect on the nervous system (uremia). Or, if two or more poisons are concerned, each may have special affinities.

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[3] Bence: Ztschr. f. klin. Med., 1909, lxxvi, 69.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909

In support of this chemical theory we have the frequent clinical experience that the degree of the uremic manifestations (headache, vomiting, unconsciousness) and the recovery from these have a close relation to the blood-pressure. Moreover, true uremia without hypertension seldom occurs.

In connection with this chemical theory or retention theory, the effect of diet also is suggestive. Experiments on patients with chronic nephritis have shown that rich protein diet increases tension and disturbs the general condition of the patient for the worse. Müller describes an individual in whom a change from milk and carbohydrate diet to rich meat diet caused pressure to rise from 140 to 190. Rich meat diet causes, in nephritics, headache, one of the earliest and most constant symptoms of uremia, and one which has a definite relation to hypertension.

All this probably means a retention of the products of nitrogenous metabolism, and possibly of that nitrogen which in the urinary partition is known as "rest" or undetermined nitrogen. The increase of these substances in the blood of that group of renal diseases in which uremia occurs suggests that not only may they be the cause of uremia, but that among them may also be the substances responsible for the increased tension. Aside from this theory, which attempts to explain clinical observation, we can at present add nothing to the view that hypertension is to be explained by retained products of metabolism.

Another view, which I think we can dismiss briefly, is that of the internal secretion of the kidney. This is based on Tigerstedt's observations that extracts of rabbit's kidneys contain a pressor substance, which substance Forlarini and Riva-Rocci consider may be increased in diseased kidneys. Little evidence has been brought forth to support this theory, and the most recent study, that of Pearce, was entirely negative in its results.

Another closely related theory is that which assumes a correlation between the kidney of chronic interstitial nephritis and the secretion of the adrenal. This theory was advanced by French investigators, led by Vaquez, three or four years ago. They describe a localized or diffuse hyperplasia of the adrenal accompanying chronic nephritis in those cases which do not run too rapid a course. This hyperplasia is considered as an indication of the hyperactivity of the functions of the gland; that is, essentially a condition of hyperadrenalism. Naturally the theory has a relation also to the arteriosclerosis associated so constantly with the interstitial type of nephritis. Although the correspondence between the renal lesion and the hyperplasia of the adrenalin is very suggestive and the occurrence not infrequent, there is some doubt as to the interpretation. Several German investigators, and in this country, Pearce, ascribe the anatomic changes in the adrenal, in part at least, to the influence of the local nutritional disturbances caused by local arteriosclerosis. As reports multiply, and the lesions are found in other conditions than "contracted" kidney, the importance of the observation diminishes.

Of interest in connection with the theory just described are the attempts to demonstrate adrenalin or adrenalin-like substances in the serum of nephritics. This work is based on Meltzer's observation that adrenalin causes dilatation of the pupil of the frog's eye. According to Ehrmann, the method is sufficiently delicate for the detection of adrenalin in dilution of 1 to 1,000,000. Clinically the method is associated with the names of Schur and Wiesel, who found that the serum of patients with chronic nephritis caused almost uniformly mydriasis of the enucleated frog's eye. The serum of normal individuals and of individuals suffering from other diseases failed to produce the same results. Several observers have confirmed these results, but there is some dispute as to whether or not the action is due to adrenalin. That it is, is denied by Schlayer, on the basis of his work with the "vessel-strip" method, which gives positive results with normal serums and no different results with nephritic serums. Be this as it may, no explanation of the presence of the mydriatic body is at hand unless it be that of the French investigators and that, we have seen, is hardly satisfactory. More evidence must accumulate before a definite opinion as to the value of these observations can be reached.

As is well known, the chief difficulty in explaining hypertension in chronic interstitial nephritis is the almost constant presence of arteriosclerosis. The absence of definite knowledge of the sequence of events makes the problem a complicated one. It is still a question whether the kidney injury is primary and leads to arteriosclerosis as the result of a hypertension of renal origin, or whether a poison first affects the blood-vessels, and the kidney secondarily through the disease of its own arteries. The latter view appears to be the one gaining adherents, but it is well to remember in this connection that many poisons may simultaneously affect the kidneys and the vascular system.

On this general subject some light has been thrown as the result of the study of renal diseases following infectious diseases, in which hypertension appears to be primary and the heart hypertrophy and arteriosclerosis secondary. The hypertension associated with the glomerulonephritis of scarlet fever is of peculiar interest. Usually one thinks of hypertension coming on gradually in the course of a chronic disease, but in scarlatinal nephritis it may develop very early (Mahomed and Müller); indeed, in the course of a few days. Here certainly heart hypertrophy or arteriosclerosis can be ruled out, for in scarlet fever four weeks at least are necessary for hypertrophy (Müller) and the scarlet fever age is not that of arteriosclerosis. For such an early hypertension the only explanation which can be offered is increased peripheral resistance—a contraction of arterial terminals—as the result of some chemical influence; but this brings us again to the theories discussed above, concerning which we could come to no definite conclusion.

The frequency of the association of glomerular lesions with hypertension is of considerable interest. Schmidt, working with Krehl's material, has emphasized this relation and A. Loeb holds that heart hypertrophy occurs only in those forms of nephritis in which the glomeruli are diseased and in large part impermeable. He points out that in the forms of nephritis with degenerative epithelial lesions only, hypertension does not occur; it is peculiar to scarlatinal nephritis and contracted kidney.

This is an important field for investigation: first, as to tension in various forms of epithelial lesions, especially those of the acute infectious diseases; and, second, a cooperation between the clinician and the pathologist as to the relation of hypertension to histologic changes, with special regard to the glomeruli.

Experiments definitely demonstrate that the high pressure associated with glomerular lesions can not be explained by the earlier theory of diminution of vascular territory in the kidney. Loeb offers the following hypothesis:

Since the renal activity varies directly with the blood-supply, lesions of the glomeruli would limit local vasodilatation. When the renal activity demands more than the local conditions allow, the stimulus goes beyond the kidney and there is exerted reflexly a splanchnic contraction which leads to an increased systemic tension and then an increased flow of blood through the glomeruli.

This explanation, hypothetical as it is, brings out very prominently the fact that hypertension, be its cause what it may, is essentially a conservative process having for its object the maximum functioning power of the kidney.

Passler and Heineke have attempted to explain the problem by reducing the kidney substance of animals by successive excisions. They found that after two-thirds to three-fourths of kidney was removed a certain proportion, about 25 per cent., of the animals developed a permanent increased tension with heart hypertrophy. In such animals it was also observed that arterial spasm with a further rise of pressure quickly followed certain stimuli which in normal animals would produce little effect.

They conclude that in the state of renal insufficiency so produced the heart hypertrophy is due to the increased work resulting from the tendency to arterial spasm and that this in turn is due to the effect of retained toxic substances.

So again we come back to the chemical theory of retention—all theories except that of vicarious adrenal secretion return to this point—but of the substances "retained" we know nothing. Herein is the problem of the "causes of hypertension in nephritis"—a problem to be solved only by the methods of chemistry and physiology directed by careful clinical observation.

P. C. Janeway (Prof. Soc. Exper. biol. and Med., 1909, vi, 108-109) has furnished a brief account of a study of the blood pressure in dogs with insufficient kidney substance. Instead of excising a portion of the kidneys he caused destruction by ligating some of the branches of the renal arteries. Also, instead of studying the pressure by direct measurements from the carotid, he modified the Riva-Rocci cuff so that the clinical method of taking blood pressure could be applied to the dog. Thus observation could be made from day to day with a limit of error of only 10 to 15 mm. Hg. I have found that a decided increase of blood pressure occurred after destruction of kidney substance by ligating. Thus in one animal, with an average pressure before operation of 90 mm., a rise to an average of 125 occurred after 100 days; and in another a rise from 117 to 150 mm. occurred after only 35 days. Janeway does not discuss the mechanism by which the hypertension develops.

Note. I gratefully acknowledge my use of the literature of this subject as summarized by the following writers:

Müller, F.: Morbus Brightii. Verhandl. d. deutsch. path. Gesellsch., 1905, ix, 64.

Janeway, T. C.: The Clinical Study of Blood-Pressure. D. Appleton & Co., 1904, New York.

Pearce, R. M.: The Theory of Chemical Correlation as Applied to the Pathology of the Kidney. Arch. of Int. Med., August, 1908.

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CLINICAL VALUE OF RECENT STUDIES IN EXPERIMENTAL NEPHRITIS *

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A symposium on nephritis at the present time quite fittingly is opened with a reference to the results of recent work in experimental nephritis. This, however, is not the case so much because the results as yet are of very great importance, but rather because it seems likely that the experimental method applied to the study of nephritis will in the future throw much light on the problems of the disease.

The history of the study of nephritis is not long. With Bright in 1827 begins our accurate knowledge. He it was who linked together in causal relation the symptoms, albuminuria and edema, and the lesions in the kidney. Keen observers added fact after fact for fifty years and more. Technical improvements widened the field of observation, so that a period, which we may arbitrarily end in the early part of the present decade, had contributed much to our knowledge of nephritis through the work of pathologists and clinicians. Yet our knowledge remained largely a knowledge of results rather than a knowledge of causes and progressive development, and many were the gaps in our knowledge, great the discrepancies between clinical observation and postmortem finding. In the present decade the experimental method has been applied increasingly in the study of disease in the hope that by it our knowledge of the life-history and causes of disease might be extended. Nephritis has been studied in this way and certain results have been obtained.[1]

I am not asked to review the numerous experimental studies of nephritis that have been published in recent years, but to indicate what clinical bearing, if any, this work has. If we turn to nephritis in man, we find the following phases of the disease of much clinical interest: the urinary changes, particularly the albuminuria and cylindruria, the uremia, the edema, the hypertension and associated cardiac hypertrophy, and, finally, the cause and the cure. Do our studies of experimental nephritis help in a better understanding of any of these? To answer this I will consider these points in the order named.

URINARY CHANGES

There has been a very general consensus of opinion with regard to albuminuria in nephritis. The albumin of the urine, in very large proportion, comes from the soluble proteids of the circulating blood and appears in the urine as a result of a pathologically increased permeability of the glomerular tuft. Degeneration of the epithelial cells of the tubules may have a small part in producing the condition. Experimental work confirms this view.

Cylindruria has received two interpretations. One of these assumes that the albuminous material constituting the cast arises from the albumin of the blood, which after excretion through the injured glomerulus, becomes changed in physical properties so as to fuse together into a homogeneous coagulated mass, a cast. The other theory assumes that the albuminous material of the cast is derived from the albuminous material of the epi

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Christian: Experimental Nephritis (a review of recent literature), Boston Med. and Surg. Jour., 1908, clviii, 416, 452.

thelium lining the tubules, which becomes fused together and more or less homogeneous so as to make up a cast. This latter theory does not assume that there has been any very great change in the physical composition of the albuminous material between its cell origin and the cast, since cells and casts present in the urine show many identical physical properties.

The origin of urinary casts has been studied in nephritis produced experimentally. A variety of irritants, such as cantharidin, corrosive sublimate, uranium nitrate, potassium bichromate, etc., when given to animals, will produce changes in the kidney leading to the appearance of albumin and casts in the urine. Wallerstein,[2] among others, has conducted such experiments and concludes that all casts are formed from degenerated, disintegrated and metamorphosed tubular epithelium. Ribbert[3] and Schlecht,[4] on the other hand, studying the excretion of carmine through the kidney, have concluded that the hyaline casts are derived from the albumin excreted through the glomeruli, while the granular casts are derived from tubular epithelium.

In our laboratory at Harvard this subject has been investigated by Dr. R. M. Smith,[5] who employed rabbits and used a variety of irritants. Roughly, the irritants used may be divided into two groups: those which produce extensive changes of a degenerative character in the tubular epithelium (uranium nitrate, potassium bichromate and mercuric chlorid), and those which, while producing evidence of acute nephritis, produce comparatively slight changes in the tubular epithelium (cantharidin and arsenic). By varying the size of the dose of these irritants, by varying the number of doses, by varying the time interval between the doses, by varying the length of the experiment, which ends either in the spontaneous death of the animal or in killing the animal, it is possible very largely to control the lesions, and in this way there comes a manifest advantage in the experimental method as compared with a study of postmortem lesions in man.

It was found in this work that the irritants which produced marked degenerative changes in the epithelium of the tubules gave rise to a more abundant cast formation than did the other group of irritants. The urine of the animals employed, rabbits, was collected and the number and character of the casts was studied from time to time. By those irritants which produce most marked degenerative changes of the epithelium of the tubules most casts are produced, indicating that there is a close association between changes in the epithelium of the tubules and cast formation. By studying histologically kidneys of animals receiving different irritants in varying dosage, cast formation could be traced morphologically. The first change seems to be a granular degeneration of the epithelium lining the distal convoluted tubules, which increases in severity until the epithelium becomes converted into a granular material more or less completely filling the space bounded by the basement membrane of the tubule. This granular material is composed of remains of both cytoplasm and nuclear material. While this process is going on, fluid is presumably excreted through the glomerulus, so that there is a current of excreted fluid along the tubules which washes this granular material into the lower levels of the tubules. Toxic substances used in this way cause very slight degenerative changes in the epithelium lining the collecting tubules, and so the granular material washed down in the collecting tubules comes in contact with quite normal epithelium. In this process of passing along the tubule the granular material seems to become fused into plugs molded by the shape of the collecting tubule, and by the time the mass reaches the hilum of the kidney it is a well-fused granular plug, which floats out into the urine as a granular cast.

In the earlier stages of the process, urine analysis shows the presence of a number of casts, at first coarsely granular, later more finely granular. With a longer interval, or with a less intense local process, urine analysis shows casts more hyaline in character, and the sections from the corresponding kidneys show that in the lower levels of the tubules there are present plugs varying in homogeneity, and always in the older processes being quite distinctly hyaline. Even in the very chronic lesions, application of appropriate staining methods shows in these very homogeneous, hyaline, highly refractile casts the presence of numerous granules staining in every way identically with the granules that are in renal epithelium. So that from a morphologic point of view, supported by the results of urinary analysis, it would seem that both granular and hyaline casts in these animals arise from degenerative processes in the epithelium, and that the granular casts come early, the hyaline casts late, that there is a progressive transformation between granular and hyaline casts, and that granular casts appear to be formed quickly and excreted early, while hyaline casts are formed slowly and excreted late. These observations on animals are in harmony with the observed conditions in man, and would satisfactorily explain cast formation in most cases, though possibly not in every case.

Cast showers are occasionally observed in man. Experimental study has given some explanation of this. In Mackenzie's laboratory in Toronto[6] it has been found that in experimental nephritis, if, at a time after the casts have very largely ceased to appear in the urine, the renal artery is dissected out and physiologic salt solution is irrigated through the kidney under some pressure, a certain amount of fluid will be excreted through the ureter, and this will be found to contain a very large number of casts, largely hyaline in character. It would seem that, with a cessation of the active process, casts that have been formed have remained stored in parts of the tubules and gradually become hyaline in character; with increased flow of fluid through the renal vessels these will be washed out in large numbers. A similar acceleration of renal circulation with accompanying diuresis would in man similarly flush out a large number of casts and produce cast showers.

UREMIA

A number of theories have been advanced to explain the condition of uremia. Most of these assume the presence in the body of the nephritic of some toxic substance which, accumulating up to a certain point, produces the symptoms which we know as uremia. Attempt has been made experimentally to produce a similar condition in animals by means of nephrectomy, by ligation of the ureters, and by the administration of various irritants. In this way toxic conditions undoubtedly are produced which have some analogy to uremia in man, but the recognition in animals of symptoms, which may be regarded as truly uremic in the sense of this condition in man, is so exceedingly difficult that at the present time no great advance has been made, and it cannot be said that studies of experimental nephritis have thrown much light on the condition of uremia beyond giving support to the view that the condition is a toxic one associated with renal lesion.

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[2] Wallerstein: Experimentelle Untersuchungen über der Enstehung der Harnzylinder, Ztschr. f. klin. Med., 1906, lviii, 296.

[3] Ribbert: Die Abscheidung intravenös injiziertes gelösten Karmins in den Geweben, Ztschr. f. allg. Physiol., 1904, iv, 201.

[4] Schlecht: Experimentelle Untersuchungen über der Resorption und der Ausscheidung des Lithionskarmins, etc., Beitr. z. Path. Anat., etc. (Ziegler's), 1907, xl, 312.

[5] Smith: The Origin of Urinary Casts; an Experimental Study, Boston Med. and Surg. Jour., 1908, clviii, 354

[6] Unpublished Experiments Reported by Mackenzie at the Meetin of the American Association of Pathologists and Bacteriologists, held in Boston, April 9 and 10, 1909.

EDEMA

From the earliest period of the work on nephritis the relation of edema to nephritis has been the subject of much discussion and investigation. The attempt of morphologists to correlate edema with certain types of renal lesion has been only very partially successful, and morphologic studies have yielded no explanation of the occurrence of edema. In recent years physicochemical methods have been applied and especial emphasis has been placed on salt retention with corresponding changes in osmotic tension. Analyses of food intake and urine output with respect to sodium chlorid seemed to show that in cases of nephritis with edema there was a deficient salt excretion and that the edema fluctuated in proportion to the salt intake. Widal and a group of French observers[7] have placed particular emphasis on salt-free diet as a means of controlling nephritic edema. A critical review[8] of the whole subject of the salt retention theory, however, seems to show that it is insufficiently supported. A considerable amount of experimental work is rather against it. Acute toxic nephritis in which there is no hydrops can be produced by various substances, and in these animals salt retention may take place. On the other hand, with uranium nitrate nephritis is produced in which edema is often present without there being any more salt retention than occurs in other types of toxic nephritis without edema. Recent careful clinical studies of Bittorf[9] and of Blooker[10] have failed to show any close relation between salt retention and edema. Renal cases without edema may exhibit a marked decrease in power to excrete ingested salt.[11] There is then undoubtedly a growing skepticism toward salt retention as a primal cause of nephritic edema, though in many cases it may be a contributing factor, and the withholding of salt from the food may be therapeutically effective. Many failures from this form of treatment, however, show its limited applicability.

On the other hand, there is increasing evidence to show that peripheral vascular lesions play a large rôle in the production of edema. This is not a new theory, but was advanced in 1877 by Cohnheim and Lichtheim[12] and more recently has been supported by Senator. It presupposes the presence in the circulating blood of some toxic substance capable of injuring the vessel wall. Some evidence of the existence of such a toxic substance is found in the experiments of Heineke,[13] Meyerstein[14] and Blanck.[15] These experiments were as follows: It is known that subcutaneous injections of uranium nitrate in rabbits will produce a toxic nephritis usually with edema, whereas other substances may be used to produce nephritic changes without any associated edema. Now if blood serum obtained from rabbits of the first group be injected into rabbits of the second group, edema appears, whereas normal rabbit serum produces no such result. Experiments of this kind are not constant in their results, but at least they are very suggestive of the importance of the rôle of circulating toxic substances in producing nephritic edema.

Pearce[16] has recently added further evidence in favor of the rôle of peripheral vascular lesions in the production of edema by a group of experiments in which he used known renal irritants and substances which are known to produce degenerative changes in the bloodvessels. Snake venom is such a vascular poison, and when given in association with a renal irritant edema results in a considerable proportion of the animals, particularly when moderately increased amounts of water are given by mouth, whereas the same treatment without the use of the vascular poison rarely results in edema. The functional studies of Schlayer, Hedinger and Takayasu[17] show that there is a close relation between the functional renal vascular disturbance and the edema.

Further evidence in support of the part played by vascular lesions in the production of nephritic edema is given by the results of my own histologic studies,[18] in which, in an examination of the kidneys of rabbits after the use of various renal irritants, I have found quite constantly associated with uranium nitrate lesions a change in the walls of the vessels of the glomerular tuft, consisting of the appearance in them of numerous hyaline droplets demonstrable by special staining methods. This vascular lesion was not found in kidneys of animals receiving substances other than uranium nitrate, and, as the uranium nitrate is the substance which produces in rabbits edema much more constantly than any other substance, it may be inferred that there is some relation between this anatomic lesion and the occurrence of the edema.

It cannot be claimed that the evidence is complete, but so far as the results of experimental work go it is very strongly suggested that the edema in nephritis results from injury to the peripheral vessels associated with changes within the kidney, probably in large part vascular also. Accepting this evidence, it is not surprising that there is no strict correspondence between the occurrence of edema in man and a definite type of anatomic lesion in the kidney. It is conceivable that various anatomic lesions under certain circumstances might lead to the production of functional disturbances in the kidney resulting in the retention or formation of toxic substances, which would injure the vascular apparatus and lead to edema formation, or it is possible that the same toxic substance which produces the renal lesion also is the cause of the vascular lesion. Much more experimental work, however, is necessary finally to determine the cause of edema.

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[7] Widal: La cure de déchloruration, Bull. et mém. Soc. méd. d. hôp. de Paris, 1903, xx, 990.

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Widal and Lemierre: Pathogénie de certains œdèmes brightiques; action du chlorure de sodium ingéré, Bull. et mém. Soc. méd. d. hôp., 1903, xx, 678, 785.

Widal and Others: Les régimes déchlorurés, Eighth French Cong. Int. med., Liege, Sept. 25-27, 1905, Sem. méd., 1905, xxv, 469.

[8] Georgopulos: Experimentelle Beiträge zur Frage des Nierenwassersucht, Ztschr. f. klin. Med., 1906, xl, 411, and other similar papers.

[9] Bittorf: Zur Pathologie des Wasserund Salzstoffwechsels, Deutsch. Arch. f. klin. Med., 1908, xciv, 84.

[10] Blooker: Ueber den Einfluss der Kochsalzzufuhr auf die nephritischen Oedeme, Deutsch. Arch. f. klin. Med., 1909, xcvi, 80.

[11] Ambard and Beanjard: La rétention chlorurée sèche, Semaine méd., 1905, xxv, 133; and other observers.

[12] Cohnheim and Lichtheim: Ueber Hydrämie und hydrämische Oedeme, Virchows Arch. f. path. Anat., 1877, lxix, 106.

[13] Heineke: Diskussion, Verhandl. d. deutsch. path. Gesellsch 1905, ix, 107.

[14] Heineke und Meyerstein: Experimentelle Untersuchungen über den Hydrops bei Nierenkrankheiten, Deutsch. Arch. f. klin Med., 1907, xc, 101.

[15] Blanck: Experimentelle Beiträge zur Pathogenese der Nierenwassersucht, Ztschr. f. klin. Med., 1906, lx, 472.

[16] Pearce: The Theory of Chemical Correlation as Applied to the Pathology of the Kidney, Arch. Int. Med., 1908, ii, 77; and unpublished experiments reported at the meeting of the American Association of Pathologists and Bacteriologists, held in Boston, April, 9 and 10, 1909.

[17] Schlayer, Hedinger and Takayasu: Ueber nephritische Oedeme, Deutsch. Arch. f. klin. Med., 1907, xci, 59.

[18] Christian: A Glomerular Lesion of Experimental Nephritis, Boston Med. and Surg. Jour., 1908, clix, 8.

HYPERTENSION AND ASSOCIATED CARDIAC HYPERTROPHY

Chronic nephritis is generally recognized as one of the common causes of high blood-pressure and associated cardiac hypertrophy, and a number of theories have been advanced in explanation of this condition. Some of these have been submitted to experimental test. Pässler and Heineke[19] have found that there is an increased blood-pressure and cardiac hypertrophy following the removal of considerable portions of the kidney substance, though these results were not constant. Janeway[20] has obtained similar results, though it is not very clear in just what way the blood-pressure is raised. Another group of observers have believed that the internal secretion of the kidney was a factor in raising the blood-pressure, and adduced in favor of this the fact that injections of extracts of kidney produced a rise in blood-pressure. A critical review of this work has been made by Pearce[16, 21] with additional experiments of his own, and he finds that results are very inconstant, and that the extract of the kidney of one animal may act in just the opposite way to the extract of the kidney of another species; consequently it is not believed that internal secretion in this sense can play very much part in producing hypertension. In the blood serum of animals receiving doses of certain substances that produce renal change there may be particular substances which have a pressor action. However, this type of work experimentally so far has been confined to acute conditions, though in man suffering from chronic nephritis numerous reports have been made indicating that there are substances in the circulating blood capable of acting to raise blood-pressure, but here again more recent reports give conflicting results, and probably not a very great amount of importance can be attached at the present time to these as factors in causing hypertension.

In a certain number of experiments in which the successful production of chronic renal lesions[22] has been attained, there is evidence of cardiac hypertrophy, and further studies along this line may yield results of importance. Since at the present time we have several experimental ways of producing cardiac hypertrophy, it may be possible to unravel the cause of this condition in nephritis. As shown by Fleisher and Loeb,[23] spartein and adrenalin chlorid will lead to the production of myocarditis with cardiac hypertrophy, and a moderate number of experiments in our laboratory have shown that the myocardial lesion in this condition as well as the findings in the kidney are quite different from those in a few animals where a type of chronic experimental nephritis has resulted from repeated injections of uranium nitrate, and in neither one of these groups of animals do we find the type of vascular lesion that Klotz[24] has obtained in Montreal by his method of increasing intravascular tension by inverting rabbits, from which procedure a marked degree of arterial change with dilatation of vessels is developed in the arteries of the anterior half of the body, associated with cardiac hypertrophy. Since these various experiments suggest that we can experimentally control the production of cardiac hypertrophy and obtain the result by producing chronic renal lesions, chronic myocardial lesions and chronic vascular lesions, it may be possible by such studies to arrive at the causal factor chiefly acting in any one of these types.

CAUSE AND CURE

As yet too little work has been done for the studies in experimental nephritis to throw much light on the etiology and treatment of nephritis. It is in the chronic nephritis that least is known about cause and cure. Experimental results in the production of chronic nephritis have been inconstant, and by nature such experiments are difficult. The repeated injection of various irritants has resulted in a certain number of cases in the production of lesions fairly analogous to the chronic renal lesions that we find in man. In animals, however, the remarkable recuperative power of the kidney makes the production of chronic lesions very difficult. Still, so far as results have been obtained, they suggest that in many cases chronic lesions in man result from continued action of small amounts of toxic substances, but throw no light on the cause of the appearance of these substances. Lead salts are about the only substances used experimentally which could in any possible way be similarly active in man, and it is not conceivable that lead-poisoning is a factor in the production of many cases of chronic nephritis. Some experiments seem to show that a single very extensive degenerative process in the kidney may result in the production of chronic lesions; and it may be that a few cases in man result in this way, just as at present it is believed that certain cases of cirrhosis of the liver are the result of some single acute degenerative process. Very little light so far has been thrown on the etiology of nephritis by experimental methods, however, and no assistance in the cure and prevention has been given.

It is evident from this review of experimental nephritis that the work has been just begun. It is being carried on at the present time in many laboratories, and we should take courage in the belief that from these experiments much of direct clinical value will come, and that by it our knowledge of nephritis in man will eventually be considerably widened.

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[19] Pässler und Heineke: Versuche zur Pathologie des Morbus Brightii, Verhandl. d. deutsch. path. Gesellsch., 1905, ix, 99.

[20] Janeway: Unpublished experiments reported at the Meeting of the American Society for the Advancement of Clinical Investigation, held in Washington, May 10, 1909.

[21] Pearce: An Experimental Study of the Influence of Kidney Extracts and of the Serum of Animals with Renal Lesions on the Blood-Pressure, Jour. Exper. Med., 1909, xi, 430.

[22] Christian: Unpublished and incompleted experiments made in the Laboratory of the Department of the Theory and Practice of Physic at Harvard Medical School.

[23] Fleisher and Loeb: Experimental Myocarditis, Arch. Int Med., 1909, iii, 78.

[24] Klotz: Experimentelle Arbeiten; Arteriosklerose, Centralbl. f. allg Path. u. path. Anat., 1908, xix, 535.

Acute Cerebral Tremor in Young Children.—J. Zappert contributes an article on this subject in the *Monatsschrift für Kinderheilkunde*, viii, 133, 1909, reporting four cases personally observed, and tabulating fourteen others from the literature, all in infants less than 2 years old. His conclusions are that some anatomic lesion must be assumed in every such case, and that the idea of a toxic neurosis must be given up, at least so far as children are concerned. It is evident that transient changes in the meninges and cortex are a frequent accompaniment of infectious processes in children. As a rule they subside without inducing any clinical manifestations, or merely a mild general affection whose cerebral origin it is difficult to determine. This last category includes the cases of tremor under discussion. It is possible that autotoxins or infections may induce changes in certain brain centers, entailing the tremor. The latter is thus the expression of a toxic-infectious injury of the brain. Complete recovery was observed in all but two of the cases cited, the children in these two cases growing up imbeciles.

MANAGEMENT OF UREMIA *

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For the purposes of this discussion, uremia may be tentatively defined as an autointoxication, which affects mainy the nervous system, and occurs in connection with renal insufficiency. It is due to the retention in the blood, tissue lymph and cells of the body of certain indeterminate, but specific, products of perverted, or normal, tissue metabolism, which are not excreted by the inadequate kidneys, or are not taken up by the lymphatic radicles, or are not neutralized or destroyed by the lymphatic glands or other protective organs.

We are lacking in knowledge regarding many of those fundamental facts of anatomy, physiology and pathology which are necessary for formulating a specific treatment for uremia; therefore, that which is offered should be considered as being based on a fairly rational empiricism, directed in the main toward the prevention and relief of prominent symptoms and known conditions.

In order that my remarks may not lack in directness and force by a discursive rambling over too broad a field I shall confine myself to a consideration of some of the problems in the management of uremia, with particular reference to the disturbances of the intravascular and extravascular circulation, in that protean malady technically known as chronic interstitial nephritis, as they have been encountered in my personal experience.

Fairness impels me to say that the exigencies of this occasion renders it impossible to give consideration to the many interesting features connected with the treatment of such strikingly important symptoms as convulsions, coma, Cheyne-Stokes respiration, mental aberration, etc.

On making a diagnosis of chronic interstitial nephritis the physician should make earnest efforts toward preventing the development or recurrence of recognizable uremia. The patient should be informed of the nature of the disease, and given a tactful prognosis and directions for its management as to diet and general regimen. The diet should be individualized and specifically prescribed; it should be so arranged, along the ordinary established lines, as to maintain nutritive equilibrium at the highest possible level, with the smallest total amount of proteid and carbohydrate foods. The total liquids should be so adjusted as to carry off the largest amount of excrementitious materials, as may be determined from time to time. The regimen should consider such important matters as residence, clothing, occupation, exercises, environment, etc. The amount and character of the physical exercises must be adjusted to meet varying capacity and requirements. Extraordinary care should be taken to avoid infectious diseases. The patient should be seen with such frequency as to allow the physician to keep closely in touch with his ailments. At these times modern methods of examination should be the rule. The patient should consult his physician promptly on the advent of any one of a series of significant symptoms, a list of which he should have. The physician should be intelligent, alert, assiduous and tactful; in every legitimate manner he should endeavor to obtain and retain the confidence of his patient, solely because it is to the latter's best interests.

Mention is frequently made of the sudden and unexpected onset of uremic manifestations; but we may well inquire whether this is often really without warning. Looking back over my experience, I recall several instances in which an uremic attack was ushered in with a celerity which was, at the time, truly surprising; yet when these cases are reviewed in retrospect none was without ample symptomatic warning. Certain it is that when excessively high blood-pressure, various dyspneas, edema, transient blindness, retinitis and retinal detachments, dizziness, headaches, neurites, drowsiness, impairment of the sense of location, mental perversions, tremor and cramps, aphasia and fleeting paralyses, cardiac enlargement and insufficiency, vomiting and diarrhea, cutaneous affections, etc., thrust themselves, singly or in groups, obtrusively before us, we should appreciate their diagnostic significance.

As is well known, the blood-pressure is abnormally high in these cases. Perhaps the dietetic and other measures instituted may limit, or possibly prevent, further advances along this line. Rarely, as time passes, the vasomotor nerves so accommodate themselves to the unknown irritant that the circulatory balance is adjusted in such manner that the blood-pressure remains stationary, or even declines somewhat; and this without notable cardiovascular failure. The exalted cardiovascular tension may be somewhat reduced by various medicaments, as, e. g., hippurate of ammonia, lichenin, the nitrites, the iodids, thyroid extract, etc. The clinician must decide whether any measures should be taken to bring about this result; and, if so, under what circumstances, and by what means. Ordinarily the high tension is conservative and should not be interfered with. In some instances, however, there occurs a rapid rise of pressure above the patient's usual high level, with increase of the hazards accompanying this abnormal state. These sudden exaltations of tension are often followed by failure of the delicately balanced cardiovascular-areolar tissue supporting tension. Under these circumstances, with the patient in great distress, rupture of degenerate vessels threatening, and a practical certainty that circulatory incompetency will soon occur, I am of the opinion that the patient's best interests are served by anticipating the near-inevitable by artificially lowering the excessive pressure—if this can be effected. If the condition is urgent a free blood-letting should be done; otherwise one of the slower methods may be chosen. In this manner the patient is given the greatest relief, and imminent danger averted; but the underlying conditions remain, and the physician should not be lulled into a sense of security, as the patient is likely to be, by the ease and comfort which is now his. Experience proves that, once lost, the complicated circulatory balance is seldom fully and permanently restored. Not infrequently circulatory insufficiency follows an acute infection, or other depressing influences, without the patient experiencing the extreme tension referred to. In such cases the hypertrophied heart dilates, valvular incompetence may be added and the well-known results of cardiac failure appear, possibly to an overshadowing degree. In this connection especial consideration should be accorded to the overfilling of the lymph spaces, and the subsequent failure of the areolar tissue-lymph tension, with edema as the final result.

The rôle of edema in the genesis of uremia is most important, although it will be practicable, in this paper, to note only some of the most significant features. Thus, in many cases, without gross evidences of edema, the intercellular and areolar tissue spaces become distended with lymph to a degree which induces a high tension.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The patient is plump; the soft parts are resistant to pressure, but without pitting; the integrity of the areolar tissues as a series of restraining membranes is maintained; anasarca is not present, but is imminent; the condition might be termed occult edema. Under these circumstances the lymph circulation is impeded, and toxic waste products and specific toxins begin to accumulate, with uremia probably in its incipiency. Edema in chronic interstitial nephritis is usually of the incipient or occult variety, and infrequently does it become obtrusive; general anasarca is rare in uncomplicated cases; when dropsy becomes a prominent feature it is due to cardiac incompetency, and partakes of the general character of cardiac dropsies, with one important and fundamental exception, i. e., that the patient is more or less uremic. The bearing of this distinction on our conception of the essential nature of uremia should be given full weight. Thus it follows, logically, that, inasmuch as the physical conditions are alike, the uremia of the cardionephritic dropsical patient is due o vital, and not to mere mechanical disturbances. It is significant that, in my limited experience, the serum obtained from the liquid bowel movements of such nephritic patients has been much more heavily laden with chlorids, and often with sulphates also, than in others with pure cardiac dropsies.

Edema interferes greatly with the composition of the blood and the extravascular lymph, and with cellular nutrition. The capillaries and lymphatic radicles are compressed, with interference with their functions: the issue lymph becomes stagnant and laden with specific oxins and tissue-waste materials; the extravascular circulation is short-circuited. There is an extraordinary ack of easily obtainable information concerning the physiology and pathology of the circulation of the tissue ymph. For our purposes let it be assumed that the nutritive elements of the blood, proteid and other, in queous solution, are transfused through the capillary walls by selective vital cellular action, assisted by simpler mechanical forces; that the extravascular lymph, arrying both nutritive and waste materials, circulates, itally and mechanically, in the intercellular channels nd areolar tissue storage spaces, and by a selective exretory function of the cells of the lymphatic radicles, nds its way into the ducts and thence through the landular protective filters into the blood current.

In my opinion, special consideration should be accorded the management of every degree of edema—ccult as well as manifest—in nephritics. As the result of long-continued and fairly broad observation I commend the following plan of treatment, modified to meet arying and individual conditions:

During the first day the diet should consist of thin ruels, cream and water, vegetable soups, tea, coffee, ocoa, water and carbonated waters. From these there hould be omitted the gruels on the second, and soups n the third day; during the fourth and fifth days very ttle should be taken; on the sixth day the soups should e replaced, and on the seventh day the gruels; later the dinary careful dietary of the nephritic should be radually resumed. Every night of the first three days he patient takes 10 grains of mercurial mass, in two ecently made pills of 5 grains each, followed by an effient sodium or magnesium saline in the morning. Benning on the fourth morning, after free action of the saline, there is given 1/30 grain pure elaterin hourly or three doses; 1/24 grain every two hours for three oses; finally 1/18 grain every three hours until ten or welve copious watery bowel movements have been induced. During the last series of doses the intervals may well be p. r. n., or as specially directed. Subsequent to the discontinuance of the medicine there will be several more of the liquid evacuations. The elaterin must be pure, and it is preferably given in powder, with sugar of milk and finely powdered ammoniated glycyrrhizin. During the time the elaterin is being given the patient should remain in bed, using the pan. He should be informed of the abdominal distress, nausea and vomiting which the drug sometimes induces. Without giving reasons for the opinion I am quite sure that, if satisfactory results are to be secured, it will be well to follow closely the spirit of these suggestions in regard to diet, medicine and general regimen as detailed.

The treatment here recommended will usually drain from the bowels a considerable amount of serum, varying in total volume from 4 to 15, or more, pints. The serum is usually acid; straw-colored; of from 1005 to 1030 specific gravity; free from albumin; laden with urea to 0.01 per cent. to 0.2 per cent, phosphates to small percentage, chlorids to 3 per cent. to 25 per cent. and sulphates to 1 per cent. to 10 per cent., by volume. The odor is sometimes peculiarly offensive. There is no doubt, in my mind, as to the fact that the serum passes into the intestine by secretory action.

During the period of alvine drain renal activity is reduced; subsequently the flow of urine usually becomes very free, often continuing so for many days, even until the cardiovascular-sanguineous and lymphatic-tissue lymph balance of the circulation has been restored. In the most successful cases the urine is not only increased in quantity, but in urea content as well—rising in one instance to the enormous output of 994 grains during a single twenty-four-hour period. In some unsatisfactory cases—rare in my experience—the flow of urine is not augmented; the overstretched areolar tissues fail to regain their resiliency; the current of tissue lymph toward the lymphatics is not maintained—possibly it had not been attained; edema continues or increases.

This initial part of the treatment, in typically successful cases, is followed by subsidence of the objective and subjective symptoms—uremic as well as circulatory—with such relief to the patient that it may be fairly described as profound. Much of the improvement appears promptly; more is noticeable during the following two weeks; the full measure of benefit, however, is not obtained until about the end of six weeks, and a surprising proportion during the last few days of this period. The improvement usually continues for several months; it may be of short duration; occasionally the period is remarkably extended.

In whatever manner the relief may have been induced it is probable that it may be made more complete and greatly prolonged by close medical supervision and persistently careful management. For this reason I have, for many years, advised these patients to take daily systematic, well-considered and individualized, active exercises of such character as to bring into play as many as possible of the muscles of the body. Whenever necessary this is supplemented by general and vigorous massage. The object of these measures is to facilitate, forcibly, cellular activity. The results have been so satisfactory that I commend these methods for consideration.

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The Winning Hand.—There is no place in this world for the man who is afraid of work. The place at the top of the ladder is for the fellow who climbs. The gloved hand is not the hand for the scepter. God makes world-rulers and world-builders of the toilers, the plodders.—*United Presbyterian.*

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. CHRISTIAN, MUSSER, VAUGHAN AND WELLS

Dr. D. L. Edsall, Philadelphia: It is very clear that a great many erroneous conclusions have been reached in the vast amount of literature that has accumulated on this question. There is no constant relation between the retention of chlorids and edema and the severity of the nephritis. There are, then, various reasons why the theories concerning the extremely intimate relation between edema and the chlorid disturbances are not established. There are also errors in regard to the conception of the cause of alterations in chlorid excretion, for reduction may, on the one hand, clearly be due to a reduction of the capacity of the kidneys to excrete chlorids, while in some instances it is certainly due to alterations in processes going on elsewhere than in the kidneys; and at times the latter are probably definitely conservative processes, designed to relieve the kidney of its work of excretion, and the edema itself becomes a conservative process, partly to relieve the kidneys and often largely to relieve the circulation. A reduction in the amount of sodium chlorid ingested, aside from any influence on edema, helps largely to reduce the work that the kidneys do.

I saw this fact strikingly illustrated some years ago in some experimental observations I made in regard to the possible value of studying the excretion of definite doses of sodium chlorid as a means of testing the functional capacity of the kidneys. I gave sodium chlorid to various persons who appeared to have about the same degree of damage of the kidneys, some of them having actual nephritis and some of them simply arteriosclerotic changes. I several times met with observations which made me give up the studies because it was clear that there was danger attached to such a test; that is to say, I found in several instances that an amount of sodium chlorid no more than equal to what is taken in an ordinary diet, produced evident and sometimes marked increase in the incapacity of the kidneys to carry out not only the excretion of sodium chlorid, but excretion in general, of water as well as of the solids, was largely cut down. It is clear then that an amount of sodium chlorid not more than equal to what is contained in an ordinary daily diet may cause decided failure of function on the part of the kidney even in cases in which the kidney appears to be doing fairly good work. Hence, whatever we may think concerning the theories of the relation of salt to the symptoms of nephritis it is certainly a valuable procedure to limit the amount of table salt in the diet. This same point has been elicited in another way recently in some work that Dr. Lavenson has been doing in my laboratory in regard to the influence of certain potassium salts on the excretion of chlorids in the urine, basing this work on the statement of Bunge, which has not been generally accepted, however, that potassium salts cause a decided increase in the excretion of chlorids. There seems to be little doubt that Bunge is right about this, for Dr. Lavenson found a decided increase in chlorids after a variety of potassium salts. The nitrate which has been considered to have an especial action did not appear to be particularly active as compared to the others, the effect exerted being apparently in direct relation simply to the amount of potassium given. Dr. Lavenson naturally tested the suggestion that at once comes from this that potassium salts might be a good method of overcoming chlorid retention. The result proved to be merely an instance of the fact that when we attempt to do what superficially appears to be right, we may do harm. The retention of chlorids appeared to be in some cases definitely a protective thing, and urging the kidneys to excrete more chlorids simply did harm, the general excretion being reduced, although the chlorids might increase or decrease—actual toxic symptoms developing in one case in mild form. There is one more point that I would lay stress on: That is, we should approach all these conditions with the idea that they are largely dependent on intoxication and the best way to relieve intoxication is to start by relieving the amount of work demanded of the eliminative organs as far as we can. Satisfactory results can sometimes be obtained in these cases by placing the patients on actual starvation for a brief period, sometimes a day and sometimes several days. This gives an opportunity for improvement in the digestion and th metabolic and excretory functions through giving them a partial rest. It is of course necessary when carrying on starvation for this or any other purpose to be very watchful o the effects, as it is a serious procedure, but in these cases it i necessary to undertake serious measures, and the reductio of the diet to nothing but water or to say a pint of skim milk in a day, to which water is added, will sometimes accomplish very comforting results, which are not obtained when an ordinary full milk diet is used.

Dr. Delancey Rochester, Buffalo, N. Y.: There are two practical points I should like to speak about. First, it strikes me that salt-free diet is valuable in those cases in which there is much edema, because of the fact that in the fluid and in the tissues of the body there is a considerable amount of sodium chlorid which will supply its needs. Dr. Vaughan has shown that the tissues of the body need chlorids to a considerable extent if we withhold them from the food, Nature has provided a source of supply in the serum of the edematous fluid, which may be called on when they are in demand. I should think that if the fluid ingested be restricted, fluids could be obtained from this same source. Second, in the management of uremic attacks I wish to commend Dr. Wells' procedure, but in addition, there is one thing used in these cases which I find of special value—the action of the skin as an eliminative organ. I have found it very useful to administer, ten or fifteen minutes before giving the hot water bath or hot pack minute doses of pilocarpin, 2 or 3 mg., it aids greatly in producing profuse sweating in these patients. Elaterium has also been recommended. I have used it in smaller doses and continuously—perhaps 8 mg. twice a day. It does not produce nausea, but drains the bowels and is of great advantage in these cases.

Dr. James Tyson, Philadelphia: Dr. Christian's paper was one which has so thoroughly covered the lines with which I am practically familiar that I hesitate to say anything on the subject or on what he has brought out. I was struck however, with the apparent differences of result in experimental nephritis as compared with the symptoms that are observed clinically. I was also impressed by what was said as to the sorts of casts which first make their appearance in producing experimental nephritis. In actual experience the cast that appears first is usually the hyaline cast, and not the granular cast. This is seen in the passive congestion due to cardiac disease which permits a leakage. As the seriousness of the condition grows the granular cast appears, becoming more and more granular, *pari passu*, with the destruction of the cells. What Dr. Christian has quoted as experimental facts are probably correct, but they do not agree with my experiences in the study of the urine in actual cases. With regard to the treatment of high tension, Dr. Musser has struck the keynote, but not enough stress was laid on the impropriety of treating high tension *per se*. To strike at the root of the evil, one must remove the cause of the high tension. In this respect, Dr. Edsall's statements on the matter of starvation are sustained by my experience. Many years ago I taught the treatment of nephritis by small quantities of milk, or as little food as possible. This was not for the purpose of relieving the uremic symptoms any more than to remove the edema and the vascular symptoms of an unfavorable kind.

Dr. John A. Lichty, Pittsburg, Pa.: When a slight cerebra hemorrhage occurs in these cases, the blood-pressure immediately drops and remains down a longer time than one would expect it to do when rest is ordered. There is no trouble at all in keeping the blood-pressure, which was 265, down at 19 or 210, while the patient is leading a rather active life These patients are of course thoroughly frightened and are willing to follow a regimen now of rest, diet, etc. But the drop in the blood-pressure is very sudden and will remain lower for a longer time than one would expect.

I should like to refer to two patients with chronic appendicitis whom I have had operated on during the past year in which there was a history of nephritis of some years' standing; I of course had to consider the safety of an anestheti Ether narcosis produced absolutely no disturbance of the urinary secretion. The first patient was 24 years old and ha had scarlet fever when 3 years old, and was afterward sent to Dr. Tyson of Philadelphia and Dr. Janeway of New York, because of the existing nephritis. Albumin and casts remained in the urine year after year. It was decided that an interval operation for appendicitis should be done. Very great care was taken in giving the ether, and there followed no disturbances in the urinary secretion at all. The second patient, twelve years ago, had had diphtheria and a general anasarca afterward. Dr. Osler saw this patient and pronounced the condition a very severe case of parenchymatous nephritis. This patient also had to be operated on for appendicitis. The ether narcosis had no evil effect on the kidney secretions.

A third patient, however, with no signs of nephritis, did quite differently. This patient had normal urine, and was operated on under ether narcosis. After the operation there appeared an acidosis, casts, albumin, etc., and death due to anuria occurred within twenty-four or thirty-six hours after the operation. With such diverse experiences it seems to me that after all our knowledge of this condition, so far as it applies to the individual patient, is not of very great practical value.

DR. JOHN N. UPSHUR, Richmond, Va.: I want to protest against the administration of morphin or any opiate as a temporary palliative in the treatment of uremia;; it certainly does interfere with secretion. The thing we should do in cases of grave uremia is to direct our work as much as possible along lines of safety; therefore, if we can give rest to the kidneys and at the same time get elimination we can accomplish much more and do much better than if we get our head in the bushes like the ostrich, by giving morphin, and think we are accomplishing something.

If we can give rest to the kidneys by placing the patient in a hot pack and by hydragogues cause elimination through the bowels, we will find that we not only give relief from the grave uremic symptoms, but through the elimination through the skin and bowels at the same time we can reduce the amount of tension in the blood vessels. The error we are liable to fall into in patients who may and do have renal trouble, is that we do not make sufficient analyses of the urine and do not get the careful knowledge of what is going on by such a systematic urinary analysis. We are all apt to err in this direction. Even in those cases in which there is no suspicion of renal lesions we should keep in touch with the condition of the kidneys by a careful observation through urinary analyses; this should be made a routine matter.

DR. WALTER L. BIERRING, Iowa City: It seems to me that sufficient emphasis has not been given in this discussion to the special reference made by the last speaker in the symposium on the relation of circulatory disturbances to uremia. Whatever conception we may have as to the nature of uremia I am ure we recognize that the appearance of its symptoms is argely dependent on the maintenance of the cardiovascular balance, and the real problem of treatment at the present ime is to anticipate and control, so far as possible, the ardiovascular disturbances.

DR. HEINRICH STERN, New York: Dr. Christian mentioned n parenthesis that the excretion of albumin via the kidneys an only ensue on the basis of a diseased condition of the atter. Evidently he has not consulted some of the latest iterature on this subject.

It is not a diseased kidney which permits the transudation f the albumin, but a strong and healthy kidney. I should ay that the healthy kidney is always permeable for the lbumin molecule, but that the blood which attaches itself o the albumin and then deposits it in the tissues whence it s again taken up by the return circulation in the form of rea, does not permit the escape of the blood proteids prior o their intrasystemic disintegration. While, therefore, albuminuria is a pathologic occurrence, its causative factors are ot situated in the kidneys but are distinctly anterenal.

Although Dr. Wells has not brought out anything substanally new, he has developed some new view-points and interretations. I know that he has not especially entered into a inical subdivision of the uremic states. I think, however, hat it is impossible to apply rational treatment unless one nows the basis on which the uremia has developed. For nstance, in the large white kidney, the passage of urine is seriously interfered with; in contracted kidney, on the other hand, there is nothing to prevent its excretion. The sera of uremia on the basis of chronic parenchymatous nephritis are differently constituted in some major points from those of uremia due to interstitial nephritis. In parenchymatous nephritis there is a tendency to convulsive phenomena, in interstitial nephritis to a comatose state. This important divergency is explained by the different constitution and physico electric behavior of the respective sera. I have shown that there is no chemico-toxicity which stands at the foundation of the uremic phenomenon, that there is not a single substance, known to us, excreted by the urine or the other excrements, which is apt to bring about either the convulsive or the comatose phenomena. By retention nitrogen in the blood is understood all the nitrogen remaining in the liquid after complete removal of the albuminous substances. The average amount of retention nitrogen in 100 c.c. of normal blood serum is between 25 and 30 mgs.; in chronic parenchymatous nephritis without uremia the average amount is 40 mgs. and in the presence of uremia about 62 mgs. in 100 c.c. blood serum; in chronic interstitial nephritis without uremia an average amount of 82 mgs., and when uremia prevails 130 mgs. retention nitrogen were found. These figures show that in the blood serum of chronic parenchymatous nephritis about 35 per cent. more retention nitrogen is contained than in the normal liquid; that in interstitial nephritis the retention nitrogen is present in twice the quantity as in the parenchymatous variety, and that the retention nitrogen is augmented in the uremic states consequential to the nephritic conditions. The enormous amounts of retention nitrogen in the serum of chronic interstitial nephritis undoubtedly stands in causative connection with the natural termination of the disease-uremia. In parenchymatous nephritis uremia is not only a much rarer but also a less grave complication. This I have explained by the fact of the relatively small amount of retention nitrogen. The inconsistency of pursuing the same plan of treatment throughout in the various cases of uremia which are so unlike in their manifestations and have risen from such distinctly discrepant substrata is obvious. I think it is unwise to speak of the management of uremia, when this uremia may mean that we may have at least two entirely different states to deal with. One cannot be treated like the other.

Some one said that morphin was contraindicated in uremia. This has to be taken with a grain of salt. In the uremia of chronic interstitial nephritis, which is characterized in almost every instance by a condition of tranquil coma, very rarely exhibiting convulsive phenomena, morphin is certainly contraindicated, because it also causes coma and may thus aggravate the existing comatose condition and hasten a fatal issue. On the other hand, in the uremia of chronic parenchymatous nephritis, which is characterized by convulsive seizures, morphin may have a distinct value when chloroform has proved of no avail. Its efficacy in controlling the convulsions may be due to the retardation of the metabolic processes ensuing from its administration, thereby preventing further accumulation in the blood of catabolic substances, and to its augmentation of vascular tonicity.

DR. BOARDMAN REED, Los Angeles, Cal.: I wish to confirm the observations of Dr. Tyson of Philadelphia and Dr. Smith of Baltimore regarding the value of therapeutic fasting or starvation, not only in fevers but in other conditions. We know that in gastric ulcer and, in my experience, in hyperchlorhydria, the good results which follow starvation for a few days when the patients are put on a light diet, particularly in patients with high tension. In treating patients with arteriosclerosis and hypertension splendid results follow placing them on a low diet, or even actual fasting for three, four or five days. In cases of high tension it is perfectly safe, particularly if the pulse be watched carefully to see that the tension does not get too low. Only recently we have come to appreciate what can be done by fasting for a few days, and particularly its influence on conditions in the gastrointestinal tract. It seems to be the only way so far discovered of getting rid of the bacterial cause of the trouble in certain cases.

Dr. Hugo A. Freund, Detroit: I find that too little mention has been made of the value of observing hypertension systematically. This one thing as suggested by Dr. Bierring should be carefully watched in each case we are treating. It is very essential to note the condition of the cardiovascular system in connection with the urinary findings. I do not believe, however, in the desultory examination of the blood-pressure with the sphygmomanometer, taking the blood-pressure one morning, then the next, and so on, but I do urge its systematic use. A competent nurse or assistant can be trained to take two-hourly readings. These, when charted, give us most valuable curves that aid in the immediate treatment and in the prevention of otherwise unavoidable accidents. In many cases an oncoming uremia is shown a long time before the patient is seized with convulsions or other disturbances make their appearance.

Dr. Charles F. Hoover, Cleveland: It has not been clearly stated whether we are dealing with a cardiovascular problem or an impairment in renal elimination or uremia. There seems to be a lack of clearness on the part of the speakers as to what phase of nephritis these therapeutic efforts have been directed.

Dr. Henry A. Christian, Boston: In the paper I simply discussed the acute toxic nephritides. If an animal be given a small dose of these irritating substances and then examine the urine you will throughout the course of the observation find in the urine simple hyaline casts. It does not follow that those casts have been hyaline from the beginning of formation. It simply indicates that a considerable time has elapsed between what has been formed in the kidney and what appears in the urine. If certain cases of cardiovascular disease be observed, we all know that only hyaline casts will appear during the time of observation of this condition unless there is an acute exacerbation when the granular casts appear. Apparently from experimental work the following explanation will serve for these cases. The casts are formed in small quantities, and the formation takes place slowly because the irritant used is small in amount, or the irritant present in the human body is small in amount. The casts do not make their appearance in the urine for a considerable period of time. In the time elapsing between their formation in the kidney and their appearance in the urine they have become homogeneous and consequently hyaline. This condition can be repeated with ease in animals. There is no discrepancy between the clinical and the experimental findings. Two factors must be considered, the time relation of cast formation, and the time relation of cast excretion. It is the period between these two occurrences that determines whether the casts will be hyaline or granular. At the same time it must be acknowledged that there is always a chance for error in arguing from animal experimentation directly to man. So far as we are able to judge, the method of formation of casts in animals is probably the same as in man; but of this, however, we are not certain. It was my intention in the paper to adhere to the consideration of the title, "Experimental Nephritis," and no mention was made of various other types of edema and renal lesions because this was considered beyond the scope of the paper. Albuminuria without renal lesion, as referred to by Dr. Stern, has so far as I know, never been produced in animals, and anyhow is hardly a part of a symposium on nephritis.

Dr. John H. Musser, Philadelphia: We must remember that hypertension is a curative process; therefore, any attempts to remove it entirely, especially after degenerative lesions secondary to the process have arisen following the intoxication, will be and should be in vain. What we must do is to reduce such hypertension to the normal for that individual. I have made the same observations as has Dr. Lichty in regard to the fall in the blood-pressure and the persistence of that fall after an attack of apoplexy. In subsequent attacks the fall is very great, and it is probably due to the attack. Afterward the blood-pressure does not rise to the same point. In considering the treatment, I did not refer to the dietetic management so strongly as I should, especially in regard to the limitation of the amount of food taken and the proper selection of food. One must rely on the results of a study of the function of the stomach in determining the line of diet, plus the general broad principle of the limitation of the amount given. I want to refer to the use of two drugs. First, iron which is administered not only for the hypertension but for the degenerative lesions that accompany it. This remedy is of the greatest value. It is not only, it appears to me, a drug which supplies iron to the blood, but it also has some nutritional effect on the cellular structures. Undoubtedly iron does, as observed years ago, lower the blood-pressure when its use is prolonged. In cases of myocardial disease, and indeed I might say in cases of cardiac disease with dilatation, if I had to decide in an emergency of acute dilatation what remedy to use, I would prefer iron to digitalis. This agent, however, should be kept up for a long period of time. I should like to refer to opium as a remedy of great importance for the neurosis which attends this condition, either as a factor secondary to the intoxication or secondary to the hypertension. Small doses of opium or morphin give most satisfactory results in securing that equanimity which is so necessary; it aids in keeping down the stress and strain incident to the increased blood-pressure. Finally a word in regard to the use of mineral waters or the purgatives we select. Unless we are very circumspect in this matter we will find patients taking purgatives containing too much sodium chlorid and bring about renal inhibition. I recently saw a case in which a large amount of saline purgative was used when it was not indicated; the result was a progressive increase at that time of renal insufficiency and consequently dropsy. Stopping the salt was sufficient to bring about the renal activity and a subsequent lessening of the amount of dropsy.

Dr. Edward F. Wells, Chicago: It should have been noted that I limited my paper to the discussion of certain clearly outlined conditions, i. e., uremia as it appears in chronic interstitial nephritis, with special reference to the lack of balance of the circulation and especially the extravascular circulation and the tissue lymph. This was done for the reason that in the fifteen minutes at my disposal it was impossible to go into all the different varieties of uremia, and the prevention of its causes. In my paper I laid particular stress on one point, or one sentiment, namely: the patient should be nourished to the highest attainable level with the least possible amount of food; and this applies with particular force to the proteids and carbohydrates ingested. It is astonishing to those who have not given much attention to the matter how comparatively little food is required for this purpose. Patients can be nourished on two-thirds, one-half or even one-third of what they are accustomed to take and maintain their weight, retain their vigor and increase their sense of well-being; this I have demonstrated in several instances. The trend of my remarks is this: The oncoming of uremia is manifested clearly by shadows cast before. One of the most significant of these foreshadowings is an endemic state, or usually an occult edema, in which the intracellular spaces are distended with fluid, and to a high tension. Such patients may be deprived of the excess of extravascular liquid with the loss of from five to twenty, or more, pounds in weight in a few days. Certainly this total loss in weight is due wholly to the loss of liquid and not to that of fat or the solid tissues of the body. In the cases in which the edema is occult, more or less manifest, I believe this to be an extremely important matter. The extravascular fluids contain an abnormal amount of certain salts, markedly differing from the proportions ordinarily contained in the lymph; therefore, the extravascular circulation is either overlooked as a whole, or portions are short-circuited. This is demonstrable in anasarca in which the legs are edematous; if indigocarmin be injected in the leg, it may be a very long time before it appears in the urine, and hours before it is noticeable in the serum of the opposite leg, or the serum may be drained from the opposite leg without getting a trace of indigocarmin. It has been short-circuited. It is to this condition that I wished particularly to call attention, not only because of its importance, but because I believe that it is either not sufficiently recognized, or due attention has not been given to it. The method of drawing off the liquid through the intestines is one of the many measures for the reduction of the edema which may be adopted; but on the method employed will depend its success or failure. If one gives elaterium he is sure to be uniformly dissatisfied with the results, but if he will follow the lines suggested definite results will be attained. With regard to occasional starvation, this, too, is a method which can be used, and is an essential feature of the method advised in the use of elaterium. The patient is practically starved: but he can live a long time without the ordinary foods. However, one may drive the nutritive portions of the blood out into the intracellular and lymph spaces; but stimulating the cellular secretory action in order to induce a return flow of the waste-laden and toxic lymph back into the general vascular circulation is not such a simple procedure. The serum obtained through the intestines by the use of elaterium is in the nature of a vicarious elimination, which is brought about by secretory action and not solely as the result of pressure. The fluid may be readily obtained clear by filtering, and is free of albumin; there may be a mere trace of it perhaps, but when such is the case it is accidental and due to the open spaces left by broken-down epithelium. The tissue lymph is albuminous and contains salts in a different proportion than is found in the serum drained off through the intestines.

OVARIOTOMY AND MYOMECTOMY EARLY IN PREGNANCY, WITH FULL-TERM DELIVERY*

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The relation of sterility and fibroids of the uterus has been widely discussed and two opinions defended by the opponents. One teaches the theory that the sterility is due to the growth in the uterus, while the other insists that the tumor is the cause of the sterility.

As the cause of tumor formation in the uterus is not known, the opinions expressed are but a speculation. One opinion is entitled to as much consideration as the other.

Fibroid tumors of the uterus are found in women under different modes of life; the married, the unmarried, the sterile as well as the fruitful are subject to this disease. These tumors are found in women who have suffered infection of the genital tract, and also in those who have never had an infection. They are found in the virtuous as well as in the morally lax, in the virgin as well as in the sexually promiscuous. In some cases the tumor appears early in life, in others later. The growths occur in women living in luxury as well as in their sisters of hard toil. They occur in women of all races, although the colored race is said to be more liable to these tumors.

It is not known to what extent the physiologic congestion occurring periodically in the genital organs during menstruation is responsible for these tumor formations, or if a responsibility can be put on this function at all.

In this connection there is a case on record by Sutton[1] which is of interest. In this case a tumor supposed to be a fibroid was present for ten years in the uterus of a childless woman, twice married, who had never menstruated or shown any evidence of physiologic ovulation.

Emmet,[2] who has studied the subject of disturbed menstruation in fibroids and their relation to sterility, expresses himself as follows:

> Between the ages of thirty and forty years the unmarried woman is fully twice as subject to fibrous tumors as the sterile or the fruitful. I have already pointed out that this is one of the tributes which an unmarried woman pays for her celibacy. It seems as if it were the purpose of Nature that the uterus should undergo the changes dependent on pregnancy and lactation about once in three years throughout the child-bearing period, and that if the uterus is not physiologically occupied in child-bearing a fibroid will the more rapidly develop into a fibrous tumor as the woman advances in life. This will also be the case with the married woman who has taken means to prevent conception, as well as with her who has been sterile from some cause beyond her control, but to a less degree in the latter case. Finally, the woman who may have been fruitful in early life may have a tumor develop, but is less liable thereto from having once borne a child.

On the other hand, Haultain[3] holds that "sexual excitement in marriage favors the growths of fibroids; that fibroids tend to prevent child-bearing, and, further that pregnancy in many cases, by promoting their growth, prevent conception in the future."

A fibroid tumor may lie dormant for a long time in the uterus of a sterile woman; she may then conceive, and with the conception the tumor grows and becomes an active factor in causing an abortion of premature labor later in the pregnancy.

A case of this kind came under observation last year.

Case 1.—*History.*—Mrs. G., aged 35, had been married fifteen years. She had one child two years after marriage but had not conceived since. She had a small fibroid in the uterus, the existence of which she had known for many years. The tumor never produced any symptoms. Six months previous to my examination she stopped menstruating but did not think that she was pregnant. The amenorrhea extended over four months; then she began to flow moderately. At first she thought it was a menstrual period; the flow continuing over six weeks convinced her that something was wrong. She consulted her physician, who called a consultation. Under a light chloroform narcosis a large tumor complicating a pregnancy was made out. She was transferred to the hospital for observation, where a few days later she delivered herself of a five months' fetus. The placenta not coming away satisfactorily, she was narcotized, the placenta removed and the uterine cavity thoroughly explored. With the hand in the uterus a fibroid was palpable, which projected into the cavity of the uterus, undoubtdly causing the premature labor. It was hoped that with the subinvolution of the uterus the tumor would return to its previously quiescent state. Instead of that the patient kept on flowing.

Operation.—Seven weeks later, on account of severe metrorrhagia and anemia, the patient was operated on and a panhysterectomy performed. On opening the specimen it was found that the uterus had involuted perfectly but that the tumor extended clear through the uterine wall and projected into the cavity of the organ, causing the persistent metrorrhagia.

Here we have a dormant tumor awakening into activity by the conception, and by its rapid growth causing a premature labor and also bringing about symptoms that called for hysterectomy.

While there is a distinct relation between sterility and fibroids of the uterus, the underlying cause of this relation is not known. There are cases of pregnancy on record in uteri that apparently were hopelessly destroyed by myomatous tumors. Under what conditions does pregnancy occur in organs so overwhelmingly damaged by fibroids?

A most interesting case of this kind was reported by Dr. I. S. Stone[4] at a meeting of the Washington Obstetrical Society. The tumor consisted of a large mass of myomata of varying sizes, which he had removed from a woman six weeks pregnant. The uterus was entirely hidden from view by the surrounding nodular masses. The patient was 30 years old and had been married less than six months. She had been subjected to a conservative myomectomy four years previously. A most difficult and complicated problem confronted the surgeons when the abdomen was opened. The transverse colon was adherent to the growth and all of the omentum was sacrificed in its removal. The adnexa were firmly adherent and hopelessly diseased. The entire uterus was removed save a rim of cervical tissue. The case is one which shows how the most decided changes in the uterus itself, as well as the endometrium, may not prove a hindrance to impregnation.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Sutton: In Allbutt and Playfair's System of Gynecology, ii, 562.

[2] Emmet: The Principles and Practice of Gynecology, Edition 3, p. 549.

[3] Haultain: In Allbutt and Playfair's System of Gynecology, p. 564.

[4] Stone, I. S.: Am. Jour. Obst., September, 1908, p. 499.

In regard to adenomyomatous tumors of the uterus, Cullen says[5]:

> The disease is most prevalent between the thirtieth and sixtieth years; it does not in any way tend to sterility. . . . Our experience goes to show that neither an infantile condition of the uterus nor sterility is in any sense a prominent feature with these tumors.

Fibroid tumors may cause sterility by mechanical means. The tumors may distort the uterine canal to such a degree as to obstruct the onward movement of the spermatozoa, or by irritation set up an endometritis, the discharges of which become inimical to the life of the fecundating cell. A tumor may so dislodge the cervix uteri as to make it inaccessible for the semen, hence the sterility. A fibroid, particularly if it is a submucous growth, may keep up a state of congestion of the mucous membrane, this extreme vascularity being unfavorable for the implantation of an impregnated ovum, and hence the sterility.

The cause of benign growths in the uterus not being known, who can say but that the same conditions that are responsible for the fibroids may also cause the sterility? A woman, for example, is fruitful for many years, stops bearing children and develops a tumor. Who can say but that the same factor is responsible for both the tumor and the sterility? Pregnancy is not a simple affair, but the result of a delicate mechanism, and so delicate a mechanism as the fecundation of an ovum must depend on a variety of conditions and not merely on the meeting of the ovum with the sperm cell; hence anything which disturbs this delicate mechanism may be the cause of the sterility. It can not be denied that pregnancy favors the growth of fibroids and that future pregnancies may be interfered with by the greater enlargement of the tumor. We also see cases of conception with fibroids after long periods of sterility.

In considering the subject of sterility, whether the patient is suffering with a tumor or not, there is one thing to be borne in mind, and that is the competency of the male partner. This factor can necessarily never be left out of consideration, and if due attention were given to this subject in every case of sterility with fibroids of the uterus we would find that a large number of these women are sterile because the male partner is incompetent. The competency or incompetency of the male partner has still another bearing on this subject, and that is this: The male partner may be suffering with a sterility due to an obstructive epididymitis from a gonorrheal infection contracted years ago. During the course of marital life the wife suffers a mild gonorrheal infection, which may in turn be the causative factor of the sterility in her, the development of the fibroids in her uterus being incidental and not necessarily the cause of the sterility. In one case of sterility and fibroids one cause may be operative while in other cases the causes may be several. In one case the cause may be a purely mechanical one, while in the other the cause may be a physiologic one. Until we shall be able to tell what the cause of fibroid formation is we shall not be able to formulate an opinion as to the relation of fibroids and sterility.

Sterility and fibroids are certainly closely associated, and this close association must necessarily be assumed to exist when it is considered that fibromyomatous tumors are associated with the periods of sexual activity. As Haultain[6] says: "Their growth is practically confined to the years between puberty and menopause, and it is doubtful if they ever originate before or after this period; indeed, if uncomplicated by secondary changes, they cease to grow after the climacteric."

There are no reliable statistics available of large numbers of cases to show what proportion of fruitful women are subject to myomatous growths of the uterus, to indicate how statistics of that character would compare with fibroids in single and sterile women. The subject of fibroids and their relation to sterility under consideration consists really of two parts; one is the subject of sterility itself and the other is fibroids of the uterus. Sterility by itself is a complex subject, little understood, and the same is true of the cause of fibroids.

From a clinical point of view there is a practical side to this question of sterility and fibroids and the manner of behavior of the myomatous tumors toward the pregnant uterus. Clinical experience has shown that the pregnant uterus, under certain conditions, is tolerant toward the fibroid growth. In these clinically favorable cases neither the pregnant organ itself nor the progress of the pregnancy is in any way harmfully affected by the growths in the uterus. With this evidence at hand we certainly are permitted to infer that fibroids of the uterus, under certain not clearly understood conditions, are not harmful to the pregnancy, to the fetus or to the patient herself. This being the case, we can deduce the practical lesson not to disturb myomatous growths during pregnancy unless there is clinical evidence at hand to show that the pregnant organ has become intolerant to the tumors in its walls. The size of the growth, or its situation, does not necessarily determine the tolerance or intolerance of the pregnant organ toward the tumors, but the size and situation are of great moment, so far as the future labor is concerned. The size of the tumor, and its situation as well, become important factors at the time of the labor on account of the possibilities of the tumor causing difficulties during the delivery in the form of mechanical obstruction.

Right here a practical question may be asked. What type of tumors should be attacked surgically during pregnancy? The teaching is that a tumor should be removed if pedunculated, excessively movable, greatly enlarged, or so situated as to cause mechanical obstruction during the coming labor. Surgical procedures are justifiable under these conditions even if the uterus is tolerant to the tumor in its walls. Pedunculated fibroids ar removed because they are subject to twisting during pregnancy; they are also subject to degeneration during the process of subinvolution of the uterus.

To judge properly what fibroids will cause mechanical obstruction during labor is a difficult task. Case are on record in which competent observers considere the situation of the tumors dangerous and undoubtedly liable to cause obstruction during labor, but in which under the test of labor the patients delivered themselves spontaneously or with the aid of low forceps operation. We must be constantly on guard in giving positive opinions on this question of obstructed labor by low-implanted fibroid tumors of the uterus. These low-implanted tumors become lifted out of the true pelvis during the progressive enlargement of the uterus, during the pregnancy, and when labor sets in very little if any mechanical obstruction is encountered.

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[5] Cullen, T. S.: Adenomyoma of the Uterus, 1908, p. 261.

[6] Haultain: In Allbutt and Playfair's System of Gynecolog p. 562.

What is the present teaching as regards the so-called interstitial fibroids and operative interventions during pregnancy? Clinical histories have established the fact that interstitial fibroids are of the type of tumors that cause miscarriages most frequently, and yet tumors of this type, when enucleated during operation, will cause the greatest number of abortions, because the pregnant organ suffers the greatest amount of traumatism during the removal of these deep-seated tumors. In view of these facts it becomes an important question what is best for a physician to do when called on to manage these cases. Each case of this type must be treated on its own merits. If the pregnant uterus seems intolerant to the presence of the tumor, which should be shown by periodic more or less severe uterine contractions, then an operation should be seriously considered, because with symptoms so marked a miscarriage is impending and a myomectomy may jeopardize the pregnancy to a less extent than the persistent uterine contraction.

The submucous fibroids are the type of tumors that cause sterility most frequently. This sterility is due not so much to the tumors themselves as to the congestion to the mucous membrane of the uterus, which their presence engenders and maintains. Once conception occurs in uteri with submucous fibroids the surgical attitude toward these tumors in pregnancy is the same as in the interstitial type of fibroids.

In the multiple fibroids of the uterus pregnancy has proved to be a dangerous complication. Clinical evidences are at hand showing that under those conditions abortions occur frequently, and great difficulty is at times experienced in properly emptying the cavity of the uterus of the product of the conception. Septic infections are frequently encountered in these cases, and gangrene of the tumors is not an infrequent complication, calling for total hysterectomy to save the life of the patient.

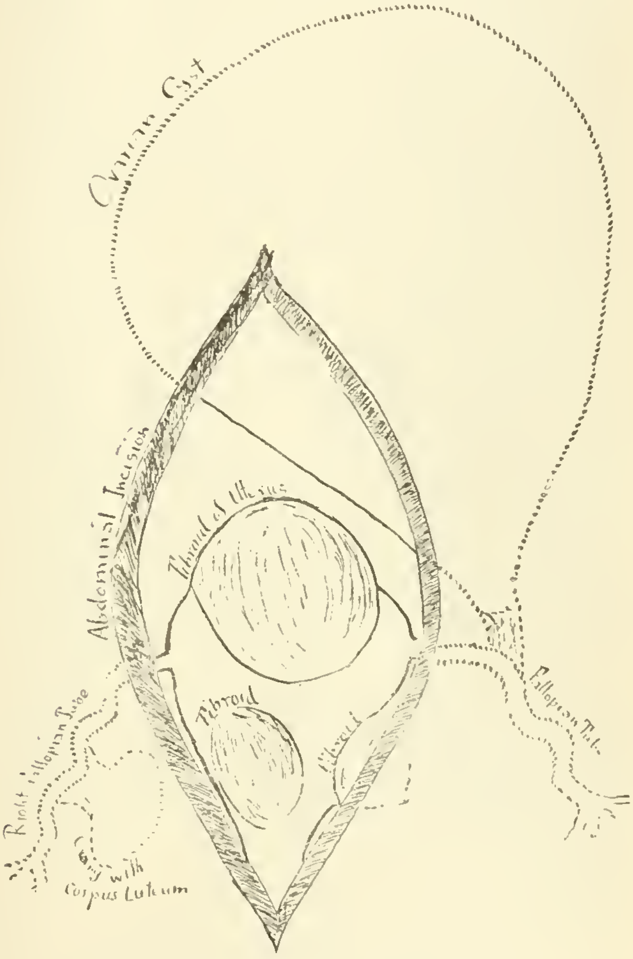
In the case the history of which I shall presently relate several interesting points arose previous to the operation.

1. The patient was suffering with an ovarian cyst which twisted on its pedicle, causing acute symptoms.
2. There were several fibroid nodules to be felt on the uterus.
3. The patient was a primipara, married nine years.
4. She was extremely anxious for a child.
5. For a week or ten days previous to the onset of the acute symptoms the patient had very definite and frequent contraction pains of the uterus, permitting the interpretation of the symptoms that a miscarriage was impending.

When the necessity arose for an operation the question was asked, what would be the best thing to do in this particular case, in view of the definite symptoms present numerated above. Should the offending neoplasm, the twisted ovarian cyst, alone be removed and the fibroids be left undisturbed for fear of inviting a miscarriage, or should the entire surgical field be simultaneously attacked? I felt that in this particular case I had no right to ignore the symptoms that pointed to a tendency on the part of the uterus to empty itself, and so a myomectomy was also performed. The question may be asked, given a case of early pregnancy, with several small fibroids in the uterus that the pregnant organ kindly tolerates, if an ovarian cystoma be present at the same time, whether it would not be good surgery to remove the offending cyst alone and leave the fibroids undisturbed. It seems to me that such a procedure would be perfectly justifiable, since we know that gravid uteri are frequently most tolerant to myomatous growths.

The history of the case is as follows:

Case 2.—*History.*—Mrs. H., aged 37, was seen on Aug. 9, 1907. She was brought to the hospital in a carriage, having fainted on the street. She was complaining of pain in the abdomen, which came on very suddenly, causing vomiting and fainting, resulting in a collapse on the street. The pain was sharp, cramp-like in character, excruciating at first; it gradually subsided and when I saw her about two hours after the attack her abdomen was simply tender but no pain was present. For a week or ten days before this attack the patient had not been entirely well, having suffered with cramp-like pain in the abdomen, moderate fever, indigestion, and an uncomfortable feeling in the bladder. The cramp-like pain of a bearing down character, lasting for a short period, would let up only to reappear again at short intervals. She had been married nine years but never had been pregnant; the cause of the sterility was not known. Her menstruation was always normal, of the four-weekly type, moderate in amount, lasting from three to four days. Her last menstruation, on July 28, had been



Fibroids of gravid uterus, and ovarian cyst.

very scanty, almost none. She did not know if she were pregnant or not, having had some slight morning nausea and the scant menstruation at the last period. Family and previous history negative.

Examination.—The general condition of the patient was good. Heart and lungs normal; abdomen was not enlarged but was tender to the touch. Bimanual examination revealed a slightly enlarged uterus with several fibroidal nodules on its surface. A large movable tumor was also present in the pelvis. The diagnosis was ovarian cyst, with twisting of pedicle, fibroid of the uterus and pregnancy. On account of the extreme movability of the pelvic tumor it was thought that the attack of pain was due to the twisting of the tumor on its pedicle.

The patient was advised to submit to an operation for the removal of the tumor and for a myomectomy. The patient and the family were very anxious for offspring.

Operation.—After careful preparation the patient was operated on Aug. 13, 1907. The abdomen was opened in the median line, the pedicle of the cyst was tied off and removed. There were three fibroids in the uterus varying from the size of a walnut to that of a lemon, the larger one of the tumors extending deep into the uterine wall. The tumors were removed by shelling them out of their beds and the uterus was closed with interrupted catgut sutures. In some places the bleeding from the uterine wall was quite free, necessitating very careful suture application. The ovarian tumor was on the left side. The right ovary was enlarged considerably and a corpus luteum of pregnancy was plainly visible. The abdomen was closed in layers and the patient put to bed in a very good condition.

Postoperative History.—The patient regained consciousness with very little, if any, nausea. She vomited a few times. She returned from the operating-room at 10:30 a. m. and at 4:30 p. m. a bright, bloody flow from the vagina was noticed. Morphin was administered hypodermically to relieve pain and to quiet uterine contractions. The patient was allowed to take water freely. Twenty-four hours later the bloody flow had diminished considerably but it was still bright red in color. Fifty-two hours later all bloody discharge had stopped. The bowels moved thirty-six hours after the operation. Some vaginal discharge reappeared again but this was from some blood that remained in the vagina, as it disappeared on administration of a douche. The abdominal wound healed by first intention; an entirely afebrile recovery took place. The patient sat up in two weeks and left the hospital in the fourth week. Two months after the operation the patient removed to Canada, where she placed herself under the care of a physician, who wrote to me that the patient was making a very satisfactory progress with her pregnancy and no abnormal or untoward symptoms had appeared as a result of the operation. On April 4, 1908, she was delivered of a nine-pound baby. Her labor pains started at 5 p. m. and the baby was born with forceps at 11 p. m. In other words, it was practically a normal delivery.

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ABSTRACT OF DISCUSSION

Dr. Howard A. Kelly, Baltimore: We are very much at variance in different parts of the country or even in the cities in regard to methods. I am glad that Dr. Grad spoke of the growing tendency to non-interference. I am constantly sending these patients back home without doing that which was expected when they came to me. When the tumor is in the upper part of the pelvis I habitually leave it alone, unless it is producing marked symptoms, and I do not recall any case now within some years that has been producing symptoms requiring interference. I am glad also that he referred to the fact that there were tumors which though low down might get high enough up not to obstruct delivery. When a tumor is low down it is a good practice to put the patient under a little gentle anesthetic and see if it can be pushed up. The chances are then favorable for delivery at term. Even when it is down in the cervical portion the patient may go to term, although when the tumor is large I do not think it is wise to wait for delivery *per vias naturales.* I have had a case of this kind within a year; a large, stout woman was delivered with great difficulty of a large child which lived. Shortly after she was sent to me with an enormous tumor blocking the cervix. Had she come to me at the end of pregnancy and I had found that tumor there I would have said that delivery was impossible. Yet the tumor was slipped up and with great difficulty and with considerable risk to life the child was born. In a case like that of Dr. Grad I would have opened the abdomen and taken out the tumor. I have a number of myomectomies in pregnancy to my credit, successful ones, but I prefer not to interfere, but to let them alone and to wait.

Dr. Henry D. Fry, Washington, D. C.: Dr. Grad has spoken of these tumors which are frequently low down in the pelvis during pregnancy and as a result of pregnancy, the growth of the uterus and contractions of the muscular fibers are drawn up out of the pelvic cavity so that delivery through the natural passages would be possible. When there is a pedicle the tumor can be pushed up, but even in the interstitial form of fibroid, low down blocking the pelvis, I have seen them frequently rise up in the later months of gestation and get above the brim and the woman give birth to her child naturally. On two occasions I have had to do a Porro operation when the fibroid was projecting down in the vagina and when on examination it seemed as if the fetal head were in the pelvis. There was a large round solid mass projecting down and when I operated I thought that I would have to do a panhysterectomy but I found the cervix was pushed away up above the symphysis pubes that the tumor had grown down from behind by a pedicle and was blocking the passage. One danger of leaving these fibroids alone, even when high up in the uterine wall, is the occurrence of suppuration after childbirth. I have had three cases of this kind. One patient was sent to me by Reynolds of Boston, five months pregnant. I intended to let her go until near term and do a Porro operation. However labor commenced unexpectedly with strong pains. When I reached the house the cervix was dilated to the size of a silver half dollar. She was brought to my hospital as quickly as possible. The pains continued until there was almost complete dilatation of the cervix. The labor had progressed so far that I had abandoned the plan of the Porro operation and permitted her to have her child by the natural passages. She did well for five or six days. She then went into collapse, had a high fever and was not in condition at any time afterward when I could do an operation. I knew that necrosis had occurred but she was in such a desperate condition I did not dare to operate. Autopsy showed a fibroid much suppurated. There had been rupture into the peritoneal cavity with suppurative peritonitis. In another case I did a hysterectomy, the woman recovered, and in cutting on the fibroid I found a large abscess. In another patient sent in very recently the tumor was not large. At about the eighth month of pregnancy she had a discharge with a disagreeable odor, and labor pains set in followed by premature delivery of an infant. After delivery I saw her at about the fifth day. She still had this discharge and was in bad condition. Her pulse was 32, very weak and she had septic fever. At the fundus of the uterus could be felt the suppurating necrotic fibroid projecting down from the fundus in the cavity of the uterus. She was in too desperate a condition for operation and we let her alone, watching and stimulating her and she recovered. So I think that when we decide to let these women with fibroids have their babies we must watch them very carefully during the puerperium and on the first sign of fever which we suspect is due to suppuration in the tumor we must operate at once.

Dr. A. E. Benjamin, Minneapolis: It has been my experience to have a number of these cases degenerate during the time they were in interstitial stage. In one patient sent to me after delivery I found the fibroid so wedged down and adherent that it was almost impossible to get that growth out of the pelvis. I never worked so hard in any case to get the tumor out. Another patient was a physician's wife who had had three miscarriages. She came to me at the sixth month of pregnancy and was beginning to have pain and some fever. She was in bed. I told the husband that she should be operated on. I enucleated a fibroid the size of a lemon about half vay down the fundus of the uterus. She had a living child orn in due time. Examination showed the tumor to be disased in the center. This has been the case with a number xamined. I feel that a certain percentage of these patients hould be operated on. By careful manipulation operating on he growth itself, it is not necessary to produce abortion.

Dr. J. H. Carstens, Detroit: There are many sides to this ubject. Last fall I reported cases that I had collected from ll over the world—about 550—and if you look those cases ver you will find the mortality is very low and that the perative mortality during pregnancy is not greater than in omen not pregnant. All these patients were operated on by bdominal section without any trouble. These women could ot be delivered otherwise. I have seen women who died unelivered. I had one patient, in whom I had to remove the terus containing any number of fibroid tumors, who was deivered normally. The fibroids and the uterus were contracted o firmly, however, that it was impossible to deliver the plaenta which became decomposed and the woman was septic in he highest degree and I had to operate on her four days after elivery. All these cases occur and it seems to me we can not y down any definite rule. If a woman is pregnant and has fibroid or any kind of tumor I think she is in a serious conition and her mental condition is not of the quietest. So we ught to consider seriously whether such patients should be perated on or not. I think a good many require operation uring pregnancy and will stand it just as well as at any ther time without producing abortion. In these 550 cases it as perfectly astonishing how many women went to full term fter myomectomy. These records from all over the world ave convinced me that myomectomy during pregnancy is not serious operation and that furthermore nearly all the women ill go to term and will save their children just as well.

Dr. H. Grad, New York City: In this case myomectomy was one because the patient presented definite symptoms of terine intolerance toward the fibroids in its walls. She had terine contractions which were very painful and on that acount myomectomy was done after the ovarian cyst was reoved. Had she had no symptoms I think I would have been empted to leave the fibroids, and she probably would have one on to full term as she did

HE TRANSMISSION OF BOVINE TUBERCULOSIS TO CHILDREN*

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Theobald Smith in 1896 described certain differences n the virulency, morphology and cultural growth beween the tubercle bacilli found in human tuberculosis nd in bovine tuberculosis. Koch at once commenced series of experiments, with the result that he not only onfirmed the observations of Smith but went further nd announced at the British Congress for Tubercuosis in 1901 the following conclusions:

> 1. The tubercle bacilli of bovine tuberculosis are different rom those of human tuberculosis.
> 2. Human beings may be infected by bovine tubercle bacilli, ut serious diseases from this cause occur very rarely.
> 3. Preventive measures against tuberculosis should therefore e directed primarily against the propagation of human tuberle bacilli.

Koch has been persistently misquoted and the imression is deeply implanted in the lay and medical ind that he denied absolutely the possibility of human nfection from the bovine type of the tubercle bacillus. n order to offset the effect on the general public of uch a statement by so eminent an authority several overnments appointed commissions to make a thorough investigation. The Royal Commission of England is perhaps one of the most important. The pathologists forming this commission—Woodhead, Martin, Boyce and McFadyean—before their appointment had publicly taken views strongly in favor of the possibility of the frequent transmission of bovine tuberculosis to human beings. It is no secret that they intended and expected to have no difficulty in proving in a short time that Koch was wholly wrong in his position.

They have now been at work over seven years and their conclusions are not much at variance with those advanced by Koch. They find that "there can be no doubt but that a certain number of cases of tuberculosis occurring in the human subject, especially in children, are the direct result of the infection into the human body of the bacilli of the bovine type." They investigated sixty-four cases of human tuberculosis and found the bovine bacilli in only fourteen of these carefully selected cases. Not one of these fourteen were in pulmonary tuberculosis but were from glandular cases.

Ravenel read a paper before the British Congress in 1901 which was diametrically opposed to Koch's views in emphasizing the great frequency of tuberculosis contracted from the ingestion of milk from tuberculous cattle. The same views were reiterated in 1905 and he asserted that the majority of cases of tuberculosis of children were of alimentary origin and due to the bovine bacillus. Last fall, in his public address before the International Congress at Washington, he admitted that only a small but a definite percentage of cases of intestinal tuberculosis in children were of bovine origin.

The situation has recently been summed up by Adami, who says: "The more we have studied the more we have been reducing the number of cases that are of bovine origin and increasing the number of human origin."

It is safe to assert that the scientific world is agreed on the existence of these two types of tubercle bacilli. The technic for their differentiation has been simplified so that the determination can be carried out in any laboratory.

A few investigators, while admitting the existence of these types, believe the differences are due to the host and that the two have a common origin and can revert to the original type after cultural methods and passage through animals. In refutation of this view Theobald Smith says:

> That the bovine type should be converted into the human type has no analogy in the domain of bacteriology and as long as it is not clearly proved to occur, it cannot be accepted on mere speculation. Again, if the bovine and human cultures are indiscriminately transmitted to either species, why should two types have arisen?

This is a question of purely theoretical value in the combat against tuberculosis; for Koch has well said that it is absolutely without significance what changes tubercle bacilli will undergo after being passed through a series of animals or during cultivation under some artificial conditions. Fresh and unchanged tubercle bacilli are taken in the milk and only the morphology of fresh and unchanged bacilli should be considered.

Veranus Moore of Cornell University stated within the past year that between 20 and 36 per cent. of all cattle in the state of New York are affected with tuberculosis.

In Belgium 49 per cent. of the cattle reacted to the tuberculin test and 49.5 per cent. in Denmark. Reports from the slaughter-houses of Prussia showed that 14.6 per cent. of the cattle had macroscopic lesions of tuberculosis and in Great Britain tuberculosis was found in 26 per cent. of the slaughtered cattle. Hess found tubercle bacilli in 16 per cent. of the specimens of milk he examined in New York City. There undoubtedly may be an abundant discharge of tubercle bacilli in the milk when the udder is diseased. It has also been shown that tubercle bacilli are found in the milk of cows in which there are no signs of udder tuberculosis. These, however, are present only in very small numbers. They are found only at intervals because the bacilli after the rupture of some focus do not circulate in the blood for any length of time, but are at once picked up and fixed in the tissues.

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* Read in the Section on Diseases of Children of the American edical Association, at the Sixtieth Annual Session, held at Atlanc City, June, 1909.

The Canadian government made a series of observations on fifteen cows which had reacted to the tuberculin test and been condemned. Tubercle bacilli were found in the milk of 5, and 88 animals (rabbits and guinea-pigs) were inoculated with this milk and only in 3 instances was any trace of tuberculosis found. Ten calves from healthy non-reacting cows were suckled for seven months on the milk of these tuberculous cows and in no instance did tuberculosis develop. The tuberculous cows were slaughtered and all showed tuberculosis, either of the lungs, intestines or glands, but a careful examination failed to detect any involvement of the udder. If calves, who are so susceptible to the bovine bacilli, were not affected in these tests there is but very slight probability that the human infant would be infected with this milk.

Wyskowych found that it was necessary to have at least fifteen tubercle bacilli injected into the tissues of the guinea-pig to produce infection. This is very different from introducing bacilli into the intestines, for it must be remembered that the contents of the intestines are as much outside the body as are the contents of the nostrils or external ear canal. A child might ingest thousands, or even millions, of bacilli and yet too few enter at any one point through injury or lesion of the intestinal wall to be able to set up tuberculosis. It should also be borne in mind that the bacilli do not multiply in the milk.

Infection to tuberculosis during life takes place through the air (inhalation infection) and from the food (ingestion or alimentary infection). The inhalation infection may take place through the nasopharynx, respiratory or alimentary tracts. Holt and Albrecht found involvement of the lymph nodes and lungs in 99 per cent. of their autopsies on cases of tuberculosis in children. In the home of a tuberculous adult the dangers to the child are enormous. Miller, in a study of 150 children whose parents were under treatment for tuberculosis, found physical signs of tuberculosis in 51 per cent.

Infection through the intestinal tract may come from human bacilli coughed up and swallowed; toys, fingers, food, etc., contaminated with human bacilli; or food, especially milk, containing bovine bacilli.

Bovaird, who has given special attention to the frequency of primary intestinal tuberculosis, concludes that it occurs among children in this country in about 2 per cent. of all cases of tuberculosis, while in Great Britain it is found in 18 per cent. Albrecht of Vienna found only 7 cases of primary intestinal tuberculosis in 3,213 autopsies, of which 1,060 showed signs of tuberculosis. Comby, in his series of 1,147 autopsies on children showing tuberculosis, did not find a single case of primary intestinal tuberculosis. He also makes the assertion that in his private practice among dispensary and hospital patients during twenty-five years of practice he has never seen a case of tuberculosis in a child contracted through the milk. He points out that tuberculous cattle have been largely exterminated in the dairies supplying Paris with milk and that milk in its raw state is very rarely used for infant-feeding, yet these stringent prophylactic measures against bovine tuberculosis have not had the slightest effect on the mortality of tuberculosis in children. Holt says: "Infection through the intestinal canal by means of tuberculous milk I believe to be a very infrequent means of acquiring tuberculosis in infancy."

Kitasato and Shiga have recently written interesting articles on tuberculosis in Japan; they show that human tuberculosis is as frequent in Japan as in the civilized countries of Europe and America. They also state that intestinal tuberculosis is relatively common in children although cow's milk is never used and plays no rôle at all in the feeding of children. Avison, a medical missionary in Korea, found tuberculosis very common and yet the natives never touch cow's milk or give it to their children. Responsible observers in other portions of the globe have reported similar conditions.

Harlow Brooks' account of the eradication of tuberculosis among the monkeys in the New York Zoo is significant. For years the mortality from tuberculosis was a great source of expense, as about 50 per cent. died from this disease. In making the autopsies Brooks was struck by the similarity of the tuberculous lesions in monkeys and children. A thorough disinfection of the cages was made and the healthy and diseased monkeys separated. Every new monkey was given a careful physical examination and kept in quarantine for several weeks. Tuberculosis was eliminated in the course of two years and the mortality reduced to nil. The food and milk was not changed, so the contagion must have come through the sputum or direct contact, not from the milk.

Infectious diseases are not infrequently found confined to the route of one milkman. There is no instance on record in which it has been pointed out that many of the children along one route have shown intestinal or general tuberculosis, although it is quite probable that the majority if not all the cows supplying the milk may have advanced udder tuberculosis.

Passage of the bacilli through the intestinal walls and mesenteric lymph glands into the thoracic duct and thence deposited in the lungs is the explanation of some excellent pathologists of the infrequency of intestinal tuberculosis.

Cornet made over 3,000 animal experiments and formulated the law that wherever tubercle bacilli are introduced into the body they produce either a localized tuberculosis or involve the regional lymph glands surrounding the area of infection. It is hard to understand on the basis of these experiments how the bovine bacilli could pass through the mesenteric glands without producing any changes in the tissues and then set up tuberculosis in remote organs. Albrecht, in his large series of autopsies, finds that the Cornet law applies invariably to the source of infection in children and he denies the possibility of the infection entering the circulation through the intestinal tract without leaving any trace in the mesenteric lymph glands. Holt acknowledges the possibility of the bacilli entering th digestive tract without producing intestinal lesions and setting up a lung or bronchial gland infection, but he asserts that this is not the usual course or the natural interpretation of the conditions found at postmortem examination. Theobald Smith calls attention to the fact that the tubercle bacilli are living organisms which arouse a more or less prompt reaction on the part of the invading tissues, and that they can not travel about the body at will without being recognized and held.

Bovine tubercle bacilli have never been detected in the sputum of tuberculous patients. At a private conference at the International Congress at Washington Koch asked about fifty of the leading pathologists and bacteriologists of the world if they could quote any case in which bovine bacilli had been surely isolated from human cases of pulmonary tuberculosis. One such case was cited, but the possibility of contamination had not been fully guarded against, so that it can be stated that up to the present time no authentic case of pulmonary tuberculosis in man due to the bovine type of tubercle bacilli has been reported. The natural conclusion from this is of great value, as statistics show that fully eleven-twelfths of deaths from tuberculosis are from the pulmonary variety and only one-twelfth from all other forms of the disease. A number of pathologists have found bovine bacilli in tuberculous glands. Theobald Smith isolated bovine bacilli in twelve out of twenty-eight tuberculous cervical lymph glands removed by operation and in one case of tuberculous meningitis. Hess examined mesenteric glands from three cases of primary intestinal tuberculosis in children, but found the human type in all three cases. He has found the bovine type of tubercle bacilli in excised tonsils. Hamilton White examined a series of tonsils removed from children and inoculated them in guinea-pigs. Some of the pigs died from septicemia, but of the 50 pigs inoculated not one showed tuberculosis of either type. The English and German commissions have also found bovine bacilli in tuberculous lymph glands. Theobald Smith, from his personal investigation and study of the literature, believes that "between 1 and 2 per cent. of all cases of tuberculosis will show bovine bacilli and that in individuals over twelve years of age they will be found only very rarely."

I have reported an instance in which a strong chain of circumstantial evidence convicted a cow of transmitting fatal tuberculosis to a fourteen-months-old infant. Organs from the infant were sent to the Pathological Laboratory at Harvard, where the bacilli were found to be of the human type. The cow was slaughtered and no trace of tuberculosis could be found, although she was said to have reacted positively to the tuberculin test. Kerley has reported several instances in which all appearances were against the cow but on bacteriologic investigation the lesions were found to be due to the human type of tubercle bacillus.

A circular letter of inquiry regarding the possibility of bovine transmission was sent to the members of the American Pediatric Society and leading pathologists. Thirty-seven believed it possible, although ten of these qualified their replies by stating that transmission occurred "in relatively rare cases," "exceptionally," "to a very limited extent," etc. Five replied in the negative, while twenty-five would express no opinion. Only three of the thirty-seven who believed in the transmission of bovine tuberculosis could report positive cases in which the infection came clearly from the milk and the bacilli proved to be of bovine origin.

The question is far from settled. Professor Adami of Montreal recently stated that "at first Koch went to one side too much and his opponents went to the other side too much, but at present the truth seems to have come nearer Koch's view than the other view."

The secular press is well supplied with sensational articles magnifying the great damage of bovine tuberculosis. This campaign of newspaper advertising will result in a wide-spread belief among the laity (and unfortunately some members of our own profession) that bovine infection is the principal cause of tuberculosis in man. As a natural sequence the public would feel it could disregard the ordinary rules of sanitation and hygiene provided the possibility of infection through milk could be eliminated by pasteurization of milk and slaughter of tuberculous cattle.

Dr. Bensel of the New York City Board of Health has said that he "deprecated the spread of alarm in the mind of the public as regards the danger of tuberculosis from milk."

Koch declared at Washington that in order to decide this important question he was going to undertake experiments on a broad scale during the next two years. This great problem is so vital that it should be dealt with in a temperate and scientific manner.

In a previous communication on this subject I have stated that tuberculous cattle are a menace to public health and give the disease through their milk in rare instances. Efforts to stamp out the disease in cattle should be made, but the attention of the public should not be diverted from the great and very real danger of human contagion. Whether this takes place through the respiratory or digestive tract is immaterial.

In view of the practical bearing of this question from a sanitary, hygienic, and dietetic point of view and the evident confusion and lack of positive knowledge, this Section should take up a systematic study of bovine tuberculosis and its transmission through milk. A committee could be formed to make a report at each meeting of the work that is being done in different countries and to urge and see that a differential bacteriologic examination be made in all suspected cases, not alone of intestinal involvement, but of the bronchial glands, lungs, and tonsils. State laboratories and pathologic laboratories of medical colleges would gladly aid in such an investigation.

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ABSTRACT OF DISCUSSION

DR. WILLIAM H. PARK, New York: It is now accepted by nearly every one that Koch went too far, in virtually excluding bovine infection as a source of tuberculosis in man. The British reports may lead to conclusions too far the other way. If this is so, it is only because their material was selected from one locality. The men who did the work are of such ability and standing that a charge of bias hardly deserves consideration. Undoubtedly there are some who believe that nearly all tuberculosis comes through milk, but most of us are convinced that human tuberculosis, in the great majority of cases, is due to human infection. If we are to determine through bacteriologic findings the source of infection, it must first be established that the human and bovine types of health have persistent and clear-cut differences. We have sufficient facts to enable us to state definitely that cultures obtained from infants under a year, show their original characteristics so that when we find a distinct bovine or human type we can say definitely that this infection is from a human or a bovine source.

With a number of bacteriologists in the New York Department of Health, I have been testing the characteristics of the tubercle bacilli in a large number of cases. We are trying to get a fair quantitative opinion by taking all the cases of tuberculosis in these children's hospitals. We have examined additionally cultures from 200 adults and they have all been of the human type. So far we have finished our tests of the cultures from 70 children. These comprised 35 cases of generalized tuberculosis and an equal number in which the disease was localized largely in the lymph glands, bones or joints. Of the 35 suffering from generalized tuberculosis, 6 were due to the bovine type of the bacillus; 4 of these 6 bovine cultures came from 8 children obtained from one hospital. None of these was fed on breast milk. Of the other 29, only 2 were of the bovine type. Of the 35 cases of general infection in infants, there were 10 in which meningeal symptoms were pronounced and all were due to the human type.

One history is interesting: A little child who had been started on certified milk, after the third month was given commercial milk. A little later this child developed abdominal tuberculosis, and was operated on unsuccessfully. The bacilli were found to be of the bovine type. Two samples of the milk when injected produced tuberculosis. Several of the cows on the farm showed advanced tuberculosis, but no other tuberculosis was detected.

Of the surgical cases, there were 29 of involved lymph nodes. Of these 20 were due to the human type and 9 to the bovine type. Of the 5 cases in which a joint was involved all were human. In one patient with abdominal tuberculosis, operated on with recovery, the bacillus was bovine. Altogether 23 per cent. of all the cases among young children were due to the bovine type and 17 per cent. of the fatal cases. I judge that about 1.5 per cent. of all cases of fatal tuberculosis in New York City is due to bovine infection. That would mean at least 200 deaths. Of course 200 or 300 deaths are not many when contrasted with the total number, and yet if they occurred from any other disease it would be considered a very important matter. I believe we can take measures to prevent this type of infection without interfering with the far more important work of controlling the spread of infection from man. In the course of a few years we will have definite results from the investigations now being carried out in many centers of population and the relative importance of bovine and human bacilli in human infection will thus soon be finally settled for the whole civilized world.

Dr. Alfred F. Hess, New York: I don't believe that Professor Koch is misjudged in his statements. He said that bovine tuberculosis was very rare and that it did not require more consideration than the congenital type. Dr. Shaw has shown that is not correct. If these types of human and bovine tuberculosis interchange, then we have made but little progress; but I do not believe that it has been definitely shown that these types do interchange. It is difficult to get at this question because we do not know the time of the bovine infection; we are almost never able to say when the infection took place. Recently I had occasion to examine two cases of butchers' tuberculosis in slaughter-house employés. One had been infected four years ago and in the other the infection had occurred six years ago. In both cases I injected a guinea-pig and in both cases the bacillus was typically bovine and had not assumed the human type. Again, if the bacillus does not change in the human tissue, we ought occasionally to find the bovine bacillus in early pulmonary cases before this hypothetical change has taken place; whereas it has been shown that a bovine case of pulmonary tuberculosis has not been recorded. As to the small percentage being important, 1 per cent. does not seem large, but when you recall that the yearly mortality in the United States from tuberculosis is about 200,000, then certainly 1 per cent. mounts up to thousands of cases. If these cases were classed as foot-and-mouth disease, it would certainly be regarded as important enough to require even Federal consideration.

Dr. S. McC. Hamill, Philadelphia: If it has been demonstrated, as it has by Dr. Park's statistics, that as many as 300 deaths occurred from bovine tuberculosis in children under 5 years of age in one year in New York City, then the number of deaths in children from this cause in the entire United States must represent a very high figure. I think the men investigating the incidence of bovine tuberculosis have done it in a fair-minded way. The attitude of those who have opposed Professor Koch has been not to demonstrate bovine infection, the sole or chief type of infection, but to prove that bovine tuberculosis is not a negligible quantity and that it represents an important percentage of the cases which occur in early life and that it is the duty of those directing the health of communities to protect the public from the possibility of this form of infection.

Dr. H. L. K. Shaw, Albany: I did not mean to criticize the British investigators. They were very fair. Dr. Park's figures correspond exactly with those of Theobald Smith. I do not want to belittle the question of bovine tuberculosis, but the New York State Board of Health can not get more than $7,500 to fight human tuberculosis, and my aim was to emphasize the importance of the fight against human infection.

EMBOLOMYCOTIC ANEURISMS *

DEAN LEWIS, M.D., and V. L. SCHRAGER, M.D.
CHICAGO

Aneurisms developing during the course of endocarditis and occasionally during some of the acute infectious diseases form a distinct group. The frequent involvement of the visceral arteries and the latency of clinical course probably accounts for the relatively small number which have been noted *in vivo,* most of the cases having been discovered accidentally during routine post-mortem examinations. These aneurisms differ in pathogenesis, clinical course, and prognosis from those developing secondary to chronic arterial changes. Enough isolated cases have now been reported to warrant a critical examination of the clinical histories with the view of obtaining data relative to the diagnosis and the lines of treatment to be followed in cases of this type.

Rokitansky[1] as early as 1844 recognized and described true abscesses in the walls of arteries, the sequence of the lodgment of infected emboli.

The first description of an embolomycotic aneurism was apparently made by Koch[2] in 1851. Koch's patient was a young man, 22 years of age. He was being treated for endocarditis, when, without any previous abdominal symptoms, he suddenly died with all the manifestations of intra-abdominal hemorrhage. The autopsy revealed vegetations on the mitral valve and a ruptured aneurism of the superior mesenteric artery. A little later than this English clinicians and pathologists described a series of cases and recognized the relationship existing between embolism and aneurism formation.

ETIOLOGY

In 1853 Tufnell[3] reported an aneurism of the popliteal artery in a young man, aged 25. In the history of this case it is stated that there were "cauliflower-like excrescences" on the aortic valves.

Thirteen years later Oggle[4] stated that there was a definite relationship between aneurisms in young people and verrucous endocarditis. Church,[5] Goodhart,[6] Barlow and other English observers were of the opinion that many aneurisms in young people were of embolic origin.

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* From the Surgical Department of Rush Medical College.

[1] Rokitansky: Handbuch der pathologischen Anatomie, ii, 553.

[2] Koch, L.: Ueber Aneurysma der Art. mes. sup. Inaug. Diss., Erlangen, 1851.

[3] Tufnell, J.: The Influence of Vegetations on the Valves of the Heart in the Production of Secondary Arterial Disease, Dublin Quart. Jour Med. Sc., 1853, xv, 371.

[4] Oggle, J. W.: Med. Times and Gaz., 1866, i, 196.

[5] Church, W. S.: The Formation of Aneurisms and Especially Intracranial Aneurisms in Early Life, Rep. St. Bartholomew Hosp., 1870, vi, 99.

[6] Goodhart, J. F.: Cases of Aneurism from Embolism, Tr. Path. Soc., London, 1877, xxviii, 106.

Ponfick[7] and Eppinger[8] were the first, however, to make careful anatomic examinations of aneurisms of this type. The former found in one of the early cases of aneurism of the cerebral vessels studied by him a pointed, calcified embolus projecting through the arterial wall into the cavity of the false aneurism. He suggested a purely mechanical causation and believed three things necessary for the development of an aneurism of this type: (1) a calcified, pointed, barbed embolus; (2) lodgment of the embolus at the bifurcation of a vessel; (3) loose connective tissue surrounding the vessel, and not resistant tissue which could afford some support to the arterial wall. He cites in support of the third requirement that embolomycotic aneurisms do not occur in the renal vessels, although pointed, calcified emboli must lodge there, while they are relatively common in the vessels of the loose cellular tissues about the spleen and in the mesentery, and still more common in the vessels of the soft brain tissue.

This traumatic or mechanical explanation did not suffice for all aneurisms of this type, for cases were frequently found in which a soft embolus was found at the site of beginning aneurism formation. Eppinger, employing reliable bacteriologic technic, could establish a direct relationship between the embolus at the site of aneurism formation and the endocardial vegetations, as he could demonstrate similar bacteria in each. He believed that, as the result of lodgment of an infected embolus, an exudative periarteritis and later a mesarteritis developed, that a part of the elastic and muscular elements were destroyed by bacteria and their toxins, and that the remaining parts of the media and adventitia were forced outward to form the sac of the aneurism. He suggested that the term "embolomycotic," embracing both the embolic and infectious nature of the lesion, be applied to aneurisms of this type.[9]

The suggestion that an aneurism might follow the lodgment of a benign embolus, the dilatation being due to the sudden increase of pressure proximal to the point at which the embolus lodged, cannot be accepted. If aneurisms could be caused in this way, they would certainly develop frequently after the ligation of vessels, and this practically never occurs unless infection develops at or proximal to the point of ligation.

We believe, after an examination of the literature and of the cases herewith reported, that this type of aneurism may develop in one of three ways. Most commonly they follow an endarteritis associated with lodgment of infected emboli at the bifurcation of arteries. The process, beginning in the intima, reaches the membrana elastica interna, which is destroyed by the infection permitting of either a localized or generalized distention of the arterial wall. Extensive destruction of the elastic fibers was easily demonstrated in the brachial artery examined by us by Weigert's stain. The observations made by Ponfick and Thoma[10] of calcified emboli in the arterial wall and projecting into the aneurism demonstrate the possibility of traumatic origin. Gambaroff[11] suggests the lodgment of either an infected or bacterial embolus within the media, the embolus passing in through the vasa vasorum. An aneurism developing after the lodgment of the embolus in the media would probably be of the dissecting type.

A few cases of aneurism have been reported which developed during the course of infectious diseases, unaccompanied by endocardial changes. E. Ruge reports an aneurism of a coronary artery in a boy, aged 12, which developed during suppurative osteomyelitis, and Cathcart[12] an aneurism of the femoral artery during typhoid fever. Streptococci were found in the wall of the aneurism in the case observed by Ruge. Cases such as these and those in which the aneurism develops in the course of an artery, rather than at the bifurcation, suggest other etiologic factors. Some of the aneurisms which are regarded as of embolic origin may be due to the arterial changes which have been described by Wiesel[13] during infectious diseases in which embolism can be excluded. As a result of his studies Wiesel comes to the following conclusions:

> 1. During the course of various infectious diseases well-defined pathologic changes occur in the arteries. These, at first limited to the media and in the majority of cases confined to it, consist of degeneration of the musculature and of the elastic fibers. Degeneration occurs in foci, which may be quite numerous in the separate vessels, and leads in severe cases to an actual necrosis of the vessel wall. Healing may occur by scar formation or *restitutio ad integrum*. If the process extends to the intima, cicatricial changes occur and the vessel is permanently damaged. In advanced cases the changes may be recognized macroscopically.
>
> 2. The changes affect all arteries up to a certain caliber (about that of a digital artery), the distribution of foci varying from case to case, the aorta, cerebral and cardiac vessels being, however, most frequently involved.
>
> 3. The cases may be separated into two groups: those associated with especially marked involvement of the elastic elements as in diphtheria, typhoid fever, influenza and pneumonia, and those with most marked changes in the media, as in scarlet fever and septicopyemia.

This work has been cited in detail to show the frequency of arterial changes in infectious diseases. It is quite possible that some of the aneurisms in these diseases have followed these changes, which apparently bear no relation to embolism.

Clinically, embolomycotic aneurisms differ from those following chronic arterial changes: (1) In developing at an earlier age; (2) in frequently being multiple; acute and chronic forms often occurring in the same individual; (3) in the frequent involvement of visceral arteries; and (4) in the tendency to remain small.

It is often difficult to determine the etiologic factors in aneurism in the young. A number of cases are reported in which no satisfactory explanation is given as to the cause. Congenital aneurisms, described by Kussmaul and Meyer and ascribed by Eppinger to an inherent weakness of the arterial wall, are considered by Romberg to be of infective origin. Astley Cooper observed an aneurism of the anterior tibial artery in a boy aged 11, and is responsible for the statement that Mr. Clive had ligated the same artery in a boy (age not stated) for an aneurism which had existed in the upper part of the foot for two years. Cooper is reported to have said that he had been told of two instances of aneurism in children, one involving the carotid, the other the popliteal artery. A definite etiology was not given for these cases. Keen[14] describes a brachial and thoracic aneurism in a girl aged 18 without any heart changes, and also describes one of one of the interosseous vessels of the hand in a young girl. The last was probably of traumatic origin.

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[7] Ponfick: Ueber Embolische Aneurysmen, nebst Bemerkungen über das acute Herz-Aneurysma, Arch. f. path. Anat. u. f. klin. Med., 1873, lviii, 528.

[8] Eppinger, H.: Pathogenesis (Histogenesis und Aetiologie) der Aneurysmen einschliesslich des Aneurysma equi verminosum, etc., Arch. f. klin. Chir., 1887, xxxv, 404.

[9] The possibility of the embolic origin of aneurisms has been recognized by veterinarians for a long time. These aneurisms are relatively common in horses, the anterior mesenteric artery being most commonly involved and the *Strongylus armatus* being found in the sac. Such cases have been described by Bollinger and are mentioned in the ordinary text books of veterinary medicine.

[10] Thoma: Ueber die Aneurysm, Deutsch. med Wchnschr., 1889, Nos. 16-19.

[11] Gambaroff, G.: Ein Fall von Rupturaneurysma der Aorta infolge von infektiöser hematogener Mesaortitis, Beitr. z. path. Anat. u. z. allg. Path., 1906, xxxix, 94.

[12] Cathcart, R. S.: False Aneurisms of the Femoral Artery following Typhoid Fever, South. Med. Jour., 1909, ii, 593.

[13] Wiesel, J.: Die Erkrankungen arterieller Gefässe im Verlaufe akuter Infektionen, Ztschr. f. Heilk., 1906, xxvii, 262.

In 1903 Le Boutillier[15] published an article dealing with aneurism occurring in early life. He collected reports of 60 cases, 17 of which involved the thoracic and 6 the abdominal aorta. The remaining 37 involved vessels other than the aorta. In 7 of the cases in which the aorta was involved there was either a recent endocarditis or thickened plaques on the valves. Similar conditions were found in 11 of the 37 cases in which vessels other than the aorta were involved.

Table 1 demonstrates the frequent occurrence of embolomycotic aneurisms in those who are relatively young. The age of 57 of the 65 patients, including the cases observed by us, have been mentioned.

TABLE 1.—AGES AT WHICH EMBOLOMYCOTIC ANEURISMS OCCUR

Age.	No. Cases.	Age.	No. Cases.
1 to 10	6	31 to 40	9
11 to 20	15	41 to 50	4
21 to 30	22	51 to 60	1
			57

About one-third of the cases which have been observed developed during the third decade, and about one-fourth during the second. This is in marked contrast to the age at which aneurisms secondary to chronic arterial changes are most common.

The direct relationship between endocardial changes and aneurisms in the young is positively demonstrated by these statistics, and we have to conclude that the most important factor in aneurism formation in the young is endocarditis, trauma being the next.

These aneurisms are much more common in the male than in the female. The sex has been mentioned in 57 cases, 41 patients being males, 16 females. In the 14 cases of endocarditis recently studied by Rosenow, 6 patients were males and 8 females. The great preponderance of males afflicted with embolomycotic aneurism suggests the possibility of some determining factors in the development of this type of aneurism. We have attempted to determine whether or not there might be some factors which would favor the lodgment of emboli or favor aneurism formation in the male, but the histories have not been complete enough in most cases to enable us to draw any conclusions as to the blood pressure or chronic renal changes.

We have collected, including the cases observed by us, reports of 97 aneurisms of this type. They occurred in 65 patients, the aneurisms frequently being multiple. The average age of 57 patients (the age of 8 not being mentioned) is about 23 years. The age of the youngest patient is 5 years, that of the oldest 53.

LEWIS AND SCHRAGER'S CASES

The clinical course of aneurisms of this type is well illustrated by the cases observed by us, abstracts of the histories of which follow:

CASE 1.—*Patient.*—M. Q., a Swede, aged 43 years, was admitted to Dr. Sippy's service at the Presbyterian Hospital April 3, 1908. He had had four distinct attacks of acute, articular rhuematism. Venereal diseases were denied. For several years he had suffered with precordial pain and palpitation of the heart. The symptoms had recently become so severe that he was obliged to quit work.

Examination.—When the patient entered the hospital he complained of precordial pain, palpitation of the heart, and general weakness. He was fairly well nourished; there was some puffiness of the eyelids and some anemia. The pupils reacted to light and accommodation. Eye-grounds were negative, vision good. The nasopharynx and lungs were negative. Cardiac dulness extended half an inch beyond the left mammary line. Auscultation revealed a presystolic murmur, a snappy first tone and a diastolic rumbling at the apex which was transmitted upward.

Course of Disease.—May 20, 1908: Patient complained of a sharp pain in the left hypochondrium associated with a rise of temperature. The left kidney became tender and the urine contained a large number of red blood corpuscles.

May 31, 1908: Patient had a severe chill, accompanied by a rise of temperature, the left kidney becoming tender. Temperature dropped to normal, June 1.

June 2, 1908: Slight rise of temperature and a sudden, violent pain in the left antecubital fossa.

June 21, 1908: A distinct aneurism, the size of a goose-egg, had formed in the left antecubital fossa at the bifurcation of the brachial artery. The aneurism had developed to this size in nineteen days.

July 12: The aneurism had not increased much in size for about three weeks, but on this date, because of the pain occasioned by it, a proximal ligation of the brachial artery was performed under cocain anesthesia. The pain promptly subsided and in about four weeks the aneurism could be pronounced healed.

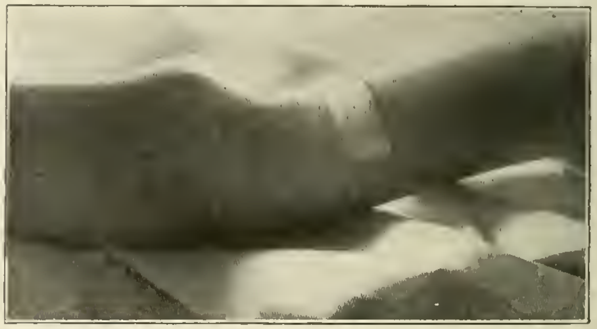

Fig. 1.—Aneurism at bifurcation of brachial artery on day after operation.

August 30: The patient complained of severe pain in the right antecubital fossa. Localized tenderness and some edema developed. The patient frequently complained of pain in the epigastric and hypochondriac regions. These were paroxysmal in character and associated with chills and fever; often followed by blood in the urine. The patient gradually grew worse, became edematous, dyspneic and cyanotic, developed hematuria and hemoptysis, and died Feb. 6, 1909.

Cultures were made at different times from the blood in the aneurismal sac by Dr. E. C. Rosenow. All were sterile. On one occasion, just after a pulmonary infarct, the pneumococcus was recovered from the general circulation, but this was the only time. Blood-pressure varied from 140 to 165 mg. of mercury. Before death the site of the aneurism felt like a long, hard connective tissue mass. The radial and ulnar pulses had not returned. Sensation in the hand and temperature of the same were not affected by ligation of the artery.

Autopsy.—This, performed by Dr. Evarts Graham twelve hours after the patient's death, revealed the following: A puckered scar in apex of the left lung; pleural adhesions on the right side; clear fluid in the left pleura; adhesive pericarditis; calcified vegetations on mitral valve; enlarged liver with a few scars on the surface. The spleen weighed 780 gm. and was divided into three lobes by bands of connective tissue which ran a quarter of an inch into the splenic tissue. A recent infarct was found in the middle segment. Several scars were found in both kidneys. A recent aneurism, the size of a hickory nut, was found on one of the branches of the superior mesenteric artery. It was a saccular aneurism, the cavity being filled with a laminated clot. The brachial artery at the site of the aneurism was isolated with considerable difficulty from the surrounding tissues, which seemed to form part of it. The brachial artery immediately above and below the point of ligation was patent. Blood-cultures made by Drs. Schrager and Clements after death reveals streptococci and pneumococci.

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[14] Keen, W. W.: Two Cases of Aneurisms in Girls of 18 and 8 Years of Age, Med. News, 1887, ii, 725.

[15] Le Boutillier, T.: A Case of Aneurism of the Transverse Portion of the Aortic Arch in a Girl Nine Years of Age, with Table of Reported Cases under Twenty Years of Age, Am. Jour. Med. Sc., 1903, cxxv, 778.

As bacteria were not recovered from the aneurism, the entire mass was imbedded in celloidin and sectioned serially with a view of determining whether or not the aneurism was of a traumatic type, due to perforation of the arterial wall by a pointed, calcified embolus, similar to the endocardial vegetations. Every fifth section was mounted and studied, but no embolus was found. The dilated lumen of the vessel involved was closed by a thrombus, which had become detached from the intima during the process of imbedding and cutting. The arterial wall showed marked changes. The intima was practically destroyed; the elastic fibers of the membrana elastica interna took the stain poorly and were broken up into groups. Bundles of fibers of the media were separated from each other by groups of leucocytes and small, round cells, the histologic picture sugesting that the aneurism might have been of the dissecting variety.

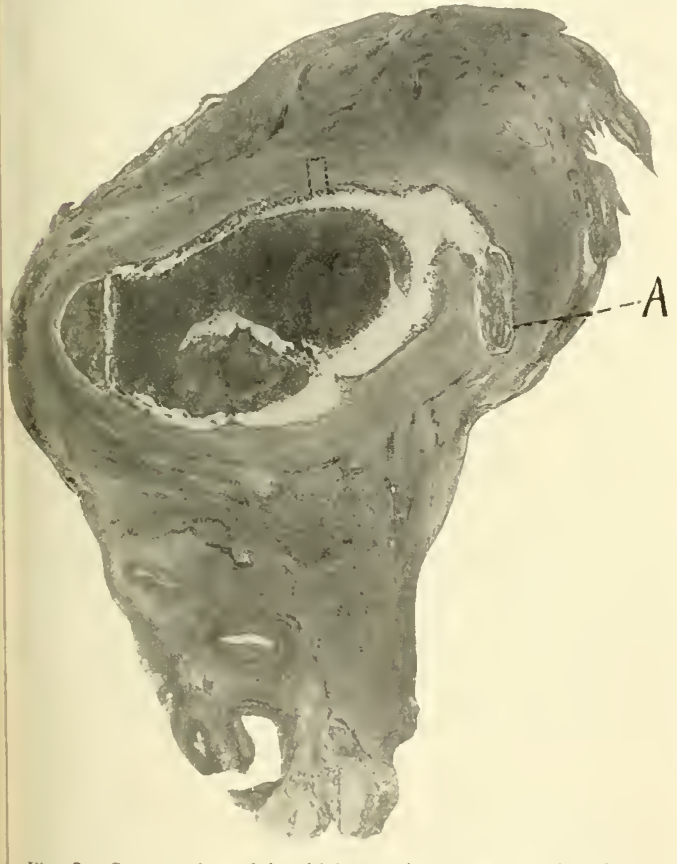

Fig. 2.—Cross-section of brachial aneurism seven months after ligation. A indicates point at which rupture of the arterial wall occurred.

Case 2.—*Patient.*—A young man, aged 21, was admitted to Dr. Billings' service at the Presbyterian Hospital, April 23, 1908. He gave a history of several attacks of acute articular rheumatism. Two weeks before admission to the hospital he complained of sudden, severe pain just above the left hipjoint. A swelling in which the patient stated that he had noticed pulsation soon developed at the site of the pain.

Examination.—The swelling, situated above and to the outer side of the left trochanter, was as large as a medium-sized grapefruit. It had an expansile pulsation, and a distinct thrill and bruit could be elicited over it. Pulses in popliteal vessels were equal and of the same frequency. Physical examination of the heart revealed the following: Apex-beat fifth interspace just inside the nipple line; no thrill; dulness extended 1 cm. to left of mammary line, to the right sternal border, and above to the third rib. A distinct, loud diastolic murmur was heard over the aortic area and along sternum downward, but this was not transmitted along the vessels of the neck and was heard but faintly at the apex. Capillary pulse present in fingers. Regular water-hammer pulse.

Course of Disease.—May 12, 1908: Needle introduced into the swelling revealed bright red blood. Blood obtained at depth of 3 cm. under pressure. Cultures from this blood positive, a Gram-positive diplococcus in chains of 6, 8 and 10 being isolated. The diplococcus grew well on blood-agar, plain agar, Loeffler's blood serum and in bouillon.

May 29, 1908: The character of the swelling had changed. It had become more extensive and decidedly boggy. It had extended upward, and just below the crest of the ilium there was a marked tenderness. Evidently the aneurism had ruptured.

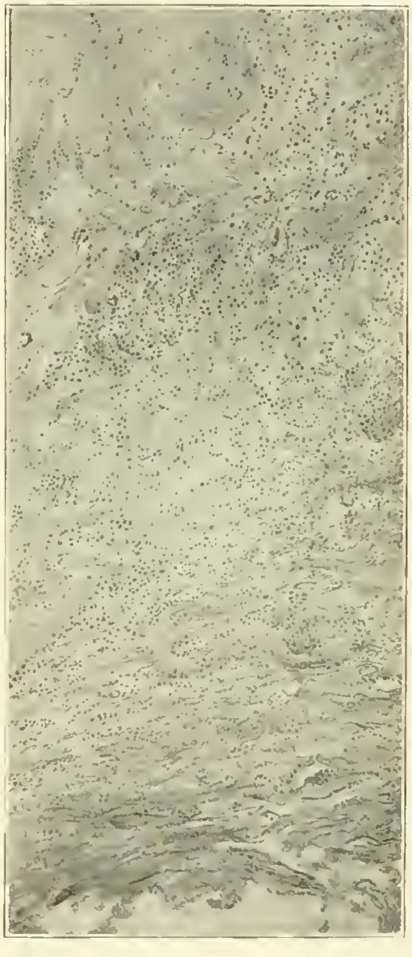

Fig. 3.—Cross-section through wall of artery, showing the bundles of the media separated by groups of leucocytes and small round cells.

June 16, 1908: A soft, pulsating mass, the size of a walnut, developed under the left jaw. No distinct fluctuation.

July 19, 1908: Patient suddenly developed a right-sided hemiplegia, became comatose and died. An autopsy was not permitted, but the clinical findings were definite enough to warrant a diagnosis of aneurism of the gluteal artery.

Case 3.—*Patient.*—A man, aged 36; no previous history of rheumatism. Five months previous to the beginning of present illness the first lower molar tooth on the right side ulcerated. The tooth was crowned, but the crown had to be removed one month later to let out the pus. It was soon replaced, no trouble developing until one week before death. On Jan. 23, 1909, patient consulted Dr. Slaymaker, complaining of soreness of the throat, running of nose, severe muscular pains, backache and prostration. A probable diagnosis of influenza was made, but the patient grew worse. He entered the Presbyterian Hospital four days later.

Examination.—The spleen was palpable, but there was no agglutination of typhoid bacilli by the serum. No heart murmur detected. The leucocyte count was 7,950 (four days later 12,380), hemoglobin 76. No malarial parasites. Urine negative.

Course of Disease.—On Feb. 19, 1908, there was severe pain over kidneys and right side posteriorly, requiring morphin for relief. Urine, previously normal, now contained albumin and a large amount of pus, many leucocytes, granular and blood casts. There were numerous small petechial hemorrhages beneath the skin. A distinct systolic murmur transmitted to the left was heard at the apex. From this time on the patient failed rapidly, the clinical picture being that of a severe infection. Three days before death he developed a left hemiplegia. The petechiæ became so numerous that a large part of the body was covered by them; conjunctival hemorrhages were also present.

Two blood cultures during life and cultures after death revealed a staphylococcus.

Anatomic Diagnosis.—Alveolar abscess, acute mitral ulcerative endocarditis, embolomycotic aneurism of the superior mesenteric artery, thrombosis of the splenic vein, multiple infarcts of the spleen and kidneys, cloudy swelling and fatty degeneration of the liver, myocardium and kidneys; icterus, anemia and emaciation; multiple hemorrhages of skin, conjunctivæ, serous and mucous membranes, endocardium, myocardium, adrenals and kidneys, hyperplasia of the mesenteric lymph nodes and spleen; lobular pneumonia; emphysema of the lungs.[16]

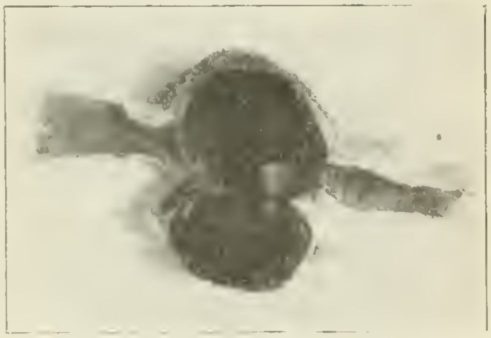

Fig. 4.—Aneurism of superior mesenteric artery discovered at autopsy held on patient seven months after ligation of brachial artery.

DISTRIBUTION

The following table, including 92 aneurisms collected from the literature and the 5 observed by us, demonstrates well the frequency with which visceral vessels are involved.

TABLE 2.—RELATIVE FREQUENCY WITH WHICH THE DIFFERENT VESSELS ARE AFFECTED

Superior mesenteric	25	Internal carotid	1
Cerebral	22	Subclavian	1
Aorta	12	Axillary	1
Femoral	9	Radial	1
Brachial	8	Innominate	1
Splenic	5	Vertebral	1
Popliteal	2	External iliac	1
Ulnar	2	Renal	1
Gluteal	2		
Common iliac	2		97

The following cases are cited to show the number of aneurisms that have been observed in a single patient. In one of Libman's[17] cases there were four aneurisms of the superior mesenteric artery, a fifth on the right branch of the hepatic artery, and a sixth on the right femoral. Before death, the patient developed hemiplegia with aphasia, probably due to rupture of an aneurism of the left Sylvian artery. In the case reported McCrae,[18] there were five distinct aneurisms of t ascending aorta. In Osler's case there were four aneu isms on the arch of the aorta.[19]

This distribution is in marked contrast to that of t ordinary type of chronic aneurism, as is shown by t statistics compiled by Crisp. Among the 551 ane risms, reports of which were collected by him, there not a single instance of involvement of the superior me enteric artery, and but seven instances of involveme of the cerebral vessels; while aneurisms of the femora carotid, subclavian, innominate and axillary arteries a common. Aneurisms of the superior mesenteric arte must be very uncommon, for von Schrötter[20] states th there was but a single instance of aneurism of the s perior mesenteric artery among 19,300 cases which ca to autopsy at the general hospital in Vienna during period of ten years.

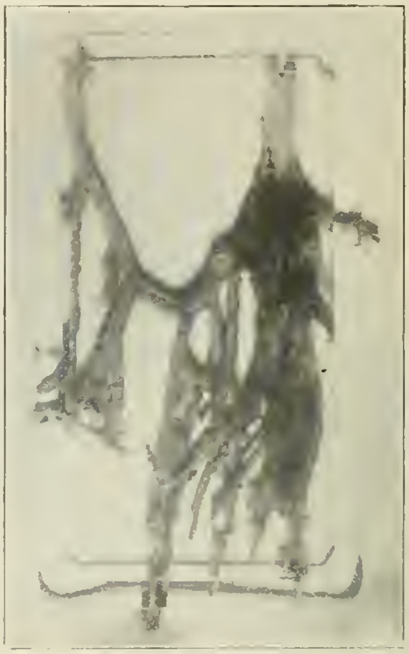

Fig. 5.—Two small aneurisms of the superior mesenteric arte These aneurisms had caused no symptoms, being discovered duri a routine post-mortem examination.

SYMPTOMS

Most of the few cases of aneurism of the superi mesenteric artery that have been published have been little more than pathologic interest, as they were foun during routine post-mortem examinations, and v Schrötter's statement holds true, that these aneuris give rise to no characteristic symptoms and are usual not suspected until symptoms of fatal intra-abdomin hemorrhage develop.

Gallavardin[21] in 1901 collected reports of 23 cases aneurism of the superior mesenteric artery from the l erature, the etiology of which could be established in 1 Nine of the 16 cases were undoubtedly caused by t lodgment of infected emboli at the points where branch were given off.

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[16] These two cases have been noted in the anatomic diagnosis of two of the cases studied by E. C. Rosenow: Immunological and Experimental Studies on Pneumococcus and Staphylococcus Endocarditis (Chronic Septic Endocarditis), Jour. Infect. Dis., April 1, 1909, vi, 245.

[17] Libman, E.: Cases of Mycotic Aneurisms, Tr. New York Path. Soc., May, 1905.

[18] McCrae, John: A Case of Multiple Mycotic Aneurisms of First Part of the Aorta, Jour. Path. and Bacteriol., 1905, x, 3

[19] Osler: The Gulstonian Lectures on Malignant Endocardi Brit. Med. Jour., 1885, i, 469.

[20] Von Schrötter: Gefässerkrankungen, Nothnagel's Speci Pathologie und Therapie, 1898, xv, 271.

[21] Gallavardin: Aneurysmes des artères mésentériques, G hebd. de méd. et de chir., 1901, vi, 973.

In analyzing the symptoms presented by aneurisms of the superior mesenteric artery, it is soon discovered that there is nothing characteristic, and that but in few cases has the character of the swelling, which could be palpated, been definite enough to warrant a diagnosis of aneurism. The 2 cases observed by us ran a latent course, nothing developing which suggested aneurism. The patients frequently complained of paroxysms of abdominal pain, indefinitely localized, which we believe was caused by infarction of the spleen and kidneys. Koch's case, the first reported, presented no symptoms until rupture occurred. Some of the cases have been accompanied by paroxysms of excruciating abdominal pain. Duckworth's patient[22] complained of pain in the region of the navel which was so severe that he could not lie down, and his rest was seriously interfered with. Five days after this pain developed, pulsation could be noted in the region of the navel. In Baccelli's case the pain, coming on in paroxysms, was referred to the epigastrium. Whittier[23] reports an interesting case in which an aneurism of the superior mesenteric artery ruptured, dissecting between the layers of the mesentery until it formed a large hematoma in front of the left kidney. This patient complained frequently of severe abdominal pain, each paroxysm being associated with collapse and an enlargement of the palpable mass in the abdomen. All these symptoms were apparently due to fresh hemorrhage from the aneurism. Abdominal pain referred to the umbilicus was probably the most important clinical feature of the cases observed by Jacobson, Duckworth, Baccelli, Whittier, Rehn (reported by Stern)[24] and Gabriel.[25] In 4 of these cases (Duckworth, Baccelli, Rehn and Gabriel) a mass situated close to the navel, usually a little to the right and below, could be palpated. In the case reported by Whittier, mentioned above, the mass which followed rupture of the aneurism developed in front of the left kidney and dissected downward toward the left iliac fossa. In 2 of the cases (Duckworth, Baccelli), the swelling pulsated, the pulsations being characteristic enough to warrant a diagnosis of aneurism.

In but 2 of the cases collected by Gallavardin were there pressure symptoms. In the case reported by Wilson the aneurism compressed the common bile duct, causing jaundice, while in the case observed by Burney Yeo, the aneurism compressed the renal vessels, uremia presumably developing as a consequence. In none of the cases has there been sufficient interference with the circulation to cause necrosis of the intestinal wall.

While the clinical picture of these aneurisms is not characteristic, severe epigastric pain, associated with the development of a mass to the right of and below the navel, in a patient suffering with endocarditis should always arouse suspicion of an aneurism of the superior mesenteric. Unless a definite expansile pulsation were present, usually not the case, it would be impossible to exclude metastatic abscess of mesenteric lymph nodes.

Aneurisms of this type never become very large. The aneurisms of the superior mesenteric artery (Figs. 4 and 5) were about the size of a small hickory-nut, the brachial aneurism the size of a goose-egg. The case reported by Osler, in which one of the aneurisms was as large as a billiard-ball, is probably the largest embolomycotic aneurism observed. The pulsating hematomas formed after rupture of the sac, as in the gluteal aneurism observed by us and in the superior mesenteric aneurism reported by Whittier, became very large, in the latter case filling almost the entire half of the abdomen. These cannot, of course, be included, when speaking of the size of the aneurism.

The fact that these aneurisms tend to remain small or rupture before they attain to any great size accounts for the fact that they cause so few symptoms when situated upon abdominal or cerebral vessels, the symptoms of hemorrhage associated with rupture often being the first indication of the existence of an aneurism.

BACTERIOLOGY

Eppinger was the first to demonstrate bacteria in the wall of the aneurism, and to show the bacteriologic relationship between the vegetations on the heart valves and the clot in the aneurism. He found groups of micrococci occurring singly or in groups, but did not go further in their identification. Buday,[26] in his case, made cover-slip preparations from the endocardial vegetations and thrombus and found in each streptococci, staphylococci and the *Bacillus pyogenes fœtidus*.

Twelve cases have been reported in which a careful bacteriologic examination has been made of blood from the general circulation or from the aneurismal sac. In 6 cases the streptococcus has been isolated, in 5 the staphylococcus. In the case reported by Gabriel streptococci were found in the sac and staphylococci in the circulation. In 1 case the bacillus of influenza was found in the vegetations.

In 2 of the cases observed by us blood cultures made by Dr. E. C. Rosenow revealed the pneumococcus. In 1 of these the cultures were positive but once, and it was impossible to cultivate bacteria from the aneurism, although both streptococci and pneumococci were demonstrated in the blood obtained at autopsy. In the third case staphylococci were isolated from the blood.

Holst[27] reports a case of aortitis with two aneurisms, probably due to the gonococcus, as the lesions developed during a gonorrheal arthritis. It is not stated, however, whether the gonococcus was recovered from the aneurisms or blood.

Patients suffering with aneurisms of this type are apt to be in a critical condition and will not survive a long operation or one associated with much dissection. It must be remembered that the aneurism frequently contains bacteria and that any operation on the tissues adjacent to and composing the aneurism may so reduce their resistance as to cause infection and secondary hemorrhage. The popliteal aneurism observed by Tufnell, one of the earliest cases reported, was evidently cured spontaneously. In Goodhart's case, a brachial aneurism was evidently cured by digital compression applied for seven hours. The patient soon died, however, with the symptoms of cerebral hemorrhage. The brachial artery and, later, the femoral artery were ligated in the case observed by Langton and Bowlby,[28] with good results, but the patient died later of complications associated with endocarditis.

In Canon's case[29] the external iliac artery was ligated for a femoral aneurism, but soon after a brachial aneurism developed, for which proximal ligation was performed, the patient dying ten days later. In one of Libman's cases (a femoral arteriovenous aneurism) the external iliac artery was ligated in two places and divided with the intention of tying the femoral artery below the sac. Resection of the lower end of the sac was attempted, but it was perforated and profuse hemorrhage ensued, necessitating ligation of both the femoral artery and vein. The patient died a few hours later. In another case reported by Libman (operation performed by Lilienthal), the aneurism was incised, the clot removed and the cavity packed. Fifteen days later hemorrhage occurred from the aneurismal sac, which was controlled by packing. Twelve days later the femoral artery was ligated, the hemorrhage having been found to come from a small rupture in the wall of the artery. Six days later the patient died of pneumonia.

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[22] Duckworth, Dyce: Infective Endocarditis, Med. Press and Circular, 1901, cxxii, 625.

[23] Whittier: A Dissecting Mesenteric Aneurism, Boston Med. and Surg. Jour., 1887, cxvii, 446.

[24] Stern, K.: Operation eines Aneurysma embolo-mycoticum einer Mesenterialarterie, Beitr. z. klin. Chir., 1908, lvii, 315.

[25] Gabriel, G.: Zur Diagnose des Aneurysma der Arteria Meseraica, Wien. klin. Wchnschr., 1901, xiv, 1051.

[26] Buday: Aneurysmen der Arteriæ iliacæ communis, verursacht durch einen septischen Thrombus, Beitr. z. path. Anat. u. z. Allg. Path., 1891, x, 187.

[27] Holst: Article Reviewed in Deutsch. med. Wchnschr. Literatur-Beilage, 1901, p. 107.

[28] Langton, J., and Bowlby, A. A.: Mycotic Embolic Aneurisms, Brit. Med. Jour., 1882, ii, 1032.

[29] Canon: Bacteriologische Bluthefunde bei Blutvergiftung und Amputation, Mitt. a. d. Grenzgeb. d. Chir. u. Med., 1902, x, 411.

The brachial aneurism observed by us was treated by proximal ligation under cocain anesthesia. Clinically, the result was perfect. The gravity of the prognosis is indicated by the fact that the patient lived but seven months after ligation of the artery, which is the longest time that any patient operated on for an embolomycotic aneurism associated with endocarditis has lived.

Cathcart reports an interesting case of an aneurism of the femoral artery, which developed during typhoid fever. We have classified this as an embolomycotic aneurism, as we believe it to be due to lodgment of bacterial emboli in the vessel wall. He attempted a Matas operation, but the hemorrhage through the recurrent circulation was so severe that the femoral, the deep femoral, the superficial circumflex iliac, the superficial external pudic, the external iliac, the deep epigastric and the deep circumflex iliac arteries all required ligation. Gangrene later developed and an amputation was performed at the junction of the upper with the middle third of the thigh.

In three cases operations have been performed for aneurism of the superior mesenteric artery. In two of these (Libman, Baccelli) the operation has been merely exploratory. In the case reported by Stern (operation by Rehn) the diagnosis of metastatic abscess had been made, but the operation revealed an aneurism of a branch of the superior mesenteric artery. The branch on which the aneurism had developed was ligated and the cavity of the aneurism packed. The patient made a good recovery, but six weeks later another operation was performed for a second aneurism of the superior mesenteric artery. During the operation the abdominal aorta was opened, necessitating ligation. The patient died shortly after leaving the table.

We believe that in aneurisms of this type proximal ligation of the artery is the operation of choice in all cases. Injury of the tissues associated with a Matas operation would favor infection and secondary hemorrhage.

Note.—In addition to the writers already cited, the following may be found of interest on the subject:

Clarke, J. J.: Embolic Aneurism of Heart, Buttock and Axilla Tr. of Path. Soc. Lond., 1896, xlvii, 24.

LeGendre and Beaussenat: Spontänes Aneurysma der Arteria Brachialis, Assn. franc. p. l'avancement d. sc., Sitzung. Besançon., Aug. 4, 1883; Allg. Med. Central-Ztg., 1893, No. 46.

Moore, Norman: Aneurisms in Children, Tr. Path. Soc., London, 1883, xxxiv, 71.

Simonds, M.: Ueber Hirnblutung bei Verruköser Endocarditis, Deutsch. med. Wchnschr., 1901, xxvii, 353.

Von Büngner, O.: Ueber eine sogenannte Spontänruptur der Arteria femoralis mit Aneurysmsbildung bei einem 17-jährigen Knaben, Arch. f. klin. Chir., 1890, xl, 312.

Weinberger, M.: Ueber Diagnostik und klinischen Verlauf der Mykotisch-embolischen Aneurysmen und Gefäss-Rupturen sowie der Influenza Endokarditis, Ztschr. f. klin. Med., 1907, lxii, 457.

Wemlecher: Aneurysm der Arteria cubitalis; Zeitschr. f. prakt. Heilk., 1867, No. 4.

FIELD TRAINING OF MILITIA SURGEONS

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The thorough systematic training which has bee given to officers of the army during recent years, in tl various service schools, and by the working out of fie problems with troops, has undoubtedly greatly increase the efficiency of the army in all its departments, whi the militia, having participated in many field maneuver has gained much valuable experience, which is rapid transforming it into a valuable factor of the nation defense.

There are so many things that can be learned only l experience, and so many features which are new, exper mental and undetermined, in the modern developmer of the science of war, that it is only by practice und conditions simulating a war status, that our armies ca keep abreast of the progress of the times and mainta the high standards of the past.

Practice under service conditions is as necessary the various staff departments as to officers and men the fighting line, and is much more difficult to secure.

While quartermasters and commissaries gain the required practice in all maneuvers, medical officers an the hospital corps have very little opportunity for sp cial training except to a very limited extent, as i maneuvers their services have been required in the actu care of the men of their commands to which they a attached, and there is no time to attend lectures or execute field problems of medical service appertainin to brigade or division movements.

In the large joint maneuvers the medical departmen could secure such experience only by the doubling the present force of medical officers, one set to perfor the necessary regimental service with the command and the other to carry out the suppositional first ai behind the firing line, with the service of the collectin dressing and ambulance stations, and the transportatio to the rear, etc.

It has been recently pointed out by Major Charles Mason,[1] Medical Corps, U. S. Army, that for activ service medical officers must constitute 1 per cent., an the hospital corps 10 per cent., of the entire comman and it is evident from our recent experience that a pr portion very near to this is necessary in large maneuv exercises, if the medical department is to perform con plete service.

It is because of the small strength of the medica corps and the hospital corps that they have been unabl to participate in the great benefits derived from maneu vers up to this time.

Their strength is everywhere too small. For exampl the Ohio National Guard, with an authorized strengt of 575 officers and 7,801 enlisted men, a total of 8,37 authorizes at present 53 medical officers and 236 hos pital corps men. (I refer to Ohio simply because th

COMPOSITION OF OHIO NATIONAL GUARD

	Medical Officers.	Hospital Corps.
Infantry, 8 Regiments	32	96
Infantry (Col.), 1 Battalion	1	4
Artillery, 2 Batteries	2	4
Cavalry, 2 Troops	2	4
Engineers, 1 Battalion	2	8
Signal Corps, 2 Companies	2	4
Division Headquarters, One	3	7
Brigade Headquarters, Two	2	6
Field Hospitals, Two	10	114
Ambulance Companies, Two	6	154

Total: 62 medical officers and 401 hospital corps men.

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[1] Mason, C. F.: Seaman Prize Essay, Jour. Mil. Serv. Inst., U. S January and February, 1909.

atistics in that state are available to me. Possibly the me conditions exist in other states.) Mason shows at the army is far short of its desired quota.

The accompanying list of organizations composing the hio National Guard shows the number of medical offi- rs and hospital corps to which they are entitled under Field Service Regulations."

The entire present force of hospital corps, therefore, not sufficient to man the two hospitals and two am- lance companies properly, according to regulations, ving out of consideration entirely all the regiments d other organizations enumerated above.

The desired proportion, according to Mason's estimate, ould be still larger, being 83 medical officers and 830 spital corps men.

If we had the increase to that provided by "Field rvice Regulations," we could carry out all the details the service of the medical department with all troops, t only caring for those actually sick, but simulating o the complete service in the rear of the fighting nes.

In the absence of this desired increase of the person- l, the medical department can do little at a maneuver mp except to operate the regimental infirmaries and conserve the hygiene of the camp and of the men of e command as far as time will permit.

In order to work out their own field problems per- ning to their own department, their only opportunity ll be found in the special "Camps of Instruction for dical Officers," such as were established this year for first time, these being separate and distinct from the neuver camps. To secure the benefit of these camps instruction requires medical officers to perform two parate tours of camp duty, once with the troops to ich they are attached, and again in their own special dical camp of instruction.

The question naturally arises whether it is better to ve a small, insufficient force and to use it twice, or to eate the proper strength to be used once. In active rvice the full force is necessary; why not provide it w? Many medical officers of the militia cannot afford e time to attend two separate camps.

The creation of three such camps this year enabled 0 militia medical officers, from forty states, to engage field work such as they had never been able before to actice, and to attend lectures and demonstrations on ry detail of their duties in the camp and in the field, ir tour of instruction proving of incalculable benefit all those who were privileged to attend.

While it is to be regretted that only 170 militia medi- officers out of the 700 in the United States attended se schools, and that twenty-five states out of the forty t only three or less, fourteen sending only one, those o did attend are a unit in expressing their apprecia- n of the value of the practical instruction received l it can be taken for granted that such schools in the ure will be crowded to their capacity.

These schools were held at Antietam, Md., Sparta, s., and San Francisco. Those at Antietam and arta were in operation four weeks each, instructing classes each two weeks, that at San Francisco hav- one class of two weeks.

My personal knowledge relates only to the camp at arta during its first course of instruction, July 15 to inclusive. Forty militia medical officers were in endance, 17 from Indiana, 11 from Ohio, 7 from chigan, 3 from Illinois, and 1 each from Wisconsin l Mississippi. The camp was located at the western l of a tract of land comprising about 2,700 acres, recently purchased by the federal government for use as an artillery maneuver and target practice camp, about six miles southeast of Sparta, Wis., on the main line of the Chicago, Milwaukee & St. Paul Railway. Three batteries and the headquarters of the Fifth U. S. Artillery were in camp and were engaged in target practice and field work daily during our tour of duty.

Our camp was adjacent to that of the artillery, and for the purpose of our instruction consisted of a complete field hospital of 108 beds, with twelve ambulances, a pack-mule train, and about eighty riding horses. The personnel consisted of ten medical officers of the medical corps, U. S. Army, with about ninety hospital corps men, comprising Company "A," Hospital Corps, from Fort D. A. Russell, Wyoming.

The first day was occupied in arranging quarters, becoming acquainted with each other, and in a critical study of the field hospital arrangements and the details of its management.

On the morning of the 16th the routine work of the school was begun and continued every day without intermission, except on Sundays, to the 28th.

Major T. S. Bratton, Medical Corps, U. S. Army, lectured every day from 8 to 10, making a careful and systematic study of "Army Regulations," the "Manual of the Medical Department," and "Field Service Regulations," as applying to the medical service, considering, in regular order, the laws applying to the organized militia, care of property, accountability and responsibility, duties of post surgeon, the handling of quartermasters' and ordnance property pertaining to the hospital and in possession of hospital corps men, the management of commissary matters, hospital fund, descriptive lists, requisitions, invoices, receipts, hospital charges, savings, rations, record of examinations and assignment to duty, internal economy of hospital, register and record of sick and wounded, sales, purchases, care of property, reports and returns, inspections, muster and pay rolls, discharges, final statements, disability certificates, "line of duty," enlistments, orders, death of soldier, regimental surgeon, regimental hospital, infirmary, ambulance company, field hospital, stationary hospital, brigade surgeon, division surgeon, base hospital, chief surgeon on lines of communication, duties and authority of medical officers, and concluding with the making out of various papers. Major Bratton possessed the faculty of making the subjects interesting and attractive.

Few militia surgeons realize that an intimate knowledge of all these subjects is necessary to them. They study regulations only superficially, if at all, and dread paper-work, the so-called "red tape," simply because they are not acquainted with it. The making of correct records and the proper use of official forms is requisite to the proper protection of the interests of patients under their care, as well as of hospital corps men under their command.

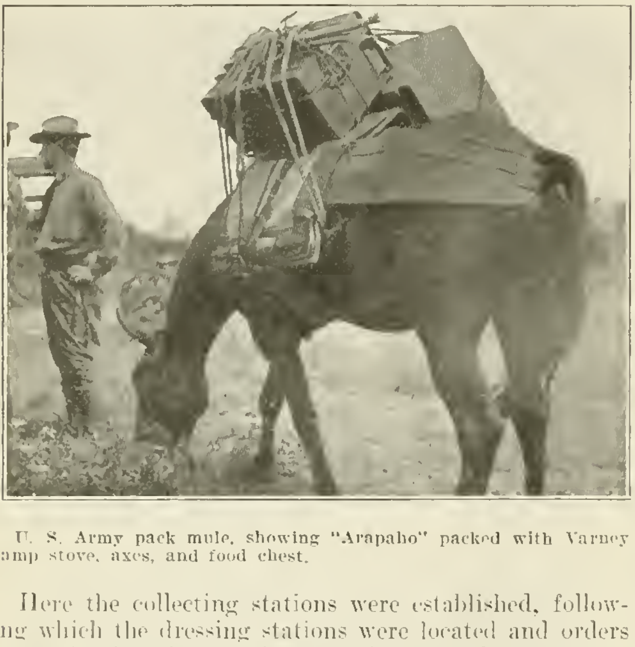
Major W. E. Purviance, Medical Corps, U. S. Army, lectured in the afternoons from 2 to 4 on matters of hygiene and sanitation, both of the camp and of the individual, selection of camp sites, water-supply, cooking, diet, food, drink, bathing, inspections, disposal of wastes, latrines, earth-closets, incinerators, crematories, filters, typhoid fever and other contagious diseases, and physical examination of recruits, with demonstration of such examination. The Conley incinerator, the Lewis and Kitchen incinerator, and the Chamberland and Darnell filters, and the Forbes-Waterhouse water-sterilizer were exhibited in operation and fully explained.

On three days all were engaged in the execution of field problems under the direction of Major P. C. Fauntleroy, Medical Corps, U. S. Army, the commandant.

The first of these, on July 19, was the most extensive, calling for the performance of the work of the medical department of a division of nine regiments, engaged in an attack on the enemy, requiring the establishment of regimental collecting stations, brigade dressing stations, and a division ambulance station, an imaginary field hospital being located in the rear.

The militia officers were assigned as division, brigade and regimental surgeons, mounted hospital corps orderlies furnished; and with the umpires, consisting of the medical officers of the army, and accompanied by ambulances, escort wagon, and a pack-mule train, reached the field of operations after a dusty ride of four miles.

The proper positions being taken in the rear of the division of the army, "Forward" was sounded by trumpet, and all advanced through the woods, fording a stream, and encountering swampy land and almost impassable underbrush, until the cleared land was reached where casualties were to be expected.



U. S. Army pack mule, showing "Arapaho" packed with Varney camp stove, axes, and food chest.

Here the collecting stations were established, following which the dressing stations were located and orders transmitted to the ambulance station to send forward the personnel and equipment for their establishment, which being done, the ground was cleared by chopping down trees to secure space, two tents were erected, an operating table extemporized, beds prepared, instrument cases, medicine chest, and food chest opened in readiness, and a fire started to make coffee and beef-tea.

In the afternoon following this problem a discussion and criticism of the work took place under the direction of Major Fauntleroy, chief umpire, participated in by Capt. C. C. Whitcomb, U. S. Army, and Capt. F. A. Dale, U. S. Army, and various militia officers, in which errors were pointed out, and suggestions made as to improvement of the plan and equipment.

Discussion arose as to whether the ambulance station should not be a brigade unit rather than a division unit, and the opinion was expressed that for carriage on pack-mules the food chest was too large and unwieldy.

The following day (the 20th) all the militia officers were again mounted, and acted as observers in the establishment of a regimental hospital near camp and a dressing station on a hill a mile distant, all the equipm for the complete regulation dressing station, consist of tent, bedding, medical chest, surgical dressing l food box, commode chest, stove, buckets, axes, kegs water, extra litters, etc., being carried on four pa mules.

Following this the method of packing on pack-mu was exhibited, the construction of the "Arapaho" plained, the method of tying the "diamond hitch" w the lariat, improvised travois constructed, the Var camp cooker displayed, and instruction given in s dling, mounting and riding horses.

On the 26th field work was again engaged in, militia officers being assigned as regimental and brig surgeons, and given details of hospital corps n with whom search was made through the woods wounded, represented by tagged hospital corps n these being given treatment in accordance with the di nosis on their tags, and removed in ambulances to camp hospital, where the dressings and extempori splints were examined and criticized by the umpi and many valuable suggestions made. It was most teresting to note the ingenuity shown in the treatm of many of these cases.

After this there was hospital corps drill in load ambulances, carrying by one and two bearers and litters, and placing wounded men in the saddle.

The regular inspection of the hospital corps, on 24th, was also studied by the militia officers.

An extremely important element of instruction derived from observation of the routine operation of camp, and the actions of officers and men; their car and exact performance of every detail of sanitary caution; the constant attention to cleanliness ab quarters, kitchens, and at the picket lines; the extr care given to disposal of wastes and filth; the qu orderly and prompt performance of every duty— short, the magnificent regular army discipline and th oughness.

As a result of the attention given to sanitation, course, the camp was free from sickness. All excrem all urine, and all garbage and refuse being consumed the incinerators, and all manure dropped at the pi lines being at once removed and burned, it follo that there were very few flies, notwithstanding the that in our camp and that of the artillery there wa total of over 400 horses and mules.

Such object-lessons excite admiration and the de of emulation.

During all lectures, demonstrations, and execution field problems, the various instructors continually ur the militia officers to ask questions regarding any m ters which were not entirely clear, and much valua data were thus brought out.

All the officers of the army were at all times m courteous, affable, and patient, and the most frien relations existed.

The foregoing exhibits briefly the extent and scope the work of instruction provided at this school. benefits derived from it by all the militia officers w were so fortunate as to participate in the work are en mous and beyond calculation.

The time allotted, two weeks, is all too short for w of such magnitude and variety of detail.

Realizing, however, that few doctors in civil life afford to devote a longer time to such a camp, in ad tion to their regular tour of duty with the organizati to which they are attached, I am of the opinion t much of the work done at this camp might profitably ccomplished in a preliminary or preparatory course by orrespondence or other satisfactory means, thus leaving ne two weeks of camp for the more advanced work, the ractical field maneuvers, hospital management, comand of men, etc.

A scheme providing a progressive course of training in ne preliminary branches of the work, covering six onths or more, and requiring a certain degree of proiency to entitle one to the privilege of attending the vo weeks of camp of instruction, should meet with eat favor among medical officers of the militia, especally if at the satisfactory conclusion of the entire urse some special record of honor was awarded to ose who had attained proficiency.

In the absence of such course of training, I would gently recommend that when another such school of struction is provided by the War Department every edical officer should be required to attend.

In addition to this, it is imperatively necessary that l medical officers be supplied liberally with the blank rms used by the army, in order that they may become operly acquainted with their use.

Not only do they need each an ample stock of the new rds and other forms of the medical department, but ey should have at least a sample set each of many perining to the ordnance, commissary, quartermasters, d pay departments—in fact, all that would be reired by a company commander or a surgeon in comand of a post hospital of the army, as any medical offir is liable to detail at any time to a post where a thorgh knowledge of their use is necessary.

RECOMMENDATIONS

1. Medical officers should be increased 50 per cent. d the hospital corps 100 per cent.

2. Training in field service should be provided for the edical corps and the hospital corps.

3. A progressive course of training, covering six onths or more, should be provided, to be completed by tendance at a camp school of instruction.

4. Attendance at such school should be permitted only those who attain proficiency in the preliminary work.

5. The retaining of a commission as a medical officer ould be dependent on participation in such systematic urse of instruction.

6. Medical officers in states not represented this year ould at the next similar opportunity insist on their ghts, and not allow their portion of the available fund be given to their state team at Camp Perry, as ocrred in one state in the northwest this year.

2531 Gilbert Avenue.

Correction of Displacement of Uterus Through Inguinal nal. Single Incision.—Littauer describes a technic which he applied in twenty-six cases, with satisfactory and durable ults, to shorten the round ligaments by access through inguinal canal after a single incision through the soft ts. In order to accomplish this the laparotomy incision st be in the form of a curve except in the middle of the cia which are incised horizontally across; on the sides the rs of the internus can be easily separated, after which the uinal canal is readily reached by working down with the ger or a sponge between the external and internal oblique scles. The round ligaments are then treated as with the inary Alexander-Adams operation, the peritoneum sutured, fascia sutured separately, and the round ligament included the suturing of the external fascia. His communication *Sammlung klin. Vorträge* reviews other technics while cit- the special advantages of the arc incision in combination h the isolated separation of the fibers of the fascia of the ernus for the inguinal celiotomy.

Clinical Notes

A NEW DEVICE FOR DROPPING ETHER AND CHLOROFORM

J. G. ROHRIG, M.D.
IOWA CITY, IOWA

I believe that the device herein described and illustrated meets the need for a small, simple, conveniently portable instrument for dropping ether and chloroform (the former especially) continuously on the inhaler mask, the dose being perfectly and easily regulated, and the rate of drop changed any instant without removing the dropper.

This device is composed of a can (Figs. 1 and 2) with regulating mechanism for outlet, tubes for air inlets, and a screw cap for filling. The can is made in half-pound (250 gm.) and quarter-pound (125 gm.) sizes, which have proved the most convenient ones. At the side of this can, near the top, is an opening for outlet (1 c, Fig. 2). Into this opening extends a cone-shaped valve (2, Fig. 2), which is moved into and out of the opening by the finger by means of a lever (5) so arranged that it is convenient for the forefinger of the hand of the operator to remain on it (at 5 c) continually; thus the operator can at any second change the size of the outlet and thus vary the rate of drop from a strong stream to a slow drop or stop it completely by a mere movement of one finger and without removing the dropper from over the inhaler mask. The can is fitted with a screw cap (7) of large opening so that it can be quickly filled. On the side opposite to the outlet are placed two small tubes (8 and 9, Fig. 2) for the inlet of air. One tube has its external opening at top of can (1 d) and terminates near the bottom of the can on the inside. The second tube enters the bottom of the can (at 1 e, Fig. 2) and opens into the can at its top. This prevents the contents from running out if the can is turned on either end, and also allows the vapor generated by the warmth of the hand to escape by one tube while the outlet is closed without forcing liquid out of the can. The screw (5 b) in the lever is adjustable so that the lever always remains where placed, thereby relieving one from the necessity of holding it continuously if it is so desired. If the small hooks with springs are placed over the air inlets and the lever hook closed, the can may be filled and carried in the instrument bag for days without loss. Thus the dropping can may be filled at the office and carried to a private home ready for use.

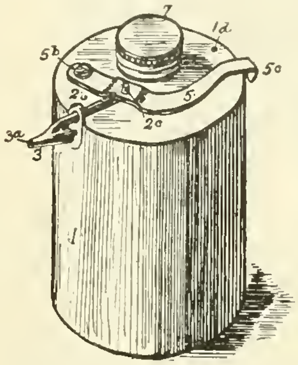


Fig. 1.—Dropper for ether and chloroform.

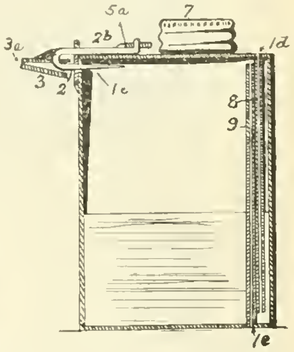


Fig. 2.—Cross-section of dropper.

The can is so arranged that it is conveniently held (Fig. 3). The operator's right elbow rests on the table beside the patient's head and the can is held in proper position above the inhaler mask with perfect ease. The rate of drop is properly regulated and the anesthetic is allowed to drop continuously, which is far better and safer than the common method of flooding the inhaler mask at intervals and allowing the liquid to evaporate, the patient breathing pure ether vapor and more or less pure air alternately. This dropping device can be instantly regulated so as to maintain a proper degree of continual anesthesia. When in the beginning the patient vomits, struggles or has a spasm of the glottis, any one of which requires more anesthetic, the finger instantly moves the lever and a proper amount is allowed to fall on the inhaler mask; then the flow may be gradually allowed to return to the proper amount without any extra movements, as of setting the can down, pulling cork, etc.

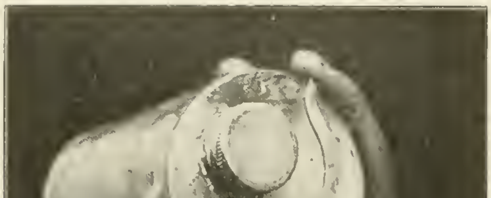


Fig. 3.—Dropper in use.

The claims for this can are as follows:

1. It is safe for the patient because the anesthetic is continuously given and readily regulated.
2. It is small and uncomplicated and, therefore, may be easily carried to a private home or hospital.
3. It is easy to operate, inexpensive, and economical of ether because no excess is poured on at intervals.
4. It drops fast when rapid flow is desired and the flow can be shut down suddenly.

APPARATUS FOR METABOLISM EXPERIMENTS IN MALE INFANTS

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Assistant Visiting Physician to Boston Floating Hospital and to the Hospital of the Massachusetts Infants' Asylum
BOSTON

The difficulty of obtaining 24-hour amounts of urine, and the total amount of feces, separately, in babies explains why so few metabolism experiments have been performed during the first year of life. Schabad recently described[1] all the kinds of apparatus which have been used with varying success up to date. The article is very exhaustive and includes his own among other apparatus. These devices are either cumbersome, or difficult to make and procure, and I venture to describe a very simple apparatus which I have used successfully during the past year in collecting the total amount of urine and feces passed by male babies during periods of three days each.

The necessary materials are a small Bradford frai a towel, two cloth straps each 12 or 14 inches long 1½ inches wide, safety pins, an ordinary test tube good glass, zinc oxid surgeons' plaster, and a rubl tube; also a bottle in which to collect the urine, a several wide-mouthed jars in which to collect t feces. The Bradford frame is used because it is easy handle, and most well-trained nurses are familiar w its use. It is supported on the bed in such a way tl it is level and is elevated about six inches above t mattress. The two ends may rest on boxes or rolled-sheets.

A hole (Fig. 1, A) about three inches in diameter cut through the cloth of the frame so that it will co under the baby's buttocks; below this the jar in whi the feces are collected is placed. A few inches lov down another small hole (Fig. 1, B) about one-half inch in diameter is cut. The tube through which t urine flows runs through this hole with a gradual b continuous downward incline into a bottle hanging the side of the bed. The towel (Fig. 1, C) is pinn transversely across the frame with two rows of pins that the part of the towel attached to the frame is little narrower than the breadth of the baby's back. T baby is then placed on the towel and the ends are fold over the abdomen and pinned, thus making an abdon nal band which extends from the axillæ to just abo the groins. This is fastened snugly enough to preve the body from slipping to either side, and the upp edge is close under the armpits to keep the child fro slipping downward.

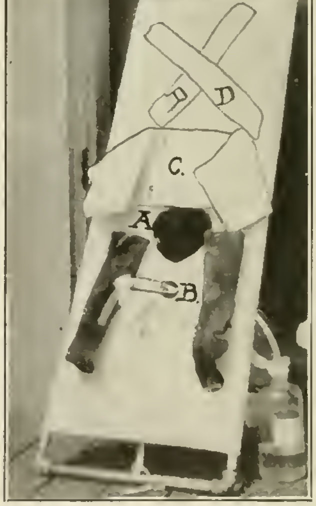

Fig. 1.—General view of the frame used for collecting exer of male infants. A, hole over which buttocks come; B, small h through which tube leading from penis is passed; C, towel faste to frame and which confines the child's trunk; D D, two cloth str to be pinned transversely across shoulders.

The toes of the stockings are attached to the frai with the legs partially extended, the upper part of t stocking being pinned to the shirt. These stockings a rather loosely knit and act like bags which hold t legs. Two cloth straps (Fig. 1, D) are pinned trai versely across the shoulders for greater security in cetain cases. The baby is then in a position so that t buttocks remain over the large hole (Fig. 1, A) in t frame, and yet he is not confined enough to prevent certain amount of exercise, because the legs are o partially restrained and the arms and head can mo freely. Babies and children with tuberculosis of t spine are often held in this manner without apparent discomfort for weeks at a time.

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[1] Arch. f. Kinderheilk., 1908, vol. xlviii, 5-6.

The next problem was to devise a method of collecting the urine. This was done by taking an ordinary test-tube and heating it over a Bunsen burner in such a way that the middle of the tube gradually dropped in; then it was drawn slowly out until shaped as shown in Figure 2. It was then filed at (a), the lower end broken off and the broken edges fire-polished. Such a tube is strong and light and can easily be attached to the penis by straps of surgeons' plaster, while the lower end is connected with a rubber tube leading through the hole (Fig. 1, B) to the urine bottle Before attaching it the penis should be well covered with boric-acid ointment to prevent maceration of the delicate skin. The bottle should be well washed out with an alcohol solution of hymol to prevent putrefaction.

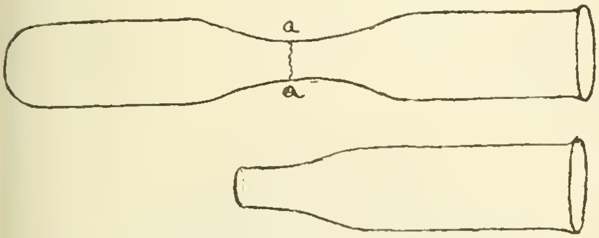


Fig. 2.—Showing method of drawing out heated test-tube so as to ncase the penis.

This simple apparatus is very practical because most urses are familiar with the use of the frame as well as he test-tube. It is light and strong when properly nade and there is small chance of losing any of the equired excretions. Like all such apparatus. it is open o the criticism that it restricts motion, yet in a small eries of selected cases I have seen very little discomort and no harm from its use.

171 Bay State Road.

UROLOGIC TEST-TUBE HOLDER

G. SHEARMAN PETERKIN, M.D.
SEATTLE, WASH.

This instrument is intended to lessen the difficulties ncountered in collecting urine during ureteral catheterzation, especially when catheters are retained for long eriods, as when testing the functional capacity of each idney.

Figure 1 shows the holder: the only dimensions noted re those of the opening for receiving test tube, its diamter being ¾ inch. The two projecting prongs are prings; by compressing these, tubes of smaller size may e employed.

Figure 2 shows the test-tube holder in position. and lso a metal tent frame (a) constructed of brass, conisting of a center piece 2 inches broad. 24 inches long. nd 1/12 inch thick. supported by legs 3/16 inch in iameter and 36 inches from tip to tip. with brass knobs n ends so as not to tear the bed-clothes. The legs being omposed of brass. can be easily bent so as to cover perons of varying sizes.

The advantages of this instrument are:

1. When existing pathologic conditions demand genral anesthesia, the specimens are not apt to spill nor the atheter to become displaced during the unconscious movements of the patient, and one nurse can readily control the patient if the holders are applied and the knees tied with a broad band of muslin.

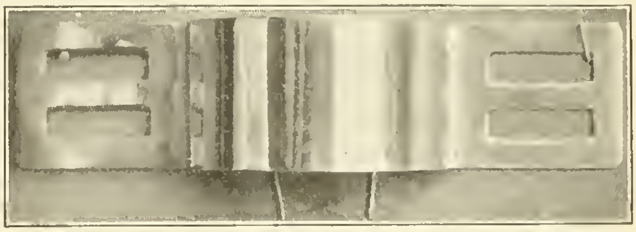


Fig. 1.—Urologic test-tube holder.

2. By additional use of the metal tent frame, the rate, quantity and character of the flow from each catheter can be observed easily by lifting the covers without fear of disturbing the test tube or greatly exposing patient.

3. In employing the test for indigocarmin and phloridizin, the urine must be frequently observed, small quantities taken from receiving receptacle. The ease with which one tube can be substituted for another greatly facilitates this operation.

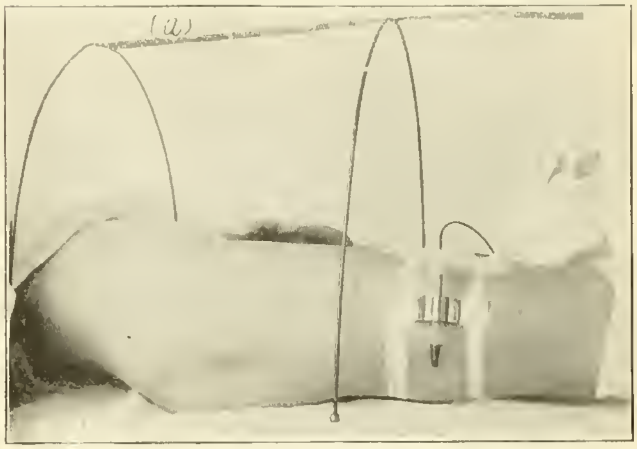


Fig. 2.—Test-tube holder in position; showing also the metal tent frame.

4. In collecting specimen for microscopic or bacteriologic examination, as in tuberculosis, etc., the possibilities of contamination from outside sources are entirely obviated, since the same centrifuge tube is used to collect as will be employed in centrifugalizing specimen or making culture.

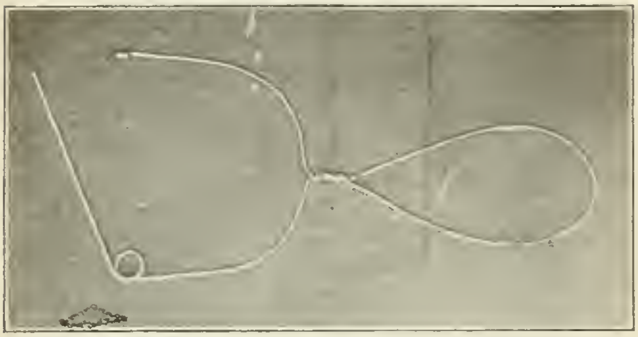
Medical Inspection of Schools in Germany.—Medical inspection and supervision of schools is perhaps more thorough and extensive in Germany than in any other country. Yet even in Germany the system is not complete or uniform. According to the statements of Consul G. N. Ifft (*Public Health Reports*, Oct. 15, 1909), the number of pupils placed under the charge of one physician varies from 1,400 to 22,000, and the salaries from $22.50 to $500 a year. In two cities there are school dentists and in Charlottenburg orthopedic gymnastics are to be given in the schools. The work of the school physician is usually incidental to his general practice. The total pay is determined by the number of classes examined and in Nuremberg amounts on the average to $190 a year. Three examinations of each pupil are required during the first year of school. These are designed to test the fitness of the pupil for the work of the school and consist of a preliminary examination for admission, a second thorough physical examination, and a third in which special attention is directed to the eyes and ears.

A SAFETY-PIN SPRING PROBE RETRACTOR

E. H. THRAILKILL, M.D.
KANSAS CITY, MO.

In the operation for fistula in ano, when the method of excision with the immediate suture is employed, a self-retaining guide is of considerable value, as it renders the services of an assistant unnecessary.

For several months I have been using the simple little instrument here illustrated, which I have found very handy and practical. It is about six inches in length and four inches wide and is made of heavy steel wire, silver-plated. There are no joints or hinges, and the instrument can easily be sterilized.



Safety-pin spring probe retractor.

The method of application is as follows: The probe is released from the hook, passed through the fistulous tract into the rectum, and fastened in the hook again. Then, by taking hold of the handle, the fistulous tract and wall can be firmly held while the diseased tissue is dissected out *in toto*, threaded on the probe.

Owing to the hook and spring resembling those of a safety-pin the name of "the safety-pin spring probe retractor" has been suggested for the appliance. The cheapness, simplicity and effectiveness of the instrument all are points greatly in its favor.

916 East Eighth Street.

A NEW TONSIL KNIFE, WITH GUARD AND RETRACTOR ATTACHMENT *

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Dr. Ballenger's clear description of "Tonsillectomy with the Scalpel" and numerous papers by specialists recommending thorough tonsillar enucleation have stimulated men in the use of the knife. This method is advocated as the quickest and most thorough of all procedures. Some of the most skilful users of the knife say that with this instrument the ideal enucleation of the tonsils is accomplished.

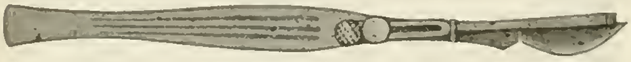

Fig. 1.—Tonsil knife, with guard and retractor.

Like many who use the tonsil knife, I have felt the need of something to guard and retract the anterior pillar, without interfering with the movements of the knife, and without necessitating the use of another instrument in the hands of an assistant.

In a great many cases the anterior pillar overlaps large portion of the anterior surface of the tonsil. Eve after freeing this pillar and pulling the tonsil inwar with the tonsil forceps, it is often necessary, in usin the knife, to retract the anterior pillar with the flat sid of the blade to hold it out of the way, in order to dissec the tonsil at the point of attachment. The use of th side of the knife as a retractor not only interferes wit the proper dissection of the tonsil, as there must be constant retracting force exerted on the pillar to keep i out of the way, but also greatly increases the chances o injuring the delicate muscle of the anterior pilla. Hence I have tried to devise a tonsil knife with a pilla retractor and guard attachment.

The retractor and guard attachment is a blunt, flattened hook adjusted to the side of the knife, and havin a lengthwise movement parallel with the knife and als a limited movement in the cutting plane. Such movements are made possible by adjusting to a tonsil knif between base of blade and beginning of handle, a oblong loop or guide, whose plane is at right angles bot laterally and transversely with length of knife. Thi loop, with the shank of the knife, forms two parall slots through which is passed the retractor, and whic not only limits the retractor's movements in the cuttin plane, but also steadies it. The shank of the retract works through the right or left slot of the aforesa loop, as the operator may place it. The retractor lengthwise action is controlled by a set-screw. Th retractor being slotted, in its long aspect is guided held by this screw, which engages the knife at that pa of the handle nearest to shank of blade.

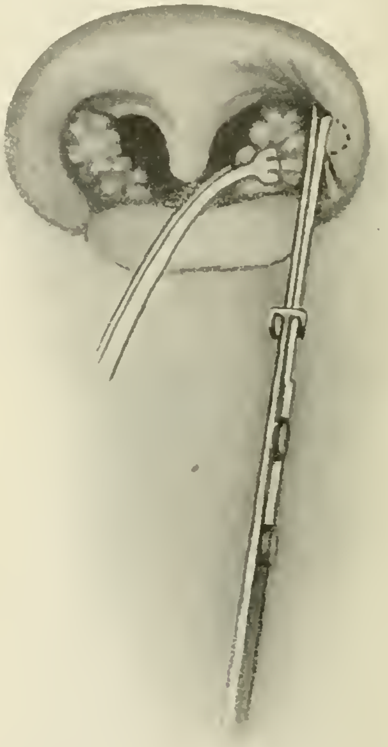

Fig. 2.—Tonsil knife in use.

The knife is best adapted to the sitting posture. T tonsil is first freed from its attachment to the anteri pillar by suitable separators. In most of my cases, aft engaging the tonsil with the tonsil forceps, I dissect around the upper half of the tonsil or head, with Kyle's right-angle tonsil knife. In case the plica tonsillaris covers a large portion of the tonsil, I also make an incision at its junction with the anterior pillar. I then regrasp the tonsil, engaging a greater part of the upper part in the tonsil forceps. Then the knife with the guard and retractor attachment comes into play. With the retractor adjusted so that it is freely movable, and the angular blunt hook pulled toward the point of the knife, I insert it behind the pillar.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

In cutting downward or upward, as the operator desires, the guard or retractor retains its position, between the tonsil and pillar, as the cutting blade moves forward. Thus the operator can use a great deal of force in retracting the pillar. Besides, the pressure exerted against the pillar by the guard steadies the hand. Especially is this true of the left hand. I never trusted myself with a tonsil knife in the left hand until I used the one with guard and retractor attachment.

This tonsil knife, equipped with guard and retractor attachment, has been used only in a limited number of cases, as the first model was made only last month. The results, however, have been encouraging, and I am convinced that when I use the tonsil knife in the future it will be one equipped with guard and retractor attachment.

My excuse in offering it on such limited experience is that I thought the opportunity presented itself at a meeting where a symposium on the faucial tonsils was to be one of the chief features. The instrument may be obtained from V. Müeller & Co., Chicago.

Newton-Claypool Building.

A CASE OF PHENOL-POISONING

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S. T., aged 32, Roumanian, was brought into my office in a condition of collapse, with pulse weak and thready, extremities cold, and consciousness almost lost. A cold sweat bathed his body. A hasty examination disclosed burns of the first degree extending from the wrists halfway up both forearms. Vigorous stimulation caused a good reaction from the shock, but within three minutes the patient became very much cyanosed, with labored and stertorous breathing. The respirations at this time went to 56 per minute. The pupils were dilated and reacted very sluggishly to light. The pulse remained strong and was of good volume and tension, but the cyanosis increased to an alarming degree. A slight convulsion manifested itself at this time. More vigorous stimulation was resorted to, with the result that after ten minutes of impending dissolution the patient began to improve. He was now hurried to the hospital, where he remained in a semiconscious condition for three hours, with respirations 26, pulse 80, and temperature 99. Convalescence from this point was uneventful. The urine was cloudy, acid in reaction, brown in color and had a specific gravity of 1.009. Albumin disappeared on the fourth day.

Investigation showed the burns to have been caused by pure phenol applied twenty minutes before the patient was seen. The patient told us that he had applied the phenol to cure a skin eruption and that he felt no pain until five minutes after its application, when the pain became unbearable.

I believe that the primary shock was caused by the pain of the burn and that the condition following was due to the toxic action of the phenol absorbed through the skin.

A NEW PHARYNGEAL NEEDLE HOLDER

DESIGNED ESPECIALLY FOR SUTURING THE TONSILLAR WOUND AFTER TONSILLECTOMY

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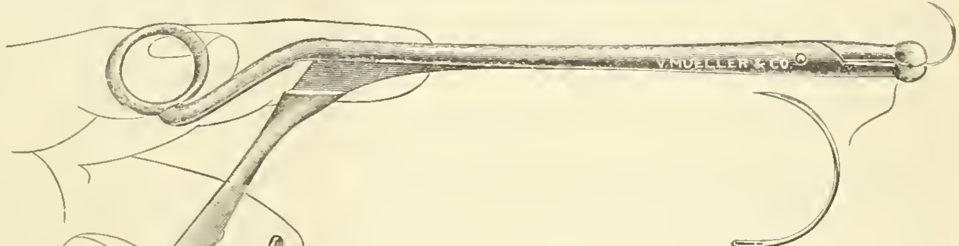
With the substitution of complete tonsillectomy for the simpler but inadequate tonsillotomies of former years there must necessarily develop an increasing danger from postoperative hemorrhage. That the extirpation of the tonsil involves greater responsibility is generally recognized, and we are now concerned with the adoption of such methods as will minimize the risk from hemorrhage.



A pharyngeal needle holder.

The ineffectiveness of the various styptics and the pain of prolonged pressure by tonsil hemostats are fully appreciated by all. There is, however, another expedient whose value has never been generally realized, but it is one whose reliability I have repeatedly demonstrated in persistent and profuse tonsillar hemorrhage after all other methods had been faithfully employed without avail. This consists simply in suturing firmly the tonsillar wound to a sufficient extent to close up all denuded bleeding areas. This may require from one to three sutures, according to the nature of the case, and the stitches may include simply the two pillars of the fauces or they may include within their grasp the tissues at the base of the tonsillar excavation. The suture material which I have found best is a large size of black braided silk. The needles which have proved most satisfactory have been of the Hagedorn variety and of the size and curvature shown in the illustration.

But the factor of by far the greatest importance in the prompt and easy introduction of the sutures is the needle holder. After trying all of the usual forms of needle holders I was led to devise the one here illustrated.

The handle must be so placed that the hand of the operator is always out of the field of vision. The instrument should be able to hold the needle firmly without the use of a lock because it is essential to release the needle quickly after it has penetrated the tissues so that with the same instrument the point of the needle may be grasped immediately and pulled through before the gagging of the patient can dislodge the needle. The grasping surfaces of the instrument should be provided with notches or grooves so that the Hagedorn needles with large eyes can be easily maintained in any desired position. The grasping surfaces at the distal end should present a concavity so that a curved needle may be securely held without incurring the risk of being broken, which would at least be an embarrassing accident in the midst of an operation on a throat filled with blood.

Therapeutics

CONSTIPATION

This condition is so frequently present in American people, and is so generally neglected or treated simply with laxatives and purgatives, often to the future detriment of the patient that, though often considered, we cannot too frequently discuss its proper management. Dietetic mistakes are so often the cause of constipation that a better understanding of the action of different foods on the alimentary canal is necessary properly to treat or manage constipation. As constipation is not always due to imperfect peristalsis, but often is due to impaired intestinal secretion, and as the various kinds of foods stimulate more or less the intestinal secretions, Lafayette B. Mendel, of New Haven, professor of physiologic chemistry at Yale, in a paper read at the last meeting of the American Therapeutic Society (*American Journal of the Medical Sciences*, October, 1909), well says that "the skilled therapist of to-day can well afford to devote to the specific action of the diet the same detailed consideration which he accords to his armamentarium of drugs."

In the stomach, acid is but a slight stimulant to its secretions, but, in the duodenum, acid stimulates, probably reflexly, secretion from the pancreas. By the proper performance of the duodenal digestion a substance is produced called secretin, which stimulates the glands of the intestines to activity. The best promoters of gastric secretion are "dextrins, maltose, dextrose, proteoses, and extract of meat." Mendel says that these stimulants are active at the pyloric end of the stomach, and a hormone, gastrin, is liberated which stimulates the whole secretory function of the stomach.

Nervous influences on gastrointestinal secretion are, of course, well understood. Perfect digestion cannot take place if the patient is suffering great worry or enduring mental frets, or when there is an unpleasant environment, or if non-appetizing food is presented to a patient suffering from intestinal indigestion and constipation. Therefore, a handicap of such surrounding conditions, or associated conditions, must be recognized, and they must be removed if possible.

The mental condition being improved and the food being well prepared and tastefully presented, Mendel's practical dietary facts should be remembered, as the better the digestion the less the constipation. He says that bouillon or meat soup taken early in the meal reaches the pylorus and duodenum and incites a flow of gastric juice. The dextrins and maltose of toasted bread and zwieback act similarly. The increased stomach secretion thus brought about acts as a stimulant to the pancreas and the liver, and plenty of pancreatic juice and bile is the result. Fats and especially oils inhibit the gastric secretion, and this dietary knowledge should be utilized when it has been decided that there is a hyperacidity or an abnormal amount of hydrochloric acid in the stomach; but when there is insufficient gastric secretion, fats and oils should be forbidden.

Varying amounts of acidity in the gastric contents either promote or inhibit the proper opening of the pylorus and the proper discharge of the stomach contents into the duodenum. Mendel says that foods which tend (like proteins) to combine with acid and diminish the free hydrochloric, or (like fats) to repress acid secretion, will delay the discharge from the stomach. When normal acid contents accumulate at the pylorus and are normally discharged into the duodenum, the reflex causes sufficient outpouring of bile to neutralize or render the contents of the duodenum alkaline, and besides this normal aid to intestinal digestion the bile is a stimulant to peristalsis, and intestinal activity is improved. An insufficient acidity of the stomach tends to promote fermentation and may allow intestinal putrefaction to occur. It is also possible, under lessened acid secretion of the stomach, that food may be regurgitated from the duodenum into the stomach. Hence the stomach secretion, especially the hydrochloric acid, being subnormal, fats and oils should certainly be prohibited as tending to make the condition worse.

While it is recognized that intestinal flora may be changed by the administration of certain drugs and possibly by lactic-acid ferments, it is well recognized that radical changes in diet will also change these intestinal conditions, and not only adults but especially infants may have such maldigestions, without objective symptoms, such as diarrhea, as to cause chemical mistakes sufficient to rob the body of necessary elements for its growth. Mendel says an improper amount of fat in the intestines in infants, or fat that is improperly absorbed, may allow the fatty acids to form soaps of calcium and thus rob the child of its necessary lime, which then passes off in the stools. The normal amount of lime, then, not being absorbed into the blood may allow an acidosis, with all its serious symptoms.

This indicates that in all cases of malnutrition, before medication is relied on, the kind of food taken and the character of the digestion, and a more or less thorough analysis of the stools should be made.

Other practical suggestions on the action of food in the stomach are offered by Carl A. Hedblom and Walter B. Cannon, professor of physiology in Harvard Medical School, Boston (*American Journal of Medical Sciences*, October, 1909). These investigators have determined that if carbohydrate food is thinned by adding ordinary amounts of water the rate of the exit of the food from the stomach is not changed, while adding an ordinary amount of water to protein food in the stomach makes the discharge into the intestines more rapid. Hard particles of food retard the evacuation of the stomach into the intestines, while coarse, branny foods leave the stomach quicker than similar foods of finer texture. An abnormal amount of gas in the stomach always delays the passage of food into the duodenum. Whether food is taken hot or cold does not seem to make any material difference in the rapidity with which the stomach contents are discharged into the duodenum, but food with normal acidity in the stomach is passed on much quicker than when the contents of the stomach are hyperacid.

These investigators have also shown that irritation of the colon with croton oil notably retards gastric discharge and delays the movements of food through the small intestine. This experimental fact should be constantly clinically recognized, viz.: that any reflex irritation, from chronic appendicitis, chronic abdominal pain, neuralgic or inflammatory, will inhibit the gastrointestinal digestion, and until the cause of such irritation is removed the digestion will be imperfect and constipation persistent.

Dr. L. M. Gompertz, of New Haven, presented a paper to the American Therapeutic Society at its last annual meeting (*American Journal of Medical Sciences*, October, 1909) in which he discusses the cause of constipation and his treatment without drugs. The length of time from the ingestion of food to the expulsion of the residue of that food from the rectum, Gompertz finds, in thirty individuals, to average from twelve to fifteen hours. In other words, the habit of normal man to have a movement of the bowels in the morning seems physiologically correct to expel the residue of the food of the day before. Certainly, any delay beyond this twenty-four hours would seem non-physiologic and to be a condition that must be actively treated.

Gompertz recognizes two forms of constipation, the atonic and the spastic. The fragmentary, or expulsion of small pieces of feces, he believes to be a part of the spastic form of constipation. The atonic type of constipation he believes is due to an atony of the muscles of the large intestine, and this is usually induced by the over-use of purgatives. He also recognizes that the primary cause of constipation may be an over-absorption of the fluid portions of the contents of the intestines, which would deprive the intestines of residue of sufficient bulk for the musculature to actively contract on it. In the atonic form of constipation the stool is hard and dry, and its caliber may be very large. There is no pain or much increased flatulence, although after such a condition has been in evidence for years, and especially when strong cathartics have been taken, a catarrhal condition of the intestines may develop, there may be fecal impactions, and scybalous deposits may cause local inflammations.

The other cause of constipation is due to a hypertonicity of the musculature of the intestines, which causes spastic constipation. In this form there is usually flatulence and a catarrhal condition of the intestine; spasm of the transverse colon occurs, causing retention of firm masses of feces with resulting fermentation. Colic and pain become frequent symptoms, and in severe cases large amounts of mucus may be passed. In spastic constipation the rectum usually remains empty, except during actual defecation, while in the atonic variety the rectum is more or less persistently filled. In this spastic form of constipation the size of the movements is very small, and they may be even ribbon-shaped.

The systemic disorders that may occur from a constipated habit may be acute, but are likely to be insidious: in fact, it is astonishing how harmless constipation apparently seems to be to some individuals. On the other hand, it is a demonstrated fact that chronic liver inflammation, chronic kidney inflammation, perhaps arterial disease, and certainly mental sluggishness, are conditions that can be, and are, caused by constipation and its consequences. The mental apathy, muscular debility, general malaise, and bad feelings which are so often attributed to malaria or biliousness are frequently entirely due to absorption of toxins from the intestines caused by constipation.

Imperfect stomach digestion due to dietetic errors is perhaps the most frequent cause of constipation, and here a correction of the food is of vital importance and vastly better treatment than the resort to purgatives or even laxatives. Hyperacidity of the stomach Gompertz finds a frequent cause of constipation, and high nervous tension and the eating of too large amounts of meat are probably frequent causes of this hyperacidity. The necessity for physical exercise in those who lead too sedentary a life is, of course, recognized, but such exercise is not frequently enough ordered.

It is probably frequent that not sufficient water is taken by the patient, and, on the other hand, that the fluid contents of the intestines are too rapidly absorbed. In either case, the advantage of weight and gravity is lost and the advantage of bulk for the intestines to act on is lost, the dryness and stickiness of the fecal matters is increased and the ability to expel them is diminished. To overcome such a condition Professor Lafayette B. Mendel advises the ingestion of a substance that will hold water in its meshes, and such a substance is agar-agar. The theory suggests, and the fact demonstrates, that when agar-agar is ingested and becomes mixed with fecal matters in the lower intestine, that it, retaining water, makes the fecal masses more bulky, more watery, more pultaceous, and hence of a consistency that is easily propelled and expelled. Agar-agar also fortunately resists bacterial decomposition.

Gompertz experimented with agar-agar as an addition to the diet of thirty patients who were suffering from constipation, the age of these patients varying from 15 to 83 years, and the majority of them being unable to have a movement of the bowels without the aid of drugs. The agar-agar was taken in the morning and evening, beginning with 15-gram (half-ounce) doses, and in most instances was eaten with milk or cream, the same as a breakfast food. In all but two of these thirty patients regular movements of the bowels began after the agar-agar had been taken from one to three days. After regular movements of the bowels had been established, the agar-agar was in most instances gradually reduced in amount. The duration of the treatment was from one to three months.

The agar-agar should be prepared in granular form, i. e., ground up fine, and can be eaten as a powder with cream or milk, as suggested, with the addition of sugar or salt to suit the taste. Such agar-agar was prepared by a local druggist.

Certainly any recommendation, either from a regulation of the diet or a change in the habits of the patient, or the addition of some simple article to the diet as suggested, that cures constipation, should be looked on as a distinct advance in treatment of this obstinate condition.

As another dietary suggestion in the treatment of constipation, Dr. Anthony Bassler, of New York (*Dietetic and Hygienic Gazette*, September, 1908), recommends the following laxative food for children who are afflicted with constipation:

BRAN GEMS

2 cups of bran.
2 cups flour.
1 cup milk.
¼ cup molasses.
½ teaspoonful baking soda (dissolved in hot water).
½ teaspoonful butter.
½ teaspoonful lard.
Salted to the taste.
Bake in a slow oven for forty-five minutes.

Bassler suggests that little children eat several of these gems after coming home from school in the afternoon, as he finds that they have a pleasant laxative effect.

A method of treating constipation other than by drugs has lately received considerable approval, viz., oil injections into the rectum. A soft rubber catheter may be inserted three or four inches up into the sigmoid flexure, the patient lying on his left side, and then from 100 to 150 c.c. (3 to 5 ounces) of warm sweet oil is injected by means of a fountain syringe. This oil should be retained, if possible, over night, and if the movement of the bowels in the morning is not satisfactory a small saline enema may be administered. This oil injection should be repeated daily for a week, then every other day for two weeks, and then once or twice a week for some period of time. The treatment in instances of dry feces and sluggish activity of the rectum is many times successful, and this treatment is again far in advance of the continued administration of cathartics and laxatives.

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[*For other information see second page following reading matter*]

SATURDAY, NOVEMBER 27, 1909

THE PATHOLOGIC ANATOMY OF CHRONIC ALCOHOLISM

In stating the causes of almost all the chronic, non-infectious diseases, it is a time-honored custom of the texts to include alcohol; and generally it is given a prominent place along with syphilis, followed at a respectful distance by gout and lead. Consequently the student comes to consider that not only is cirrhosis of the liver a usual result of alcoholism, but that nephritis, myocarditis, arteriosclerosis, and sundry disorders of the central nervous system also are commonly caused by it. The pathologist whose experience lies with the outcasts of great cities, however, knows well that the most alcoholic of his subjects are often free from nearly all, if not all, of these indurative processes, just as he observes that old prostitutes may show no evidences of inflammatory disturbances in the pelvis. On account of the common misconception of the anatomic changes produced by chronic alcoholism, it is worth while to consider just what conditions are and what are not found in the bodies of habitual drunkards.

In the city of Hamburg, as in other large and active seaports, there die annually many wanderers and outcasts brought low by drunkenness. At the last meeting of the German Pathologic Society there was reported by Fahr a series of three hundred and nine autopsies performed at the *Hafenkrankenhaus* (harbor hospital) of Hamburg on victims of chronic alcoholism, dying from either alcoholism alone or from other causes, no less than ninety-eight being suicides. In nearly all the cases the alcohol had been taken in the form of spirits, not as beer or wine. The results of these autopsies are distinctly not in harmony with the conception that alcohol is a poison which produces wide-spread and gross anatomic changes throughout the body, or that it is a common cause of either arteriosclerosis or nephritis. Even cirrhosis of the liver is far less common in alcoholics than it is usually supposed to be, for, of the three hundred and nine cases, in but eleven was cirrhosis the cause of death; in two other bodies there was an advanced cirrhosis, but death was due to some other cause. Of one hundred cases of cirrhosis in which autopsies were performed by Simmonds in Hamburg, alcoholism could be excluded in fourteen; in sixty it was evident, and in twenty-six there was no reliable information as to alcohol; therefore it must be concluded that, while only a very small proportion of drunkards suffer from cirrhosis (about 4 per cent.), there are not a few case of advanced cirrhosis which are not due to alcoholism although alcohol is responsible for far more than majority of all cases of cirrhosis. On the other hand, i nearly every case of habitual drunkenness the liver show fatty changes, usually severe, but not ordinarily associated with connective tissue increase; and this is by fa the most frequent change in alcoholism. Next to th fatty liver in frequency, and probably much more important in its effects, comes chronic leptomeningitis, whic was present in about half the cases. Fatty infiltration o the heart wall was present in 30 per cent., and chroni gastritis in 20 per cent. On the other hand, chroni nephritis caused the death of but eight of the thre hundred and nine drunkards, and nephritis was foun much less frequently among the alcoholic subjects in th harbor hospital of Hamburg than in the hospitals whic receive patients of better habits. So, too, arterioscleroti changes were certainly no more, and apparently somewhat less common and extensive among the bodies o alcoholics than among those of non-alcoholics of corresponding age. It would, therefore, seem unjustifiable t consider that alcohol, even when used in great excess, i of itself a common cause of either nephritis or arteriosclerosis.

It is a striking fact, and one familiar to pathologist that a large proportion of deaths in chronic alcoholis occur without any anatomic alteration being found whic is adequate to account for the death; this was the cas in seventy-one of the three hundred and nine autopsie studied by Fahr. In such cases the fatty liver is almos invariably present, frequently chronic leptomeningitis chronic gastritis, and fatty infiltration of the heart; bu nothing to explain the sudden deaths, unless some ar caused by failure of the fatty heart. Fahr suspects tha changes in the ganglion cells of the heart may be responsible for the sudden heart failure, but as yet no anatomi proof has been forthcoming to support this hypothesis It is interesting to note that protracted feeding of alcohol to guinea-pigs and rabbits failed to cause the fatt liver and other anatomic changes that are common i man, but the animals showed the same tendency to di suddenly and unexpectedly.

GOVERNMENT COOPERATION FOR IMPROVING TH PHARMACOPEIA

Few, if any, public health measures are of more direc importance than efficient regulation of the purity an identity of widely recognized medicaments and reasonable regulation of their use or, at least, restriction o their abuse. To secure a fuller appreciation of the use and limitations of drugs is to benefit the public at larg as well as to advance the development of the science o medicine.

It is gratifying, therefore, that the United State Public Health and Marine-Hospital Service has recognized the importance of drugs and drug standards i public health work and is now cooperating in a practical way with the Committee on Revision of the Pharmacopeia to improve our standards for drugs and to promulgate a knowledge of the true values or shortcomings of official medicaments. Our readers will, no doubt, be interested in the series of bulletins constituting a "Digest of Comments on the Pharmacopeia of the United States of America," which, by request of the Board of Trustees of the United States Pharmacopeial Convention, is now being compiled and published under the direction of the Surgeon-General of the United States Public Health and Marine-Hospital Service. The first of these bulletins[1] contains considerable material bearing directly on the shortcomings and needs of the Pharmacopeia. It indicates very well the degree of faithfulness with which the present Committee on Revision of the United States Pharmacopeia has adhered to the general principles or instructions of the Pharmacopeial Convention. It also shows the compliance, or rather lack of compliance, with the protocol of the Brussels Conference for the unification of formulas for potent medicaments, and thus further emphasizes the need that medical practitioners should interest themselves in a practical way in the making of the Pharmacopeia which they are to follow, if for no other reason than to keep fully abreast of the advances in medical science abroad.

Apart from the criticisms on the scope and the contents of the United States Pharmacopeia, and in addition to the material of a purely chemical or pharmaceutical nature, this bulletin contains much that will interest physicians generally. Thus, the references to the present-day use of the several drugs will be found a fair indication of the usefulness of certain medicaments, while the references from homeopathic and eclectic medical journals indicate some of the fallacies of sectarianism in medicine. They also appear to bear out the oft-repeated assertion that in the application of really useful medicaments there is no essential difference between the graduates of the several schools.

The present work is essentially a continuation of the "Digest of Criticisms" on previous revisions of the United States Pharmacopeia formerly published by the Committee on Revision through its Chairman, the late Dr. Charles Rice, and largely compiled by the late Hans M. Wilder. This was of inestimable value in connection with former revisions of the Pharmacopeia. The present series of "Digest of Comments" will, no doubt, be equally useful to the Committee on Revision to be elected at the forthcoming Pharmacopeial Revision Convention. Physicians generally, and delegates to the Pharmacopeial Revision Convention particularly, who wish to familiarize themselves with the needs of the Pharmacopeia of the United States will find much in this bulletin that will interest them and suggest profitable lines of activity.

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[1] Digest of Comments on the Pharmacopeia of the United States of America (Eighth Decennial Revision), for the Period Ending Dec. 31, 1905, Bull. 49, Hyg. Lab., U. S. P. H. and M.-H. S., Washington, pp. 295.

THE PERSONAL EQUATION IN MEDICINE

The theory of medicine, as of all other sciences, has often been affected by the personal equation—that constant error to which each individual is subject to a greater or less degree. Each observer, though he may be able to see facts clearly and even to trace the relation of cause and effect among them to some extent, is liable to error in the interpretation of those facts in proportion to the degree of his fixed personal bias, whether that personal bias be in favor of a widespread belief or merely of a little private theory of his own.

That acute observer of human nature, Rudyard Kipling, in a recent story,[1] creates a significant and not essentially improbable illustration of the workings of the personal equation in medical theory.

A practitioner of medicine who is likewise a devout believer in astrology (so runs Kipling's tale), in the days of the Great Rebellion in England, comes into a little village which is being devastated by the plague. He exhausts all the resources of the medical art of his time in vain; the people continue to despair and die. The physician, therefore, resolves to take counsel of the stars, through which he learns that the patroness of the pestilence is our Lady of Ill Aspect, the moon; and that the only hope for the dying people lies in the aid of the sun and the planet Mars. By chance the astrologer-physician sees some rats staggering and dying in the moonlight; and the idea of a connection between the rats and the plague flashes across his mind—not, indeed, that he for a moment entertains the idea that the rats carry contagion, but that, being creatures of the night and, therefore, of the moon, the rats must be parties to the sidereal conspiracy of which the plague is the outcome. So the doctor brings his patients away from the dark holes and hovels where they have been languishing, and takes them into the sunshine and fresh air—not because fresh air and sunshine are good in themselves, but because the influence of the sun, being opposed to that of the moon, is the proper one to seek. He organizes a war of destruction against the rats; and in the process of extermination all the dark, filthy places in the village are made light and clean—not, of course, because such a procedure is hygienic, but because it invites the favor of the sun and lessens the unfavorable influence of the moon. He causes the holes of the rats to be filled with slag from the village smithy—because the horse is a martial animal, and Mars is a favorable planet. The people are aroused from their apathy and terrified inertia by the tasks set them and the renewed hope held out to them; the village is cleansed and made hygienic; the rats are destroyed and the plague vanquished. The physician, regarded with adoration by the grateful people of the village, with becoming humility ascribes all merit to the favorable stars.

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[1] A Doctor of Medicine, Delineator, October, 1909.

Now, we may smile at the fanciful idea that the modern expedients of killing rats and rendering dwellings sanitary to rid a community of plague, if successfully practiced in the seventeenth century, might have strengthened the belief of physicians and laymen in astrology. There is food for a few moments' sober reflection, however, in this imaginative glimpse into the past.

Prejudice and prepossession did not die with the belief in astrology, nor are they the exclusive possessions of the ignorant in our own time. Science may warn against the error involved in the personal equation, but cannot destroy it, even where scientists are concerned. The danger is ever to be guarded against that some unsuspected factor—some idea which has taken possession of the mind unquestioned and whose sway has been taken for granted, like the belief in astrology in the mind of Kipling's physician—may prevent us from attaining some truth that waits near at hand to be discovered, like the age-long relation between infectious diseases and the filth in which they are bred and the noxious creatures by which they are conveyed.

WORTHLESS DRUGS

An important part of the work of the Council on Pharmacy and Chemistry is the investigation of non-proprietary drugs with the object of determining whether they are of sufficient value to be included in New and Nonofficial Remedies. These non-proprietary remedies are of two kinds: those recently introduced and those which, while in no sense new, are not to be found in the Pharmacopeia because they were considered as of little or no value. Drugs of the latter class are periodically resurrected and, by enthusiastic reports, made to all intents and purposes, "new" remedies. As Sollmann has said.[1] "The physician who is impressed by these reports naturally desires some unbiased and reliable information about them, as well as about the remedies which are actually new. The ordinary reference books, however, give but very scanty data; they necessarily lack the elasticity which is essential for the proper presentation of a new subject. Above all, a physician who desires to try these new remedies should be assured that they are of a uniform quality; but with them there are no established standards of any kind."

In the case of proprietary articles the Council has not required, as a condition of admissibility to New and Nonofficial Remedies, that their therapeutic value shall be demonstrated, but only that no grossly exaggerated therapeutic claim be made for them. Non-proprietary substances, on the other hand, have been admitted only when they appeared to possess positive medicinal value. This policy has resulted in the rejection of a considerable number of drugs, mainly from indigenous American plants, which have been used to some extent, but for which no definite therapeutic value has been shown. Since many of these drugs are made the essential ingredient of proprietary mixtures for which grossly extravagant claims are made, the Council has prepared several short articles to show on what basis the claims for the value of these non-proprietary drugs rest. In most cases it appears that such claims are based on reports of clinical experience and observations by untrained and little-known men. In these articles the Council has frequently found it necessary to refer to reports of little or no scientific value; in fact, these references, together with the lack of any available data from prominent medical authors, indicate the paucity of real evidence in regard to these drugs. Even the so-called clinical evidence is in many cases shown to be, not the honest expression of enthusiastic though incompetent observers, but rather of the nature of "patent medicine" testimonials or paid write-ups.

In the Pharmacology Department, in this issue, appears the first article of this series. It deals with echinacea, a drug which is the chief constituent of a number of nostrums for which ridiculous claims are made, and the article shows in a striking manner on what feeble evidence the asserted virtues of the nostrums containing this drug are based. In subsequent issues reports will appear on other non-proprietary drugs of doubtful value which form the prominent constituents of innumerable nostrums.

THE ATTEMPT TO DEGRADE THE SANITARY SERVICE AT THE ISTHMUS

Any doubt that an attempt is being made to degrade the Sanitary Department at the Isthmus is removed by the letter of Mr. Mann to the Bureau of Legislation, printed in the Department of Correspondence in this issue, and by a study of the bill now pending in Congress, to which that letter relates. The bill in question (H. R. No. 5155; S. 601), now in committee at both ends of the Capitol, was introduced almost simultaneously, in the House, by Mr. Mann, of Illinois, and, in the Senate, by Mr. Crawford, of South Dakota. Its printed title is "A Bill to provide for the government of the Canal Zone, the construction of the Panama Canal and for other purposes"; but it ought to read: "A Bill to provide for the appointment of one director, one chief engineer and one governor and to subordinate the chief sanitary officer to any one or all of these officers." That, at least, is the meaning of the bill when divested of all ambiguity, a meaning that becomes obvious when, in Section 3, Paragraph 3, it is proposed to dispose of the whole situation at the Isthmus by appointing the three officers first mentioned as the heads of coordinate departments, with no more mention of the Sanitary Department than if it did not exist. If this department is not specifically included in the list of designated departments it is excluded; and if it exists and is excluded, it must become subordinate to something that is included. This is a very old legislative ruse and one that is obviously brought into requisition at this time for the same old purpose of putting the country to sleep while a measure to which the people would naturally object is quietly rushed through Congress.

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[1] Sollmann, Torald: The Broader Aims of the Council on Pharmacy and Chemistry, The Journal A. M. A., July 18, 1908, li, 237.

That the people in general will object to this measure when they realize what it means is a safe assumption. That the medical profession in particular will firmly but insistently oppose it, now that its hidden design has been made apparent, is a certainty. And that the antagonism in both instances will be based on the soundest reasons becomes apparent the moment certain salient facts in the history of the Isthmian project are taken into account. Thus, it will be recalled, when the Government took over the Panama enterprise, now something over six years ago, it was very generally recognized that the French had reduced the feasibility of moving the dirt to a demonstration. But it was recognized with even more unanimity that the one remaining barrier to success was the sanitary control of conditions that had defeated every former attempt by converting the Isthmus into a veritable Golgotha.

In this emergency every eye turned as by a common impulse to Colonel William C. Gorgas, Medical Corps, U. S. Army, who, by virtue of his sanitary triumph over Havana, stood as the one man for this herculean task. It was known, however, that he had been able to succeeed in Cuba only because he had been given an absolutely free hand by his military commandant, General Leonard Wood, who, being a medical man as well as a soldier, had the special intelligence necessary to comprehend the situation. And it was furthermore recognized that Colonel Gorgas must have a similarly free hand in order to be equally successful in Panama. Physicians in every part of the country accordingly petitioned President Roosevelt to make him an actual member of the commission on a footing of equality with the other members. This request, however, was not complied with, and Colonel Gorgas, who was to solve the problem on which the success of the whole enterprise depended, was designated as "Chief Sanitary Officer," with a status "subordinated in the seventh degree below the actual head of executive authority."

The result of this action was brought to the attention of the country by the report on Isthmian Canal Sanitation by Dr. Charles A. L. Reed.[1] It was there shown that the Sanitary Department, in consequence of that action, was hampered in everything that it undertook; that it was subjected to the most annoying infringements on what from the start ought to have been recognized as its exclusive prerogatives; that red tape impaired its efficiency; that presumptious interference by ill-informed superiors hampered its progress; and that its moral and educational force on the Isthmus was lessened by its position as an underlying service. The furor excited by this revelation was followed by the reorganization of the commission. Colonel Gorgas was made a member of that body as he ought to have been at the start. He was given authority to report direct to the chairman of the commission, just as other heads of departments were authorized to report. This somewhat tardy change made the Sanitary Department a coordinate instead of a subordinate branch of the Isthmian organization, and that is the satisfactory status which it occupies to-day.

While occupying this position and largely as a result of the freedom of action thus vouchsafed to it, the Sanitary Department of the Isthmian Canal Zone has achieved results that to-day not only command the applause of the civilized world, but that have resulted in the selection of Colonel Gorgas, the chief of that service, as the official head of the organized medical profession of America. Yellow fever, the perennial dread of the tropics, has been banished; malaria, the real pest of the Isthmus, has been reduced to a minimum; the bubonic plague had been challenged at the portals and denied a foothold; devastating endemics have been made things of the past; disease-breeding centers have been abolished; the cities of Panama and Colon—the control of which by the Sanitary Department, stipulated by treaty, is another reason why it should not be subordinated to any other department—these cities, once pestilential, have been made salubrious; while as a natural result of the fact that disease and death are no more common there than in many cities in the states, a sense of security has been imparted to the more than forty thousand persons to-day employed in the zone, and the success of the enterprise has thus been assured. And all of this has been and is being done in a land previously so dangerous to human life that it had become a byword and a reproach among the nations of the world. In the face of this matchless record, the proposition to degrade the service by which these results have been achieved—to place it back in the position of underling in which it was first placed—will come as a shock to the people.

The statement now made by Congressman Mann that "it is not possible to have good government on the zone with a lot of different heads" is, of course, thoroughly disingenuous. If there is to be only one head, then why does his bill designate three heads? And if three heads, why not four? And if not four heads, why not subordinate some department besides the one on which, without disparagement to others, is the very one on which the success of the whole enterprise depends? Then, too, has there not been good government in the zone with sanitation in the hands of a coordinate rather than a subordinate department? In short, has anything on the Isthmus come as near "making good" as the Sanitary Department? The people have so far voted hundreds of millions of dollars for the canal and they stand ready to vote as many more as may be necessary to complete it. But they insist and will insist not only that the money shall be judiciously expended, but that the whole enterprise shall be so safeguarded that, by the humane protection of life and health, there will be some prospect of its ultimate completion.

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[1] The Journal A. M. A., March 11, 1905.

It may be asserted, without fear of successful contradiction, that nothing has so contributed to public confidence in the ultimate success of the canal as the achievements of its Sanitary Department. The American people now demand that that department be left with freedom of action, that its efficiency be promoted rather than hampered, and. finally, that Congress treat it with the consideration befitting its demonstrated efficiency, its well-earned honor and its justified dignity.

MANSLAUGHTER AND HYPNOTISM

In some countries there are laws prohibiting public exhibitions of hypnotism. There should be such here. The traveling exhibitors who make their living by making fools of their fellow beings are not useful members of society. There is, in the first place, a peril in submitting oneself to another's will; and that is what the subject generally understands he is doing, though it is not by any means necessarily the fact. Another more immediate danger is shown by the recent occurrence in New Jersey—a possible direct danger to the life of the subjects. Especially is this true of such demonstrations as are reported to have been made in the case referred to, in which the operator stood on the rigid body of his subject, supported only by the head and feet. Such a performance is not suitable for a public exhibition, and we cannot think of any good reason why it should be for a private one. It may be true that it is often done without harm, but the autopsy findings in this case, as given through the press, strongly suggest that it was the cause of death. Public exhibitors of hypnotism may take the trouble to ascertain the physical fitness of their subjects. but we believe that this is rarely done, and many ugly possibilities show up on consideration of the subject. Leaving out of account the common belief which has sometimes manifested itself in our courts, that hypnotism may be responsible for involuntary crime, it is an abnormal condition and should not be too freely induced —certainly not without good reason.

Medical News

ILLINOIS

Personal.—Dr. Everett H. Butterfield. formerly director of the Ottawa Tent Colony, has been made medical director of the Buffalo Rock Sanatorium for the Treatment of Tuberculosis, Ottawa.——Dr. Henry E. Wagner. Chicago. has returned from Europe.——Dr. Adolphus P. Standard, assistant surgeon at St. Francis Hospital. Macomb. has resigned and will take charge of the new Graham Hospital at Canton.

State Supplies Free Antitoxin.—The State Board of Health announces that the refined and concentrated diphtheria antitoxin, which it supplies free of charge to all who need it in Chicago, is furnished by manufacturers operating under government license; that the antitoxin is of the highest quality and degree of purity, and in the opinion of the board, of higher potency than any serum in the market. In a recently-awarded contract, the unit of strength of antitoxin was as follows: 1,000 unit packages. 1,200 units per c.c.; 2,000 unit packages, 1,600 units per c.c.: 3,000 unit packages. 2,000 units per c.c.; and 5,000 unit packages. 2,500 units per c.c. The board expresses its belief that the appropriation of $8,000 per annum made for the free distribution of antitoxin in Chicago, will be sufficient to supply the needs of that city.

Chicago

To Aid Tuberculous Children.—The United Charities of Chicago, by the aid of a grant of $2.500 made November 15, from the Elizabeth McCormick Memorial Fund, will inaugurate an open-air school to be conducted in tents on the roof of the Mary Crane Nursery on Ewing street. At the outset, twenty-five children will be treated in the school.

Extensive Sanatorium Proposed.—At a meeting held in the Chicago Athletic Club, November 18, a plan was launched for the establishment of a large sanatorium near Las Vegas, N. M. It is proposed to purchase between 100.000 and 200.000 acres of land, comprising the old Valmore Ranch. When fully improved the institution will accommodate more than 1,000 patients. The sanatorium is to be exclusively for sufferers from tuberculosis who are not poor enough to accept state aid, but are unable to provide for the travel and care they need. An effort will be made to limit admissions to those patients, who in the best judgment of the examiners, give promise of a cure.

The Cost of Tuberculosis in Chicago.—The Department of Health. in the current issue of its *Bulletin*, gives the approximate cost of tuberculosis to the people of Chicago during 1908 as $23.535.190. distributed as follows: The money value of lives lost amounted to $19,571,950; the wages lost by the decedents amounted to $1.336.200: the cost of the illness of those who died, $707.040: the loss of wages of patients still living, $1.120.000, and the cost of illness of 10.000 living patients, $900.000. During the first nine months of the current year, 3.024 new cases of tuberculosis were reported to the department of health, equivalent to 136 per 100.000 of population. These new cases were distributed as follows: Business and factory wards, 482 per 100,000; poor residence wards, 188; fair residence wards, 158; good residence wards, 104; and semi-suburban wards, 87 per 100.000. This demonstrates that the cost of tuberculosis falls most heavily on the poorer people in the city.

KENTUCKY

Changes in Louisville Health Force.—The mayor has appointed Dr. William Ed. Grant health officer; Drs. Ezra O. Witherspoon and Griffin C. Kelly, assistant health officers; Dr. J. W. Fowler, superintendent of the City Hospital: Dr. Jesse I. Whittenberg, superintendent of the Eruptive Hospital; Drs. Heman Humphrey and Charles J. Rosenham, city physicians, and Dr. Fred L. Wilhoit, sanitary inspector.

Against Tuberculosis.—Articles of incorporation of the Kentucky Association for the Study and Prevention of Tuberculosis were filed with the clerk of Jefferson county, October 27. The object, as stated, is to encourage local associations for the study and prevention of tuberculosis. On the first board of directors are the names of Drs. Henry S. Keller, Louisville: R. W. Thompson, George P. Sprague, Lexington; Dunning S. Wilson, Louisville, and Jacob Glahn, Owensboro. ——The Lexington Antituberculosis Association, at its annual meeting, November 14, elected the following officers: Dr. George P. Sprague, president; Dr. Nathan R. Simmons and R. C. Ware, vice-presidents: Thomas Johnson, treasurer; Mrs. Claude Garth, secretary, and Mrs. Judge Lafferty, Dr. Thomas C. Holloway and Dr. Orrin L. Smith, executive committee.

MARYLAND

County Society Meeting.—At the annual meeting of the Washington County Medical Society, held at Hagerstown, November 11, the following officers were elected: President, Dr. DeWitt C. R. Miller, Mason and Dixon, Pa.; vice-president, Dr. William A. Quinn, Chewsville: secretary, Dr. Samuel M. Wagaman, Hagerstown; treasurer, Dr. Hamilton K. Derr, Hagerstown, and censor, Dr. V. Milton Reichard, Fairplay.

Personal.—Dr. Charles A. Wells, recently elected state senator from Prince George county, was tendered a reception by his friends at Hyattsville, November 13.——Dr. James H. Jarrett, Towson, has recovered from his recent illness.——Dr. Harry V. Harbaugh, East New Market, suffered severe burns on the face October 14, by the explosion of an automobile lamp.——Dr. William H. Fisher, of the staff of the Springfield State Hospital for the Insane, has resigned, and Dr. E. P. Harrison has been appointed assistant physician.——Dr. Joseph W. Reynolds, Cecil county, is reported to be seriously ill with disease of the stomach.

Health Recommendations.—The Commission of Hygiene and General Health has recommended to the governor an increase in the appropriation for the State Board of Health to allow for the extension of its work. He recommends that the work of the board be divided into five bureaus; that provision be made for the proper supervision of the water supply and sewerage; the creating of the office of sanitary engineer; the employment of sufficient draftsmen and inspectors, and the appropriation of $1,000 a year for the publication of a popular health bulletin.

Baltimore

Personal.—Dr. Frederick Taylor returned from Europe November 15.——Dr. Harry L. Homer has been made assistant physician of the Union Protestant Infirmary.——Dr. Ira Remsen, president of Johns Hopkins University, has been elected rustee of the Carnegie Foundation, vice President Eliot of Harvard University, retired.

MASSACHUSETTS

Needs of Infirmary.—At a meeting of the directors of the New Bedford Antituberculosis Association, held November 1, t was reported that there were twenty-four patients in the anatorium of the association, and that three vacancies existed. Up to the present time, the amount pledged for the ew sanatorium amounts to $20,500, and $7,000 is still needed efore the buildings can be completed.

Woman's Hospital Opened.—The Free Hospital for Women, Brookline, was opened for inspection November 4. The intitution has recently been much enlarged and improved. It s devoted to the treatment of diseases peculiar to women nd is an entirely free institution. It has a present capacity f fifty-four beds which are occupied only by surgical paients. The medical staff is under the direction of Dr. W. P. raves.

Infectious Diseases.—During September there were reported o the State Board of Health 466 cases of diphtheria, 105 of easles, 382 of scarlet fever, 491 of typhoid fever, 585 of uberculosis, 13 of cerebrospinal meningitis, 47 of whooping ough, 46 of varicella, 9 of ophthalmia neonatorum, 2 of tetnus and 1 each of erysipelas, mumps, smallpox and trichiosis.

Endows Bed.—By the will of the late James Ingram, Lawence, $5,000 is devised for the maintenance of a bed in the awrence General Hospital, to be named after the testator.

MISSOURI

Personal.—Drs. Byron N. Stevens, Chillicothe, and John L. urke, Laclede, have been appointed pension examining sureons.——Dr. Malcolm M. Campbell, Albany, was thrown from s buggy in a runaway accident recently, fracturing two bs.——Dr. Frank B. Fuson, Springfield, has been appointed a ember of the State Board of Health, vice Dr. Frank J. Lutz, . Louis, term expired.

Licenses Revoked.—The license of Dr. Charles W. Hume, olumbia, was revoked for fifteen years by the State Board of ealth, at its meeting in Jefferson City, October 21, on the arge that he had written prescriptions for liquor. No defense as made.——Dr. Joseph T. Bazan, Glasgow, is said to have d his license revoked by the State Board of Health.

School Inspectors. The Health Commission of Kansas City s selected the following inspectors of public school pupils d buildings: Drs. Hasbrouck DeLamater, Scott P. Child, rchie N. Johnson, Jesse E. Hunt, E. F. DeVilbis, Eugene P. amilton, William J. Thompkins and Otho L. McKillip.

Dinner for Dr. McAlester.—The physicians of Columbia and embers of the faculty of the University of Missouri are planing a dinner in honor of Dr. Andrew W. McAlester, formerly an of the school of medicine. At the dinner a book will be esented to Dr. McAlester, containing autographs of his rmer students.

St. Louis

Personal.—Dr. Kenneth W. Millican has been appointed, by the Municipal Commission on Tuberculosis of St. Louis, editor of its bulletin.——Drs. Arthur H. N. Juengel and Melton, ernes in the City Hospital, are ill with diphtheria.

New Hospital Staff.—At the request of the Alexian Brothers' spital of St. Louis, the St. Louis University has named the llowing staff: Dr. Charles H. Neilson, physician and chief of aff: Dr. John W. Marchildon, genitourinary department; Dr. jor G. Seelig, surgeon; Dr. Carroll Smith, assistant surgeon; William W. Graves, neurologist; Dr. Albrecht Collasowitz, ulist; Dr. Otto L. Von der Au, laryngologist; Dr. Ralph L. ompson, pathologist, and Dr. George C. Crandall, consulting ysician.

NEW HAMPSHIRE

tate Sanatorium.—The State Sanatorium for the Care and eatment of Tuberculosis received its first patients Septemb 14. The following official examiners have been selected up to date: Drs. Samuel R. Upham, Claremont, N. H., John D. Proctor, Keene, and Miah B. Sullivan, Dover. The rate of board is $10 per week. Any applicant who is unable to pay the board rate will be referred to the State Board of Charities and Corrections, which will fix the rate to be paid. When in full running order, the sanatorium will accommodate from thirty-five to forty patients. It is situated on the side of Mount Moosilauke, an elevation a little more than 1,600 feet. The buildings in the institution consist of a two and one-half story administration building containing dining room for patients, physician's office, laboratory, sitting room and quarters for the employees, and two detached ward buildings with wide piazzas, and rooms sufficient to accommodate all the beds. Dr. P. Charles Bartlett, Warren Summit, is the superintendent, and he will examine patients at the office of Dr. Wheat, Manchester, on the first and third Tuesdays of each month, between 11 a. m. and 1:15 p. m.

Personal.—Dr. Noel E. Guillet has been elected president of the Manchester Medical Society, vice Dr. Walter T. Crosby, resigned.

NEW YORK

Want Hospital Pensions.—The conference of medical superintendents and managers of state hospitals, together with the members of the State Lunacy Commission, have decided to favor legislation at the coming session of the legislature to provide for an increase of about 20 per cent. in the salaries of attendants and nurses in the state hospital service. A paper was presented recommending that annuities be paid not only to employees but also to members of the medical staffs of state hospitals if they retire after twenty-five years' service. This proposition was endorsed by the conference and a committee was appointed to confer with the lunacy commission in the drafting of necessary legislation.

Wishes to Maintain Sanatorium.—The Metropolitan Life Insurance Company has caused to be filed with the clerk of Albany county, a writ of certiorari in the matter of its application to the state superintendent of insurance for approval of plans to buy land on which to maintain a tuberculosis sanatorium, and in which the superintendent denied the application. In its papers, the insurance company asserts that the superintendent of insurance has power to pass on the application, holding that it is a proper purpose for a company to conserve its assets by cutting down its death rate.

Health Officers Effect Organization.—At the ninth annual conference of sanitary officers of the state, held in Rochester, November 11 and 12, organization was effected, and the following officers were elected: President, Dr. Robert Simpson, Jr., Volney; vice-presidents, Drs. Robert M. Andrews, Bergen, and David M. Totman, Syracuse; secretary, Dr. Montgomery E. Leary, Rochester; and treasurer, Dr. William Stanton, Webster. One officer from each county will report proposed laws and rules for adoption at the next conference.

Personal.—From the list of examiners of the State Board of Medical Examiners, which appeared in The Journal, November 13, page 1649, the name of Dr. Ralph H. Williams, examiner in physiology, was accidentally omitted.——Dr. Jason Parker has been made secretary of the board of health commissioners of Jamestown, and Dr. Morris N. Bemus has been appointed a member of the local board of health.

Emma Calvé Camp Opens.—The New York Throat, Nose and Lung Hospital has opened its tuberculosis annex and night camp immediately adjoining the present hospital building. The annex has fifty beds. The camp is named in remembrance of the singer who gave a concert at which a large sum was raised for the hospital. The camp is intended for men only, who go there after their days' work is done.

Medical Library Association Elects. The Utica Medical Library Association, at its annual meeting, held November 8, elected Dr. Raymond L. Baker, president; Dr. Thomas C. Gifford, vice-president; Dr. Angeline Martine, secretary; Dr. Charles H. Baldwin, treasurer; and Dr. Smith Baker, librarian.

Appropriation for Tuberculosis Hospital.—The Board of Supervisors of Monroe county, on November 3, adopted a report calling for an additional appropriation of $75,000 for a site and buildings for a tuberculosis hospital to be established on the county farm in the town of Brighton.

New York City

New Home of the Health Department.—Mayor McClellan has laid the cornerstone of the new office building of the Department of Health, at Willoughby and Fleet streets and Flatbush avenue, Brooklyn. Dr. Thomas Darlington, health commissioner, and Dr. Joshua M. Van Cott, president of the Kings County Medical Society, were the speakers. The cost of the building will be about $350.000, and it is hoped that it will be ready for occupancy by January 1.

Personal.—Dr. Ernest Sachs has been appointed to the new surgical department for diseases of the nervous system just established at the Beth Israel Hospital.——Dr. Charles Hoffman has been elected professor of electrotherapeutics in the New York School of Clinical Medicine and the West Side German Dispensary.——Dr. John M. Wheeler has been appointed assistant surgeon in the ophthalmic department of the New York Eye and Ear Infirmary.

German Hospital Dinner.—The German Hospital Dispensary celebrated its fortieth anniversary by a dinner at which Professor Hallock of Columbia University and Dr. August Zinsser made addresses. Gifts of $5,000 each were announced from Mr. Max Richter and Mrs. Victor Bayer. On this occasion Dr. Zinsser received an honorary degree from the University of Giessen, Germany, and Dr. Otto G. T. Kiliani was presented with the order of the Crown in the third degree by Rudolf Franksen, German Consul General, who was the bearer of a letter from the Chancellor of the German Empire. Drs. Rudolf C. L. Denig and Louis Peiser each received the order of the Red Eagle in the fourth degree.

More Hospital Space Needed.—The annual report of the Charity Organization Society sets forth the most urgent need of more beds and hospitals for the victims of tuberculosis in order to meet the increased overcrowding which are found throughout Manhattan and the Bronx. The situation in Harlem and the Bronx is becoming a problem by itself. They also urge more playgrounds, industrial schools, day nurseries and diet kitchens. More than 70,000 visits were made to families and nearly $85,000 has been disbursed in material relief. The Special Employment Bureau has been endeavoring to solve the problems of occupations for cripples and for cases of arrested tuberculosis.

Harvey Society Lectures.—The fifth course of Harvey Society Lectures began October 30 with a lecture by Dr. Richard M. Pearce on "The Problems of Experimental Nephritis." Other lectures will be given Saturday at 8:30 in the Academy of Medicine, 17 West Forty-third street, as follows:

December 4.—Prof. Otto Cohnheim, University of Heidelberg, "The Influence of Sensory Impressions on Scientific Deductions."

December 11.—Prof. T. G. Brodie, University of Toronto, "Renal Activity."

December 18.—Prof. Carl G. Huber, University of Michigan, "Renal Structure."

Jan. 15, 1910.—Prof. Ludwig Hektoen, University of Chicago, "Certain Phases of the Formation of Antibodies."

February 19.—Dr. Eugene L. Opie, The Rockefeller Institute, "Inflammation."

March 5.—Prof. Adolf Meyer, Johns Hopkins University, "The Present Status of Aphasia and Its Relation to Psychopathology."

March 19.—Prof. A. Magnus-Levy, University of Berlin, "Pathology and Therapy in Diseases of Metabolism."

April.—Prof. Jules Bordet of the Pasteur Institute of Brussels. The exact date and title will be announced later.

NORTH DAKOTA

Personal.—Dr. Maude R. Williams has been elected secretary of the Health Reform Organization recently organized at Devils Lake.——Dr. Thomas M. MacLachlan, Bismarck, has resigned as physician to the Indian School.

Sanatorium Site Selected.—After several months' deliberation, the committee consisting of Drs. Gustave F. Ruediger, Grand Forks, James Grassick, Grand Forks, and Fannie Dunn Quain, Bismarck, appointed by the state legislature to select a site for a state sanatorium for tuberculosis, announces that it has selected a site 2½ miles north of Dunseith, on the south slope of Turtle Mountain. The state proposes to buy 160 acres if the town of Dunseith will furnish 80 acres additional.

District Society Organized.—As the result of the recent visit to Dickinson of Dr. J. N. McCormack, the Southwestern District Medical Society has been organized, with the following officers: President, Dr. Victor H. Stickney; vice-president, Dr. Homer A. Davis, and secretary, Dr. Joseph P. Weyrens, all of Dickinson.

OHIO

Defense Society Urged.—In order to protect the rights of the medical profession of the state from quacks, blackmailers, malpractice suits and other evils, the founding of a state defense organization was advocated at a meeting of the State Association of Secretaries of Medical Societies, held in Columbus recently.

Personal.—At the recent municipal election, Dr. Louis Schwab was elected mayor of Cincinnati, Dr. John M. Withrow, a member of the board of education at large, and Dr. Henry J. Cook, a member of the city council.——In a collision between automobiles at Cleveland, November 11, Dr. Willard C. Stoner was thrown from his auto and severely injured.

Hospital Staff Elected.—At a special meeting of the boar directors of the Cincinnati Hospital, the following staff elected for the ensuing year:

Physicians East Medical Service: Drs. Edwin W. Mitchell Frederick Forchheimer, seniors; Dr. Louis G. Heyn, junior.

Physicians West Medical Service: Drs. George A. Fackler Oliver P. Holt, seniors; Dr. Allan Ramsey, junior.

Physicians South Medical Service: Drs. John E. Greiwe Mark A. Brown, seniors; Dr. Henry L. Woodward, junior.

Neurologists: Drs. Herman H. Hoppe and Frank W. Lang seniors; Dr. Phillip Zenner, consultant, and Drs. Robert Ingram David I. Wolfstein, juniors.

Surgeons: Drs. Joseph Ransohoff, Nathaniel P. Dandridge, ward W. Walker, John C. Oliver, Horace J. Whitacre and Simon Kramer, seniors, and Drs. Casper F. Hegner, Arch I. Carson, R. Hiller, Harry H. Hines and Frank E. Fee, juniors.

Orthopedic surgeons: Drs. Albert H. Freiberg and Charles Caldwell, seniors, and Dr. Robert Carothers, junior.

Dermatologists: Drs. Augustus A. Ravogli and Meyer L. Heidi feld, seniors, and Dr. Elmore B. Tauber, junior.

Oculists: Drs. Robert Sattler and Derrick T. Vail, seniors, Dr. Victor Ray, junior.

Laryngologists and aurists: Drs. Samuel E. Allen and John Murphy, seniors.

Pediatrists: Drs. Allyn C. Poole and B. Knox Rachford, seni and Drs. Alfred Friedlander and Frederick W. Lamb, juniors.

Obstetricians: Drs. William D. Porter and George M. All seniors, and Dr. Robert W. Thomas, junior.

Gynecologists: Drs. Charles A. L. Reed, Charles L. Bonifi John M. Withrow and Sigmar Stark, seniors, and Dr. James Rowe, junior.

Pathologist: Dr. Paul G. Woolley.

Radiographer: Dr. Sidney Lang.

Cystoscopists: Drs. A. P. Cole and J. Louis Ransohoff.

Dentist: Dr. H. C. Matlack.

Laboratory and museum: Drs. W. E. Wherry, Frederick Lamb, Arthur E. Osmond, Charles S. Rockbill, Marion Whita William H. Strietmann and A. P. Cole.

Anesthetist, with rank of junior, Dr. F. H. McMechan.

OREGON

Hospital for Wallowa.—At a mass meeting, November 4, Wallowa, $3.000 of the $5.000 necessary to secure the buildi of a hospital in that city was subscribed. The institution w be in the charge of Dr. Verdo D. Gregory.

Free Dispensary to be Opened.—With the cooperation of t Oregon Medical College and Visiting Nurses' Association, t Peoples Institute has decided to open a free dispensary rooms rented from the Men's Resort.

Personal.—Dr. Edwin E. Straw, mayor of Marshfield, w painfully injured in an automobile accident, October 10.—Dr. Jacob S. Giltner, Portland, sustained a third attack paralysis, October 5.——Dr. Estelle J. Stinson, Portland, s fered a dislocation of the elbow, contusion of the should and a severe cut on the face in a runaway accident recently.

PENNSYLVANIA

Ex-Residents' Association Election.—At the regular meeti of the Mount Sinai Hospital Ex-Residents' Association, he November 3, the following officers were elected for the ter of one year: President, Dr. Maurice B. Cooperman; vice-pre dent, Dr. Samuel Wexlar, and secretary and treasurer, Morris Ginsburg.

New Portrait for University Collection.—An addition h been made to the collection of oil portraits in the Medi Department of the University of Pennsylvania, a painting Lazar Luditz of Dr. Hobart A. Hare, professor of childre diseases in the university in 1890-91. The collection of p traits of ex-professors in the medical department is compl with but ten exceptions and this number will shortly reduced to seven, as the descendants of Dr. Adam Kuhn a Jacob Randolph have recently promised to present oil pai ings of their ancestors, and Julian Story has almost complet the portrait of Dr. Samuel G. Dixon. Of the seven remaini ex-professors whose portraits are lacking, five are living, D Billings, Starr, Flexner, Strawbridge and Kelly, while two a deceased, Drs. J. B. Rogers and John Carson.

State Hospitals Warned.—Heads of all the state hospit for the insane were warned, November 15, by Auditor Gene Young that he would no longer honor bills for patients w were not actually being treated. It is said to have been t practice in many hospitals to allow patients to go out parole and still to continue to carry the names on the rece as being under the care and treatment of the institution.

Philadelphia

New Quarters for Pediatric Society.—The Philadelp Pediatric Society announces that it has secured Thomson H in the new building of the College of Physicians, where future meetings will be held.

New Home for Indigent.—On November 18, council's fina committee reported favorably an appropriation of $50.000 the purchase of a site, containing forty-seven acres, known he Holmesburg Driving Park. This is the first step toward uilding the new home for the city's poor. There is already vailable nearly $700.000 for the building. Before the plans re drawn Dr. Joseph S. Neff. director of health and charities, nd the architect will consult with Homer Folk, president of he New York visiting committee of the New York State Aid ssociation.

Physicians Guests of Druggists.—The members of the South- ark Medical Society were the guests of the Southeastern rug Association at a banquet, November 19. The speakers ere Dr. Max Staller, president of the society, and Dr. Max arbour. The latter spoke on "The Relation of the Physician the Druggist."

GENERAL NEWS AND COMMENT

The "New" (?) Method of Spinal Anesthesia

Sensational reports of a remarkable new anesthetic and ethod of anesthesia have recently appeared in the newspa- ers. These reports, which would lead the reader to infer that is method had just been brought before the profession. ter to the method of spinal anesthesia with Jonnesco's modi- cation, by which, through the addition of a small quantity f strychnin to the anesthetic (stovain) to overcome the xic effects, he claims to be able to make the injection at ny point of the spinal column, so as to secure complete gen- al anesthesia.

Of course, spinal anesthesia has been in use for several ears; and even the modification introduced by Jonnesco of ucharest is not new, having been presented by him before e Second Congress of the International Society of Surgery, hich met at Brussels in September, 1908. In conjunction ith A. Jiano, Jonnesco also published his modification in the *herapeutische Monatshefte*, May, 1909, and elsewhere. In the *resse médicale*, Oct. 13, 1909, he published a full account of s methods and results. Briefly, his technic is as follows:

A quantity of stovain (tropocain or novocain), varying cording to the patient and the height at which the puncture ust be made, is placed in a sterilized rubber-stoppered tube. o this is added 1 c.c. of a solution containing from 0.5 to 1 g. of strychnin sulphate in sterilized water. The puncture made in one of two localities, between the first and second rsal or between the twelfth dorsal and the first lumbar rtebræ, or both combined. For anesthesia of the head and ck, the patient lies with the head a little raised if the eration is to be made on the neck, or with the head hori- ntal if the operation is to be made on the face or skull. If e operation is on the arm, the patient remains sitting for o or three minutes and then lies with the head slightly ised. For operation on the abdominal viscera and the lower tremities, injection is made into the dorsal lumbar region d the patient is kept sitting for two or three minutes, ter which he is allowed to lie with the shoulders raised. Jonnesco claims to have had no fatalities and no mishaps ring or after the anesthesia. In his view there are no con- aindications and the anesthesia is always successful if the id has entered the subarachnoid space. Jonnesco asserts that e method is particularly advantageous for operations on the ce and neck; also for laparotomies on account of the abso- te immobility of the viscera and the freedom from coughing d vomiting. He says that in the hands of other surgeons s method has given favorable results, the total of cases in ich this technic has been applied to July, 1909, amounting 625. A tendency to nausea was noted in scarcely more than per cent. of his cases; vomiting in 1.25 per cent.; sweating 2 per cent.; slight headache, disappearing in a few hours, 6.25 per cent., and retention of urine in 4.5 per cent., but ly after operations in which this is usual under inhalation esthesia. The pulse was generally normal, occasionally a tle accelerated (80 or 90), but always strong, showing how e strychnin obviates the depressing action of the anesthetic. ere was momentary arrest of respiration in five cases during nnesco's tentative experiments with atropin, scopolamin, etc., t none since he has been using the technic described. The esthesia persists for from one and a half to two hours. Less n 0.1 gm. of stovain allows persistence of sensation of trac- n, but with this dose all sensation is abolished. Jonnesco ls that the strychnin and stovain must not be sterilized, this impairs some of their properties.

At the meeting of the thirty-eighth congress of the German ciety of Surgery at Berlin, April 14 to 17, Bier, in discussing nal anesthesia, condemned the method of Jonnesco; and hn, at the same meeting, stated that if an anesthetic liquid injected into the tissue of the medulla in animals, death urs immediately, owing to a subacute intoxication by the dicament, for, Rehn says, death does not result if distilled ter only be injected. This experiment, according to Rehn, shows the considerable danger of injections made above the lumbar region, as Jonnesco has recommended. Jonnesco's illustrated paper in the *Bull. de l'Acad. de Méd.*, Oct. 12, 1909, and in the *Presse médicale*, cited above, is in part a reply to these criticisms.

Southern Medical Association Meets.—The fourth annual convention of the Southern Medical Association was held in New Orleans, November 9-11, under the presidency of Dr. Giles C. Savage, Nashville. The annual oration was delivered by Dr. Isadore Dyer, New Orleans; the address in medicine by Dr. John A. Witherspoon, Nashville, Tenn.; the address in surgery by Dr. Francis G. DuBose, Selma, Ala., and the address in ophthalmology by Dr. Alexander W. Stirling, Atlanta, Ga. Dr. Witherspoon made a plea for the elimination of politics from medical boards, and urged the association to demand that the laws of the states included therein be so changed as to make it obligatory on the respective governors to select members of state boards of health from a list of competent physicians recommended by medical men. The following officers were elected: President, Dr. Walter W. Crawford, Hattiesburg, Miss.; vice-presidents, Drs. James F. McKinstry, Gainesville, Fla.; Waller S. Leathers, University, Miss.; Jacob R. Snyder, Birmingham, Ala.; H. L. Harris, Georgia; George Dock, New Orleans, and Frank A. Jones, Memphis, Tenn., and secretary-treasurer, Dr. Oscar Dowling, Shreveport, La. (reelected). Nashville was selected as next place of meeting. A resolution was introduced by Dr. Frederick J. Mayer, Scott, La., urging the clergy to unite with physicians in improving the sanitary conditions of the South, and that steps be taken to systematically collect vital statistics. Dr. E. Denegre Martin, New Orleans, introduced a resolution endorsing the movement for a national board of health. A resolution was adopted thanking John D. Rockefeller for his contribution of $1,000,000 to fight the hookworm disease. The medical section elected Dr. George Dock, New Orleans, chairman, and Dr. H. Eugene Mitchell, Birmingham, Ala., secretary. Dr. Urban S. Bird, Tampa, Fla., was elected chairman of the section on ophthalmology, and Dr. Edward C. Ellett, Memphis, Tenn., secretary. The surgical section elected Dr. E. Denegre Martin, New Orleans, chairman, and Dr. Jere L. Crook, Jackson, Tenn., secretary.

Plans and Suggestions for the Housing of Tuberculous Patients.—The National Association for the Study and Prevention of Tuberculosis, 105 East Twenty-second street, New York, has issued a pamphlet entitled "Some Suggestions and Plans for Housing Consumptives," containing views, floor plans and estimated cost of construction of cottages and sanatoriums of various types. The subjects considered are: the grouping of sanatorium buildings; administration buildings; the plan of combining administration buildings and patients' quarters under one roof (not recommended, except where economy in the remodeling of old buildings is the first consideration); the lean-to type of patients' quarters (recommended for cheapness of construction and as serviceable and comfortable when roughly finished for patients with incipient tuberculosis, and when well finished for patients with advanced tuberculosis); infirmaries and buildings for patients with advanced tuberculosis; the cottage type of building for one, two or more patients; remodeled farmhouses; day camps; and sleeping-porches for home treatment. The pamphlet embodies the preliminary report of the studies of Dr. Thomas Spees Carrington, who has by correspondence and personal investigation covered the entire field of the United States. The association has at its offices much more detailed data, architects' plans, drawings, etc., and invites correspondence with any one interested in the subject of sanatorium and hospital construction.

Sioux Valley Physicians to Meet.—The semi-annual meeting of the Sioux Valley Medical Association, whose membership is made up of physicians of Minnesota, South Dakota, Nebraska and Iowa, will be held in Sioux City, Iowa, January 20 and 21, under the presidency of Dr. Mathew N. Voldeng, Cherokee, Iowa. The program for the coming meeting is arranged with special reference to the interests of the general practitioner and internist.

Meeting of Southwestern District Medical Society.—At the fourth annual meeting of the Medical Association of the Southwest, held in San Antonio, Texas, November 9, 10 and 11, under the presidency of Dr. Jabez N. Jackson, Kansas City, Mo., the following officers were elected: President, Dr. George H. Moody, San Antonio, Texas; vice-presidents, Drs. Howard Hill, Kansas City, Mo., Charles E. Bowers, Wichita, Kan., David A. Myers, Lawton, Okla., and Asbury J. Vance, Harrison, Ark.; secretary-treasurer, Dr. Fred H. Clark, El Reno, Okla. (reelected); and executive committee, Drs. S. Grover Burnett, Kansas City, Mo., Jacob F. Gsell, Wichita, Kan., Everett S. Lain, Oklahoma City, Okla., James A. Foltz, Fort Smith, Ark., Edward H. Cary, Dallas, Texas, and Charles E. Bowers, Wichita, Kan. Wichita was selected as the place of next meeting.

The Ohio Valley Meeting.—The eleventh annual meeting of the Ohio Valley Medical Association was held in Evansville, Ind., November 10, 11 and 12, under the presidency of Dr. Curran Pope, Louisville, Ky. The following officers were elected: President, Dr. Albert E. Sterne, Indianapolis; vice-presidents, Drs. G. Frank Lydston, Chicago, William D. Haines, Cincinnati, and Louis D. Brose, Evansville, Ind., and secretary-treasurer, Dr. Benjamin L. W. Floyd, Evansville, Ind. It was decided to hold the next meeting in Evansville.

Meeting of Railway Surgeons.—At the annual meeting of the Big Four Railroad Surgeons' Association in Indianapolis, November 4, the following officers were elected: Dr. John J. Kyle, Indianapolis, president; Drs. Charles K. Smith, Kankakee, Ill., Irvin J. Becknell, Goshen, Ind., and James T. Musselman, Paris, Ill., vice-presidents; and Dr. Thomas C. Kennedy, Shelbyville, Ind., secretary-treasurer.

LONDON LETTER

(From Our Regular Correspondent)

London, Nov. 13, 1909.

Exposure of a Notorious Quack

A notorious quack who described himself as "Dr. Walford Bodie, hypnotist, bloodless surgeon, etc.," has been effectually exposed in the law courts. The methods and success of this individual were extraordinary. He demonstrated (?) marvelous healing powers in cases of paralysis to the satisfaction of packed audiences at all the music halls of the country. Indeed from the theatrical point of view he was a "star" of the first magnitude, rivalling in attractive power the most talented artists of the variety stage. Attired in an academic costume with cap and gown he appeared on the stage and delivered a tirade against the medical profession and the hospitals and claimed to cure, by means of electricity, cases of paralysis which had been pronounced incurable. He announced that he knew that there were physicians and students in the audience from some well-known local hospital, such as St. Bartholomew's, who regarded his healing powers with jealousy. He evoked a cheer by challenging them to come on the stage and disprove anything he said. Then a number of patients were introduced for treatment. They were always carried on the stage, the lights were lowered. "Dr." Bodie performed passive movements of the joints of the paralyzed limb and then applied electricity from a battery, the lights were raised and the patient walked off the stage amidst applause. A farmer's son, who paid the quack $5,000 to teach him "bloodless surgery, hypnotism and medical electricity," was simply shown how the tricks were done. He sued for breach of contract. A boy, the subject of infantile paralysis, gave evidence that after he had been treated at two hospitals he saw "Dr." Bodie one morning at the Camberwell Music Hall. It was arranged that he was to come for the evening performance. He was not allowed to walk on the stage, although he could have done so. He was forced into a chair and carried on. He had never used crutches, but a pair were flung across the stage as though he had. "Dr." Bodie moved the limb about, applied the battery and then amid the applause of the audience led him off the stage. Another cripple who had to walk with sticks had his sticks broken before the audience and consequently had the greatest difficulty in getting home, even with the assistance of his mother and brother. A third was made to hold up a chair in sight of the audience as if he had been cured of paralysis of the arm, although only his legs were affected. In other cases the performance was given with the aid of confederates who paid for admission and pretended to be members of the audience. One was said by the "doctor" to be "suffering from catalepsy in a diseased form." The jury found that Bodie induced the plaintiff to enter into the agreement by fraudulent misrepresentations and awarded $5,000 damages.

The Cripples' Home and College at Alton

One of the most remarkable institutions founded in this country is the Cripples' Home and College which has recently been founded by one of the lord mayors of London, Sir William Treloar. It is situated on an estate of seventy acres in Hampshire and consists of wooden pavilions on brick piles connected by covered corridors. Not only is every provision made for the medical treatment of crippled children but also for their education and training in useful arts. There are carpenter, leather-bag and tailoring workshops in which sixty cripples are being trained. Two hundred children under are being treated for active tuberculosis. It is now well re ognized that the treatment of such cases in the hospitals cities, whether as in- or out-patients, is most unsatisfactor The greatest precautions are taken against the introducti of infectious diseases into the home by new patients. On a mission the child's clothes are sterilized and the child placed in quarantine for a fortnight in a glass cubicle. Mo of the cases are tuberculous. The only other elements in t treatment which are regarded as important are diet and op air. Tuberculous abscesses are treated by aspiration und strict aseptic precautions and the results are much bett than those of operation which often ends in septic infectio In the summer an open-air school is held in an adjoinin forest for those children who can attend, on the lines the forest school in Charlottenburg. There is also a colle for a different purpose—the training in some trade of bo from the ages of 14 to 18 crippled from any cause. Tho for whom an open-air life is especially suited learn poult farming and horticulture. Others learn leather-working, co bling and tailoring. A proposed extension of this work the establishing of a self-supporting labor colony. All la who can be benefited by drilling are drilled. Special exercis are employed in cases of scoliosis and other deformities.

The British Medical Journal's Attack on Nostrums

The *British Medical Journal* has republished in book for the series of articles which appeared in its columns, entitle "Secret Remedies: What They Cost and What They Contain The book has had a very large sale and already has had to reprinted several times, although it has not been extensivel advertised, and indeed some leading journals of the lay pre have both declined advertisements of the book and al ignored copies that were sent for review. The reason, course, is that nostrum mongers advertise heavily in the la press and the papers in question are afraid of offending the I pointed out previously that any attempt to deal with t nostrum evil would be resisted by several powerful force among which was the lay press. The papers which ha refused the advertisements are otherwise highly respectab and profess to instruct their readers on everything under t sun but they now refuse to give them the only reliable info mation ever offered to the public on the highly vaunted re edies which occupy so much of their space. Of course nostrums this class—infallible cures for consumption, rheumatism, ca cer and other diseases—find no place in the advertising pag of the medical press. But it must be confessed that prepar tions of secret composition for which misleading claims a made, such as antikamnia, are advertised by some journal Indeed, the cynic may amuse himself by reading in o English medical journal a series of articles denouncing no trums and quackery of all sorts and finding in the advertisi pages preparations of the antikamnia class. The majority the preparations, however, advertised in the medical journa are produced on ethical lines and no recognized medical journ in this country is controlled by nostrum vendors. We ha no journals of the class which exhausts vituperation in resi ing the attempts of the Council on Pharmacy and Chemistr of the American Medical Association to deal with the nostru evil and have the audacity to describe themselves as "ind pendent" when they are dependent in the worst sense—dependent on the pay received for write-ups published to mi lead the profession.

The Teaching of Therapeutics

At the Royal Society of Medicine, Prof. Clifford Allbu opened an important discussion on the teaching of therapeuti in the hospital ward. He said that physicians must be pionee and could not afford always to wait for the pharmacologist- but there must be mutual watchfulness of each other. Mu that we know now to be good came from empirical knowle and this was still going on, but our empiricism must be of t best, the knowledge of experience. He gave three examples of e pirical knowledge which originally came from folk-medicine, a which has stood the test of modern research—digitalis, vaccin tion and poultices. The latter after suffering abuse had be shown by the work of Bier to be fundamentally reasonable. T student should be assured that apart from pharmacologic pro there was a large tradition of empirical knowledge of, gre value. He should be told that such and such are the me found useful in clinical experience whether they could scientifically explained or not. They should go to the b side as artists to do what good they could for the patient w such lights as they had. Finally, the student should be t he had to deal with living realities. He should be (1) sceptic or he would endanger his own resourcefulness; (

given a clear idea of the *vis medicatrix naturæ;* (3) warned against the overuse of drugs and shown how closely therapeutics depend on prognosis. In the discussion which followed there was some divergence of opinion. Professor Osler described the methods adopted at the Johns Hopkins University and laid stress on their practical advantages. Dr. R. Hutchison relied more on teaching the student to be a sound diagnostician than a pharmacologist and suggested that the time was ripe for some agreement on the main lines of treatment to be adopted in certain well-known diseases, such as gastric ulcer. Dr. A. P. Beddard thought it was impossible to teach therapeutics in the wards.

The Falling Birth-Rate

The registrar-general's return for the quarter ending September again records a decreased birth-rate for England and Wales, the proportion being 25.4 annually, which is 2.5 below the average for the ten corresponding quarters and is the lowest for any third quarter of the year since the establishment of ivil registration. On the other hand, the deaths were only 11.6 per 1,000, which was 3.4 below the average for the last en years, and again the lowest on record for the period in uestion. Taking the two returns together, the natural increase n population by excess of births over deaths was 123 878, as gainst 123,197 in 1908. The low death rate is all the more emarkable, as the weather conditions have been unfavorable. The summer months included only one substantial spell of fine easonable weather. Thanks to the great attention which is ow being paid to infant hygiene, the mortality of infants nder 1 year showed the large decrease of 38.6 per cent.

Deaths Due to Veronal

The public have no difficulty in obtaining hypnotic veronal n the form of tablets from the druggists. A considerable umber of deaths following the use of the drug has now been ecorded, and in several cases the dose taken was by no means arge—10 or 15 grains. In one fatal case the subject, a wellnown physician, the son-in-law of an eminent London surgeon, died in the prime of life.

Death of a Pathologist from Glanders Inoculation

The death at the early age of 30 years of Dr. John Herbert Vells, adds one more to the list of martyrs in the cause of cientific investigation. A career of promise has been cut hort. After distinguishing himself in original research, Dr. Vells joined the department of therapeutic inoculation at St. Mary's Hospital, and in conjunction with the chief, Sir . E. Wright, did valuable original work. In February, 1908, e began a research on the treatment of glanders, and the atient on whom his treatment was tried recovered, but in his boratory work Dr. Wells had the misfortune to contract the isease. After eighteen months of suffering, he died, leaving a idow and two children unprovided for. An influential committee has been formed to collect a fund for their benefit.

The Fate of the Dolicho-Cephalic Blond Race

At the Royal Anthropological Institute of Great Britain, Professor Retzius of Stockholm delivered the Huxley lecture n "The Fate of the Dolicho-Cephalic Blond Race." The son f Anders Retzius, the founder of modern craniology, his lecure was worthy of his origin, and proved of great interest. He finds that 87 per cent. of the Swedes are long-headed and 3 per cent. have fair hair. These he regards as pure repreentatives of the North European race, which is still found in candinavia, North Germany and Britain, but from the earliest eolithic time spread widely over Europe. He regards them s the aborigines of Europe. Of their future, Professor etzius takes a gloomy view. He thinks the qualities which ade them great in the past unfit them for the life of indusial civilization. The round-headed, dark-haired race has suplanted them in central Europe by superior industrial qualies and threatens ultimately to overwhelm them.

Indian Conference on Malaria

The government of India proposes to form a permanent rganization to inquire, systematically, into the problems, oth practical and scientific, connected with malaria in India. is estimated that over 1,000,000 deaths per annum occur om this disease. It has been decided to hold a conference consultation with the administrative medical officers of the rious provinces. Three groups of problems will be discussed: 1) The distribution of malaria in each province in relation the sickness and mortality it produces; (2) measures of evention which have been adopted in different provinces, ich as drainage, mosquito destruction, and quinin distribution d their success or otherwise.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Nov. 4, 1909.

Association of the Members of the Faculties of the Medical Schools

The *Association des membres du corps enseignant des Facultés de médecine*, founded last spring (The Journal, April 10, 1909, lii, 1192; May 22, 1909, lii, 1676) held its second convention October 29 and 30 at the Paris school, under the presidency of Prof. J. Courmont of Lyons, assisted by Professors Reclus of Paris and Gross of Nancy. During four long meetings the delegates studied, article by article, the new ministerial project for reform of medical studies. The convention asked for the adoption of the principle sanctioning interchange of students between schools during the entire student period. The present regulations permit the student in his fifth year to study in a hospital either in a foreign country or in France, provided the necessary conditions are met. What is demanded now is that the student should be permitted to exchange one university for another during any of the years as is done abroad, especially in Germany, where the student has the privilege of taking parts of his course in the university which has the reputation of giving this part of the instruction best. The convention also considered the subject of practical instruction. Unfortunately, in the greater number of our university cities, especially in Paris, the hospitals belong not to the universities but to the public charities (*Assistance Publique*) and the latter sometimes adopt measures not favorable to instruction. Thus, a few years ago, the Public Charities of Paris made the dispensary consultations independent of the internal hospital service. The *stagiaire* students at the hospital are thus deprived of the possibility of seeing cases frequent in ordinary practice but not treated in hospitals. It is the universal opinion that the consultation is the place where students can get the best practical instruction. Doubtless the students might attend the dispensary consultation during a part of their period of hospital study, but in Paris, at least, these special consultation services are directed by the youngest members of the hospital staff, whose clinical experience hardly justifies entrusting them with the most difficult portion of practical instruction. Therefore, on the motion of Professor Delbet of Paris, the convention unanimously resolved that dispensary consultations should be organized supplementary to each clinical service.

The Next Congress of Practitioners

The Congresses of Practitioners, devoted exclusively to the discussion of questions of professional interest, constitute a novelty in the history of the French medical profession. The first of these congresses was held in Paris in 1907, the second in Lille in 1908, and the third will be held in Paris at the end of March, 1910. The approaching congress will carry on the campaign for the suppression of the illegal practice of medicine, and will also oppose the exploitation of physicians by mutual benefit societies. It will study the law on public health, the question of the reservation of the hospitals for the poor exclusively, and the relations of physicians with administrative bodies.

Depopulation in France

Statistics in regard to the fluctuation of population in France during the first semester of the present year have just been published. Here are the comparative figures of births and deaths for the first semester of the years 1908-1909:

	1909	1908
Births	398,710	411,402
Deaths	426,913	401,894

Thus the number of births has diminished by 12,692, and at the same time the number of deaths has increased by 25,019. The population of France has diminished by 28,203, figures representing the excess of deaths over births. Almost all the departments of France have contributed to this diminution of the population, but the excess of deaths over births has been particularly marked in the departments which contain large cities, as the departments of the Seine (Paris), Rhône (Lyons), Gironde (Bordeaux), Bouches-du-Rhône (Marseilles), Haute-Garonne (Toulouse), etc. Only in some departments of the north and west is an excess of births over deaths recorded.

The Oath of Hippocrates and Medical Ethics

Instruction in medical ethics being generally very imperfect, Dr. de Grissac believes that it would be advantageous to print on the first page of the thesis for the doctor's degree, the oath of Hippocrates, which sets forth all the principles of ethics, although in archaic form. The *Syndicat des médecins* *de la Seine* has resolved that the oath of Hippocrates be hereafter printed on the first page of all the theses for the degree of doctor in medicine presented before the French schools. At the Montpellier medical school it has been the traditional usage to print this oath at the end of the thesis.

Improvement of the Night Medical Service in Paris

In consequence of complaints which were recently made on the subject of the workings of our night medical service (The Journal, Oct. 9, 1909, liii, 1201) a measure to make it more prompt has just been adopted. The booths in the streets used as stations for cabs and automobiles will hereafter remain open permanently. The public will find there, at any hour, the necessary information in regard to the night medical service, as well as the names and addresses of the physicians, midwives and pharmacists charged with the night service. At these posts, a police assistant mounted on a bicycle will be especially charged with the duty of summoning and accompanying the physician or midwife to the home of the person requiring services.

Sale of Oysters

In view of numerous cases of typhoid fever apparently caused by the consumption of diseased oysters, M. Chéron, under-secretary of the navy, has just appointed a commission, presided over by the inspector-general of the fisheries, to prepare hygienic regulations for the oyster-farms authorized to furnish oysters for consumption.

Laboratory Alcohol and the Public Revenue

For some time a notice has been posted on the door of the laboratory of the Pasteur Institute calling attention to the fact that the cost of the alcohol used has been considerably increased by revenue duties, and requesting economy in its use. All scientific and charitable institutions are affected by the duty, which was imposed in view of certain abuses which have been shown in the institutions of two large provincial cities. It will entail a burdensome expense on our laboratories. The price of alcohol at 90 degrees is raised by it to 4 francs 50 centimes a liter (about $3.50 a gallon); that of absolute alcohol to 6 francs a liter (about $4.75 a gallon). There will be an annual increase of expense for the Pasteur Institute of more than 10,000 francs ($2,000).

Traumatic Tuberculosis and the Law on Industrial Accidents

At a recent session of the Academy of Medicine, Dr. Mosny, physician of the hospitals of Paris, presented a report on the relations between tuberculosis and industrial accidents, which often cause many difficulties in legal medicine. Dr. Mosny admits that the influence of industrial traumatisms on the outbreak, and the aggravation of tuberculous lesions may be manifested in various ways, so that from the point of view of the employer's responsibility, three types should be distinguished: 1. The tuberculosis has really been inoculated in the course of work as in the case of butchers, etc. It is then undeniably the direct and immediate consequence of the accident and full compensation should be allowed. 2. The tuberculosis, hitherto latent, has been fanned into flame again by a traumatism without which perhaps it would never have broken out. Mosny thinks that a traumatism capable of causing such consequences is a source of harm to the victim equalled by that which would be occasioned by actual infection with tuberculosis; in other words, the employer's responsibility should be considered as complete as in the first case. 3. The traumatism has created in the tuberculous subject a new focus or has aggravated preexisting lesions. In this case the indemnity should be limited to the difference existing between the previous salary and the smaller salary which the workman is capable of earning after the accident.

Etiology and Prophylaxis of Typhoid in France

At the same session of the Academy of Medicine, Dr. H. Vincent, professor in the school of military hygiene at Val-de-Grâce, called attention to the great frequency of typhoid fever in France. The proportion of deaths due to this disease is 27.6 per 100,000 inhabitants, while it is only 17.5 in England, 10.2 in the Netherlands and 10.3 in Germany. In the last seventeen years the number of typhoid deaths may be reckoned as about 100,000, the equivalent of the population of a large city. Moreover, this disease strikes down by preference young people, thus entailing very serious consequences from the demographic and economic point of view in a country with a low birth-rate like France.

Drinking water, foodstuffs soiled by flies, milk, oysters, sweet cider prepared with contaminated water, uncooked vegetables grown on ground fertilized by sewage, are important causes. The disposal of fecal matter in sewage-fields, practiced in many regions, is one of the causes which contribute most to the spread of typhoid fever. The discovery of chronic bacillus-carriers has thrown light on many apparently spontaneous cases of typhoid and paratyphoid. Dr. Vincent submitted a long program of antityphoid measures, comprising the following: popular elementary education of children and adults through physicians in regard to the nature of infectious diseases, the means of transmission and the prophylaxis; appointment of physicians as instructors of hygiene in the various departments of France; education of physicians to be specialists in hygiene, and special instruction in epidemiology in the medical schools; creation of schools of disinfection for the training of squads of disinfectors; organization of an increasing number of laboratories or stations of epidemiologic and bacteriologic research to aid in the battle against typhoid by bacteriologic investigation of suspected cases, by examination of bacillus-carriers; periodical examination of drinking-waters, etc. To these measures it is indispensable to add prohibition of the disposal of fecal matter in sewage-fields. In discussing Vincent's paper, Dr. Vallin remarked that typhoid fever is less frequent in the north of France, where beer is habitually drunk, than in the south, where water is used to dilute wine. Widal emphasized the importance of isolating typhoid patients in hospitals as cases of contagion in the wards are not infrequent.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Nov. 3, 1909.

The Imperial Association of German Physicians and the Imperial Insurance Bill

The counter organization to the Leipsic league which was founded a few months ago and which has assumed the haughty title of Imperial Association of German Physicians (*Reichsverband deutscher Aerzte*) has in the same way as the business committee of the German Medical Association (*Deutsche Aerztevereinsbund*) sent to the authorities a critique of the bill for an imperial insurance law in which naturally many demands are made which are in accord with the bill worked out by the government and are opposed to the demands of the medical association. Although the imperial association rejects the free choice of physician and wishes to leave the regulation of the medical system to a free agreement between the physicians concerned and the sick benefit societies (*Krankenkassen*), it does not differ from the medical association, for although the latter society wishes the free choice established, as a rule, it does not demand its compulsory introduction. While the medical association makes the demand that the insurance societies make the agreements as to the conditions of the contract only with the medical organizations, the imperial association wishes that such arrangements with private physicians be permitted as well.

This whole counter agitation is of little significance, as the imperial association comprises scarcely 2,000 members in contrast to the 24,000 members of the medical association.

Draft of New Penal Code

For some years there has been an urgent demand for a new penal code, since a number of the punishments imposed are antiquated. The draft of a new code elaborated by a commission of experts appointed by the government for this purpose has just appeared and contains a number of provisions that are of interest from their relation to sanitary matters. The age of criminal responsibility is advanced from 12 to 14 years. Confinement in an inebriate asylum can be ordered by the judge. A further provision against drunkenness is the possibility of forbidding the use of the saloon, and what is especially important, criminal responsibility for unconsciousness (*Bewusstlosigkeit*) as the result of voluntary inebriety, as well as for drunkenness dangerous to the general welfare. Discretion is given the judge to exempt from punishment in general those of defective responsibility. As a protection to the worker in dangerous trades special penalties are provided for removing or failing to provide protective devices. We will return to this important subject.

Personal

Professor Franz, the gynecologist of Jena, has been appointed as director of the gynecologic clinic at Göttingen as successor of Professor Runge.

Privy Councilor Dr. Wehmer, advisory physician to the Berlin police department, died October 31, at the age of 54 from heart failure, while riding his wheel. Wehmer had made himself a name in various branches of state medicine; he had levoted himself especially to the subjects of midwifery, chool sanitation. and veterinary medicine. Among his mportant works we may mention: "The Sanitary Conditions of Berlin," "A Handbook of Public Health," "The Principles nd an Encyclopedia of School Sanitation." Since 1897 he vas president of the German Public Health Association of Berlin.

Full Time School Physicians

Three school physicians have been appointed for the evangelical schools of Chemnitz to devote their whole time to the vork, beginning at Easter, 1910, at the salary of $1,750, to be ncreased to $2,250 (7,000 to 9,000 marks); in addition a ension is provided, but private practice is interdicted. Chemitz has heretofore employed 17 school physicians on part time or its 34 schools with 42,000 pupils.

Monument for Fabricius von Hilden

The city authorities of Hilden (of the Rhine province) ave determined to erect a monument to the famous seveneenth century surgeon, Fabricius von Hilden, who was born t that place, June 25, 1560. The unveiling is to occur in the ummer of 1910, on the occasion of the three hundred and ftieth anniversary of his birth. The city authorities have ssued an appeal to all physicians for contributions.

Scarlet Fever Epidemic in Silesia

According to an official statement of the Silesian provincial edical board there have occurred in the district of Oppeln, ince July 1, 2,200 cases of scarlet fever. By far the greatest umber occurred in the industrial district of upper Silesia. In any localities the mortality reaches 30 per cent.

Cholera in East Prussia

The number of cholera cases in east Prussia has increased uring the last week, but as before, the cases are sporadic.

Spinal Infantile Paralysis

Small epidemics of spinal infantile paralysis are now appearg in Silesia and in Mecklenburg. So far no fatal cases have en observed.

uberculosis Examinations by the Berlin Municipal Laboratory

The serious complaints that have been directed against our ty government for the order described in the previous letter ve borne fruit sooner than was to be expected. The admintration has given notice that examinations of tuberculous aterial will be conducted also in the municipal laboratory ee of cost. It would be very satisfactory if the administraon on this occasion had announced a change in the policy aintained up to the present time and would pay more atteon in future to the sanitary suggestions that are made by e medical profession.

German Institute for Medical Missions

A short time ago the German institute for medical missions as ceremoniously dedicated at Tübingen. This is an institution which has been established at the suggestion of the tuttgart association for medical missions with the cooperaon of all the evangelical missionary societies of Germany and witzerland. The principal building furnishes accommodations r 32 students of medicine and missionaries. In addition there a woman's building (*Schwesternheim*) that provides for 15 omen medical students and future missionary midwives. In th houses there are for the inmates large society rooms, ning rooms, library, etc. The institute for medical missions intended to make the students of medicine at the university Tübingen and the members of the missionary societies quainted with the requirements of the missionary service d in addition to give instruction in tropical hygiene and opical medicine. For purposes of instruction, which is to strictly scientific, it is planned to establish a clinic for opical disease with the necessary laboratories at a cost of om $75,000 to $100,000 (300,000 to 400,000 marks). In der that no misuse of the knowledge obtained shall be made those who are not physicians, every missionary who enters e institution must sign a statement that he will not use the owledge and skill obtained for commercial purposes, and at he will not, on the ground of his education in this institun, style himself a missionary physician, and that he will t practice medicine at any time, either in Germany or other ropean countries, unless he has fulfilled the legal requirents of the individual nations. The medical education of the ssionaries lasts one year, the students pay $87.50 (350 rks) for the summer semester, and $112.50 (450 marks) for e winter semester and missionaries pay for the year's struction, $300 (1,200 marks).

VIENNA LETTER

(*From Our Regular Correspondent*)

Vienna, Nov. 6, 1909.

Investigations Into the Life of Medical Students

An interesting statistical research is just now going on in Vienna, the results of which are looked forward to with great eagerness by the circles interested in the outcome. Every medical student enlisting this winter term or the next (summer) term, at the Vienna University, will be asked to fill out a paper containing a series of questions: age, nationality, religion, language, financial position, previous education, and reasons for taking up medicine as a life-work. It is hoped that a large percentage of the students will take the slight trouble necessary to answer the questions. The student's name need not be given, only the initials. Separate lists will be kept for women. The only precaution taken is the earnest request to abstain from wilful misstatements.

As a rule medical students here belong to the poorer or at least not well-to-do classes of the population. Therefore, when once graduated they try to earn a living as quickly as possible, which explains why, generally speaking, medical fees in this country are much below English and American rates. Although warnings intended to stop the steady influx of new students to the profession have been published, the result has been inadequate. Therefore the investigators are directed also to find out why this special occupation was chosen by the individual.

Austrian Search for Scleroma

By an order of the ministry of the interior, all health officers are henceforth bound to report every case of rhinoscleroma to the ministry. For this purpose, a short description of the clinical symptoms, the histopathology and the geographical regions where it is found is furnished. Only a narrow strip of land bordering on Hungary and Russia, and part of the empire between Italy and Hungary may be looked on as a focus of infection. Altogether, there are about 320 cases now under observation, but without doubt, the actual number of persons afflicted is much larger. The order is partly an outcome of the last medical congress, partly the result of the work of the new health department, which in a remarkably progressive way tries to keep abreast of the advances in the science of hygiene.

Sale of Radium Salt

The production of radium has been carried on in Johannistal to such a degree that at present there is available a quantity equivalent to 1 gm. (15 grains) of the pure substance. Several tons of the ore had to be worked up before an appreciable amount was obtained. It is intended now to put the available quantity on the market solely for scientific purposes and for charitable institutions. It will be sold in quantities of 1 mg. (about 1/60 grain) of the 5 per cent. and the 10 per cent. salt. Bromid of radium has been chosen. The price of the 5 per cent. salt will be 1080 crowns ($244) per portion (1/60 grain). The sale will take place in the radium institute just now in course of erection. A magnificent gift by an anonymous benefactor, who gave $100,000 for this purpose on the understanding that an equal sum should be provided by the state, enabled the Vienna University to obtain its radium research institute, the first in the world as regards equipment for investigators. The necessary appropriation having been voted, the building is now almost ready for use.

Death of Professor Monti

By the death of Professor Monti, which took place during the last days of October, the Vienna medical faculty loses one of its best known and most honored members. He was a specialist in diseases of the children, and one of the founders and the director of the Vienna Poliklinik, where he was the head of the pediatric department. His courses were much frequented by Americans. He was the initiator of the "childrens' homes" in this country, and the convalescent homes on the Austrian coast of the Adriatic Sea were altogether the result of his strenuous effort. His merits were recognized by the emperor, who not only selected him as physician for his numerous grandchildren, but also conferred on him the title of *Hofrath* (court councilor). The contributions of the deceased physician to medical literature were not very numerous, his work having been chiefly practical and arduous endeavors to raise the standard of health and of feeding among the offspring of the poorest. His death will be sincerely lamented by many thousands of grateful patients and friends.

Pharmacology

ECHINACEA CONSIDERED VALUELESS

Report of the Council on Pharmacy and Chemistry

The Council has voted to reject several non-proprietary articles and has recommended that the reasons for their rejection be given in The Journal; among these is echinacea. The following paper has been submitted by a subcommittee with the recommendation that it be published. This recommendation was adopted.

W. A. Puckner, Secretary.

ECHINACEA

When this drug was first introduced, it was a typical nostrum, with exaggerations regarding its therapeutic value that were somewhat more gross than usual. It was later adopted by the eclectic school without being freed from the stigmata of its origin. It was also pressed into use as the main ingredient of such proprietary preparations as echafolta, ecthol, eusoma, etc. Efforts have been made to get the regular profession to use it in these various forms.

According to J. U. Lloyd (*Pharm. Review*, vol. xxii, p. 9-14), the introduction of echinacea into eclectic medicine is due to the efforts of Dr. H. F. C. Meyer to increase the sale of Meyer's Blood Purifier, a secret remedy containing it. The following is a literal copy of the label on this nostrum:

> MEYER'S BLOOD PURIFIER
>
> DIRECTIONS
>
> Take one ounce three times every day in the following cases: *Rheumatism, Sick Headache, Erysipelas, Dyspepsia, Old Sores* and *Biles, Open Wounds, Dizziness, Scrofula* and *Sore Eyes.*
>
> In case of *Poisoning by Herbs, & C.*, take the double dosis, and *Bites of Rattlesnakes* take three ounces three times a day, until the swelling is gone. This is an absolute cure within 24 hours.

After Lloyd had identified the plant, Meyer put the preparation out under another form with the following label:

> ECHINACEA ANGUSTEFOLIA
>
> This is a powerful drug as an Alterative and Antiseptic in all tumorons and Syphilitic indications; old chronic wounds, such as fever sores, old ulcers, Carbuncles, Piles, eczema, wet or dry, can be cured quick and active; also Erysipelas. It will not fail in Gangrene. In fever it is a specific; typhoid can be adverted in two to three days; also in Malaria, Malignant, Remittent and Mountain fever it is a specific. It relieves pain, swelling and inflammation, by local use, internal and external. It has not and will not fail to cure Diphtheria quick. It cures bites from the bee to the rattlesnake, it is a specific. Has been tested in more than fifty cases of mad dog bites in human and in every case it prevented hydrophobia. It has cured hydrophobia. It is perfectly harmless, internal and external.
>
> Dose.—One half to one fluid-drachm 3 or 4 times a day.
>
> Manufactured by H. C. F. Meyer, M.D.
>
> Price, $ Pawnee City, Neb., U. S. A.
>
> Patent

These absurd claims of an evidently ignorant man have passed into the more recent proprietary advertising matters and into much of the eclectic writings. Indeed, the seemingly impossible has been attained by even surpassing Meyer's all-but-all-embracing claims. Not content with endorsing echinacea as a positive and speedy "specific" for rattlesnake bite, syphilis, typhoid fever, malaria, diphtheria and hydrophobia, later enthusiasts have credited it with equally certain curative effects in tuberculosis, tetanus and exophthalmic goiter, and with the power of retarding the development of cancer.

It is worth noticing—although it is not surprising—that these far-reaching claims have been made on no better basis than that of clinical trials by unknown men who have not otherwise achieved any general reputation as acute, discriminating and reliable observers. No attempt seems to have been made to verify these claims by accurate scientific methods, clinical or otherwise, although this could very easily have been done.

Not one of the eulogistic reporters and exploiters seems to have considered it worth while to determine by the simplest control experiments whether the drug possesses any bactericidal or antiseptic powers whatever. It is therefore not very strange that discriminating physicians have failed to show much enthusiasm. One of the warmest endorsers of echinacea, C. S. Chamberlain (who later became the president of the Eusoma Pharmaceutical Company), complains that he h been unable to interest regular physicians in the remedy. I reviews the statements of previous authors and reports eig cases of infection, only two being acute or extensive, in whi he used it with asserted success.

In view of the lack of any scientific scrutiny of the clai made for it, echinacea is deemed unworthy of further conside ation until more reliable evidence is presented in its favor.

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FALSE UNICORN (HELONIAS)

Report of the Council on Pharmacy and Chemistry

The Council voted to refuse to recognize false unicorn a non-proprietary article and the following statements, su mitted by a subcommittee, were ordered published.

W. A. Puckner, Secretary.

FALSE UNICORN—HELONIAS

Helonias dioica, or more properly *Chamælirium luteum*, is plant, preparations of which enter into various proprieta mixtures for diseases of the female pelvic organs. In th advertisements of these preparations it is usually credit with hemostatic powers and is asserted to be a uterine toni

There is practically no reference to this drug in reliab medical literature, and as there is no evidence worthy credence to support the claims made for it, the drug was n considered deserving of a place in the Pharmacopeia. Henc it may be regarded as a drug not worthy of attention of phys cians.

Correspondence

Microscopic Moving Pictures

To the Editor: In the daily papers there have recent appeared items to the effect that Jean Commandon, a Fren scientist, has demonstrated in Paris in the presence of t members of the Academy of Science, his most wonderf invention, the microcinematograph, a machine which enabl him to take moving pictures of microscopic objects and proje them in motion on the screen. The New York *World* of Oct ber 31 says:

> "No longer is it possible for a bacillus, however microscopic, live and move secretly. At last the intimate existence of an acti microbe has been betrayed by the cinematograph . . . With th new instrument living organisms one thousandth of a millimeter diameter are photographed and magnified, and can be studied . . Professor Daster, an eminent bacteriologist, says it is impossib to estimate the importance of this advance in science, which ope a new world to the human eye, and reveals facts about minut organism hitherto unsuspected."

I desire to call attention to the fact that this invention nothing new; that the idea of such a machine was conceiv by me some fourteen or fifteen years ago, and that I demo strated it, after the construction has been completed, as f back as 1897, in my private office in the presence of Dr. Wi H. Katzenbach, Dr. E. Bradley, Dr. Goodwille, Mr. David S Clair, and others of prominence.

After this demonstration took place, the "micromotoscop as I named the machine, was described in the *Scientific Am ican*, July 31, 1897, from which the following is quoted:

> "The principles of the kinetoscope or mutoscope have been appl to the microscope with some interesting results by Dr. Robert Watkins of this city. The instrument, though simple, was ma a success only after many experiments and failures in adjusting objective of the microscope in a line with the right sort of light a a rapidly moving film . . . This machinery is turned by crank and its ordinary capacity is about 1,600 pictures minute . . . The advantages of the microscopic photography microscopy are evident, especially as regards the action of bacte and blood cells . . . Numerous photographs of bacteria w taken, but the motion happened to be an up-and-down one a showed no change of position in the field."

The same year (1897) the micromotoscope was again described and illustrated in *Photograms*, a London periodical. which said: "During the year two distinct steps have been made in kinematography"; then, after giving a description of Dr. Macintyre's invention in radiography, the editor proeeded:

> "Dr. Watkins, on the other hand, combined kinetography and photomicrography, so as to be able to record and reproduce the movements of objects so small as corpuscles, rotifers, microbes. This power of studying the motion of the corpuscles is expected to prove of infinite value in the diagnosis of certain diseases. From his it will be seen that kinetography, which commenced as a scientific industry, has made distinct steps in scientific progress, n addition to captivating the public taste . . ."

Not only was credit given me in the periodicals quoted bove, but the "Standard Dictionary," 1905 edition, in defining he micromotoscope, refers to me as its inventor.

At about 1898, I again demonstrated this machine to a priate audience at my house in the presence of Mr. Hopkins, ditor of the *Scientific American*, Dr. G. L. Curtis, Dr. Fitch, Dr. J. H. Gunning, Mr. Robert Niles, and a few others of this ity.

With the assistance of Mr. Thomas F. Livingston and Mr. C. W. Clausing, the micromotoscope was also shown at the Grand Central Palace of this city in the fall of 1897 at the Trained Nurses' and Pure Food Exhibition. Numerous microcopic objects, taken with the micromotoscope, were projected n the screen at this exhibition. Among others were the cirulation of the blood in the web of the frog's foot, rotifers in tagnant Croton water, an ameboid leucocyte, moving bloodells under the microscope, moving germs in fermenting urine, micrococci and bacteria, etc. Some of these positives were rinted in the Edison Laboratory, East Orange, N. J.

At the time of this exhibition Dr. F. M. Jeffries of the New York Polyclinic furnished me with some specimens of typhoid erms, of which I made micromotoscope negatives. The above ictures were shown to over 10,000 people; one night these hotographs were thrown right across the length of the immense main hall, producing a magnification of about 1,500,000 iameters, according to our rough figures. Some of the microscopic objects looked like "whales and sea-serpents," as some n the audience observed. Charles L. Bristol, Professor of Biology in the New York University, remarked at the time hat he had not supposed that this could be done.

Mr. F. M. Ramsden of Santiago, Cuba, who was very much nterested in this scientific achievement, is in the possession f the only photograph I took of my first micromotoscope outt in position ready to work. The first pictures that were aken by it were specially mounted for and presented to Dr. Abraham Jacobi, who now has them, and who readily remembered it, when I mentioned the fact to him a few days ago.

Since this first outfit, I have gradually improved my camera, making it more simple, until I have at last produced the nique machine which I am now using. In experimenting on this micromotoscope, I have used up enough machinery and material to fill up a good-sized junk-shop.

The latest demonstration of the last pictures taken with this machine took place in Chicago on June 17 of this year, where I showed it to an audience of 500 doctors of the National Eclectic Association. Had I not been delayed with the construction of my new projecting machine, a demonstration of the micromotoscope would have taken place at the American Medical Association meeting in Atlantic City, last une.

I can cite many more instances to prove the validity of my claim of being the first to conceive this idea and demonstrate with a machine and photographs. The credit, then, for this invention rightly belongs to an American and not to a Frenchman.

Robert L. Watkins, M.D., New York.

Free Use of the Mails for Literature on Public Health

To the Editor:—About two years ago an effort was made by the state health officer of Florida to obtain for the various State and Territorial boards of health of the United States the privilege of free service through the mails for the distribution within State and Territory lines of sanitary and health bulletins and matters connected therewith. The measure was formulated into House Bill No. 11,317 and introduced by Hon. S. M. Sparkman, representative from the First Congressional District of Florida. When this measure was first proposed, the state health officer of Florida wrote to every State and Territorial board of health asking their cooperation through their representatives in Congress. Encouraging replies were received from all. It was hoped that the measure would become a law, especially since Mr. Sparkman received decided encouragement in his interview on the subject with the Postmaster-General. Later on, however, Mr. Sparkman was informed that President Roosevelt opposed the granting of this privilege; hence, of course, it was useless to proceed further with the measure.

The bill, as introduced, read as follows:

A BILL

H. R. 11317.

To extend the franking privilege to literature published by boards of health of states, territories, and municipalities in the United States.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

That it shall be lawful to transmit through the mails, free of postage, any printed letters circulars, documents, pamphlets, and literature relating exclusively to the public health, which shall be issued by or under the authority of any board of health of any state, territory or city in the United States.

Sec. 2. That every such letter or package to entitle it to pass free shall bear over the words "Public Health Business" an indorsement showing the name of the state, territorial or municipal board of health, as the case may be, whence transmitted. And if any person shall make use of any such official envelope to avoid the payment of postage on his private letter, package or other matter in the mail, the person so offending shall be deemed guilty of a misdemeanor and subject to a fine of three hundred dollars, to be prosecuted in any court of competent jurisdiction.

Now, there seems to be no good reason why the United States mails should not be made a medium for disseminating useful and instructive sanitary information to the people. Measures taken to inform the general public on questions relating to their health and life seem as important as political documents—to the mind of every intelligent citizen even more so; certainly capable of favorable comparison with the instance reported in the public press of "the franking of a set of furniture through the mails by a representative in Congress from his home at Washington when near the completion of his term of office."

This matter is now submitted to the medical profession and the health officials of the United States with the hope that they may approve the measure, give it strong endorsement to congressional delegations from each state of the union, and urge it with all fervency as an appeal to benefit humanity and to increase the life tenure of the citizen.

Joseph Y. Porter, Key West, Fla.,
State Health Officer of Florida.

Ability, the Real Test

To the Editor: There is a tendency on the part of the embryonic medical practitioner to become imbued with the foolish idea, after he has formally done with the state medical examining board, and procured a license to practice the healing art, that the public cares only to know that he has spent so many years in the high school, so many years in the academy, so many years in the college of liberal arts, so many years in the medical department of some university, and so much time as an intern.

The length of time spent in a college, or a dozen colleges, is no guarantee of knowledge acquired, nor is it a gage by which the public may reckon the fitness of a man to practice the principles of the craft. In fact, years have nothing to do with gaging the mental capacities of men. Men's mental abilities vary. Man's individual ability is as varied as his undertakings, and he achieves the really great things only after he has tried himself out. Therefore, there should be but one test—the test of ability, not the test of time as spaced off by college men. Nor is this statement intended to cast any reflections whatever on those who are engaged in the teaching of medicine.

Avoid the exaggeration, and remember this: the public cares little how long we have studied a particular subject, but rather how much we know of it!

Clyde A. Henry, M.D., Farson, Iowa.

The Attempt to Degrade the Sanitary Service at the Isthmus

The following correspondence, which explains itself, is commented on editorially in this issue:

Hon. James R. Mann:

Dear Sir: The attention of the Committee on Medical Legislation of the American Medical Association has been called to H. R. 5155, introduced by you in the House of Representatives, providing for the government of the Canal Zone and the construction of the Panama Canal. An examination of the bill shows that in Section 3, providing for the organization of the canal board, no provision is made for a chief sanitary officer of the same rank as the director, chief engineer and governor. The result of the adoption of the bill in its present form would evidently be the subordination of the sanitary department to the position which it occupied under the first canal board. I am sure that this was not your intention, in view of the great importance of the sanitary department in making the construction of the canal possible. In other words, I am confident that the omission of such a provision is an oversight. I therefore take the liberty of calling your attention to it and shall be glad to learn whether it would not be possible to amend the bill so as to leave the position of the sanitary department unchanged. I shall be very glad to hear from you on this point.

Frederick R. Green,
Secretary, Committee on Medical Legislation.

House of Representatives
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

Dr. Frederick R. Green, Chicago:

Dear Sir: Replying to your recent favor, I beg to say that I am not in favor of making a chief sanitary officer on the Canal Zone of the same rank as the chief engineer. It is not possible to have good government on the zone with a lot of different heads, but under the bill which I introduced the President has full authority to continue the Chief Sanitary Officer and give him as much authority as he now has. It would be impossible to carry on the work of the canal without constant friction if your sugestion was incorporated in the law and I trust that you will not push it. Certainly the sanitation of the canal will be cared for and there is no intention to let down on the character of the work now being performed.

James R. Mann, M. C.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

California: Los Angeles, December 7. Sec., Dr. Charles L. Tisdale, Butler Bldg., San Francisco.

Delaware: Regular, Dover, December 14; Homeopathic, Wilmington, December 14. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

Iowa: State House, Des Moins, Dec. 7-9. Sec., Dr. L. A. Thomas.

Kentucky: The Armory, Louisville, December 14. Sec., Dr. J. N. McCormack, Bowling Green.

Maryland: 1211 Cathedral St., Baltimore, December 14-17. Sec., Dr. J. M. Scott, Hagerstown.

Pennsylvania: Regular and Homeopathic, Philadelphia, December 14.17; Eclectic, Harrisburg, December 14-17. Secretary of the Medical Council, Nathan C. Schaeffer, Harrisburg.

Virginia: Lynchburg, Dec. 14-17. Sec., Dr. R. S. Martin, Stuart.

The Medical School as a Part of the University

In the annual address in medicine at Yale University, Prof. W. H. Howell (*Science*, July 30, 1909, p. 129) points out the remarkable progress which has been made in medical education in this country within the last decade. He, however, calls attention to the fact that by far the greatest progress has been made in the teaching of the medical or biologic sciences. The time of preparation for the clinical years has been greatly lengthened and improved, while in the last two, or clinical, years the progress has been comparatively very slow; so slow in fact, that the methods and quality of instruction in these years, in the majority of American medical schools, is very little improved over that given to the former generation.

The explanation of this is probably to be sought in the fact that the clinical men are too often capable practitioners rather than scientific physicians. Too often they are so lacking in an adequate knowledge of laboratory methods and the medical sciences that one is inclined to ask what is the use of giving the student a scientific training if the man who instructs him in diagnosis and treatment neglects to show wherein this knowledge is applicable. Under present conditions so much time and energy are devoted to private practice by the clinical men that original investigation and scientific clinical instruction sadly suffer as a consequence.

As a remedy it is recommended that the clinical professors be paid the full salary of a full professor and be limited in their practice to the University Hospital. Howell thinks that America is at present in a good condition to try such an experiment as well as to carry out the recommendation of the Council on Medical Education of the American Medical Association, that there be added to the present regular course of instruction a year of hospital service as an obligatory part of the requirements for the degree in medicine or for the license to practice medicine.

North Dakota October Report

Dr. H. M. Wheeler, secretary of the North Dakota State Board of Medical Examiners, reports the written examination held at Grand Forks, Oct. 5-7, 1909. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 16, all of whom passed. Twelve reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent
Bennett Medical College	(1908)	75
Northwestern University Medical School	(1909)	86
University of Iowa, Coll. of Med.	(1907) 81; (1909)	83
University of Louisville	(1909)	87
Harvard Medical School	(1898)	82
Univ. of Minnesota, Coll. of Med.	(1903) 83; (1909) 81,	81
Hamline University	(1907)	82
American Medical College, St. Louis	(1897)	76
Jefferson Medical College	(1909) 85,	87
Wisconsin College of Physicians and Surgeons	(1909)	77
Marquette University, Milwaukee	(1903) 76; (1909)	81

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with.
Northwestern University Medical School	(2, 1909)	Illinoi
Coll. of Phys. and Surg., Chicago	(1906) (1907) (1908)	Illinoi
University of Michigan	(1907)	Minnesot
Medical School of Maine	(1906)	Main
University of Minnesota	(2, 1906) (1908)	Minnesot
Hamline University	(1908)	Minnesot
Milwaukee Medical College	(1896)	Wisconsi

Utah October Report

Dr. G. F. Harding, secretary of the Utah State Board o Medical Examiners, reports the written examination held a Salt Lake City, October 4-5, 1909. The number of subject examined in was 16; total number of questions asked, 100 percentage required to pass, 75. The total number of candidates examined was 5, of whom 3 passed and 2 failed. Seve reciprocal licenses were granted. The following colleges wer represented:

PASSED

College	Yea Grac
George Washington University	(1909
Northwestern University Medical School	(1909
University of Michigan, Homeopathic Department	(1909

FAILED

College	Yea Grac
Keokuk Medical College	(1909
Tokio Medical College	(1909

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocit with.
University of Colorado	(1907)	Colorad
College of Physicians and Surgeons, Chicago	(1904)	Wisconsi
College of Physicians and Surgeons, Keokuk	(1887)	Iow
University of Louisville	(1907)	Wisconsi
New York University Medical College	(1890)	Colorad
Jefferson Medical College	(1892)	Colorad
McGill University, Montreal	(1897)	Illino

Louisiana October Report

Dr. F. A. LaRue, secretary of the Louisiana State Board c Medical Examiners, reports the written examination held a New Orleans, Oct. 1-2, 1909. The number of subjects exan ned in was 10; total number of questions asked, 50; per-centage required to pass, 75. The total number of candidates examined was 23 of whom 19 passed and 4 failed. One candi-late was licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Little Rock..	(1909)	75.8
University of Arkansas	(1905)	85
Kansas Medical College........................	(1894)	85.2
Kentucky School of Medicine....................	(1896)	75
Flint Medical College..........................	(1909) 80,	87.8
Maryland Medical College.......................	(1903)	86.4
University of Nashville.............(1908) 78.6;	(1909) 88.6,	90.6
Memphis Hospital Medical College..(1901) 75; (1908) 76.2; 87.2; (1909) 76.6, 77, 77, 81.8.		
Vanderbilt University	(1894)	83.6
University of the South........................	(1901)	80.4

FAILED

College	Year Grad.	Per Cent.
Louisville Medical College.....................	(1903)	63.4
Memphis Hospital Medical College..(1891) 29.2;	(1908)	64.4
Meharry Medical College	(1909)	73.6

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with.
Washington University, St. Louis.............	(1907)	Missouri

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter ust contain the writer's name and address, but these will be mitted, on request.

SEMELINCIDENCE

To the Editor:—The suggestion of Dr. T. L. Hazzard (THE JOURNAL A. M. A., Nov. 13, 1909, liii, 1658; Sept. 18, 1909, liii, 963) o adopt the term "semelincident" to designate diseases that do not ccur, is a good one. We think largely in words, and if this word with its significance is put clearly before the profession, something may be accomplished to explain practically certain phases of mmunity.

As Dr. Hazzard intimates, the word is not entirely new, hough apparently not in the dictionaries. My recollection is that heard it as an undergraduate student, over twenty years ago. At any rate it was familiar to me at least as early as 1902, when t was used in a classification of infections and I have used it in number of published articles.

The term "immunifacient" is also an excellent one, but of somewhat different meaning, as a number of diseases, such as diphtheria nd influenza, are self-limiting, and immunize against themselves r a time. Whether there is an essential difference between the mmunities thus produced or whether there is merely a difference in egree, is an important question.

Another interesting problem is with regard to a group of rare iseases of high mortality, such as cerebrospinal fever, equinia, etanus, anthrax, etc. By the law of chance, a repetition of such disease would be extremely rare but it is possible that large eries might show statistically whether there is really a semelinci-ence.

A few diseases, like pneumonia, diphtheria and rheumatism, are aid to predispose to recurrences but there seems to be some ques-ion as to the exact nature of the infection in the first and as to he infectiousness of the last while the predisposition in diphtheria s probably due to a chronic throat lesion.

Certain infections, such as tuberculosis, leprosy, syphilis and the malignant neoplasms, if these be due to micro-organisms, do not end to spontaneous recovery so that immunization with germ roducts is not to be expected *a priori*, though one must always yield o the argument of fact. The old idea of "exhaustion of the soil" n the case of semelincident diseases is now commonly ridiculed but t must be admitted that in a crude, practical way, it represents a act. Indeed, the expression is to be criticized rather from the gricultural than from the bacteriologic side. The modern theory f immunity may, with similar crudity, be interpreted as implying hat the semelincident disease, instead of exhausting the soil, adds omething to it, which prevents the further growth of a particular ind of germ, vegetable or animal as the case may be, without nterfering either with normal physiologic processes or the growth f other germs. When we contemplate the fact that this process of ddition or subtraction, may be repeated for half a dozen different iseases for the same individual without any apparent effect on ts physiology, we are face to face with a very puzzling problem. *A priori*, "exhaustion of the soil" does not impress me as any more ridiculous than the opposite action and the exact nature of the lteration requires careful study, without reference to the popularity r authority of any hypothesis. A. L. BENEDICT, M.D., Buffalo.

The Public Service

Medical Department of the Army

Changes for the week ended Nov. 20, 1909:

Lyster, Theodore C., major, relieved from duty with the Isthmian Canal Commission, December 22; will proceed to the United States for orders.

Thornburgh, Robert M., capt., order for duty at Army General Hospital, San Francisco, revoked.

Wilson, James S., major, order for duty at Military Prison, Alcatraz Island, Cal., revoked; will proceed at the expiration of his present leave of absence to Fort Ethan Allen, Vt., for duty.

Kendall, William P., major, when relieved at Fort Ethan Allen, Vt., will proceed to Fort Riley, Kan., for duty.

Harris, Jesse R., capt., granted sick leave of absence for 3 months.

Hill, Eben C., 1st lieut., granted sick leave of absence for 21 days.

Lyster, William J. L., major, ordered from San Francisco, to Fort Oglethorpe, Ga., for duty.

Keefer, Frank R., major, granted leave of absence for 1 month, 7 days.

Ewing, Charles B., major, retired from active service, having been found disqualified for promotion.

Howard, Deane C., major, Ekwurzel, George M., capt., Keller, William L., capt., and Richardson, William H., 1st lieut., relieved from duty in Philippines Division; will sail February 15, for San Francisco.

Brown, Ira C., 1st lieut., M. R. C., ordered to proceed at the expiration of his present leave of absence to Fort Lawton, Wash., for duty.

Campbell, George F., 1st lieut., M. R. C., granted leave of absence for 3 months.

Jarrett, Arthur R., 1st lieut., M. R. C., granted leave of absence to December 29.

Norriss, Henry C. R., 1st lieut., M. R. C., ordered to active duty; will proceed to Vancouver Barracks, Wash., for duty.

Maguire, Daniel F., 1st lieut., M. R. C., ordered to active duty; will proceed to Fort Myer, Va., for duty.

Barney, Fred M., 1st lieut., M. R. C., relieved from duty at Fort Myer, Va., and ordered to Fort Clark, Tex., for duty.

Lamb, William R., 1st lieut., M. R. C., resignation accepted, to take effect November 18.

Eliot, Henry W., 1st lieut., M. R. C., relieved from further duty in the Philippines Division, and ordered to proceed at the expiration of his present leave of absence to Fort McKinley, Me., for duty.

Adair, George F., Kennedy, James S., Chase, Alpha M., and de Niedman, William F., 1st lieuts., M. R. C., relieved from duty in their present stations; will proceed February 5 from San Francisco, for Philippine service.

McCallum, Francis M., 1st lieut., M. R. C., relieved from duty at Schofield Barracks, H. T.; will proceed to San Francisco, on transport leaving Manila, P. I., February 15.

Mills, Robert H., dental surgeon, left Fort Riley, Kan., and returned to his proper station, Fort Adams, R. I.

Laflamme, Frank L. K., dental surgeon, arrived at Fort Benjamin Harrison, Ind., for duty.

Scott, Harold O., dental surgeon, ordered to Columbus Barracks, Ohio, for duty, at the expiration of his present leave of absence.

Rhoades, Rex. H., dental surgeon, relieved from duty at Columbus Barracks, Ohio, and ordered to San Francisco, in time to sail February 5 for Philippine service.

Ingalls, Raymond E., dental surgeon, relieved from duty in the Philippines Division, will sail February 15 for San Francisco.

Marshall, John S., E. and S. D. S., granted leave of absence for 3 months, when relieved from Philippine service.

Medical Corps of the Navy

Changes for the week ended Nov. 20, 1909:

Pickrell, G., surgeon, detached from duty in connection with fitting out the *Solace* and ordered to command that vessel when placed in service.

Streets, T. H., medical director, placed on the retired list from Nov. 20, 1909.

Blackwell, E. M., surgeon, detached from the Naval Academy and ordered to duty in connection with fitting out the *Solace*, and to duty on board that vessel when placed in service.

Holcomb, R. C., surgeon, detached from the Naval Hospital, Norfolk, Va., and ordered to duty in connection with fitting out the *Solace*, and to duty on board that vessel when placed in service.

Garton, W. M., surgeon, detailed from the *Ohio* and ordered to the Naval Hospital, Norfolk, Va.

Angeny, G. L., surgeon, ordered to the Naval Recruiting Station, Baltimore.

McDonnold, P. E., P. A. surgeon, detached from the Naval Academy and granted sick leave for 3 months.

Vickery, E. A., P. A. surgeon, detached from the Naval Hospital, Boston, and ordered to duty in connection with fitting out the *Solace*, and to duty on board that vessel when placed in service.

Schmidt, L. M., asst.-surgeon, detached from the Navy Yard, Charleston, S. C., and ordered to duty in connection with fitting out the *Solace*, and to duty on board that vessel when placed in service.

Clark, G. F., asst.-surgeon, detached from the Naval Recruiting Station, Baltimore, and ordered to duty in connection with fitting out the *Solace*, and to duty on board that vessel when placed in service.

Brister, J. M., P. A. surgeon, ordered to the Naval Academy.

Streets, T. H., medical director, detached from duty as a member of the Naval Retiring Board, Washington, D. C., and ordered home to wait orders.

Heiner, R. G., P. A. surgeon, detached from the *Albany* and ordered to the Navy Yard, Mare Island, Cal.

Public Health and Marine-Hospital Service

List of changes for the seven days ended Nov. 17, 1909:

Cobb, J. O., surgeon, granted 1 day's leave of absence, Nov. 11, 1909, on account of sickness.

Wertenbaker, C. P., surgeon, directed to report at the Bureau November 15, 1909, on special temporary duty.

Lavinder, C. H., P. A. surgeon, detailed to represent the Service at the meeting of the Chicago Medical Society, to be held in Chicago, Nov. 24, 1909.

Parker, H. B., P. A. surgeon, directed to report at the Bureau Nov. 19, 1909, on special temporary duty.

Corput, G. M., P. A. surgeon, granted 5 days' leave of absence from Nov. 12, 1909.

Fox, Carroll, P. A. surgeon, granted 10 days' leave of absence en route to station.

Goldberger, Joseph, P. A. surgeon, directed to proceed to Mexico City, Mex., on special temporary duty.

Lloyd, B. J., P. A. surgeon, granted 5 days leave of absence from Oct. 19, 1909.

Francis, Edward, P. A. surgeon, granted 2 days' leave of absence while en route to places mentioned in Department orders of Nov. 9, 1909.

Ebersole, R. E., P. A. surgeon, directed to report to the medical officer in command at San Francisco, for duty and assignment to quarters.

Bryan, Wm. M., asst.-surgeon, granted 30 days' leave of absence from Nov. 27, 1909.

Stiles, Ch. W., chief, Division of Zoology, Hygienic Laboratory, detailed to attend the meeting of the New Jersey Sanitary Association, to be held in Lakewood, N. J., Dec. 3-4, 1909.

Hunt, Reid, chief, Division of Pharmacology, Hygienic Laboratory, detailed to attend the meeting of the Council on Pharmacy and Chemistry of the American Medical Association, to be held in Chicago, Nov. 12-13, 1909.

Bailey, C. A., acting asst.-surgeon, directed to proceed to St. John N. B., on or about Nov. 23, 1909, for medical examination of aliens.

Cheney, E. L., acting asst.-surgeon, granted 21 days' leave of absence from Nov. 16, 1909.

Houghton, M. W., acting asst.-surgeon, granted 5 days' leave of absence from Nov. 18, 1909.

MacCaffry, W. B., acting asst.-surgeon, granted 2 days' leave of absence in October, 1909, under paragraph 210, Service Regulations.

Ransom, S. A., acting asst.-surgeon, granted 30 days' leave of absence from Nov. 11, 1909.

Rodman, J. C., acting asst.-surgeon, granted 5 days' leave of absence from Nov. 17, 1909.

Simonson, G. T., acting asst.-surgeon, granted 2 days' leave of absence from Nov. 16, 1909.

Brinckerhoff, W. R., asst. director, Leprosy Investigation Station, granted 30 days' leave of absence from Dec. 2, 1909.

Wilbert, Martin I., technical asst., Hygienic Laboratory, detailed to attend the meeting of the Council on Pharmacy and Chemistry of the American Medical Association, to be held in Chicago, Nov. 12-13, 1909.

BOARDS CONVENED

Board of medical officers convened to meet at the Marine Hospital, San Francisco, for the purpose of making a physical examination of two officers of the Revenue-Cutter Service. Detail for the board: Surgeon James M. Gassaway, chairman; Assistant Surgeon S. C. Hotchkiss, recorder.

Board of medical officers convened to meet at Astoria, Ore., for the purpose of making a physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Passed Assistant Surgeon J. M. Holt, chairman; Acting Assistant Surgeon Jay Tuttle, recorder.

Board of medical officers convened to meet at the Marine Hospital, Key West, Fla., for the purpose of making a physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon E. K. Sprague, chairman; Acting Assistant Surgeon S. D. W. Light, recorder.

Health Reports

The following have been reported to the Public Health Service, during the week ended Nov. 19, 1909:

SMALLPOX—UNITED STATES

California: Sacramento, Oct. 17-23, 1 case.
Georgia: Macon, Oct. 30-Nov. 6, 3 cases.
Illinois: Danville, Oct. 30-Nov. 6, 2 cases.
Kansas: Kansas City, Oct. 30-Nov. 6, 1 case.
Kentucky: Lexington, Oct. 24-30, 1 case.
Minnesota: Duluth, Oct. 30-Nov. 6, 1 case.
Mississippi: Holly Springs, Oct. 30-Nov. 6, 3 cases.
Montana: Butte, Oct. 15-21, 7 cases.
Tennessee: Memphis, Oct. 30-Nov. 6, 3 cases.
Texas: Eagle Pass, Oct. 24-30, 3 cases.
Washington: Bellingham, Oct. 24-30, 2 cases.
Wisconsin: La Crosse, Oct. 30-Nov. 6, 1 case; Milwaukee, 6 cases.

SMALLPOX—FOREIGN

Argentina: Buenos Aires, Aug. 1-31, 23 deaths.
China: Shanghai, Sept. 27-Oct. 3, 1 death.
Chile: Valparaiso, Oct. 9-16, 2 cases.
Gibraltar, Oct. 18-24, 1 case.
Hungary: Budapest, Oct. 3-9, 1 death.
Italy, general, Oct. 18-24, 58 cases; Naples, 9 cases, 1 death.
Mexico: Acapulco, Oct. 19-25, 1 case, in vicinity; Medellin, Oct. 31, 1 case; Orizaba, present; Puebla and present along the lines of railroad, present; Veracruz, Oct. 24-31, 2 cases, 3 deaths.
Persia: Meshed, Sept. 4, present.
Philippine Islands: Iloilo, July 1-Aug. 31, 237 cases, 142 deaths.
Russia: Warsaw, Sept. 12-18, 6 deaths.
Spain: Barcelona, Oct. 19-25, 1 death; Valencia, Oct. 17-23, 1 case; Vigo, present.
Turkey: Bagdad, Sept. 17-25, present; Constantinople, Oct. 18-24, present.

CHOLERA

China: Amoy, Sept. 26-Oct. 9, 65 deaths; Kulangsu, Sept. 26-Oct. 2, 3 deaths; Shanghai, present.
India: Bombay, Oct. 6-12, 3 deaths; Calcutta, Sept. 26-Oct. 2, 8 deaths; Negapatam, Sept. 11-17, 3 deaths.
Java: Batavia, Sept. 26-Oct. 2, 17 cases, 1 death.
Japan: Kyoto, to Oct. 26, 200 cases, 98 deaths; Moji, Oct. 16, 4 cases; Shinkoku (island), Matsuyama, Oct. 20, present; Wakamatsu, Oct. 16, present.
Korea: Epidemic along the Yalu River; Chemulpo, Sept. 28-Oct. 9, present; Pyeng Yang, present; Seoul, Sept. 19-28, 1,072 cases, 651 deaths.
Manchuria: Dalny, Oct. 3-9, 1 case.
Netherlands: Utrecht (province), Jaarsfeld, Oct. 20, 1 case, 1 death.
Philippine Islands: Manila, Sept. 12-Oct. 9, 73 cases, 58 deaths; Provinces, 1,004 cases, 741 deaths.
Russia, general, Oct. 3-10, 570 cases, 254 deaths; St. Petersburg, Oct. 17-22, 116 cases, 35 deaths.

YELLOW FEVER

Ecuador: Guayaquil, Oct. 1-15, 13 cases, 4 deaths.

PLAGUE

British East Africa: Kisumu, July 10-Aug. 24, 12 cases, 12 deaths.
Chile: Antofagasta, Oct. 16, present; Iquique, present; Mejillones, present.
China: Amoy, Sept. 26-Oct. 9, 71 deaths.
Ecuador: Guayaquil, Oct. 1-15, 16 deaths.
India, general, Sept. 26-Oct. 2, 4,377, cases, 3,460 deaths; Bengal, 48 cases, 31 deaths; Bombay, Sept. 22-28, 24 deaths, present; Calcutta, Sept. 26-Oct. 2, 11 deaths; Rangoon, 5 deaths.
Japan: Kobe, Oct. 3-16, 28 cases, 21 deaths, present; Shinkoku (island), Kochi, Oct. 20, present; Matsuyama, present.

Marriages

EMIL AMBERG, M.D., to Miss Cecile Siegel, both of Detroit, Mich., November 16.

ALBERT I. CIVINS, M.D., to Miss Bertha Zeupnyik, both of Cleveland, Ohio, October 19.

ARTHUR EDISON GAMMAGE, M.D., Chicago, to Miss Myra Gillis of Rio, Ill., November 4.

JOHN J. C. ROSS, M.D., to Miss Belle Ratcliffe, both of Bloomington, Ind., November 4.

JULIUS ARTHUR TOREN, M.D., McCook, Neb., to Miss Ethel Ida Midgeley at Chicago, October 27.

HARRY C. WEBER, M.D., Louisville, Ky., to Miss Edna E. Hill of Memphis, Tenn., November 4.

HARRY STUCKERT, M.D., Doylestown, Pa., to Miss Lilian Radcliff of Philadelphia, November 10.

WILFRED HUESTON, M.D., Nashwauk, Minn., to Miss Florence Weber of Milwaukee, Wis., recently.

LOUIS C. LEHR, M.D., Washington, D. C., to Miss Sallie Howard Conrad, at Baltimore, November 9.

DAYTON C. WIGGIN, M.R.C., U. S. Army, to Miss Marion V. Williamson of Washington, D. C., November 10.

HAROLD BLAKE JUSTICE, M.D., Sapulpa, Okla., to Miss Shirley Louise Monck of Morrison, Ill., November 7.

FREDERICK W. SHAW, M.D., Kansas City, Kan., to Miss Elizabeth Martin of National Military Home, Kan., November 10.

Deaths

James Wharton McLaughlin, M.D. Tulane University, New Orleans, 1867; a member of the American Medical Association; formerly president of the Southern Medical Association State Medical Association of Texas, Austin District an Travis County medical societies, and the Texas Academy o Science; from 1897 to 1905, professor of medicine in the University of Texas, Galveston; and a member of the medica staff of the John Sealy Hospital; in 1907 appointed a member of the board of regents of the State University; a Confederate veteran; died at his home in Austin, November 1 aged 69.

George Seymour, M.D. New York University, New Yor City, 1865; a member of the Medical Society of the State o New York; for seven years a member of the Utica Board o Health; acting assistant surgeon in the army during the Civi War; a member of the staff of St. Elizabeth's, Faxton, an St. Luke's hospitals, Utica; one of the incorporators of th Utica Medical Library Association; died at his home, November 8, aged 70. The Utica Medical Library Association an the Oneida County Medical Society attended the funeral i a body.

John R. Moore, M.D. Chicago Medical College, 1873; a member of the American Medical Association; chief surgeon of th United States Steel Corporation's Lake Superior mines, loc surgeon for the Chicago and Northwestern Railroad and member of the surgical staff of the Ironwood, Mich., Ho pital; was accidentally shot and seriously injured at h camp on Clark Lake, near Ironwood, November 7, and died at the Ironwood Hospital, November 13, as a result of his wounds, aged 59.

Charles Albert Palmer, M.D. Northwestern University Medical School, Chicago, 1876; a member of the American Medical Association; for seven years a member of the board of education of Princeton, Ill.; and for ten years a trustee of the township high school; twice mayor of Princeton; for a time president of the board of health; and a member of the local pension board; died at his home in Princeton, November 6, from pernicious anemia, aged 54.

John Jay Hardin Conner, M.D. University of Michigan, Ann Arbor, 1877; a member of the American Medical Association; surgeon of the Springside Coal Mining Company and Pana (Ill.) Coal Mining Company; secretary of the local pension board; formerly president of the District Medical Society of Central Illinois, and ex-secretary of the Pana Board of Health; died at his home November 10, from acute endocarditis, aged 60.

Morgan L. Bacon, M.D. Long Island College Hospital, Brooklyn, N. Y., 1872; a veteran of the Civil War; local surgeon of the Fall Brook Railroad Company; for thirteen years school director of Wellsboro, Pa.; a member of the local pension board, and health officer; died at his home in that place, November 2, aged 72.

Samuel Sherwell Carter, M.D. Long Island College Hospital, Brooklyn, N. Y., 1895; a member of the Medical Society of the State of New York; formerly a practitioner, and president of the board of health of Haverstraw, N. Y.; died suddenly in Bartlesville, Okla., where he was visiting, October 28.

Henry H. Setser, M.D. University of Louisville, Ky., 1875; formerly a member of the Indiana State Medical Association; president of the Leavenworth (Ind.) board of health, and formerly secretary of the Crawford county board of health; died at his home in Leavenworth, November 11, aged 57.

Henry Leander Bacon, M.D. Rush Medical College, Chicago, 1894; of New London, Wis.; a member of the State Medical Society of Wisconsin; a member of the local pension board, and school board; was accidentally shot and killed while deer-hunting near Rhinelander, November 8, aged 40.

Alexander R. Stephens, M.D. College of Physicians and Surgeons, Ont.; for fifty-seven years a practitioner of Collingwood, Ont.; formerly president of the Simcoe District Medical Society; died at his home Nov. 27, 1908, from senile debility, aged 84.

Hubert L. Gill, M.D. Southern Medical College, Atlanta, 1892; of Columbus, Ga.; formerly assistant to the chair of surgery in Atlanta Medical College; died suddenly at the home of his sister in Atlanta, Ga., November 11, from heart disease, aged 40.

Charles Kimball Cutter, M.D. Harvard Medical School, Boston, 1876; a member of the American Medical Association; died suddenly while prescribing for a patient in his office in Somerville, Mass., November 11, from valvular heart disease, aged 58.

William Adie Bell, M.D. College of Physicians and Surgeons, New York City, 1887; a member of the Medical Society of the State of New York; of Yonkers; died suddenly while making a professional call, November 15, from heart disease, aged 56.

Henry Martyn Northam, M.D. University of Michigan, Homeopathic College, Ann Arbor, 1893; formerly of New Middletown, Ohio; died at his home in Ann Arbor, Mich., October 31, from cerebral hemorrhage, aged 51.

Robert James Harvey, M.D. Kansas City, Mo., Medical College, 1900; Northwestern University Medical School, Chicago, 1901; of Aguilar, Colo.; died in Lamar, N. M., Aug. 10, 1908, from pulmonary tuberculosis, aged 29.

Delevan E. Blackman, M.D. University of Buffalo, N. Y., 1878; for several years a member of the attending staff of the Buffalo General Hospital; died at his home in that city, November 11, from bronchopneumonia.

Harriette C. Keatinge, M.D. New York Medical College and Hospital for Women, 1879; a pioneer woman practitioner of New Orleans; died at her home in New York City, November 11, from heart disease.

Silas Pinckney Owens, M.D. St. Louis College of Physicians and Surgeons, 1885; president of the pension board of Moberly, Mo.; died at his home in that city, November 2, from cerebral hemorrhage, aged 53.

Isaac R. Whitaker, M.D. Tulane University, New Orleans, 1858; commander of Whitaker's Scouts, C. S. A., during the Civil War; died at his home in Utica, Miss., November 6, from malarial fever, aged 75.

Samuel Thomas Howell, M.D. Jefferson Medical College, Philadelphia, 1871; a Confederate veteran; died at his home in Eden Park, Independence, Mo., July 4, from cancer of the stomach, aged 66.

Charles Carrow Thompson, M.D. Kentucky School of Medicine, Louisville, 1872; Baltimore Medical College, 1892; died at his home in Taylorville, Ill., November 4, from multiple neuritis, aged 60.

Byron B. Pettitt, M.D. American Eclectic Medical College, Cincinnati, 1893; of Oklahoma City, Okla.; died in Fort Worth, Texas, January 27, from burns received in a fire in a hotel, aged 56.

Allen Perry Johnston, M.D. Rush Medical College, Chicago, 1906; of Chicago; formerly an interne in the Chicago Policlinic Hospital; died in that institution, February 10, from pneumonia, aged 32.

Josephine Cunin, M.D. Bishops College, Montreal, 1895; L.R.C.P. and S., Edinburgh, 1895; formerly of Montreal; died at her home in St. Margaret's Bay, Jamaica, October 24, aged 48.

Albert M. Pherson, M.D. Miami Medical College, Cincinnati, 1876; a member of the American Medical Association; died at his home in Osborn, Ohio, October 7, from angina pectoris, aged 62.

Eden E. Rhodes, M.D. Medical College of Indiana, Indianapolis, 1886; a member of the Indiana State Medical Association; died at his home in Rochester, November 7, from pneumonia, aged 52.

George R. Hazlewood, M.D. Medical College of Indiana, Indianapolis, 1880; died at his home in English, Ind., November 10.

William Ferdinand Friedhofer, M.D. Cooper Medical College, San Francisco, 1893; died at his home in San Francisco, Nov. 29, 1908, from myocarditis and interstitial nephritis, aged 45.

Frank Edwin Card, M.D. University of Vermont, Burlington, 1889; formerly of North Adams, Mass.; died at his home in Providence, R. I., November 7, from pneumonia, aged 43.

Edward Allworth, M.D. Victoria College, Cobourg, Ont., 1861; one of the oldest practitioners of Essex county, Ont.; died at his home in Kingsville, November 9, aged 73.

Rolla C. Grant, M.D. New York Homeopathic Medical College, New York City, 1879; died at his home in Rochester, N. Y., November 8, from angina pectoris, aged 65.

James Davidson, M.D. University of Minnesota, Minneapolis, 1892; formerly of Duluth; died at his home in Salt Lake City, Utah, November 9, from asthma, aged 48.

William Van Bergen Ames (license, Ohio, 1896); for sixty-four years a practitioner; died at his home in Fremont, Ohio, November 6, from senile debility, aged 88.

Charles Edwin Hall, M.D. New York University, New York City, 1873; died at his home in Greenville, N. H., November 7, from cerebral hemorrhage, aged 61.

Otis Shields Sharp, M.D. Cincinnati College of Medicine and Surgery, 1884; died at his home in Dayton, Pa., October 21, from pneumonia, aged 49.

John Christofer Nahrung, M.D. Independent Medical College, Chicago, 1897; died at his home in Smithton, Mo., August 20, from nephritis, aged 79.

John T. Cox, M.D. Miami Medical College, Cincinnati, 1870; Confederate veteran; died at his home in Moberly, Mo., November 11, aged 70.

Theodore Koch, M.D. University of Berlin, Germany, 1852; died at his home in Baraboo, Wis., November 19, from heart disease, aged 81.

Addison Hawkins, M.D. Rush Medical College, Chicago, 1879; died at his home in Denver, Colo., November 8, from heart disease, aged 61.

George Morgan Clarke, M.D. Rush Medical College, Chicago, 1903; died at his home in Los Angeles, November 11, from pneumonia, aged 33.

Amy T. Mace, M.D. Harvey Medical College, Chicago, 1897; died at her home in Chicago, Oct. 15, 1908, from splenic leukemia, aged 59.

Z. Corwin Dixon (license, Ind., 1902); died at his home in Linton, Ind., November 10, from congestion of the liver, aged 54.

Nicholas G. Thomas, M.D. Washington University, Baltimore, 1868; died at his home in Apison, Tenn., November 8, aged 63.

Collins E. Ellis, M.D. University of Louisville, Ky., 1881; died at his home in Kansas City, Mo., November 7, aged 52.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

The American Medical Association, Its Work and Its Enemies

The following is taken from the November issue of the *Ohio State Medical Journal*, from the department of "Medical Economics," edited by Dr. J. W. Clemmer:

"The Ohio delegation in the House of Delegates of the American Medical Association at the June session endorsed its policy and activities as published in the proceedings. The work of the nineteen committees, of the Board of Trustees, and of the executive department, as shown by their reports, carried on in the several branches affecting the interests of the profession, displayed untiring zeal and a business capacity unsurpassed by any other great corporation. The volume of business in organization work and in scientific attainments under the management of the House of Delegates requires and exhibits the tact and talent equal to those of any other national organization or a great railway system. Any one who will study the history of the Association in an impartial manner will find that the prosperity attending the present policy and management since 1902 is unequalled by any other great system or organization.

"Of the one hundred and fifty members of the House of Delegates, many of whom have given special and continuous attention to the interests of the Association, not one withheld his endorsement of the work of the Board of Trustees in its management of the business affairs."

"There is a reason for these endorsements. The property and publishing plant are managed in a manner to best meet the demands of a great and growing association. The Journal of the Association has no equal. The list of publications is constantly growing: The *Archives of Internal Medicine*, the National Directory, bi-monthly bulletins, a digest of new remedies, besides an increasing collection of data of interest to state boards, medical societies, colleges, legislative committees and the profession in general. The facilities have been amplified every few years. It was found necessary this year to increase the capacity of the publishing plant by a large appropriation for a new building.

"All this is in the happy contrast with non-progressive methods prior to the reorganization of the association. Membership has been doubled. The combined strength of component state associations is 67,362. The profession has been organized into an active, efficient body. It has learned its duties and its rights.

"Through the councils of the Association it has been safeguarded against the frauds and imposition of trades people. The profession has become a factor in matters of politics and sociology. Its influence is felt in state and national legislation. The medical interests of the people are made an essential factor in professional organization.

"The work of the national Association has been directed along many channels. Note the progress in medical education by improvements forced on medical colleges; note the public instruction on medical subjects by publication and a special lecturer; note the splendid work of the Council on Pharmacy and Chemistry, a work of far-reaching importance to both the profession and the laity; note the benefits that accrue to the efforts being directed to such subjects as patents and trade marks, regulation of membership in component societies, drug reform, defense of medical research, elaboration of ethical principles, etc.

"One of the most important labors conducted by the American Medical Association, that of national legislation for the public health defense, is altruistic, pure and simple, and under the leadership of our own Dr. Charles A. L. Reed. The character of this work is exampled by his activities and address before the National Association of State Food and Dairy Commissioners at its St. Louis meeting. He stood like a stone wall on the benzoate of soda question, in defense of our parent organization and the public, against the brazen coalition of manufacturing and political interests.

"In brief, all the officers and committees, bureaus and councils representing the government of the American Medical Association are accomplishing a stupendous work for the good of American medicine. The published transactions of the House of Delegates are convincing of the scientific worth and moral integrity of this work.

"The opposition of charlatans, healers and moneyed interests naturally attends the labor of the American Medical Association in the advancement of professional and public health interests." "It is to be expected that the American Medical Association will always have its enemies in and out of the profession. It is also expected that members of the organized profession will show their alliance and their allegiance to the parent organization. Members of other organizations are loyal to the principles and precepts of official regulation. Representation of component societies is provided to correct misrule. Any county society has an influence in the governing body of the American Medical Association. Each state association is represented by chosen delegates. These are the sources of our strength (or weakness) as a national organization. Progress or failure is compassed by the authority vested in state representation. Reformation of 'despotism' must issue from the same authority.

"Any one from the housetops of the profession may do much to create misunderstanding and confusion among the rank and file of a large membership. The question with the profession is whether it will give ear to such representation or trust its selected delegates. The component state associations should hold their delegates in the national body responsible for the government of that body. If definite results or changes are desired in the affairs of the American Medical Association the state association should so instruct its delegates. The recommendations for such changes would imply a careful study of the entire subject. Unbiased investigation, however rigid, can only result in good. Any suggestions for improvement of the national association which the present management or the House of Delegates may have overlooked, its members would gladly consider. On the other hand this body could not consider the grievances and complaints put in motion by any insurgents.

"The support of the American Medical Association by its large membership, if loyal to its best interests and continued progress, must adopt constructive and not destructive means. The national association will continue to be what representatives of component organizations make it and not what its enemies are striving to make it. Progress of American medicine as represented by the American Medical Association in the future as in the past, will be an index to its work. It needs no defense; it simply needs to be understood."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fourth Month—First Weekly Meeting

GENERAL SUBJECT FOR THE MONTH: INFLAMMATIONS AND INFECTIONS OF THE UTERUS AND APPENDAGES

Anatomy

Uterus: Form, size, position, important relations. Ligaments, broad, round, uterosacral. Structure, cervix, body, serous, muscular and mucous coats. Attachments of vagina to cervix. Arteries and veins, nerves. Lymphatics.

Fallopian Tube: Position, portions, structure, blood supply. Broad ligament, structure, relations, contents.

Ovary: Shape, size, position, relations, ligaments. Structure, functions. Blood and nerve supply, lymphatics.

INFLAMMATIONS OF THE UTERUS

Acute Metritis

Classification of Metritis: (a) Etiological, parturition, trauma, bacteria, etc.; (b) pathological, catarrhal, suppurative, granular, ulcerative; (c) anatomical, endometritis, myometritis, parametritis, perimetritis.

Etiology of Acute Metritis: Predisposing causes, menstrual congestion and suppression, displacement, trauma, parturition, etc. Exciting causes, gonococcus, staphylococcus, streptococcus, etc. Secondary to vaginitis, etc.

Pathology: Gross changes in uterus, changes in mucous, muscular and peritoneal coats, in lymph channels and bloodvessels. Variations in intensity of infection, extension to surrounding structures.

Symptoms: Temperature, pain, painful urination and defecation, amenorrhea, leucorrhea, enlarged tender uterus, etc.

Treatment: Palliative, rest in bed, anodynes, douches. Expectant indications. Surgical indications and technic for curettage, for vaginal section.

REFERENCE BOOKS FOR THE MONTH

Dudley: Principles and Practice of Gynecology.
Ashton: Practice of Gynecology.
Montgomery: Practical Gynecology.
Reed: Text-book of Gynecology.
Webster: Diseases of Women.
American Text-book of Gynecology.

Society Proceedings

COMING MEETINGS

American Physiological Society, Washington, D. C., December 28-30.
Southern Surg. & Gynecological Assn., Hot Springs, Va., Dec. 20-21.

AMERICAN PUBLIC HEALTH ASSOCIATION

Thirty-seventh Annual Meeting, held at Richmond, Va., Oct. 19-22, 1909

(Concluded from page 1762)

Teaching Hygiene in Elementary Schools

Miss Isabelle F. Hyam, Dorchester, Mass.: The state has taken on itself the education of the children, and it seems reasonable that as much attention should be given to the child's body as to its mind. Children can rarely change their own environment, but in many ways they can control their ives in an effort at better living, if they are properly prepared. The school-house and school-room should be examples of cleanliness, and afford every means to help the child to ive. It would seem hopeless to teach hygiene when the child has but to look about and see filth. The child is the center of his little world, and is most closely concerned with the home. The facts in the home are care of the home, furniture, food and its preparation, hygienic clothing and personal hygiene. The first lesson in ventilation is that there must be an outlet for the foul air at the top of the room, which can be illustrated and emphasized in a cardboard of block house. Scientific impersonation plays a large part in the education of the child. For some children who are physically unfit only the open-air school is proper. They learn to love the open air, and the benefits of such a school are obvious. Health is fundamental and in the school the child should be trained in habits of health. In order to accomplish this end conditions n the school-room must be wholesome. The school should be well-lighted and the air fresh. There should be time for play out of doors and facilities for bathing.

School Instruction in Hygiene and Sanitation

Dr. John W. Richie, Williamsburg, Va.: I shall refer only briefly to hygiene, limiting the scope of my remarks to the public school, between the fifth grade and the high school. The teaching of sanitation has proved a great success because it s made so simple that it can be taught to pupils below the high-school age. We force the pupil to examine everything and state the conclusions to be drawn from the evidence, and when the pupil accepts as facts what his own reason tells him is true, this is called the open-mindedness of youth. Much good can be done by teaching the facts as to a few specific diseases. Pupils need to be taught about the microscope, and plants and animals that grow in the body and cause disease. They need to be taught something of the defense of the body gainst germs in order that it may not seem a monstrous hing to put matter from a cow into the human body. They must be made to understand that food and fresh air are more mportant than "patent medicine." My experience has been hat it is a perfectly simple matter to give the theoretical background to children, and he who would shorten the subject by omitting the simple remedy is in danger of breaking the ircuit altogether. Everywhere we find intelligent people who believe in sanitation, but even among those people there is gnorance of the simplest principles of bacteriology. They eem to have no idea of what a real disease germ is, but burden themselves with useless precautions. For instance, they filter the water from the roof to free it of typhoid fever germs, overlooking entirely the closet in the back yard. The subject of sanitation should be allowed sufficient time to give pupils some understanding of the subject, and the pupils should be liberally supplied with printed matter for study. Bulletins should be sent to the teachers as well as to the pupils. This teaching has a decided effect in educating the parents as well as the children. The public drinking cup disappears quickly where sanitation is taught. The old hygiene was not practicable, but the new hygiene is practicable, and we should see to it that in teaching hygiene the conditions should be hygienic in the school-room.

The Way to Study Hygiene in the Normal Schools

Dr. Adrian De Garay, Mexico City: The difficulty in this matter has always been as to the manner and form in which such knowledge is promulgated. It is necessary to give the best instruction to all the world, but above all in the primary schools. It is in a condition of health that the citizen becomes of value to the country. There should be two courses of hygiene, one general and the other special, each taught with thoroughness. We should try to make hygiene as well as other studies as practical and interesting as possible. Practical instruction can be given in three ways, the chemical and bacteriologic laboratories, by excursions and study in such places as theaters, water-supply houses, public buildings, etc., and by hygienic amusements. Hygiene should be one of the principal subjects taught in normal schools; it should be studied during the last part of the term; instruction should be given in an entirely practical and agreeable manner, laboratories established and hygienic trips organized.

Instruction in Personal and Public Hygiene in the Medical College

Dr. F. F. Wesbrook, Minneapolis: Those in public health work are hard on the doctor, although we realize his difficulties, and we recognize that he has perhaps been the leading spirit in all the advances of hygiene. I am a teacher, and not a practitioner, yet I wish to pay my tribute of respect to the medical profession, which, through the American Medical Association, is doing its best to raise the standard of the profession by seeing that none may enter who are not well prepared. It is the desire to prepare the medical man to regulate matters, in conjunction with other forces with which he will come in contact, very much more than he has done in the past. While we do not expect to make them all medical hygienists, we do expect to prepare them to work with such forces as we have represented here.

Results of Federal Control of Viruses, Serums, Toxins and Analogous Products

Dr. John F. Anderson, Washington, D. C.: The results of Federal control have been: (1) Manufacturers have been required to put their barns, stables and laboratories into sanitary condition. (2) There has been complete separation of tetanus and tuberculosis work from the work of producing diphtheria antitoxin. (3) All establishments are required to be equipped with proper laboratory facilities. (4) Each lot of virus is required to be examined bacteriologically, and a special test made for tetanus bacilli, and detailed records kept of such examination. (5) The sale of the old style "dry" lymph points is no longer allowed. (6) All animals used for propagation of vaccine virus are required to be autopsied, and if the animal has been suffering from an incurable disease the virus is not allowed to be sold. (7) All serums are required to be examined where standards have been established for toxic contamination, and correctly labeled, and to state the date beyond which they cannot be expected to yield their specific effects, and to contain no excessive amount of preservatives. (8) Standards for diphtheria and tetanus antitoxins have been established.

How an Enlarged and Uniform National Health Administration May be Secured

Dr. Joseph Y. Porter, Key West, Fla.: The phantom of offended dignity has often arisen in the past to arouse suspicion of improper interference when the Federal government, through interstate commerce, has stopped to interpose authority, even in an advisory manner in the management of public health matters. This is true to-day, particularly in Massachusetts, Ohio and Illinois, in reference to sanitary matters, and the control of disease-producing conditions within their confines. By advocating an enlargement of the powers of the general government in health control throughout the country which shall be uniform and impartially administered in all sections of the country, it is not herein desired that the arguments advanced or the opinions expressed shall be understood as recommending or advising that the health police powers of a state shall be abridged or superseded by the general government, but rather that some of the difficulties in the present system of administration may be remedied and the awkwardness of many existing conditions corrected.

Tuberculosis from a Maritime Prophylactic Point of View

Dr. Antonio Matienzo, Mexico City: Having demonstrated that tuberculosis is a social danger, and that it finds at sea excellent conditions for the breeding of the germ which propogates it, I would propose that an office for medical inspection be established in the principal ports under the control of the sanitary authorities, fully authorized to examine every passenger, and to require steamship companies to establish in all their ships a special department with berths for tuberculous children. The infection of the air having been proved, this is all which should occupy the attention of the hygienist. All people should be prevented from expectorating on the floor and in the berths, and for all tuberculous passengers there should be placed some concise precepts in the room relating to the danger of expectoration to the patient himself as well as to every one else.

What May be Done to Improve the Hygiene of the City Dweller

Dr. S. A. Knopf, New York City: It is by thorough training of ourselves as physicists and sanitarians, the awakening of statesmen and philanthropists to their duties regarding public health and public welfare, the education of employer and employees, of the men and women of all classes of society, in general and personal education of the child at school and the practical application of the combined knowledge and experience gained in modern society, pedagogy and medicine that we may hope to make of the child of to-day the citizen of to-morrow, the ideal man or women, strong, healthy and vigorous, noble and even beautiful to behold. The general hygiene, which concerns all classes alike is that part for which federal, state or municipal health authorities, through their agents or officers, must be held responsible. There should be a more thorough method of cleansing glasses and spoons at soda fountains, and the placing of cuspidors where they can be used. The leather straps in the street cars should be replaced by celluloid straps. The average child should not be sent to school before eight or nine years of age and every city should have an abundance of outdoor playgrounds. Thousands of acres of roofs should be utilized for this purpose. Botanical excursions should be indulged in and respiratory exercises carried on. There is a great race suicide among the poor of New York City inasmuch as many of the children either die young or till the schools in an undeveloped and unfit physical condition.

Prophylaxis in Exanthematic Typhus

Dr. Genaro Escalona, Mexico: In the central table land of the Mexican Republic typhus assumes an endemic form; the mortality reaches a very high figure. The physicians of Mexico agree that Mexican typhus presents certain characteristics that are different from the European type. The disease does not have a sudden development. There is a period of ascension and descension through irregular manifestations. Three important points may be considered: (a) The sanitation of the town; (b) the disinfection of the premises occupied by the patient; (c) the disposal of articles coming in contact with the patient. The patient should be isolated and his bed-clothing disinfected by boiling or destroyed by fire. All toilet utensils should be well disinfected and the excreta should be carried off through the drain by an abundant amount of water. The skin should be bathed and the hair cut, as well as the mucous membrane disinfected.

Transmission of Syphilis by Vaccine

Dr. Francisco De Bernaldez, Mexico City: The Jenner or arm-to-arm vaccination against smallpox has been discredited by almost all nations because of the possibility of syphilitic inoculation. We are now well aware that in order that this may take place it is necessary to have well-studied conditions, but much care must be used in collecting the lymph. From observations already made, it is stated that the lymph must be taken from persons over three years of age, that being the age at which hereditary syphilis makes itself apparent. The vaccine pustules must be of seven days' growth because the contagious infiltrations have a longer period of incubation. The transmission of syphilis through the agency of humanized vaccine can easily be avoided if we know the conditions under which such transmission is possible. The Jennerian vaccine is to be recommended because it confers a greater degree of and a more lasting immunity.

Report on Yellow Fever in the Mexican Republic from August 25, 1908, to Date

Dr. Edouardo Liciaga, Mexico City, Mexico. This is my sixteenth annual report as to the presence of yellow fever in Mexico. There are a number of isloated cases in different parts of the country. In Cuba native children are supposed to contract yellow fever in a mild form, and thus infect mosquitoes, thereby giving rise to isolated cases of yellow fever. The covering with oil of standing water, filling up holes, fumigation of dwelling houses and surveillance of railway passengers constitute some of the means at present employed in fighting this disease. In the ports of Coatzacoalcos, on the Gulf Coast, and Salina Cruz, on the Pacific, it is nearly four years since a single case of yellow fever has been observed.

Necessity of Isolating Syphilitic Prostitutes to Prevent the Propagation of the Disease

Dr. Joaquin Huici, Mexico City: The prophylaxis of syphilis is a serious and interesting question, and has given rise to a division among scientific men. This disease has caused more ravages in the human race than any other transmissible disease, not only rendering the individual useless for work, but endangering those with whom he comes in contact. A uniform set of regulations to control prostitutes should be adopted. Governments are under obligation to enact provisions tending to prevent the transmission of disease, and syphilis and gonorrhea being continually transmitted, should be included in that obligation, as public women are the principal sources of those diseases, and they are the ones to whom such provisions should be applied

Efficient Means of Checking Syphilitic and Gonorrheal Contamination

Dr. Juan Brena, Zacatecas, Mexico: The efforts of an association like this would be fruitless without the cooperation of the social classes. In the effort for the extermination of leprosy and tuberculosis the people join spontaneously, but this is not true with reference to venereal disease. Fortunately, the conviction has grown as to the practical utility resulting from giving universal publicity to clear rules establishing the conditions which render immune communications between the healthy and venereal subjects. Pupils in schools are taught the evils resulting from the use of tobacco and alcohol, and it would be a meritorious work to instruct the older pupils regarding the deadly action of impure pleasures. Literature should be distributed explaining the gravity of these diseases, and the means of prevention. Municipal physicians and others appointed for the purpose should attend these patients free of charge and lectures on the subject should be provided for.

Scope of Public Hygiene in the Betterment of the Home Life in Towns and Cities

Mr. Robert W. Bruere, New York City: Every one seems to take it for granted not only that disease is curable, but that it is the business of the medical profession to cure it or to prevent it. It has been many years since the medical profession was regarded as a dispenser of medicine, and not as a preventer of disease, more particularly social disease. Last year there were 10,147 deaths from tuberculosis in New York, and about the same number the year before. The death-rate from other diseases has greatly decreased during the past seven years in New York, but this has not been the case with tuberculosis. Last year one association had charge of 4,000 infants, and everything was done that was possible by simple education and the teaching of hygiene to reduce mortality. The great difficulty encountered was that the mothers were not able to purchase the food that those children required; 10 per cent. of them were forced to earn wages away from home, and over 73 per cent. of the mothers belonged to families where the income was less than $15 a week. That is $300 or $400 ess than the Committee on Standard of Living maintains is necessary for the average family. The medical profession has done much to teach the world that disease can be successfully prevented only when it is attacked by an organized community, but I believe that the death rate cannot be cut below 0 per cent. until the problem of the poverty of the worker is attacked.

Scope of Public Health in the Prevention of Dependency

Mr. Homer Folks, New York City: Public health work ncludes both the education of the individual and the community, and if the work could be carried on comprehensively, efficiently and adequately the number of dependents would be greatly reduced. Ill health is a prolific cause of poverty, whether due to individual or social causes. The first strong movement in New York for the prevention of tuberculosis was organized by a society concerned with the relief of the poor. Much remains to be done in the prevention of typhoid, while diphtheria, whooping-cough and scarlet fever are gradually being brought under control. We shall not make prominent headway against alcoholism until we have the support of public health authorities. The movement for the prevention of enereal diseases, from which the public-health authorities annot much longer hold aloof, must ultimately result in a reat lessening of the demand on our hospitals, institutions or children, institutions for the blind and insane asylums.

Sanitary Requirements of Ventilation

Dr. W. A. Evans, Chicago: Good air is the most important roblem before health departments. Ten thousand deaths a ear from bad meat, bad water or bad milk would produce a world-wide scandal, yet we accept 10,000 deaths from bad air with complacency. The following are the basic sanitary principles of ventilation: 1. Attention must be concentrated on he habitual zones of a room, meaning a space from 4 feet bove the floor to 6½ feet above. 2. Dead zones and corner ddies must be encouraged as settling places for bacteria. Such paces must be cleaned daily with moist methods. 3. The reathing zone must be occupied by an even-up current of air, moving at the rate of at least 60 feet a minute from multiple oor inlets to multiple floor outlets. The temperature of the ir reaching the breathing zone should never be higher than 0° F. and is better if it is under 70°. 4. The ventilating air should never enter the room at more than 40 degrees below ody temperature. 5. Air ducts must be short. 6. No par-cular attention should be paid to humidity. 7. The volume f air per quiet person per hour should be five hundred feet. Under no circumstances should the windows be fixed, but a ale of wind should be allowed to blow through each twenty-four hours.

Ventilation of Industrial Establishments

Dr. C. T. Graham Rogers, New York City: The Department of Labor of the State of New York has done much toward the betterment of public health in that state, besides hich the Commissioner of Labor has sent a representative of the department to participate in this meeting. Some 430 separate air tests were made during six months of the fiscal year 1908, and a complete tabulation of the results may be found in the Eighth Annual Report of the Commissioner of Labor. Great strides have been made in improving the ventilation of schools and dwellings, but comparatively little progress has been made with the factories. It is to be hoped that some means will be secured to impress the laity with the importance of the subject. Inspections have been made of the New York bakeries, potteries, polishing and buffing rooms, tailor shops, cigar factories, clothing shops, jewelry stores, department stores and others. The cry in the past has been for more light, but now it is for more air. We need both, increasing the resistance of the body to disease, and making the nation stronger physically, mentally and morally.

Cooperative Efforts in Supervision and Control of Milk Supply

Dr. F. D. Bell, New York City: The Board of Health of New York City requires a permit from every milk dealer in the city, and if the dealer does not conduct his business in accordance with the requirements he is brought into court. The average milk dealer knows little about the chemistry or bacteriology of milk, and an absolutely sterile milk is almost impossible to obtain because the public is not sufficiently educated to exact this quality of milk. The public is unwilling to pay for such a grade of milk, and the dealer and the average producer are not of a type capable of producing this quality. The average dairy farm is too small to produce milk economically and the dealers are unable to afford any systematic laboratory supervision, or proper buildings and apparatus which we have come to believe are necessary for the production of pure milk. Regulations have been promulgated with the health authorities which, if rigidly enforced, would mean that the towns would be without any milk supply at all. The dealer and health officer should consider themselves friends, and such a feeling can be brought about only by the gradual process of developing mutual confidence.

An Investigation of the Extent of the Bacterial Pollution of the Atmosphere by Mouth Spray

Mr. C. E. A. Winslow, Brookline, Mass.: With the progress of exact knowledge sanitarians have been led to place less and less emphasis on the part played by the atmosphere in the spread of zymotic disease. It has been shown that quietly inspired air is germ free and most of the particles in the mouth spray are rather coarse and settle rapidly. It is not intended to minimize the real danger from mouth spray, as large numbers of bacilli are discharged in coughing by consumptive patients. Ziesche found in one case 20,000 tubercle bacilli on a glass plate of fifty square inches in area when exposed for half an hour from 16 to 32 inches in front of the mouth of a tuberculous patient. In workrooms, offices and such places the space between the heads of the workers should be at least three feet. This furnishes no basis for a belief that tuberculosis or any other disease is contracted to an appreciable extent through the inspired air, as the spray quickly settles and the conviction is not generally gaining ground that aërial infection of any sort is a minor factor in the spread of zymotic disease.

Sex Problems in Industrial Hygiene

Mrs. Florence Kelley, New York City: It is more than one hundred years since the working people of England first began in the name of public health to get a shorter day for women. In 1847 a bill was passed in England limiting woman's labor to ten hours, but in 1895 in the enlightened state of Illinois, the Supreme Court held that it was unconstitutional to grant to women the same degree of protection. In the majority of our states it is lawful to require women to work in a factory or laundry or store any number of hours that a rush order may require. Our legal procedure is very curious. The Supreme Court is presumed to know only those items of common knowledge specifically laid before it, and it was necessary to collect some 162 pages of common knowledge. For some time there was a law in New York that girls should not work in the stores after 10 o'clock, but it was not enforced because of the claim that there were more important matters to look after. Failure to enforce this law proved in some cases just as fatal as strychnin. About twelve years ago the miners of Utah secured an eight-hour day because they worked underground, but the bakers of New York, who also work underground, failed in their efforts.

Relation of Life Insurance to Public Hygiene

Dr. Lee Frankel, Metropolitan Life Insurance Company: In no other country of the world would it be necessary to explain the relation of insurance to industrial and social hygiene. In Europe insurance is compulsory, and in the larger European cities the great mass of citizens are insured along the line of prevention. Our company distributed 4,000,000 pamphlets, entitled, "The War on Consumption," calling attention to the fact that there are places where the individual may obtain treatment. We desire to cooperate with any agency in the community toward the prevention of tuberculosis and other preventable diseases. In Chicago we were asked to distribute copies of the ballot, which enabled the people of that city to secure a municipal sanitarium. We are now making experiments of sending a nurse to every sick policy-holder, and have been successful so far. Our policyholders are being visited weekly, and if desired this association may make use of our organization in the promotion of public health.

Scope and Value of the Daily Press and Press Bureaus

Dr. John A. Kingsbury, New York City: The scope of publicity in public health is as broad as the scope of publicity in politics, and in order to be effective it must be made as striking as it is possible to make it. It is our problem in public health to arouse slumbering humanity to a full realization of the meaning of the frightful fact that disease germs cause the death of over fifty per cent. of the human race, and that in addition to this suffering and poverty which can hardly be imagined, we must convince the public that this great sacrifice is almost wholly needless. It is only within the last few years that there has been any considerable demand for the knowledge given the world almost a quarter a century ago by Koch. We must learn from the "patent-medicine" man his secrets of publicity. The trouble so far is that all the money that has been given in this field of work has been put into the manufactory department and the advertising end of the business has been almost entirely neglected. We must get our goods into circulation. Moreover, there is a lack of proper cooperation between the producing and developing departments of our work. The American Public Health Association has long been in the business of producing knowledge of inestimable value. If advertisements can create new wants and new desires the satisfaction of which builds up business for others, surely practical publicity can create a demand for such knowledge, and the nature and scope of such work would be limited only by its ability to get results.

The Physiologic Aspects of Ventilation

Dr. Theodore Hough, University of Virginia: There is no argument against the hygienic importance of ventilation. The history of the subject shows that it is not so simple as is often supposed. The poisonous material in the air of the room does not come from the lungs but from the skin, clothing, decaying food particles in the mouth or catarrhal exudates, from the air passage. It is important to distinguish between the acute effects following exposure to vitiated air and those effects which are produced by prolonged exposure. The toxic material, so far as it is a factor, does harm chiefly when it acts over a comparatively long period, and we must seek elsewhere the explanation of the acute effect. While the introduction of fresh air is of great importance in removing the unfavorable physiological factors, it is even of more importance to maintain an even temperature of from 68 to 70° F., since at this temperature the humidity is almost negligible, while the other ill effects, especially on the nervous system, seem to be less noticeable and less important.

Age Problems in Industrial Hygiene

Dr. Owen R. Lovejoy, New York: In many states we are embarrassed by the attempt to secure the enactment, and after that the administration of laws regulating the ages at which children shall be employed, because of the fact that it is impossible to tell when the ages began. The relation of age to industrial employment needs no discussion, yet we constantly meet ignorant people who think that a child is a small man, and that burdens which are proper for the man are proper for the child, if measured according to the child's age. There is a period between 10 and 16 that is so revolutionary in its nature as scarcely to be exceeded by the needs of the infant. It may be safely predicted that the awakening to the dangers of typhoid and other diseases will in another decade make the health department one of the most important, if not the most important department in any of our city governments. It has been assumed that the best employment for the child is agricultural, but it has been shown recently that on many truck farms conditions prevail that are seriously detrimental to the child. Health officers should carefully study the relation of the industrial education of the community to the development of the physical life of the child.

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES

Eighteenth Annual Meeting, held in Washington, D. C., Oct. 5-8, 1909

(Concluded from page 1769)

How to Keep War Ships Free from Infective Diseases

Surgeon R. C. Holcomb, U. S. N., showed first the prevalence of contagious diseases at the large training stations and outlined for discussion a method of keeping recruiting rendezvous free from infection. The recruit goes first to the receiving division, then to the observation division and finally to the clean division, from the latter of which the drafts are selected. He advocates barracks of the bungalow type, housing six men each, and constructed with a view to ease of disinfection. With this type of barracks less men are exposed when an outbreak of disease occurs and the work of disinfection is simple and relatively easy. The records of all epidemics on receiving ships are connected with overcrowding. The training station is an outgrowth of the old-time receiving ship.

Surgeon M. F. Gates, U. S. N., discussed the reception and care of recruits received on board ship. He believed that infections should be eliminated prior to the transfer of the men to ships, as receiving stations are sometimes foci of infection. Men should be inspected immediately on their arrival. Segregation is desirable. It is most important to have history of the recruits and a separate health record for the medical officer is desirable. He spoke of the value and needs of isolation wards, deck camps for isolation, camping parties for convalescents and then took up seriatim the consideration of the communicable diseases and the prevention of their spread. The essentials for the most ideal results are alertness of the medical officer and repeated inspection.

Surgeon C. M. Fiske had assigned to him the portion of the discussion referring to the care of the crew of a ship undergoing repairs in a navy yard. Medical officers must be familiar with local hygienic conditions as to climate, food and water supply, sewage, prevalence of infectious diseases, facilities of the station, etc., and must be prepared to make recommendations prior to arrival. The limitations of naval authority in the neighborhood must be taken into consideration. The conditions which attend the repairs of a ship in a navy yard are likely to be unhealthy; infectious diseases are usually introduced. The most efficient remedy lies in the unit barracks. Evil influences are the presence of civilian workmen and visitors on board, liberty parties, the food furnished by local contractors, the non-availability of sanitary systems on board, the proximity to shore, which favors the introduction of insects and vermin and the failure of civilian authorities to control contagious disease. They should be urged to report any indisposition however trivial. Daily exercise should be required. Workmen on board should be required to observe the regulations for the safeguarding of health. Separate toilets and other facilities should be provided for civilian employees. Fresh provisions should be carefully inspected The laboratories of local hospitals should be utilized to detec bacilli carriers. There is need of a practicable system o drainage of a ship, when in dry dock.

Surgeon D. N. Carpenter, U. S. N., described the genera and special measures for the care and protection of crews o ships in infected ports, including quarantine and sanitary recommendations, the duties of medical officers in infected ports, the sources of information regarding epidemics, th action to be taken in case infection occurs on board and the special measures to be taken in case of various national quarantinable, infections and contagious, parasitic and venereal diseases.

The Public Health and Marine-Hospital Service

Surgeon Charles P. Wertenbaker, U. S. P. H. & M.-H. Service, in his paper on "The Duties of the Public Health and Marine Hospital Service," gave an exposition in general terms of the work done by the service and showed partially the oints of contact between the spheres of the different services, hus indicating what the relations of the service might be to he medical departments of the army and navy.

Surgeon George B. Young, U. S. P. H. & M.-H. Service, liscussed the possible relations between the Army, Navy and he Public Health and Marine-Hospital Service under the imitations of the existing law. There has never been any ttempt to set forth briefly the legal status of the Public Iealth and Marine-Hospital Service to the other services as egards precedence, mutual support and possible interdependnce in time of peace and war.

Medical Inspector L. W. Curtis, U. S. N., expressed his ppreciation of the assistance rendered by the Public Health nd Marine-Hospital Service during the recent cruise of the American battleship fleet. Advance information was frequently given in reference to the sanitary conditions in ports t which the fleet was about to call, and in other ways, the hip's surgeons had been materially assisted in keeping disase away from the fleet.

Lieut.-Col. G. C. Jones of the Canadian Medical Service tated that his long experience in public health work had led im to appreciate the value of the Public Health and Marinelospital Service, and that he had received most valuable nformation and assistance from the weekly reports issued by he service.

Laboratory Demonstrations

The association adjourned to the Public Health Laboratory, here the director, Passed Assistant Surgeon John F. Anderon, U. S. P. H. & M.-H. Service, described the scope work of e laboratory, and the chiefs of divisions demonstrated each is especial line of work. Afterward the members examined e laboratory and witnessed demonstrations of various kinds.

Entertainment

The entertainment provided for the members was lavish d varied. A reception was given in honor of the foreign legates by Surgeon General Presley M. Rixey, U. S. N., resident of the association, at his residence. Medical Director hn C. Boyd, U. S. N., gave an informal buffet luncheon to embers and foreign delegates at the New Willard. The embers, foreign delegates and ladies were the guests of the esident of the association and Mrs. Rixey at their summer sidence, Netherfauld, Va. A mounted drill was given in e drill hall at Fort Myer through the courtesy of Col. arrard. The Surgeon-General of the Army and Mrs. Torney ve a reception in honor of the association and its guests at e Shoreham. An automobile ride around Washington was ranged by the committee and participated in by the visitg ladies and many of the members and on the last afternoon e Surgeon-General of the Public Health and Marine-Hospital rvice invited the members and guests to luncheon and an cursion to Mount Vernon on board the U. S. revenue tter *Apache*. The women's entertainment committee held informal reception for the visiting women at "The Highnds" and gave a luncheon for them at the New Willard otel.

Banquet

The official banquet in honor of the foreign visitors was ven in the red room of the New Willard Hotel October 7. vers were laid for 125. Surgeon-General Rixey, U. S. N., esided and Medical Director John C. Wise, U. S. N., officiated toastmaster. The toast to the foreign countries represented delegates was responded to by Sir Alfred Keogh, Royal my Medical Corps, the senior foreign delegate, who expressed s appreciation of his cordial reception and of the hospitality the association.

Advertisements

The executive committee decided to exclude all advertisements from the *Military Surgeon* excepting those approved by the American Medical Association. It also decided to increase the subscription price to $2.50 a year. Members hereafter will pay $3.50 per year, of which $2.50 will be applied as subscription and $1 as the annual dues.

Members Present

There were 172 who registered at the meeting. Of these 31 were representatives of the Army, 33 of the Navy, 12 of the Public Health and Marine-Hospital Service, 56 of the National Guard and Naval Reserve, 18 of the Medical Reserve Corps, 4 acting assistant surgeons, U. S. A., 3 officers of United States Volunteers and 1 Canadian officer.

MINNESOTA STATE MEDICAL ASSOCIATION

Forty-first Annual Meeting, held at Winona, Oct. 12-14, 1909

(Concluded from page 1768)

Right Inguinal Hernia and Concurrent Appendicitis

Dr. Walter Courtney, Brainerd: Observation of conditions found at the mouth of the hernial sac and the occasional necessity for post-herniotomy appendicectomies have led me, since 1904, to explore systematically and to remove diseased appendices through the internal ring when operating for the radical cure of right inguinal hernia. Since that time I have performed seventy-six appendicectomies in this manner. The result of this work has demonstrated the existence of concurrent appendicitis in a great majority of my cases of right inguinal hernia. As is well known, there is greater frequency of right over left inguinal hernias and the possibility of appendicitis as an etiologic factor should be considered. The operative technic offers no great difficulties in the majority of cases. The educated finger frequently can find and withdraw the appendix through the internal ring. Failing in this one or more narrow retractors may be inserted through the ring, permitting a view within the abdominal cavity; the cecum can thus be recognized by its blue or grayish color and withdrawn by rubber-tipped forceps. In only one case during the last two years did I find it necessary to go above the internal ring to explore and remove the appendix. No postoperative complications have followed this method of performing appendicectomies in my work.

DISCUSSION

Dr. Archibald McLaren, St. Paul: I think that in the past few years many surgical men have been led to the same truth, probably in the same way as Dr. Courtney. My first experience was much the same; I found a gangrenous appendix in the hernial sac. It is always a wise thing to remove the appendix under those conditions. I have had to make the cross-muscle incision oftener than Dr. Courtney has, and that is because I have not followed exactly his line. I find that one incision is much better than two separate ones, but if there is any difficulty in reaching the cecum that is the muscle incision that will least weaken the abdominal wall and if the surgeon cannot do the work properly through one incision there ought to be two.

Dr. A. T. Mann, Minneapolis: Two years ago I wrote a paper in which I mentioned the three classes in which we are liable to make a mistake. In one of the classes are the cases in which there are few symptoms, irregular, perhaps only a few symptoms of indigestion, an individual has more or less repeated attacks of indigestion that do not come from any known cause nor with any regularity that might point to any definite cause. In these cases, instead of making a diagnosis of chronic indigestion the physician should find out whether the appendix region is tender. If the patient complains of tenderness on this side then a definite examination of the appendix should be made, and if it is from the appendix the case is one of subacute exacerbation of chronic appendicitis, which may not have given further symptoms up to that point to call attention to the trouble, but which is liable to cause an acute attack and a bad attack and the appendix should be removed.

Dr. R. C. Dugan, Eyota: I have several times seen the appendix present in the hernial sac and now make a rule to obtain permission for its removal in all cases of right inguinal hernia. Such permission should be obtained in every case in which the abdomen is opened. In the future I shall follow Dr. Courtney's plan. I believe that the slight stretching of the internal ring, instead of being a menace to success, will rather be a benefit. Several times I have purposely cut the upper edge of the ring when the internal ring was round and indurated. I have had several patients complaining of sudden pain in the right side following a strain that simulated appendicitis very closely, but on passing the finger through the external ring a bulging at the inner ring could be felt. These patients are frequently cured by wearing a truss for a short time and are the only cases of hernia for which I ever prescribe a truss.

Cancers of the Cecum

Dr. W. J. Mayo, Rochester: Carcinoma of the cecum usually has its origin close to the ileocecal valve, therefore both the ascending colon and cecum are involved. The lymphatic drainage extends into the lymphatic glands at the base of the right colic artery and also into the ileocolic group. For all practical purposes malignant disease of the cecum and ascending colon can be considered as one. In estimating the feasibility of removing malignant diseases of the cecum examination of the liver for embolic carcinoma should not be forgotten. In our experience hepatic secondaries have been a larger cause of contraindication to radical operation in mechanically removable tumors than inoperable glandular metastasis. Rectal examination should be made for carcinomatous nodules in Douglas Pouch, the discovery of which would indicate an operable condition. The most important feature of surgery of the cecum is the question of obstruction. The mortality of necessary operations can be closely measured by the degree and acuteness of the condition. The late acute conditions should be treated by preliminary enterostomy. If immediate resection is made in obstruction the distended proximal gut should be emptied by Monk's tube. The most important technical feature in the operation for cancer of the cecum is the mobilization of the intestine for purposes of operation. The large intestine has a long mesentery. All its blood, nerve and lymph supply lies in the inner leaf of the mesentery and arises from the abdominal aorta and vena cava or in that vicinity. It is true that the outer leaf of the mesentery is exceedingly short if not absent in the ascending colon, but as the outer leaf contains no structures of importance it is only necessary to divide it, lift any part of the colon from its bed and swing it on its inner leaf to the midline. In separating the cecum and ascending colon and ligating the blood vessels identify the duodenum and ureter.

It will sometimes be found that a neighboring viscus has become involved and attached to the malignant growth. If conditions are otherwise favorable this should not be looked on as a contraindication to operation and multiple resections are made simultaneously.

The first steps in the resection of the cecum and ascending colon are: 1. Free incision through the right rectus muscle. 2. Liberation of the cecum and ascending colon by an incision through the outer peritoneal attachment. 3. With a piece of gauze the intestine with tumor and fat is wiped clean to the muscles as far as the superior mesenteric origin of the ileocolic and right colic vessels, which are tied at once enabling an accurate dissection of the mesenteric glands and fat. 4. Clamp hepatic flexure and lower ileum at proper points and remove the diseased segment. 5. Ligation of ends and sterilization. 6. Close the bowel ends with purse-string sutures. 7. Ileocolostomy, usually lateral anastomosis. 8. Closure of the mesenteric rent and the covering of the denuded surfaces with peritoneum.

DISCUSSION

Dr. Archibald McLaren, St. Paul: The way I have usually done is to start from the other side, but the next attempt I make shall be from the outside, because I am sure that is the practical way. In these tumors when it is necessary to make resection of the intestine my experience is that it is very unsatisfactory. I was amazed in looking over my own statistics to see how very unsatisfactory the results have been that I have obtained so far; 60 per cent of three-year cures is infinitely better than I have been able to get. Tuberculous growths are also of the same character and it is necessary to have a growth under the microscope before one can tell whether it is malignant or tuberculous in character.

SYMPOSIUM: COOPERATION OF STATE FORCES IN MINNESOTA MEDICINE

The State Board of Health

Dr. H. M. Bracken, Minneapolis: The opportunities for cooperation between organizations interested in public health matters is almost unlimited. The forces interested in public health are:

(1) State Departments:

- The Governor of the State.
- The State Board of Medical Examiners.
- The State Board of Health.
- The State Medical Society.
- The Department of Public Instruction.
- The Dairy and Food Department.
- The Labor Bureau.
- The Live Stock Sanitary Board.
- The State Board of Control.
- The State Drainage Commission.

(2) Schools and Institutions:

- Public Schools.
- Colleges.
- Normal Schools.
- The University.
- Medical Schools.
- State Institutions.

(3) The People:

- The Federation of Women's Clubs.
- The Commercial Clubs.
- The Labor Organizations.
- The Charities Organizations.
- The Municipal League.

Public health matters should be a common meeting ground for the above representative bodies and the State Sanitary Association affords the opportunity for such work. The Minnesota State Medical Association should take an interest in reaching the people through lecturers and through the county medical societies. Public health lecturers should be in the field; the tuberculosis exhibit should become a traveling exhibition rather than being specialized as now and necessary means should be obtained through the legislature for carrying on a campaign of education and meeting the necessities involved in the work. The Minnesota State Medical Association should take a deep interest in the work of the Minnesota State Board of Health, and someone should be kept at the capitol interested in legislative matters during each session of the legislature. Legislators are not well versed in matters pertaining to public health and it is easy for some selfish individual to kill a bill relating to medicine. The State University can do a great work by sending out students from the academic department with some knowledge of the principles involved in public health, while the special departments, such as medicine, law and engineering, should give their students some training in such matters.

The State Board of Medical Examiners

Dr. F. A. Knights, Minneapolis: All medical forces in the state ought to be influenced by the State Association because it is in position best to voice the sentiment and further the interest of the profession in the state. Much misunderstanding has existed as to the duties of the board. Many members of this society suppose it to be the function of the board to regulate illegal and irregular practice throughout the state and legally to prosecute the offenders. This is not the case, but, recognizing its moral obligations, also the demand of the profession, prosecutions have been brought which have almost uniformly been unsuccessful. For this the board has been severely criticised. Cooperation should be promoted and this effort would tend probably in the regulation of irregular practice. If Dr. McCormack were with us always he might educate the people for us and the rest would be easy. If Ramsey and Hennepin counties were sufficiently interested to assess their members from $3 to $5 each for three or four years and spend the money judiciously they could clean up the two cities. The rest of the state could be cleaned up if each member of this association would put up $1 for the same length of time. The services of an expert might be secured who should procure and collect evidence, put it in shape for use, give advice as to the best method of procedure by the county societies and spare the local men the annoyance of the thing so far as possible. This would require money, but it would be bread cast on the waters.

The State Board of Control

Dr. H. C. Tomlinson, St. Peter: I hesitate to speak of public institutions and their management, because in the eighteen years I have been a member of the Minnesota State Medical Association I do not recall ever having received a word of encouragement or any evidence of interest in the work of these institutions on the part of any member of the association. It may surprise you to know that under the State Board of Control there are over 6,000 people who require more or less constant medical supervision and that twenty-two medical men are engaged in this work. The difficulty is that when a patient is sent to one of these institutions he immediately departs from the physician's mind. This has its influence on the Board of Control. When we ask them for means to do medical work they say they have never heard a physician or medical body say anything about the necessity for such a demand. The general public is not responsible for this sort of ignorance, but it is the medical profession, you people sitting here. The State Board of Control is extremely anxious to do everything it can to help us, but it also recognizes the fact that we do not have the backing of the medical profession in any of the things we ask for. The idea seems to be that the sole function of these institutions consists in hiding certain people away from the public. We have on an average 375 operations in our institution in a year, and we have practically every form of disease, except acute contagious diseases, all the time. The members of our board are like the people from Missouri, they want to be "shown," and if the State Medical Association would cooperate with these institutions and with the authorities that control them, it would not only be an advantage to the medical profession, but to the public at large.

The University Medical School

Dr. Charles Lyman Greene, St. Paul: The position and standing of the school will serve as an index to the position and standing of the medical profession of the state. The advance of medical standards has made it possible for Minnesota to achieve the unique and desirable position of having but one fully organized medical school within her borders, and that school is of the state and for the state. The school is already ranked among the best in the United States. However, there are certain needs of the school, among others the maintenance of a great state hospital on the university campus; postgraduate instruction of a practical kind; a definite department of public health; a special fund for research and the employment of research workers, and the present close relation between public health and medical teaching must be maintained and extended. A better relation must also be established between the medical school and the individual physician and a way found to teach medicine in every hamlet in the state. Minnesota was a pioneer in establishing higher standards of medical education. Sectarian medicine is disappearing throughout the United States and it is fast becoming an impossibility for anyone to practice the healing art within the narrow limits of any so-called school. Another year will see the temporary hospital structure replaced by a modern building containing at least 100 beds, which will mark the beginning of the greater hospital of the future. We of the university teaching staff are enthusiastic and confident and with your help we shall build high for the present and yet higher for the future of Minnesota medicine.

The Medical Press

Dr. William A. Jones, Minneapolis: The old-time epigram, "Between the devil and the deep sea," might easily be transposed into the following sentence: "Vast numbers of the medical press after passing through the hands of the devil find an abiding place in the deep sea—a receptacle into which the doctor often throws his medical journal unopened and unread." Literally, this is not true. A large percentage of the medical men religiously open and read their journals and claim that they are profited thereby; but, unfortunately, there are many medical men who find too little time to read or who are indifferent to current medical literature.

Dr. Jones then considered functions to be performed by the medical press. What it means to conduct, edit and publish a medical journal, its province and duty of its readers. Matter that should be contained in a medical journal. The Minnesota State Board of Medical Examiners, the Minnesota State Board of Health, the University Medical School and the Minnesota State Medical Society should unite as state forces in the education of the people on medical matters. A medical journal must be supported financially, and how. No journal with a limited subscription list that is published in a circumscribed community can ever be made a fortune-paying investment. The effort to maintain a journal that is clean and respectable should be supported by the physicians of the state.

The Lay Press

Mr. H. V. Jones, Editor Minneapolis Journal: The press represents a great responsibility in this country as does the medical fraternity. I think that if we had with us to-day a representative of the law we could say that these three great professions hold the greatest responsibilities of the people in their hands. Health, public opinion and justice are the foundation of our government and prosperity. I think that the medical men of the state and nation have been governed by their law too long. The people know too little of what they are doing. I do not understand the exact alliance you have with the state university medical department, but I am sure that there is a great work going on that the people should know about. I think the medical profession has been standing too long on ethics. It has a right to be heard and should speak out. I am not speaking in a personal sense, but the state association has a right to be heard. We have only to listen to papers we hear on occasions like this to catch the drift. Physicians would be surprised to learn how little people know of what is going on regarding the care of the health of the people. The newspaper men and the railroad man have always gotten along very well together, because the railroad man is generally ready to give results with real enthusiasm; but when we come to the doctor we find it difficult to make much progress, but I think if we could come together a little more we could soon reach an understanding. I am sure newspaper men would be glad to cooperate along the right lines with physician and official bodies. That work to my mind should be educational rather than in the line of news. The press has been too commercial, there has been a letting down of standards, and too much desire to make money at the expense of standard and principle, but I think a reaction has set in. I think the time has come for the medical association of this state to take up in some way a broad educational work, and I am sure it would have the hearty cooperation of the press in this state. I do not know just how a movement of this sort should be organized, but it occurs to me that the people should be told what physicians are doing and what they are going to do. I want to leave this thought with you, that the press of the state would be glad to cooperate in establishing a newspaper educational policy along the lines of what physicians are doing, omitting names, by studying the lines of work along which they are moving.

SYMPOSIUM: OPHTHALMIA NEONATORUM

Unnecessary Blindness

Dr. Frank C. Todd, Minneapolis: Ophthalmia neonatorum is a frequent cause of blindness. Statistics furnished by Dr. F. U. Davis and Dr. Dow show that 10 per cent. of the blind of all ages in the United States owe their blindness to this disease; from 10 to 11 per cent. of the blind in the school for the blind at Faribault are blind from this disease. While most severe cases result from gonococcus infection that others result from common pus infection. When the disease develops, it can only be properly treated by an ophthalmologist, assisted by trained nurses who should be in constant attendance. Two such nurses should be employed and preferably those skilled in the treatment of this particular disease. Patients whose parents are unable to employ nurses should be sent to a charity hospital. If midwives and physicians would always practice the prophylaxis discovered so long ago by Credé, the disease need not exist. The work of the Committee on Ophthalmia Neonatorum of the American Medical Association, headed by Dr. F. Park Lewis, should be endorsed, and the Minnesota State Medical Association should put itself on record in regard to details, as to the best way of eradicating this disease in Minnesota.

Etiology and Prophylaxis

Dr. J. C. Litzenburg, Minneapolis: The conjunctiva of the new-born infant is peculiarly liable to infection. Many germs may cause infection, but the gonococcus is responsible for at least 65 per cent of the cases and for nearly all the severe infections. Ophthalmia neonatorum may almost surely be prevented, and a 2 per cent. silver nitrate solution is the surest prophylactic, although the 1 per cent. silver nitrate is nearly as valuable. Bichlorid of mercury, 1 to 2,000, is a good substitute and should be used if one has not the silver. If a prophylactic were used in the eyes of every new-born baby the present rate of ophthalmia neonatorum will be greatly reduced. The treatment of the disease should always be entrusted to an ophthalmologist.

The Sterilization of Habitual Criminals and Degenerates

Dr. Burnside Foster, St. Paul: It will generally be admitted that a very large percentage of the habitual criminals, degenerates and sexual perverts in all communities are the offspring of parents of the same kind as themselves, and that their children will in all probability be tainted in like manner. There is then in every community a large class of individuals who are unfitted to marry and beget children. It may be broadly stated that no man or woman who is afflicted with either a communicable or an inheritable disease should marry or have sexual relations, whether married or not. How far the state can go in this matter is a difficult question to answer. The large class embraced under the comprehensive term, "degenerates," are sure to beget and procreate their kind, and this curse will be passed on to future generations unless radical means are taken to prevent it. While under present conditions the state cannot take charge of these degenerates in a community who have committed no crime, I believe it has the right to take those legally committed to its charge and under proper restriction so deal with them that they may no longer be a menace to society or to future generations. The state of Indiana has enacted a law by which an institution entrusted with the care of individuals of this class may, after consultation with a board of physicians appointed for that purpose, have performed an operation for the prevention of procreation. The operation is that of double vasectomy, and during the first year following the passage of this law 412 persons were operated on in the reformatory at Jeffersonville, Indiana, without a single accident or loss of an hour's time on the part of the prisoner.

The responsibility of the commission is a grave one in the way of distinguishing between hopeless cases and individuals who may recover, still I believe that this generation owes it to the next one to take every precaution to prevent the handing down of types of degeneracy. In Indiana sterilization has been applied, so far, only to the male, although the law permits of its application to women. Ligation and section of the Fallopian tubes would be as effectual in the female as vasectomy in the male, although a little more dangerous. Another much simpler method of sterilization may be available in the near future. I refer to the *x*-rays. By experiments on animals it has been shown that the development of the spermatozoa in the male and of the ovum in the female has been inhibited through the influence of the *x*-rays. It has been observed, however, that this sterilization usually has been temporary and that the animals regained their full power of reproduction later. *X*-ray operators have found that they themselves could produce no spermatozoa. Just what the *x*-ray does to the testes and ovaries is not known, and this method is uncertain and unscientific. This paper has been prepared for the purpose of suggesting that the Minnesota State Medical Association take definite steps to have this matter presented to the legislature with a view to having a law enacted in the State of Minnesota providing for a scientific method for the prevention of crime in future generations.

Empyema: Diagnosis and Treatment; A New Instrument for Securing Permanent Drainage

Dr. W. T. Adams, Elgin: It is the duty of physicians to have a better understanding of empyema, and more should be done to avoid the serious sequelæ so common after this disease. The disease is simple, and its treatment should be like that of any other accumulation of pus. It often follows pneumonia, and when elevated temperature continues after the normal limit in pneumonia, empyema is to be looked for. When fluid is diagnosed it should be differentiated with the exploring needle so that operation may be done early. In diagnosis the percussion note is valuable: if the note is flat there is fluid. Auscultation will sometimes be misleading on account of transmitted sounds, while the percussion note will be flat and is more to be relied on. Fever continuing after fluid is formed is certain to indicate infection. If pneumococcic, aspiration may cure, but if recovery is not very prompt, permanent drainage should be made very early. Early operations are preferable, before adhesions have had time to become very strong. Early operation should be made to stop autoinfection from the retained pus. All parts of the chest should be drained and walled off compartments may require separate drainage. Resection is not always essential and I advise against it. The chest should be drained without admitting air so as to force the lung to expand as the fluid is withdrawn. If the fluid is withdrawn without admitting air the lung will expand as the fluid runs out. The open method of operation does not invite expansion, but makes it impossible.

In order to drain the chest without admitting air, I have designed an instrument which meets the indications in the most perfect manner, and renders the early operation easy of accomplishment, and is cleanly and neat in every particular. The instrument is a modification of the cannula and trocar, so constructed that as the trocar is withdrawn from the cannula after its introduction in the chest, the proximal end of the cannula is closed against admitting air by pinching a piece of tubing. The cannula has a "T" branch with opening continuous with the tube of the cannula, which takes the fluid and delivers it into a sealed rubber bag which is deflated when attached, hence no air can enter the chest from that source. Another important feature of the instrument is a pneumatic cushion with which the shaft of the cannula is surrounded from a point on the distal side of a guard plate with which it is provided, to the distal end of the cannula, where it is inserted into a recess of the expanded end of the cannula, which makes it keep its place while the instrument is being pushed through the wall of the chest. When the instrument is properly applied, the pneumatic cushion extends through the wall of the chest with the cannula which it surrounds, and its middle portion is grasped by the chest wall, while the proximal end is without, and the distal end is within the chest. The cushion is double-walled, and the space between the walls, the ends of which are securely sealed, forms an air chamber to which is secured a small piece of rubber tubing, by means of which air is pumped into the interior of the cushion, which distends its outer walls, causing the two ends to balloon, which shapes the cushion like a dumbbell, the contracted center occupying the passage through the chest wall, while the ballooned ends serve to make an additional seal against admitting air, and forms soft, easy cushions to protect the body of the patient against the burden of the cannula.

SYMPOSIUM: TYPHOID FEVER, A MEDICAL AND ECONOMIC PROBLEM, AS ILLUSTRATED BY THE MANKATO EPIDEMIC OF 1908

The History of the Local Administrative Health Work

Dr. A. O. Bjelland, Mankato: The source of the water supply of Mankato is four deep artesian wells on Washington street. Two of these wells are within from 16 to 18 feet of the pumping station. The main outlet of the sewer also runs down Washington street, emptying into the river. A great flood occurred May 20-24. The gate in the main trunk of the sewer was left down on the night of June 24, 1908, presumably to keep the river from backing up into the sewers. This caused a backing up or a stasis of the sewage which backed up into a well pit of the new artesian well near the pumping station, hence sewage was pumped into the water system. Two of the other wells and suction mains were rusty and leaked and had not been properly looked after for a number of years. Then came a sudden sharp epidemic of diarrhea June 26; probably 2,000 people were affected. The people were at once advised to boil the city water so as to be on the safe side. The Minnesota State Board of Health was called on to make an investigation and June 29 Dr. Bracken, Dr. Hill and the health officer made an investigation of well pits and reservoirs and decided from the circumstantial evidence at this time, with the clinical evidence of intestinal disease, that the city water was contaminated and that we were in for an epidemic of diarrhea and predicted a possible typhoid epidemic. The Third street well was shut off, the reservoir cleaned and a flushing of the mains ordered. Samples of the city water from the taps and well pits were taken for analysis at the State Board of Health Laboratories, and on July 12 analysis showed colon bacilli present. July 11 and 12 Widals tests were made and these, together with clinical evidence, showed positively that the disease we had to deal with was typhoid fever. Over 100 Widal tests were made during the epidemic which showed positive reaction.

The first step taken by the health office, June 27, was to order the city water and milk boiled. The second step was to organize an emergency hospital of thirty-five beds. The German Catholic school was utilized for this purpose. A street cleaning and disinfecting department was organized and a general cleanup of the town instituted. The two daily city papers and a German paper were utilized to warn and instruct the people of Mankato how to handle and take care of themselves and how to avoid contracting typhoid fever. A wide-open systematic policy of publicity was inaugurated and was successful in holding down the epidemic in fifty-seven secondary cases. A health office was organized, a stenographer installed, maps of the water mains and sewer system were obtained from the engineer, a filing system was used so that as soon as the report of a case came in the health office, the health officer or assistant went to the house and wrote the history of the case. Visiting nurses were then sent to these places and by an object lesson in nursing, taught the family how to nurse the patient and how to avoid contracting the disease. The nurses made a house-to-house canvas, spreading the gospel of cleanliness and carefulness, and did a great work for us in general.

Having, in July, 1907, secured the passage of a milk ordinance, we were able to keep the typhoid infection from the milk. Through Mr. Manley, of the Minnesota State Food and Dairy Commission, this work was looked after under the direction of the health officer. A milk ordinance in any city making it necessary that all milk producers report promptly any contagious or infectious diseases existing in their families, is a great weapon in the hands of a health officer. Proprietors of all places where food or drink was sold were systematically warned to be careful and taught their responsibility as food and drink purveyors. The physicians in the city were urged to report all cases. Frequent consultations with Dr. Bracken, Professor Bass, consulting engineer, and the State Board of Health and Dr. Hill, the epidemiologist, together with a thorough inspection of the wells, sewers, water plant and the infected districts, gave us a thorough working knowledge of the situation and the needs thereof. The epidemic lasted from June 26 gradually and died out by Nov. 20, 1908. We had 464 cases reported into this office from July 7 to Nov. 20, 1908; 401 primary and 57 secondaries or contact cases, and six outside cases.

The Engineering History of the Mankato Typhoid Epidemic

Prof. F. H. Bass, Minneapolis: The widespread prevalence of typhoid caused suspicion to be directed toward the water supply, although it was known to come from below the surface of the ground at a depth of about 400 feet. An examination of the artesian wells revealed the fact that two of the four in use were defective. These wells terminated at the surface in pits which were approximately five feet in width and seven feet in depth. As the flow exceeded the demand, the wells furnishing water under pressure, were allowed to waste into the pits when not being drawn on. The overflow was in each case conducted from the pits to the sewer through pipes or orifices six inches in diameter. On June 26, an unusually high stage of water in the Minnesota river combined with a cloudburst backed the sewage up into the pump pits, whence it was drawn through the rusted out well pipes into the suction main and distributed thence to the city. One other combination of uncharted water and sewer and drainage pipes at the pumping station furnished a considerable amount to the pumps. The result of the investigation demonstrated the need of prompt remedial measures. A sanitary engineer was employed and has since remained in Mankato, reconstructing the public works of the city. The wells have been redrilled, newly piped and absolutely cut off from any possible connection with the sewerage system.

Diagnosis of Smallpox

Dr. J. M. Armstrong, St. Paul: Smallpox during the last few years has been an exceedingly mild disease, only six cases out of 978 being fatal, so that the mortality rate is 0.6 of 1 per cent., less perhaps than any other transmissible disease. Because of the benign type the disease has assumed, the diagnosis must often rest wholly on the objective lesions of the skin, which lesions present characters which make a positive diagnosis possible a few hours after their appearance. The papules appear first on the exposed parts, particularly the forehead and flexor surfaces of the wrists. They are under the epidermis, hard, round, flat-topped, umbilicated, rose-pink and waxy in appearance. All these characteristics are usually present. The entire evolution of the lesion from papule, vesicle, pustule, to scab formation, is regular and characteristic. The lesions vary in number, from a very few they may be so numerous as to become confluent, but the individual characteristics of the lesion are present in all cases. Vaccination is the only protection to the disease and if successfully performed, rarely fails to protect. Only 116 out of 978 patients ever claimed to have been vaccinated and many of these claims could not be substantiated.

KENTUCKY STATE MEDICAL ASSOCIATION

Fifty-fourth Annual Session, held at Louisville, Oct. 19-21, 1909

(Concluded from page 1682)

President's Address: Medical Organization and Work

Dr. Isaac A. Shirley, Winchester: This large and representative gathering of Kentucky physicians is an undeniable endorsement of the organization movement inaugurated by the American Medical Association a few years ago. Before that time, with a membership of scarcely 300, we had an average of one-fifth that number in attendance at our annual gatherings. To-day there are more than 2,150 names enrolled on the society's books and we can count approximately one-third of that number here. Pleasing as this must be to every well wisher of legitimate medicine, there remains much work to be done. Without the fold there are more than 1,500 men and women who, to make our work effective and our joy complete, must be garnered in. To this end I propose to devote my best individual efforts, but realize that to accomplish the desired results will require work, constant work, on the part of every one. I ask your hearty and earnest cooperation.

An alarming defect in our law is the lack of punishment for criminal abortion. Judge Hines stated that in Kentucky there was no punishment for this crime prior to the period of quickening and after that it was only a high misdemeanor and at no time a felony, unless the mother died, and then only an every-day common murder.

I do not think that the work of the State Board of Health in ridding our state of quacks and other reforms accomplished has been properly appreciated. And while I do not agree with everything it has done, yet it has done so much more good than bad that the former largely outweighs the latter, and I personally thank them for it. I am in favor of a national reciprocity law: if a man is entitled to practice medicine in one state of the Union he should be entitled to practice in every other state, and I hope that such a law will soon be passed and that we shall do what we can to that end. I also want to enter my earnest protest against the almost universal habit of treating clergymen free of charge. I hope that this will not be considered an attack on the ministry, for the members of which I have the greatest respect, and many of whom are among my best friends; but I do not believe in discriminating in charity patients, or if any one objects to the word "charity," say poor patients. If a minister, on account of inadequate salary, too large a family, or any other reason, cannot pay for medical attention, then we should treat him willingly, gladly, gratis; but I have known many physicians who, on account of personal property, were kept guessing as to where the necessities of life were coming from, work for ministers whose salaries were sufficient to insure ease, comfort and luxury for nothing save "thank you," and sometimes not that. And this is what I object to and protest against.

Treatment of the Toxemia of Pregnancy

Dr. Edward Speidel, Louisville: Under favorable circumstances a multipara should be in charge of her physician from the sixth month, and a primipara from the third month of gestation. Even before that time the primipara may derive some relief in the period of nausea and vomiting, by intelligent directions of the attending physician, while at times he may detect early signs of and even ward off pernicious vomiting. Thereafter, the conduct of the case consists in careful regulation of the diet, especially in the last two months of gestation, proper advice in regard to exercise and clothing, avoidance of constipation, but most of all attention to the action of the kidneys. If the points recently brought out by Skeel in his excellent paper on the "Toxemia of Pregnancy" are confirmed by later investigations, then we will at least have something definite on which to base our therapy and the toxemias of pregnancy need no longer be treated in the haphazard empirical manner that has been the custom in the past. Again, if the two conditions, hyperemesis gravidarum and eclampsia present such pathologic findings, that they must be considered as early and late manifestations of the same process, then our treatment again narrows itself down to the elimination of the toxic agent that is common to them both. With the knowledge that the pregnant woman ordinarily has a blood-pressure not exceeding 150 mm., and that in toxemia it goes to 160 and 180 mm., and that under such circumstances there is a retinitis that is absolutely diagnostic of severe toxemia, then with such evidence we are justified in a resort to radical measures. An increase in blood-pressure above the normal 150 mm. with the retinal symptoms present in the early toxemia, will give us a basis for treatment and serve as a warning signal in the occasional patient who does not have albumin in the urine. Prompt elimination by all the emunctories and absolute restriction to a milk diet until marked improvement shows itself, should be the keynote of treatment. From 5 to 10 grains of calomel, followed by tablespoon-doses of Epsom salts, and then daily administration of small doses of Epsom salts is one of the simplest and best methods of combating autotoxemia and should begin the treatment. This with a milk diet alone, will often control the condition and the patient may go on safely to an uncomplicated delivery. When these measures alone are not effective, then the patient should be kept under careful observation and an account kept of the blood-pressure as indication for extreme measures. In the meantime, hot normal saline solution should be introduced into the colon, in quantities of a quart at a time, two or three times a day. Hot wet packs with the introduction of carefully wrapped and lighted electric bulbs in the pack to keep up the heat and produce a profuse sweating should also aid in elimination. Thyroid extract in doses of 5 grains every four hours, is advocated by those who consider the toxemia due to a functional insufficiency of the thyroid. Thyroid gland or extract administered in this way acts promptly in reducing blood-pressure, but its beneficial effects are counteracted by the fact that the drug causes a marked increase in tissue waste and therefore a considerable increase in the urea and other waste products in the blood and urine. It should be possible in most cases, if the above measures are carried out carefully and successfully, to carry the patient through a safe delivery, at any time, however, if there is a dangerous rise in blood-pressure, and if ocular symptoms present themselves, then the physician must understand that his patient is in extreme danger and that she may be liable to an eclamptic seizure at any time. There is then only the choice between venesection, the use of veratrum viride, and a premature delivery. With these pertinent objections to both venesection and veratrum viride it becomes evident that when the toxemia does not respond to the simple measures first advocated, that a premature delivery offers the best chance for the patient, according to modern ideas on this subject. In the multipara, this may mean a resort to bougies and slow manual dilatation; in the primipara with rigid undilatable cervix it will be best to resort to a preliminary manual stretching of the perineum and vagina, then vaginal Cesarean section and delivery.

Surgical Treatment of Cancer

Dr. A. J. Ochsner, Chicago, Ill.: 1. The earliest possible diagnosis of cancer must be made. 2. In case it is not possible to exclude cancer in the diagnosis, more competent counsel must be called. 3. The growth must be removed extensively even in the earliest cases. 4. In case the physician is not competent to make extensive removal of the growth, he should refer the case to one who will do this at once. 5. A search for new tests which will determine the presence of cancer early should be continued by scientific observers and supported by clinicians. 6. The search for the cause of cancer should be vigorously pushed. 7. At present, negative results in diagnosis by laboratory tests must not be considered of sufficient importance to prevent operative treatment when physical examination indicates the presence of cancer.

DISCUSSION

Dr. William J. Mayo, Rochester, Minn.: Dr. Ochsner, with his large clinical experience and keen observation, has placed his hand on the difficulty which has arisen in the past. That is, we as surgeons have asked medical men for a diagnosis of cancer which they could not make and then we have blamed them because the cases have been referred to us for operation at a period of time when it was impossible to do perhaps more than a palliative operation. We must have team work. It is impossible for the surgeon working alone, for the clinician working alone, or the experimental man working alone to say that his is the only way. It is by a combination of these that we can bring forward some method by which cancer in variou parts of the body may be dealt with at an earlier time. Th surgeon must have these patients early for operation if goo results are to be obtained. And in order to do this he mus have the cooperation of the internist, and it should be th duty of every practitioner of medicine to teach the people jus as they do in Germany. In Germany to-day the reason bette results are being attained than in this country is not becau better work is being done, nor because the operations are mor extensive in cases of cancer, but because there is a widesprea effort on the part of the profession to teach the laity. Thi subject has been up before the American Medical Associatio and at present there is a committee on publication of information with reference to cancer. People must be taught some the more common signs and symptoms of cancer. If we expec to accomplish more in the future than we have in the pa the laboratory man, the clinician and the surgeon must wor together in harmony.

Dr. William D. Haggard, Nashville, Tenn: Next to t great white plague, the subject of malignant disease in ge eral is one that should receive our greatest interest becau it is not generally appreciated that one out of eleven perso who have passed the age of 30 is going to die of some form of cancer. Out of 572 patients with cancer on whom Dr. Ochsner has operated in the last five years, approximately 109 of the lesions were of the breast, 100 of the uterus and 100 of the stomach. Therefore, it should be our earnest endeavor to concentrate our attention upon this subject. It would be well for us to remember the address of Dr. Maurice H. Richardson, as chairman of the Section on Surgery and Anatomy of the American Medical Association in 1905, in which he said that "every neoplasm, wherever situated, should be removed, if possible, at the earliest moment it is recognized." If we would simply take that lesson home with us we would make a great step in advance. It is said that 90 per cent. of all "lumps" in the breast in women over 30 will become malignant. If that is true it behooves all of us, when a woman complains of tumor of the breast, not to say that it is a glandular tumor or an adenofibroma, but to take it out. It is a small matter and microscopic examination will subsequently show whether or not it was malignant. And, if so, while the stitches are in place, a little incision can be made and the entire breast amputated in a classical way, and I venture to say that we will get 50 per cent. of cures in that type of case.

Dr. J. Garland Sherrill, Louisville: It is the duty of every physician to make it plain to his patients that cancer is not an incurable disease provided the remedy be applied early. There is one thing that the profession does not seem to be well aware of and that is cancer no longer appears after 40 to 60 years of age, but that it appears now as early as 12, 15 and 18 years. I have had recently under my care a girl 18 with cancer of the intestine extending from near the anus up to the left flexure of the colon. If we would impress on the profession that carcinoma exists in patients under 35 years of age we will have made a great step in advance at this meeting.

Dr. William H. Wathen, Louisville: There is no one who appreciates the bad results that we have had in the surgical treatment of cancer more than he who has confined his work largely to uterine surgery and to intestinal surgery—structures that cannot be seen without a most thorough examination or without an exploration. Unfortunately most of the cases of uterine cancer that have been referred to me have been done so too late for more than a palliative operation. It is true that a few patients in whom the cancer had not involved the structures extensively, have remained permanently well. Whenever the cancer extends higher up and invades the parametrium, then it is a difficult matter to save these patients or to give them permanent relief; and permanent relief was not given until we were taught to operate by the suprapubic method and to enucleate the cancerous tissues far down on each side, removing the diseased parametria and, if necessary, dissecting the ureter. Some of these patients when so operated on have remained permanently well. I have one patient in whom there was an extensive involvement of the structures, who has remained well for three or four years, while I have had others in which the relief was of shorter duration. Permanent results would be much better if we saw these patients with cancer of the uterus earlier.

Dr. A. J. Ochsner, Chicago: In regard to the education of the public with reference to cancer, there is one thing which is very difficult to overcome, namely, almost every person in every town in this country knows of her friends who have had cancer and who have undergone operations and perhaps have died from the return of the disease. But very few of these people know of any patients who have recovered permanently, because those who recover permanently from this disease do not want their friends to know they had cancer and had undergone operation for its removal. I meet this condition constantly.

Prophylaxis in Medicine

Dr. C. G. Stephenson, Becknersville: Our duty is to prevent or to remove all injurious external conditions which experience has shown will contribute to the development of disease and to strengthen or improve the faulty constitution and thus remove predisposition to disease. General prophylaxis consists in the employment of measures against conditions which are injurious to and will produce disease in individuals belonging to the same group. Prophylaxis should be provided for by the nation, state, county and city, and this being the case our national and state boards need to be quickened to a fuller realization of the service they owe to the individuals of this nation. They should endeavor to make the people of the United States a strong people, a happy people and a more useful people; a people whose bodies shall possess such physical resistance to disease as to make them immune to the many diseases that bear on people under ordinary conditions of life. A campaign of health education is being constantly waged, but it should receive a new impetus. This new impetus would be given by the establishment of a health bureau at Washington as a foundation source from which to draw that which would contribute to making people happier, stronger and more useful. Individual prophylaxis belongs directly to the realm of the family physician. One encouraging feature in modern civilization is the general interest which is being aroused in the matter of prevention of disease and death. Organizations composed of both lay and professional men are on the increase, educating people to a realization of the duty they owe to themselves and their neighbors. The demand for, and securing of, pure food and drug laws are some of the fruits of the organized effort that is being made. All advances have been the result of agitation and education among the laity by physicians.

Treatment of Chronic Amebic Dysentery

Dr. Granville S. Hanes, Louisville: My remarks relate chiefly to my own experience in the management of chronic amebic dysentery in our own climate. First, the patient is put to bed in a properly appointed room for the sick. He is not required to remain constantly in bed, but rest in the recumbent posture is the attitude that he should occupy chiefly. Second, it is almost a universal practice to make the administration of a purgative the first step in the treatment of these patients. I seldom resort to such a measure. It is my opinion that the nausea, exhaustion and general disturbance to the digestion that such a procedure precipitates is not justified by the results obtained. Third, many patients affected with chronic amebic dysentery are very much emaciated. I have found that this condition is almost always due to an insufficient amount of food. It has long been customary to restrict the patient's diet to a poorly nutritious food in any form of diarrhea. Fourth, it is absolutely inhuman to withhold opium when patients can be so promptly and completely relieved by its use. The relief from the terrible pain, straining and general exhaustion is beneficial to the patient and more than counteracts the ill effect the drug produces. It is much better to give opium when necessary and overcome its constipating effects by small doses of salts or other purgatives. Fifth, internal medication is considered by many to be the most important feature in the treatment of amebic dysentery. The solutions employed in irrigating the large gut for amebic infection are too numerous to mention. Quinin, copper sulphate, silver nitrate, tannic acid and permanganate of potassium are those most frequently employed. They all have the objection of acting as irritants to the mucous membrane when used in sufficient strength to kill and arrest the development of the ameba. For more than a year, I have been using ordinary commercial coal oil for this purpose. Its use was suggested to me on account of its deadly influence on parasites found on domestic animals. The crude petroleum also being used to prevent the development of mosquitoes. After experimenting with it for some time I was surprised to find that it was not irritating to the mucous membrane nor was it absorbed when retained in the gut for twenty-four hours, or even longer. Instead of its effect being that of an irritant it is bland and acts as a sedative to the mucous surface. It will not only remain in the bowel for a long period, but the gut will tolerate larger quantities than it will of water or aqueous solutions of any kind.

I have treated 36 cases of amebic dysentery in the past eighteen months. At one time I entertained the belief that a real amebic infection could never be looked on as being absolutely free from recurring attacks. I have abandoned this belief, and it is now my opinion that many patients are cured in whom the diagnosis was never known. If the infection is superficial and situated low in the gut and is of a very mild type it will yield to treatment with but little difficulty. If, on the contrary, the infection is severe and the disease is extensive in the upper limits of the large gut, the cure is exceedingly difficult, and, so far as we know, it may never be made permanent. In the entire number of patients treated, there was not one who did not show the infection in the rectum and sigmoid. While it is said that the cecum, hepatic and splenic flexures are the most frequent sites of disease, I cannot believe that this is true. If there is infection higher up in the gut it seems reasonable that the sigmoid and rectum would also become infected when they are the receptacles that constantly retain the drainage from all diseased surfaces above.

Clinical Diagnosis of Amebic Dysentery

Dr. Carl D. Render, Louisville: This is essentially the detention of motile amebas that have been obtained from the intestinal tract. It is usually taught that the stools should be examined for these protozoa. It has been shown repeatedly that this method requires a great deal more time and is much less reliable than that of obtaining the specimen directly from the surface of the ulcer. I never rely on the examination of the stools except in cases in which there is no lesion that may be detected in the rectum or sigmoid. In almost every case of chronic amebic dysentery ulcers are present in the rectum and sigmoid. After one has seen and treated a number of these cases it is with but little difficulty that a diagnosis can be made reasonably certain from the patient's general appearance and the history obtained from him. Motile amebas are sought only to confirm the probable diagnosis. The technic employed in exposing the ulcer and obtaining the specimen requires special attention. Unless the specimen is kept at the proper temperature and spread on the slide in the correct way, failure to detect the amebas will likely result.

Dangers of Animal Tuberculosis to the Public Health

Dr. F. T. Eisenman, Louisville: The unsuspected tuberculous cow is a very serious menace to the public health, and her true condition is seldom known until the tuberculin test is applied. It is then we often find that cows considered to be in the best of health and living under the most sanitary conditions react to the extent of from 5 to 60 per cent. Recently a herd consisting of 90 cows, when tested with tuberculin was found to contain 54 diseased cows and 8 suspicious ones. On Dec. 15, 1908, the Jefferson County Fiscal Court, anxious to determine accurately to what extent milk coming into Louisville was infected with tuberculosis, appropriated $1,200 for the purpose of carrying on the test by guinea-pig inoculation. The partial report of this investigation disclosed the fact that of 119 samples of milk taken from fifty-three dairies of various counties, 39.1 per cent. were proved to be tuberculous. The announcement of this result caused considerable alarm, but as the test was conducted by Dr. Cyrus W. Field, pathologist and bacteriologist of the University of Louisville, an eminent authority on the subject, the accuracy of the test was never doubted. When the attention of the State Board of Health was called to the dangerous character of Louisville's milk supply, a proclamation was issued making it compulsory for all cows in the state to show negative reaction to tuberculin before the milk could be sold. A little over three years ago, the Jefferson County Medical Society, realizing the need of milk on the purity of which the members could depend, appointed a milk commission and it is now possible to obtain a certified milk which meets all the requirements of the society. A low bacterial content is required and freedom from pathogenic organisms. This makes it necessary that every cow shall be tested before entering a certified herd and once a year thereafter. Dairymen producing certified milk have killed over forty cows that they have purchased for additions to their herds and which have reacted to the test. These dairymen are experienced and felt that they could without fail select cows free from disease. Recently, samples of the certified milk were injected in a large number of guinea-pigs and not one showed tuberculous infection.

In Louisville, of the large number of general hospitals and infirmaries, one only uses milk from tested herds and undoubtedly many patients are infected from tuberculous milk. Millions of dollars are being spent for the cure of tuberculosis and yet the positively known greatest source of human tuberculosis, the tuberculous dairy cow, is being continually ignored and people are constantly being infected, that many more millions of dollars may be spent in their attempted cure. The time is coming when the public will demand of the profession and the health authorities the suppression of tuberculous milk. It is to be hoped that this time will soon come and that prior to it, all the members of the profession, including the health authorities, will be awakened to their responsibilities in the matter.

Diagnosis of Incipient Tuberculosis

Dr. O. W. Rash, Owensboro: The diagnosis of incipient tuberculosis is not difficult to the physician who realizes the prevalence of the disease, who observes the temperature of his patients, who makes a thorough examination of the chest in all suspicious cases, and who uses the tuberculin test with care.

What More Can Our Profession Do To Decrease the Spread of Tuberculosis?

Dr. Jacob Glahn, Owensboro: There are recorded between 6,000 and 7,000 deaths in the State of Kentucky alone during one year, and if we multiply this by five, we have over 30,000 persons ill with tuberculosis at this time, and there is no telling how many more obscure cases exist. This great loss of life, due to tuberculosis, is monstrous and abhorrent, and should not be, for more people die of tuberculosis than the fiercest war has yet destroyed in the same length of time; but in the prosecution of a war, special sums of money are levied to meet the expenses, and for the white plague, which destroys our fellow beings in such an insidious manner, nothing is done by our legislative bodies. Therefore, if the brotherhood of man cannot assert itself spontaneously, and come to the succor of the ill brothers, then the state governments should and must arouse themselves and allow a sufficiency of money under the control of the state boards of health and the various antituberculosis leagues, and municipalities, to establish and carry on simple and ample tuberculosis sanatoria in every county in the state. Every life saved will become a fixed asset, and a useful citizen will be preserved to the state.

Diagnosis and Treatment of General Peritonitis

Dr. John R. Wathen, Louisville: The diagnosis and the differential diagnosis of peritonitis as in many other surgical diseases of the abdomen, are often best made by an early exploratory incision; and much valuable time has been lost waiting for a well-developed case of diffuse suppurative peritonitis before a conclusion was reached, when timely operation would have cured the case, but which later has become almost hopeless. The basic principle in the modern treatment is the prevention or the retardation of absorption of septic material. This is accomplished first, and most important, by the Fowler position before and after the operation and even until convalescence is well advanced, and, secondly, by opening the abdomen to relieve the tension, which so greatly favors this absorption. Oelsner has called attention to the avoidance of food or drink by the stomach, and the application of cold to the abdomen, thus preventing peristalsis and in this way lessening the diffusion of the infective material over the peritoneal surface. All are agreed that rapid operation with a closure of the point or points of leakage is the thing most desired. This closure should be accomplished by the simplest, most rapid and safest method and provided with abundant drainage, for fear of an imperfect stoppage of the leak. This drainage should consist preferably of fenestrated soft rubber tubes and loose gauze packings. It seems now to be the consensus of opinion of the most successful operators that the less we manipulate, wash out or handle the intestines, the better are the patient's chances for recovery. The post-operative treatment consists of introducing continuously saline solution by rectum—protoclysis or enteroclysis. Murphy asserts that it is seldom correctly given, and describes this method practically as follows: The fluid should be administered through a fountain syringe to which is attached a hard rubber or glass vaginal douche tip with multiple openings. The tube should be flexed almost to right angles three inches from its tip. A straight tube should not be used, as the tip produces pressure on the posterior wall of the rectum when the patient is in the Fowler position. The tube is inserted in the rectum to the flexion angle and secured in place by adhesive strips, binding it to the side of the thigh so that it cannot come out; the rubber tubing is placed under the bedding to the head or foot of the bed, to which the fountain is attached. It should be suspended from 6 to 14 inches above the level of the buttocks and raised or lowered to just overbalance hydrostatically the intra-abdominal pressure; *i. e.*, it must be just high enough to require from forty to sixty minutes for one and one-half pints to flow in, the usual quantity given every two hours. The flow must be controlled by gravity alone, and never by a forceps or constriction on the tube, so that when the patient endeavors to void flatus or strain, the fluid can rapidly flow back into the can, otherwise it will be discharged in the bed. It is this ease of flow to and from the bowel that insures against over-distention and expulsion on the linen. The fountain had better be a glass or graded can, so that the flow can be estimated. The temperature of the water in the syringe can be maintained at 100 degrees by encasement in hot water bags. The syringe is refilled every two hours. The tube should not be removed from the rectum for two or three days. When the nurse complains that the solution is not being retained, it is certain that it is not being properly given; even children tolerate proctoclysis surprisingly well.

Treatment of Compound Fractures

Dr. J. G. Carpenter, Stanford: Shock must first be treated and the physicomental state of the patient considered. Then the flesh wound, bone wound and the field of the wound should be thoroughly cleansed and hemorrhage arrested. The wound being asepticized, I reduce the fracture, with or without drainage, as the case may demand. There should be complete coaptation of the fractured ends with immobilization of the fracture; if necessary, with bone rings, bone pegs, silver wire or chromicized catgut ligatures. In compound comminuted fractures, the fragments should be fastened together or to the shaft. We should remove the detached fragments of bone, cleanse and place them in a 1/1000 or 1/2000 bichlorid of mercury solution, then in a warm saline solution at the temperature of the blood, and transplant them into the wound. We should resort to drainage, if necessary, and apply an antiseptic dressing. The fractured bone should be immobilized at the proximal and distal points, with proper springs and extension and counter-extension, with complete rest of the limb.

Management of Burns

Dr. C. C. Garr, Lexington: There are two general classifications of burns: First, in regard to depth—first, second and third degree. Second, in regard to cause—(1) flame; (2) hot or molten metal; (3) steam; (4) electricity; (5) chemical; (6) *x*-ray. Constitutional treatment is, at first, most important. It is very essential to relieve pain and combat shock. In doing this morphin, atropin, adrenalin chlorid and proctoclysis are serviceable. For the local treatment, I prefer the old-time carron oil as it relieves the pain and hastens, but does not increase, sloughing. Picric acid and other applications may be used. After the granulations are healthy the only rational thing is skin-grafting. I use a modified Thiersch graft, employing an air dressing.

The Social Evil

One evening was devoted to a discussion of the social evil. Dr. C. H. Vaught, Richmond, discussed the cost of venereal peril from the standpoint of the general practitioner; Hon. R. W. Bingham, Louisville, discussed it from the viewpoint of the lawyer; Rev. E. L. Powell, Louisville, from the standpoint of the minister, and Mr. J. H. Hager, Louisville, from the standpoint of a superintendent of police. A general discussion followed.

Book Notices

Etudes Anatomo-Cliniques: Coeur—Vaisseaux—Poumons. Par le Dr. Raymond Tripier, Professeur à la Faculté de Médecine de Lyon. Paper. Pp. 604, with illustrations. Price, 10 francs. Paris: G. Steinheil, 1909.

The author endeavors to explain the phenomena and causation of the diseases which he considers, by the anatomic conditions which develop and characterize them. The subjects which he discusses are endocarditis, syphilitic aortitis, atheroma of the mitral valves, arteriosclerosis, the rôle of the circulation of the blood in determining lesions, emphysema or hypertrophy of the lungs, pleural adhesions, reciprocal relations of affections of the heart and lungs, initial lesions of pulmonary tuberculosis. These chapters are illustrated by thirty-two figures which are well drawn and are an addition to the text.

In the chapter on arteriosclerosis Tripier discusses the views of other authors, most extensively and most critically those of Huchard, with whom he does not agree. He considers the distinctions which many make between arteriosclerosis and atheroma, but has nothing to add to what is generally known of the causation of the arterial lesions. The frequent association of arteriosclerosis and sclerosis of the kidneys and the common notion of a relationship of cause and effect lead to a general discussion of scleroses, which, Tripier says, "are composed of new tissue of an inflammatory origin." Moreover, he writes further on, "one never sees an arteritis of small arteries more or less extensive preceding the production of the inflammatory lesions, as would be expected if there was an initial causative endoarteritis." Sclerosis is more or less variable in different organs, owing to their varying structure as well as to the age of the subject affected, his habits and his antecedents. It does not suffice to invoke an arterial lesion more or less generalized to explain these diverse changes in organs.

Of the heart lesions in Bright's disease Tripier considers at some length those with and those without sclerosis. This chapter is somewhat polemical, and while in it the nature of arteriosclerosis and of the associated lesions in various organs is discussed, the clinical aspect and the anatomic details of the lesions are not. The author endeavors to establish his own views on observed facts and to avoid the hunt for facts to maintain a hypothesis as so many authors do.

An analysis of each chapter cannot be made here, but what has been said of this one will illustrate the author's method of thinking, though the others deal more with diseases and less with theories than does this one.

Care of Mother and Child. By Clarence M. Cheadle, M.D., Member American Medical Association. With an Introduction by Charles Edwin Ruth, M.D., formerly Professor of Surgery and Anatomy, Keokuk Medical College, now of Ponce, Porto Rico. Cloth. Pp., 354. Price, $2. Published by the Author, Ashton, Ill., 1909.

Dr. Cheadle has felt the need, as have many other physicians, of a simple, concise, not too technical little treatise that could be placed in the hands of an expectant mother to give her an intelligent idea of the pregnant state, how to conduct herself during this time, how to prepare herself for the important coming event, and how to meet the great obligations that have been placed on her after the baby is born. To meet this need he has prepared the book before us. Dr. Cheadle addresses himself throughout to the mother and rarely forgets himself, as is so commonly done, to introduce prescriptions, formulas and other technicalities. Part I is devoted to the mother, the changes that occur during pregnancy, its signs, symptoms and complications, the preparation for confinement, the event itself and the after-care and convalescence. Part II deals with the baby, its care and hygiene, growth and development, natural and artificial feeding, and its common nutritional disorders. Part III deals with the common diseases of children, giving the mother an idea of their cause and nature, and of the general principles of treatment. The part dealing with infant-feeding is especially noteworthy for the author's familiarity with newer ideas and their exposition. We hope, however, that in a subsequent edition even the few tables for infant-feeding that he gives will be omitted and that the expression "colorimetric method" will be avoided, for even healthy babies cannot be fed by a table or by a "method."

The work has evidently been a labor of love and has a commendable ring of earnestness and of purpose. There is a need of missionary work on the subject of puerperal mortality and morbidity, of criminal abortion and infant mortality. Dr. Cheadle feels his responsibility and meets it in the true spirit. To quote from the preface: "The number of women who die from puerperal causes is so great that it appalls the one who stops to consider. And still the tide of death flows on and few are the hands put forth to stay it. Here is one feeble hand put forth. It is hoped that it may gather in a few from the black tide and restore them again to the places among their children and husbands." The physician will find nothing new in the book, but to the mothers and expectant mothers for whom it was written it can be warmly commended.

The Development of the Chick. By Frank R. Lillie, Professor in the University of Chicago. Cloth. Pp. 472, with illustrations. Price $4. New York: Henry Holt & Co., 1908.

An essential requisite to the understanding of anatomy, either human or comparative, is a thorough appreciation of the facts and processes of embryology. This subject has been taught by laboratory methods in our colleges of liberal arts and sciences for only three decades, and in our medical schools, with a very few exceptions, the laboratory teaching of embryology has been introduced within the last decade. Owing both to the availability of material and also to the fact that the text-book of Foster and Balfour was, for two decades, the only book available in embryology, the greater part of the laboratory teaching of embryology, until very recent years, has been on the chick, and therefore this form has come to be a classic. Now, however, especially in the medical schools, mammalian material is more and more used to illustrate the facts of embryology. For certain phases of development, however, the chick is still a favorite form, and therefore it is of interest to the medical profession to note the appearance of this excellent work, giving a logical and exhaustive treatment of the devlopment of a single animal. In the earlier part of the book the author discusses some of the more general problems of embryology and then takes up the various fundamental processes of the early development of the chick. This is followed by a discussion of the differentiation of the several organic systems. The discussion does not aim to be comparative; Professor Lillie confines himself almost entirely to the phenomena that occur in this one animal and goes into accurate detailed description of this limited subject.

The book is rather too extensive to serve as a text-book for beginners, and especially for beginning medical students who wish to devote some time, at least, to mammalian embryology. The book, however, will be found of the greatest value for reference, and every teacher of embryology must constantly consult it. It will furnish excellent and interesting reading for the student after he has made some headway in embryology. It will serve to stimulate the interest of the practitioner and to give a view of recent advances in this limited field. The accuracy and conservation of the statements in the book may be relied on. The book has excellent and well-selected illustrations, many of which are new. The work of the publishers has been very well done so far as the printing and binding are concerned, but the impressions of some of the figures are not entirely successful. The appearance of this book is of distinct value to the advance of medicine, since it will serve to stimulate the production of a better text-book in mammalian embryology than we now have. From the point of view from which it was written—that is, as a carefully balanced and well digested exposition of our present knowledge of the embryology of this one animal—the book is successful.

Miner's New Complete Obstetric Record. Improved Edition. Giving all Medical Data Bearing on the Problem of Heredity. Cloth. Pp. 124. Copyright, 1883, by Joel A. Miner. Ann Arbor, Mich.: Joel A. Miner.

This book is something in the nature of a ledger, and contains space for the personal history of the father and mother, the history of the labor, description of the child and general remarks regarding the puerperium. It should be of value not only to obstetricians, but to physicians in general practice, as it is an adequate means of keeping complete obstetric records.

Arbeiten aus dem Pharmazeutischen Institut der Universität Berlin. Herausgegeben von Dr. H. Thoms, Professor und Direktor des pharmazeutischen Institutes der Universität, Berlin. Vol. VI. Comprising the work for 1908. Cloth. Pp. 204, with 4 illustrations. Berlin: Urban and Schwarzenberg, 1909.

Dr. Thoms is a corresponding member of the Council on Pharmacy and Chemistry of the American Medical Association and his work in the investigation of synthetic remedies, secret preparations, and other chemical matters of interest to the medical profession is too well and favorably known to need comment. The volume contains reports of investigations of medicines, foods, technical products, colonial products, etc., as well as reports of much original work in pure and applied chemistry. In the section devoted to medicines we have the work of Zernik on the most important new remedies of the year 1908 and investigations of secret remedies by various workers. The work on the new remedies is of vast importance. It puts before the profession an account of the composition and properties of the new synthetics from a disinterested source. References to the literature are appended. An idea of the prolific character of chemical industry is afforded by the list of new remedies for the year which includes 61 titles, of which 14 have been specially investigated in the department. The need of continual watchfulness over accepted remedies is shown by the results obtained by Zernik in studying theobromin preparations; he found that a sample of the theobromin sodium acetate contained less than 40 per cent. of the theoretic amount of theobromin and a sample of theobromin sodium salicylate only 70 per cent. of the theoretic quantity of theobromin.

The Great White Plague: Tuberculosis. By Edward O. Otis, M.D., Professor of Pulmonary Diseases and Climatology, Tufts College Medical School. Cloth. Pp. 321. Price, $1.00 net. New York: Thomas Y. Crowell & Co.

This book is written for the layman and contains the facts concerning tuberculosis, its causation, symptomatology, curability and treatment, its prevention and the world-wide crusade against it. The language is simple and an attempt is made to bring the chief facts regarding the disease within the comprehension of the ordinary layman, while making no attempt to encroach on the proper field of the physician. The book ought to have good influence in helping in the campaign against tuberculosis.

Third Report of the Wellcome Research Laboratories at the Gordon Memorial College, Khartoum. Andrew Balfour, M.D., B.Sc., F.R.C.P., D.P.H., Director, Fellow of the Royal Institute of Public Health. Cloth. Pp. 477, with illustrations. Published for Dept. of Education, Sudan Government, Khartoum, by Baillière, Tindall & Cox, 8 Henrietta St., Covent Garden, London, 1908.

This handsome volume is nearly twice the size of its predecessor, which was issued in 1906. The report includes the work of the staff of the laboratories and also a number of papers prepared by other authors who have done work in the laboratories. Prominent among these papers is one by El Bimbashi Hassan Effendi Zeki describing "The Healing Art as Practiced by the Dervishes." This gives an account of the native medicine before the country came under British control and shows a marked contrast with the modern scientific methods now in vogue. The method of amputation was to draw the limb through a hole in the wall and sever it at one stroke with a sharp sword. The stump was then plunged in boiling oil which checked hemorrhage and the limb was bandaged with calico. This article is supplemented by notes contributed by other authors. An account of trypanosomiasis in the Anglo-Egyptian Sudan is given by the director, Dr. Balfour. There are some interesting and valuable contributions in the field of entomology. A description of the poisonous snakes of the Anglo-Egyptian Sudan is given by Dr. Franz Werner. Helminths are discussed by Robert T. Leiper, M. B. A large section is occupied with the anthropologic results of an expedition made by Mr. A. M. Pirrie, who unfortunately died before he was able to finish his work. The report of the chemical laboratory, in addition to other valuable work, takes up the results of a study of the various gums of the Sudan and their origin, which is now believed to be microbic. The work is handsomely illustrated and will be of special value to those interested in tropical medicine.

Children in Health and Disease. By David Forsyth, M.D., D.Sc., Physician to the Evelina Hospital for Sick Children. Cloth. Pp. 362. Price, $3. Philadelphia: P. Blakiston's Son, & Co., 1909.

It has been a pleasure on several occasions in the past few months to comment with especially favorable emphasis on books on children by English authors, notably those of Thompson and of Still. To this the present volume is no exception. The object of the book is to present a concise but comprehensive picture of child life in health and disease, which Dr. Forsyth says, can be seen in its proper perspective only "when we take up our position at the meeting-point of the many sciences that are concerned in the development and welfare of the young." He deals thus in turn with the physiology, psychology, school hygiene and training of the young, with idiocy and feeble-mindedness, infant mortality, children and disease, the examination, diagnosis and some points in the treatment of sick children. The idea is undoubtedly a good one and has been consistently and masterfully carried out—but the space between covers is too small, and under such circumstances the "Psychology of Children," and "Examination of the Vomit and Feces," come so close together that the effect is rather jarring. With so luminous and scholarly an author, one can not help but feel that a more satisfactory book would have been produced if the purely medical chapters on disease had been omitted, and the rest correspondingly expanded. The unity of the book that the author aims at is rather destroyed by bringing in strictly medical technicalities, thus giving the whole a sort of encyclopedia-of-child-life effect.

The book will appeal especially to medical men who are interested in all that pertains to children, and not merely in their ailments, and to the ever-increasing number of intelligent mothers who are looking for help in bringing up their boys and girls to the highest possible standard. Both can well omit the last few chapters, and both will be well repaid for assimilating the rest. The book itself has an appropriately dignified appearance and one is especially favorably impressed by the large, clear type and the restful effect of the thick, cream-colored paper.

Agricultural Bacteriology. By H. W. Conn, Ph.D., Professor of Biology at Wesleyan University. Second Edition. Pp. 331, with 64 illustrations. Cloth. Price, $2.00, net. Philadelphia: P. Blakiston's Son & Co., 1909.

The second edition of this well-known work has been revised and somewhat enlarged, but the general treatment has not been materially altered. Many interesting topics are discussed and the book contains information likely to be of a good deal of value to the scientific farmer. The style of writing is on the whole clear, but embellished by too many expressions such as "the disease side of the bacteria story," page 3, and "a little thought will show us," page 55. Not a few errors of fact have crept into the text, as, for example, the statement on page 130 that the presence of *B. coli* in a sample of water "indicates a certainty of danger." Again on page 282 we are told that the spores of the anthrax bacillus will "resist a temperature of about 280 degrees F. for two or three hours." The book, however, is likely to hold the place it has already made for itself in spite of these and other blemishes.

Hemorrhage and Transfusion. By George W. Crile, A. M., M.D., Professor of Clinical Surgery, Western Reserve Medical College. Cloth. Pp. 560, with illustrations. Price, $5.00. New York: D. Appleton & Co., 1909.

These papers by Crile and his associates present the data and results of the work of eleven years in research and clinical observation. Much of the material has been previously published, but the convenience of the reader or investigator has been well served by the collection in compact form, with the most complete details, of this large mass of experimental and clinical experience. The literature of the subject is thoroughly considered. Dr. Crile has analyzed the evidence of his own experience and that of others in the most thorough and logical fashion, covering every point, so that, so far as information on these subjects is obtainable, his conclusions represent the most scientific views of to-day. The technic of transfusion is clearly presented and by the improved method of the author reduced to the simplest and most practical form. The book, though large, will amply repay careful study.

Miscellany

Twelfth International Congress on Alcoholism

Dr. Reid Hunt (*Pub. Health Rep.*, Oct. 8, 1909, xxiv, No. 41) reports his observations as delegate to the Twelfth International Congress on Alcoholism held in London, July 18 to 24. Among the great variety of subjects discussed at the scientific sessions were the effect of alcohol on immunity, heredity, muscular and mental energy, its relation to tuberculosis, insanity, nervous diseases and therapeutics. The consensus of opinion of the speakers seemed to be that alcohol, in any form, is seldom of distinct value in the treatment of disease; and some evidence was brought forward to show that alcohol even in moderate amounts has an unfavorable effect on offspring and has a tendency to lower resistance to infection.

The statements frequently made that alcohol is, *per se*, a predisposing factor to tuberculosis received some but not marked support from an elaborate statistical study by Henschen of Sweden.

In discussing a paper by Mr. Wilbert on the alcoholic beverages in the different pharmacopeias Hunt called attention to the fact that only the United States and Greek pharmacopeias include whisky, and suggested that its recognition by these pharmacopeias gave it an undue prominence as a medicinal agent; also that wine is very undesirable as a pharmaceutical agent and that the preparations made with it should be discarded from the Pharmacopeia.

One of the most important of the general meetings was devoted to the subject of alcohol and the efficiency of the national services, at which representatives of the naval, military, postal, railway and legal professions spoke. The extraordinary growth of total abstinence in the British army and navy was especially emphasized: 40 per cent. of the army in India are total abstainers. This growth of total abstinence in the army was attributed to a very considerable degree to the improvements that have been made in the surroundings of the soldier, such as improved housing and food. One speaker pointed out the need of giving much more attention to the physical welfare of the sailors of the merchant marine. The unhygienic conditions under which many of them live were held to be the chief cause of their intemperance and the deterioration caused by these factors (intemperance and lack of hygiene) was called a national danger.

Other features of the congress are described in some detail by Cora Frances Stoddard (*Survey*, Oct. 9, 1909, xxiii, 81).

Dr. T. Laitinen, professor of hygiene at the University of Helsingfors, reported studies in human families which confirmed his long and careful observations on animals, and which showed that the birth-weight and subsequent eight months' development of children of drinkers averaged less in a group of over 20,000 than in the case of children of non-drinkers. Poorer hygienic conditions in home and care afforded by the drinking parent, as well as the alcohol itself, undoubtedly had an influence in producing these results.

Dr. Karl Graeter, a nerve specialist of Basel, Switzerland, gave statistics showing that from 9 per cent. up of the children of moderate drinkers investigated were mentally defective or tuberculous, and from 17 per cent. up of the children of heavy drinkers, as against 5 per cent. of the children of abstainers.

The discussion on alcohol and crime, of course, reinforced the evidence of years as to the close relation between crime and drink. The lord chief justice of England, Lord Alverstone, declared that after forty years at the bar and ten years as a judge, he had no hesitation in saying that in 90 per cent. of the crime in England, drink was a factor. Lieutenant-Colonel McHardy of Edinburgh stated that in Scotland in 1907, there were about 90,000 cases of public disorder due to drink.

The rational explanation of these statements was given by Dr. Legrain of Paris, who said: "Alcohol produces an intoxication which is only a brief attack of lunacy. There is no other term which describes the almost instantaneous disorders which impair the judgment, the reason, and exactitude of sensation, and which destroy the will only to install brute impulse in its place."

Sir Thomas Whittaker, as president of one of Great Britain's largest life-insurance companies, stated that their nonabstainers were so carefully selected that the mortality was less than in other societies. Even then, the records of the company showed a difference in favor of the abstainers of from 25 to 30 per cent., showing their better health and longevity.

Practical dealing with the alcohol problem in the light of the discussions of this congress resolves itself into the essentials of all social reform: popular education as to the perils involved, inculcation of respect for individual and community good, elimination of sources of temptation as rapidly as possible; cure of the victims if attainable; if not, isolation for the sake of public order and public welfare.

Gastroenterocolitis in Infants.—H. B. Sheffield (*Merck's Archives*, July, 1909) is inclined to regard the various gastrointestinal disturbances usually described as "gastritis," "enteritis," "colitis," "gastroenteritis" and "enterocolitis" as mere stages of one and the same pathologic condition, and discusses the subject in question from this point of view. Occasional vomiting and diarrhea, occurring as a result of unusual overloading of the stomach, too hasty feeding, ingestion of indigestible articles of food or foreign bodies, exposure to sudden atmospheric changes and undue excitement, etc., are not rarely observed in otherwise apparently healthy, well-nourished children, and if of brief duration are of no special clinical significance. These attacks may even be accompanied by fever, mild cerebral irritation, colic, etc., and yet remain outside the domain of pathology, or represent an affection which is generally spoken of as simple indigestion or the first stage of gastroenterocolitis. The second stage of gastroenterocolitis is generally described as gastrointestinal catarrh or dyspepsia.

Ordinarily, these manifestations set in insidiously, and if not promptly arrested grow worse gradually, arousing little if any anxiety on the part of those in charge of the baby, or are lost sight of, sometimes because of coincident "teething" (with the laity the presumptive cause of all ills) until there is a sudden aggravation of the condition—supervention of the third stage of the disease. In this stage gastroenterocolitis assumes a very acute course. It is manifested by violent vomiting, excessive thirst, frequent, thin watery, brownish, greenish and later colorless or blood-stained stools. The vomitus is acid in reaction, bile-stained and offensive in odor. The bowel movements vary from 10 to 15 in twenty-four hours, and are followed by griping pain and tenesmus. The child is very restless, feverish, sleepless, and, with the symptoms persisting a few days, rapidly loses in weight, and sinks into a state of collapse, followed by convulsions, coma and death.

Closely allied to the gastroenterocolitis just described (though possibly differing as to the exciting micro-organism), and most probably representing only a severer "fulminating" form of the same disease, is the so-called infantile "summer complaint," or cholera nostras infantum. To prevent the graver forms of gastroenterocolitis, promptly remove the causes and effects of the mildest symptoms of the disease. Attention to every detail of rational feeding and personal hygiene are the surest means of prevention. The active treatment should begin with the earliest inception of the gastrointestinal disorder. Regulation of diet is the most efficient therapeutic measure, and is almost invariably attended by improvement in the child's condition, if the treatment is begun with a few hours' starvation of the patient and prompt cleansing of the alimentary tract of its obnoxious contents. Feeding, breast or bottle, should at once be suspended until such time as exigencies for resumption of feeding will demand. In the meantime, especially in the absence of strong contraindications, such as violent vomiting, the infant should receive small quantities of hot or cold, pure water, or a light infusion of black tea. Recurrent vomiting calls for prompt attention. Ordinarily, vomiting can be controlled by "ice-sand," minute doses of calomel with or without bicarbonate of soda or bismuth; bismuth or cerium oxalate; tincture of iodin (in 1/30 drop doses, to be repeated every hour or two); silver nitrate (1/100 gr.); a sinapism to the spine or epigastrium, and, if all else fail, lavage. Lavage should be supplemented by enteroclysis, and, with the vomiting checked, also by a small dose of castor oil. Where diarrhe persists, an astringent mixture like the following is useful:

℞.		gm. or c.c.	
Bismuthi subcarbonatis			
Misturæ cretæ comp.			
Syrupi rhei aromatici			
Glycerini			
Aquæ menthæ piperitæ	āā	8	ʒi
Aquæ destillata		60	ad. ℥ii

M. Sig.: One teaspoonful every two hours for a child on year old.

The camphorated tincture of opium may be added for th relief of pain. After complete cessation of vomiting, resum feeding, first with small quantities of toast or barley-water and several hours later diluted cow's milk or breast milk.

In fulminating attacks of gastroenterocolitis, the treatmen must be prompt and more heroic. In the initial, febrile stage after a single but thorough irrigation of the stomach an bowels, the patient is given 1/50 gr. of morphin and 1/500 gr of atropin hypodermically, is wrapped in warm blankets an sent outdoors. In the algid stage powerful stimulation is i order. Thus a hot bath with brisk rubbing of the body, a ho high enema (injected slowly so as to be retained), hot wate by mouth, hypodermic administration of sterile camphorate oil (8 drops of a 15 per cent. solution); strychnin 1/60 t 1/30 gr.; caffein sodium benzoate 1 gr.; or whisky 20 gtts., an hypodermoclysis (1 to 6 oz. of a 0.6 per cent. hot sterile sal solution). As the patient improves, a milder course of treatment is resorted to. Convalescence usually proceeds at a ver slow pace, and is frequently interrupted by milder exhibition of gastrointestinal indigestion, which, if not promptly yielding to energetic treatment, eventually lead to chronic involvemen of the alimentary tract.

The course of chronic gastroenterocolitis varies in individua cases. At best, the prognosis is very grave (50 per cent. mortality), especially so in infants reared under bad hygieni conditions and in want and misery, and in those born wit lowered vitality and congenital constitutional defects. Th patient should be removed from the insanitary surrounding and intrusted to the care of some one who would obey orders Regulation of diet is most essential. A complete cure of gastroenterocolitis in young infants is frequently effected by prompt change from bottle to breast feeding. The medicina treatment of chronic gastroenterocolitis is chiefly symptomatic

Prophylaxis of Recurring Headaches.—H. Hirsch refers t what he calls "habitual headaches," and declares that peopl are educated into the headache habit unconsciously in man cases, and that effectual prophylaxis is possible. When children see how everything in the household bends on the day when "mother has one of her headaches," they learn t ascribe great importance to headache in general, to seek fo it in themselves, and to magnify the slightest ache int "inheritance of mother's tendency to headache." They ar thus educated into the headache habit. He sees another facto in the peculiar condition of semiwakefulness as one starts t wake in the morning. This is a close approach to the hypnotic sleep, he says, and the individual actually hypnotizes himself during this intermediate phase between sleeping an actual waking. Who has not had the experience, he exclaims during this stage of semiwakefulness that the cares of th preceding day come back to the mind with depressing gloom—mole-hills are magnified into mountains and mere possibilities of trouble into malign certainties. If the memory of headache in the past crops up during this period of semiwakefulness, the dread of the headache hypnotizes the min into accepting a headache as an actual fact. Massage of th head is liable to induce a kind of semihypnotic condition against which he expressly warns, and he also advises mean to ensure rousing and waking completely as soon as on wakes to semiconsciousness. In his communication on th subject in the *St. Petersburg. med. Wochenschrift*, Septembe 25, he urges the family physician to instruct parents to refrain from paying too much attention to the little aches an pains of their children, and also to tell the parents that fo their children's sake—they must give up the right to thei own headaches, that is, they must rise above them, not yiel supinely to them.

Medicolegal

Validity of Contract of Assistant Not to Practice in Same Place After Termination of Employment

The Supreme Court of Colorado had, in Freudenthal vs. Espey (102 Pac. R. 280), a suit brought by the latter party, its first case for decision involving the question of the validity of such a contract as the one there, whereby the defendant, employed as the assistant of the plaintiff, agreed that on the termination of his employment he would cease "the practice of medicine, surgery or obstetrics or the branches of either," directly or indirectly, in the city, a place of about 10,000 inhabitants, for a period of five years.

Such contracts, the court says, must have an actual consideration appearing from or in the contract, or, at least, set forth in the complaint. What is termed a legal consideration is sufficient. It will not be inquired whether or not it is adequate, or, in other words, equal in value to the restraint agreed on. Nor will the court inquire whether the defendant in submitting to the restraint made a judicious contract.

In this case the consideration on which the defendant entered into the contract as expressed therein was "the salary and compensation" which would inure to him by reason of the employment and association. The salary was $125 a month. Then there were mutual promises to be performed which were the consideration for each other. The plaintiff was to introduce the defendant to his patients and friends, furnish proper conveyances, and in return the defendant was to exert his skill and attend to the professional business of the plaintiff and "earnestly endeavor to increase and built" it up. It was certainly of great benefit to the defendant, an inexperienced professional man, to be associated with a capable and efficient member of his own profession, long experienced, and enjoying an extensive practice. The public were likewise benefited, locally, in having the inexperienced practitioner under the direction of, and guided by, one skilled in his profession, and equally so would the public elsewhere be benefited when he engaged in his profession for himself. The court is clearly of the opinion that the facts of this case disclosed a sufficient legal consideration.

Taking up the next question of whether the contract was reasonable, the court says that agreements like this must be construed with reference to the objects sought to be attained by them. The object here was the protection of the plaintiff against competition in his profession. The nature of the business to protect was a medical practice extending far beyond the limits of the city. He possessed this business and the knowledge and the skill that enabled him to acquire it. Certainly in limiting the restriction to the city and for the period of five years was only affording a fair protection to the interests of the party in favor of whom it was given, and not so large as to interfere with the interests of the public. The restraint was no larger than the needs of the plaintiff required. It was of material benefit to him and was not oppressive on the defendant, nor was it in any sense injurious to the public. The contract was in no wise forbidden by any principle of policy or law. The defendant could be as useful to the public at any other place as in the city in question, and the interests of the community elsewhere were as important as they were there. Here the defendant had no business, was inexperienced and presumably unskilled, and desired and sought the benefits that would accrue to him by association with one so learned and skilled in his profession as the plaintiff. It is a known fact that professional skill, experience, and reputation constitute part of the individuality of any particular person, and the amount of business which such person does depends largely on the confidence reposed in him personally as a professional man. Under such circumstances it is not to be presumed that one whose personal excellency and skill have brought him a profitable business will take another in, and by vouching for such other's skill and honor endear him to his own patients and leave such other free to steal away his profits.

The circumstances under which the defendant entered into the employ of the plaintiff here were such as to justify the latter in asking him to enter into some agreement of the nature of that involved in this suit. It was of importance to the plaintiff to exact of the defendant a covenant which would prevent him on the termination of the service for utilizing the knowledge and experience he had gained by such service in destroying the plaintiff's business. It was reasonable and proper. Besides, the court is not disposed by judicial decree to render it practically impossible for the unlearned to better their condition, and become skilled in a trade or experienced in a profession, by means of proper apprenticeships, as it would do, were it to declare this contract void. Few professional men would take assistants and intrust them with their business, impart to them their knowledge and skill, bring them in contact with their clients and patients, unless they be assured that the knowledge and skill imparted and the friendships and associations formed would not be used, when the services were ended, to appropriate the very business such assistants were employed to maintain and enlarge.

A distinction exists between that class of contracts binding one to desist from the practice of a learned profession and those which bind one who has sold out a mercantile or other kind of business and the good will therewith connected, not to engage again in that business. In the former class there should be a reasonable limit as to time so as to prevent the contract from operating with unnecessary harshness against the person who is to abstain from practicing his profession at a time when his so doing could in no wise benefit the other contracting party. In the latter class such limit is not essential to the validity of the contract, but the restraint may be indefinite. The contract in this case met the requirements of this rule.

Entertaining these views, the court affirms a decree in the plaintiff's favor, enjoining the defendant from doing what he agreed not to do.

Validity and Construction of Illegally Limited License—Right to Verification License

The Court of Civil Appeals of Texas says, in Board of Medical Examiners of Texas vs. Taylor (120 S. W. R. 574), that the board refused Mrs. Taylor's application for the verification license required by the medical practice act of 1907 to practice medicine, tendering her instead one to practice "obstetrics only." This was based on the fact that her original license, issued by a district board of medical examiners in 1889, used the words, "branches of obstetrics and diseases peculiar to women and children." But the district board certified that it had examined the applicant "as required by the laws of the State of Texas," and was "satisfied" as to her "qualifications," while it was duly established that from such time she had been a legal and regular practitioner of medicine, in general practice in the state.

Under these circumstances, the court considers that she was entitled to a writ of mandamus to compel the issuance of a verification license "to practice medicine," without the limitation sought to be imposed on her. It says that it does not think that in the facts admitted and by giving proper effect to the entire language of the certificate that the words in the certificate, "branches of obstetrics and diseases peculiar to women and children," were intended, or should be so construed, by the board to declare that they were not "satisfied" as to the applicant's qualifications in the requirements of the law. If the board intended by the words just mentioned to designate in the certificate the branch or department of medicine that she was to practice, any such designation would have no legal force or effect, would be surplusage, and would not affect her legal rights in the premises. So the fact, appearing from the certificate and admitted, that she appeared before the board, not as an applicant to practice midwifery or obstetrics only, and bearing in mind that the board was not authorized to give certificates "to females practicing midwifery exclusively," and it appearing that the board intended to and did act within its legal authority, it follows that the court would not be justified or warranted in construing the certificate in question to be a certificate intended to certify the right to practice obstetrics only.

Holding as the court does, that the legal effect of the certificate granted to the applicant by the district medical board was to authorize her "to practice medicine under the laws at the time in force, it follows that she was entitled to a verication license at the hands of the state board as broad as the legal effect of her certificate, which, by force of the law, was "to practice medicine." The duty of verification imposed on the state board by the law is to confirm or substantiate something already done. The power involved in the verfication extends to the ascertainment of the genuineness and valid existence of the license previously by law granted by authorized board, and the identity of the person claiming and presenting the same, there being no cause as defined in section 11 of the act authorizing a refusal to issue.

Current Medical Literature

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

November 13

1 *Diabetic Coma: Is it Due to Acidosis? H. S. Stark, New York.
2 *Treatment of Amebic Dysentery. W. E. Deeks and W. F. Shaw, Ancon, Canal Zone.
3 Surgical Treatment of Severe and Late Cases of Amebic Dysentery. A. B. Herrick, Ancon, Canal Zone.
4 *Pathogenesis of Tabetic Arthropathies Based on an Anatomic and Clinical Study of Two Cases. A. Gordon, Philadelphia.
5 *Six Hundred Cases of Heart Disease. J. N. Hall, Denver.
6 Twenty Cases of Pulmonary Tuberculosis without Bacilli in the Blood. L. Rosenberg, Bedford Station, N. Y.
7 Wrist Support for Sphygmographic Tracing. D. Felberbaum, New York.

1. **Diabetic Coma.**—Stark is opposed to the assumption that the coma is due to acidosis, because: 1. A decided acetonuria occurs in the course of numerous diseases of widely different characters, *e. g.* gastrointestinal disorders of childhood (cyclic vomiting), acute yellow atrophy of the liver, eclampsia, pernicious vomiting of pregnancy, intoxications from metals and anesthetics, etc. 2, Acidosis may occur in health on a continuous sugar-free diet, and also during physiologic starvation, and during inanition from wasting disorders, such as carcinoma and tuberculosis. 3. Adyspneic coma, not unlike true diabetic coma, is encountered in other diseases than diabetes, such as measles, scarlet fever and typhoid. Save for the presence of dextrose in the urine, these comas could not be clinically differentiated. 4. Diabetic coma may occur without acidosis, but with a large ammonia excretion. There are quite a number of such cases recorded in literature and they have an important bearing on the question of the origin of coma. 5. Alkali therapy has been notoriously a failure, either as a prophylactic or as a curative measure. Stark believes that the failure of alkali medication, either to abort or to tide the patient over an attack, seals the fate of the acidosis theory.

2. **Treatment of Amebic Dysentery.**—The rest-supportive treatment, consisting of rest in bed, a milk diet, the use of mild irrigations and bismuth subnitrate in heroic doses, has given Deeks and Shaw by far the most satisfactory results. Surgical interference, they say, is indicated if improvement does not rapidly follow the above-mentioned method.

4. Abstracted in THE JOURNAL, July 31, 1909, page 405.

5. **Heart Disease.**—This is an elaborate statistical analysis of the subject.

Boston Medical and Surgical Journal

November 11

8 The Dysentery Epidemic at Danvers Hospital in 1908. C. T. Ryder, Boston.
9 Investigation of Possible and Probable Sources of Infection and of Causes of Spread of Dysentery in Danvers Hospital. C. T. Ryder, Boston.
10 Identification of Epidemic Dysentery in Danvers Hospital as Due Mainly to *Bacillus Dysenteriæ*. E. T. F. Richards, A. H. Peabody and M. M. Canavan, Boston.
11 Agglutinations in Danvers Dysentery Cases; Comparative and Serial Tests with Shiga and Flexner-Harris Strains of *Bacillus Dysenteriæ*. E. T. F. Richards, Boston.
12 The Blood Cell Picture in Bacillary Dysentery. M. M. Canavan, Boston.
13 The Lesions of Bacillary Dysentery. E. E. Southard and E. T. F. Richards, Boston.
14 The Nervous System in Bacillary Dysentery. E. E. Southard and C. G. McGaffin, Boston.
15 Ulcerative Vaginitis in a Case of Bacillary Dysentery. M. M. Canavan, Boston.
16 Occurrence of Dysentery in Hospitals and in the Community at Large, with a Summary of Prophylactic Measures which Should be Employed to Check the Disease. C. T. Ryder, Boston.
17 Conclusions from Work on the Danvers Dysentery Epidemic of 1908. E. E. Southard, Boston.
18 *Vaccine Treatment of Lobar Pneumonia. T. Leary, Boston.
19 Immediate Results and Surgical Complications of Gastroenterostomy. F. T. Murphy, Boston.
20 Physiologic Aspects of Gastroenterostomy. W. B. Cannon, Boston.

18. **Vaccine Treatment of Lobar Pneumonia.**—Believing that the data obtained from the treatment of cases of alcoholic pneumonia would at least be suggestive, Leary appealed to several medical groups to test the value of vaccine on the alcoholic and extreme cases. Pneumococcus vaccine was furnished for the treatment of 34 patients of this type, of whom 6 died (17.7 per cent). In a larger series of cases of ordinary pneumonia (49), 15 per cent. came to crisis in three days, and but 2 deaths were reported. The total deaths for the series of 83 cases were 8, or 9.7 per cent. It was noted by most observers that rapid relief of toxemic conditions, which were present in serious cases, followed the use of vaccine, and in cases of uncontrollable delirium an abatement of the delirium was prompt. The results are encouraging enough, Leary believes, to justify the wider application of this treatment. For the purpose of obtaining data from a sufficient number of cases to furnish material for definite conclusions, a fund has been established through the munificence of public-spirited citizens in Boston by means of which pneumococcus vaccine will be furnished without cost for the treatment of lobar pneumonia.

New York Medical Journal

November 13

21 Historical Sketch of the College of Physicians of Philadelphia. F. P. Henry, Philadelphia.
22 New Fields and Methods in Psychology. F. Peterson, New York.
23 *The Technic of Orcheopexy. F. Torek, New York.
24 *Central Dislocations of the Femur with Fracture of the Acetabulum. A. E. Halstead, Chicago.
25 Treatment of Appendicular Collections of Pus. W. L. Harris, Providence, R. I.
26 Pityriasis Rosea with Pseudovesicles. U. J. Wile, New York.
27 Medical Charity. L. H. Schwartz, New York.
28 No Free Hydrochloric Acid in the Stomach. J. Ballagi, Homestead, Pa.

23. **Orcheopexy.**—The operation devised by Torek is performed in the following manner: The testicle is exposed through an incision over the inguinal canal. The aponeurosis of the external oblique muscle is split to the same extent as in the operation of inguinal hernia. Testicle and cord are freed from all their coats. As regards the testicle, Torek is of the opinion that it is a decided advantage to liberate it by turning back its tunica vaginalis, as direct attachment to the fascia of the thigh is doubtless firmer than if the tunica vaginalis were interposed. The vas deferens and the vessels of the cord must be denuded of all their coverings. The gubernaculum testis is removed, so that nothing remains of the cord but the vas deferens and the blood-vessels, and these should be separated from all surrounding connective tissue to a point high up behind the abdominal parietes. Should any vessel exceptionally prevent the testicle from being drawn down, it may be divided.

The next step is to make an incision in the thigh to expose the fascia lata. The site for this incision is determined by taking the testicle out of the inguinal wound and drawing it down gently. The point at which it touches the thigh is chosen for the incision. The direction of the incision is from in front backward and slightly downward, thus coinciding with the natural lines of the skin. A pocket is made by gently digging with the finger from the lower end of the inguinal wound through the loose connective tissue to the bottom of the scrotum. Here the pocket is opened by an incision, which must correspond in length and direction precisely with that in the thigh, in order that the cut edges may be united evenly, without tension and without folds. The testicle may now be drawn down through the newly formed canal and be made to emerge from the scrotal wound. Or it may be left above until one is ready to suture it to the fascia. In that case, however, the canal should be kept open by inserting an instrument or a strip of gauze through it. Torek prefers this because the testicle being left above, is out of the way during the next step of the operation, the union of the upper edge of the thigh wound to the corresponding edge of the scrotal wound.

The next step is fastening the testicle to the fascia of the thigh. From three to five sutures of chromicized catgut are inserted, the number depending on the size of the organ. Enough of the tunica albuginea must be caught in the sutures to give a good hold. All sutures are inserted before any are tied. When the sutures between testicle and fascia have been tied, the anterior lip of the scrotal wound is sewn to the lower edge of the thigh wound. This suture is simple; but one must remember the tendency of the scrotal skin to turn in and must counteract it. The testicle is then completely covered by skin. The inguinal wound is closed in three layers, as in Bassini's operation for hernia, with the difference that the cord is not displaced, unless the simultaneous presence of a hernia renders this procedure desirable. In that case the deep suture, that uniting Poupart's ligament with the internal oblique and transversalis muscles and their tendon, is made before the testicle is brought down through the scrotum. In all other cases the cord is allowed to come down in the shortest and most direct way. The operation is now completed. With the aid of a dressing forceps a small strip of gauze is drawn carefully through the canal of skin between scrotum and thigh. It serves as a dressing for the deep suture. A large dressing is then applied covering the entire scrotum and the abdominal wound. This is changed after about six days, when all skin sutures are removed, except the hidden, inaccessible row of stitches between the scrotum and the thigh. After from three to six months the testicle is detached carefully, the scrotal wound closed over it, and the wound in the thigh is also closed.

24. **Central Dislocation of Femur.**—By central dislocation of the femur is meant fracture of the acetabulum with dislocation of the head of the femur into the pelvic cavity. In the literature most of the cases of this character are reported under the head of fractures of the acetabulum. From Halstead's point of view, the presence of the femoral head in the pelvic cavity is the most important element in these injuries. He reviews the literature and reports one case.

Lancet Clinic, Cincinnati

October 30

29 *Medical Education—Past, Present and Future. J. A. Witherspoon, Nashville.
30 *Modern Surgery of the Digestive Tract. J. B. Deaver, Philadelphia.

November 6

31 The Major Smith Modification of the Modern Cataract Operation—Intracapsular Extraction of the Cataractous Lens. R. Sattler, Cincinnati.
32 *Sarcoma of the Prostate. J. R. Eastman, Indianapolis.
33 Treatment of the Sac in Hernia. C. T. Souther, Cincinnati.

29, 30, 32. Abstracted in The Journal, Nov. 13, 1909, pp. 1674, 1675, 1677.

Wisconsin Medical Journal, Milwaukee

October

34 *Diagnosis and Treatment of Renal Calculi. J. F. Smith, Wausau.
35 Treatment of Acute Gonorrhea. D. J. Hayes, Milwaukee.
36 *Chronic Gonorrhea in Men. E. A. Fletcher, Milwaukee.
37 *Sociologic Aspect of the Venereal Diseases. P. F. Rogers, Milwaukee.

34. Abstracted in The Journal, Aug. 7, 1909, p. 481.

36, 37. Abstracted in The Journal, Aug. 21, 1909, p. 648.

Illinois Medical Journal, Springfield

November

38 *Clinical Significance of Albumin and Casts in the Urine. A. R. Elliott, Chicago.
39 Nature of Cardiovascular Changes in Nephritis. A. C. Croftan, Chicago.
40 *Value and Limitation of Salt-Free Diet and Restriction of Fluid in Nephritis. C. S. Williamson, Chicago.
41 Fracture of Pelvis and Rupture of Bladder. E. K. Lockwood, Virden.
42 *Diagnosis and Treatment of Stone in Ureter. A. D. Bevan and H. L. Kretschmer, Chicago.
43 *Vesical Symptoms Due to Diseases External to the Bladder. L. E. Schmidt, Chicago.
44 Pathology and Diagnosis of Dilatation of the Renal Pelvis. L. W. Bremerman, Chicago.
45 *Unique Foreign Body in the Male Bladder; Removal by Suprapubic Cystotomy. H. O. White and R. R. Duff, Chicago.
46 *Surgical Treatment of Exophthalmic Goiter. C. E. Black, Jacksonville.
47 Brain Tumor, with Specimens of Brain and Tumor. C. B. Horrell, Galesburg.
48 *Action of the Coal-Tar Anodynes. B. Fantus, Chicago.
49 Studies in Contemporary Workman's Compensation (continued). W. H. Allport, Chicago.

38, 40. Abstracted in The Journal, June 5, 1909, pp. 1881, 1882.

42. **Stone in the Ureter.**—This paper emphasizes the diagnostic value of the Roentgen ray in cases of stone in the ureter.

43. **Diseases External to Bladder.**—Schmidt presents the following original classifications: (1) Bladder symptoms due to constitutional or general diseases which are common to both sexes; (2) bladder symptoms due to diseases of neighboring organs or other urinary organs, which are common to both sexes; (3) bladder symptoms due to physiologic or pathologic conditions of the female genitalia, and hence present only in the female; (4) bladder symptoms due to pathologic conditions of the male genitalia, and hence present only in the male; (5) bladder symptoms due to primary pathologic conditions of the bladder itself, common to both sexes.

45. **Foreign Body in the Male Bladder.**—The patient, male, aged 28, was in the habit of introducing a small candle into the urethra. The foreign body slipped from his fingers beyond reach, and passed back into the membranous urethra. In attempting to extract the candle he forced it deeper back until the last attempt forced it up into the bladder.

46. Abstracted in The Journal, June 19, 1909, p. 2020.

48. **Action of Coal-Tar Anodynes.**—Speaking of the pharmacology of some of the popular combinations, Fantus says that first and foremost in popularity is the combination with caffein, usually in the proportion of one part caffein to three parts of the coal-tar derivative. The caffein is supposed to antagonize the collapse action. That it is not very successful in this respect is evident from the fact that just such combinations as are found in bromo-seltzer, antikamnia, etc., have repeatedly produced death. Perhaps the main reason for the popularity of this combination lies in the fact that caffein has a specific action in temporarily overcoming fatigue and the symptoms produced by it, such as the aches and pains of nerve-tire. In just such pains the coal-tar anodynes are also of value. A combination of the two undoubtedly acts with greater force in cases of this kind than either remedy alone. We must not forget, however, that caffein produces wakefulness. Therefore, this combination must not be used in the thoughtless manner in which it has so often been employed in the past. It is especially indicated in fatigue disturbances; it is especially contraindicated in insomnia and in conditions of excessive nervous irritability. Combination with a bromid is likely to be of advantage in the last-mentioned condition.

Pennsylvania Medical Journal, Athens

October

50 *President's Address: Physicians and the Public. G. W. Wagoner, Johnston.
51 Municipal Campaign for Reducing Infant Mortality. S. W. Newmayer, Philadelphia.
52 *Influence of Factory Inspectors on Public Health. H. B. Wood, Philadelphia.
53 Then and Now. L. W. Fox, Philadelphia.
54 The Problem of Infant Mortality. J. F. Edwards, Pittsburg.
55 Care of the Pregnant Patient. S. Coles, Philadelphia.

50. Abstracted in The Journal, Oct. 9, 1909, p. 1216.

52. This article also appeared in the *Virginia Medical Semi-Monthly*, October 22.

American Journal of Physiology, Boston

November

56 *Destructive Effect of Shaking on the Proteolytic Ferments. A. D. Shaklee and S. J. Meltzer, New York.
57 Effect of Subminimal Stimulation of the Pneumogastric Nerves on the Onset of Cardiac Rigor. D. R. Joseph and S. J. Meltzer, New York.
58 *Nuclein Synthesis in the Animal Body. E. V. McCollum, Madison, Wis.
59 *Elimination of Barium. G. M. Meyer, New York.
60 The Neurocytologic Reaction in Muscular Exertion. D. H. Dolley, Raleigh, N. C.

56. **Effect of Shaking on Proteolytic Ferments.**—Shaklee and Meltzer have studied the effect of shaking in partly-filled bottles, laid horizontally, on the action of proteolytic ferments. The more essential result of their experiments is that shaking may destroy the three ferments, pepsin, rennin and trypsin; that these are destroyed more rapidly at higher

than at lower temperatures; that trypsin is more easily destroyed than pepsin, and that the shaking produced by the respiratory movements is capable of causing some destruction of the ferments. The experiments showed that the inactivity of the ferment was not dispelled by standing, *i. e.*, it was not a mere inactivation. Recent experiments by other investigators show that other ferments also may be inactivated by shaking. Numerous older experiments have established that shaking is capable of influencing, fundamentally, bacteria, yeast, red blood cells and echinoderm eggs. The authors asume that ferments are organized substances, possessing a certain structure which may be destroyed by shaking. They consider that the action of each ferment is due to a specific vibration which it undergoes in response to shocks derived from the outside and which is made possible by its specific structure. Too vigorous shaking by destroying this peculiar structure makes the continuance of the specific vibration impossible.

58. **Nuclein Synthesis.**—McCollum, after feeding experiments on rats, comes to the following conclusions: The palatability of the ration is the most important factor in animal nutrition. Without palatability, the ration may possess all the necessary food ingredients and yet fail to nourish an animal properly. The failure of previous efforts to maintain animals on a mixture of relatively pure proximate constituents of food-stuffs was due to lack of palatability of the mixture. When sufficient care is given to changing the character and flavor of food supplied in such simple mixtures, it is possible to induce an appreciable amount of growth. Very young animals adapt themselves to a ration possessing a low degree of palatability much better than do adults. Other things being satisfactory, all the phosphorus needed for the growth of the skeleton, nuclein, or phosphatide formation, can be drawn from inorganic phosphates. The animal has the power to synthesize the purin bases necessary for its nuclein formation from some complexes contained in the protein molecule, and does not necessarily use purin bases of exogenous origin for this purpose.

59. **Elimination of Barium.**—Meyer finds that barium injected parenterally is not eliminated to an appreciable extent in the urine but passes out with the feces.

Ohio State Medical Journal, Columbus

October

61 Application and Limitations of Bacterial Therapy. W. J. Stone, Toledo.
62 *Traumatisms of the Sacroiliac Joint, and Their Sequelæ. R. Carothers, Cincinnati.
63 Recognition and Treatment of Pre-Eclamptic Toxemia. F. S. Clark, Cleveland.
64 Ureteral Calculi. C. M. Harpster, Toledo.
65 *Etiology of Senile Cataract. C. Lukens, Toledo.

62. Abstracted in The Journal, June 5, 1909, p. 1875.

65. Abstracted in The Journal, May 29, 1909, p. 1784.

Journal of Medical Research, Boston

September

66 *Arthritis Deformans. E. H. Nichols and F. L. Richardson, Boston.
67 *Leucocytic Extract: Its Action on the Course of Pneumonia. C. Floyd and W. P. Lucas, Boston.
68 Index to Tuberculin Treatment in Tuberculosis by the Minimal Cutaneous Reaction Method. W. C. White, D. A. L. Graham and K. H. Van Norman, Pittsburg.
69 *Action of Serums on Tuberculin Cutaneous Reaction. W. C. White and D. A. L. Graham, Pittsburg.
70 New Anaërobic Spore-Bearing Bacterium Commonly Present in Livers of Healthy Dogs, and Responsible for Many Changes Attributed to Aseptic Autolysis of Liver Tissue. S. B. Wolbach and T. Saiki, Albany, N. Y.
71 Device for Cultivation of Anaërobes in Plate Cultures, by Use of Alkali-Pyrogallic Acid Mixtures. T. Saiki, Albany, N. Y.
72 Rate of Autolytic Reaction and the Appearance of Gases and Acids in the Autolysis of So-called Sterile Livers of the Dog. H. C. Jackson, Albany, N. Y.
73 *Tumors Found in Wild Rats. G. W. McCoy, U. S. Public Health and Marine-Hospital Service.
74 *Changes Occurring in the Elastic Fibers of the Aorta with Advancing Age. L. S. Foster, Montreal.
75 An Extract of the Kidney. E. A. Aronson, Boston.
76 *Transplantation of Devitalized Arterial Segments: Morphologic Changes in the Implanted Segments. I. Levin and J. H. Larkin, New York.
77 Method for Obtaining Human Plasma Free from Chemical Action. Its Effect on Phagocytes. D. M. Cowie, Ann Arbor.

Abstracted in The Journal, April 24, 1909, p. 1351.

67. **Action of Leucocyte Extract on Pneumonia.**—Aqueous extracts of rabbits leucocytes were used in the treatment of pneumonia in man. Harmful action was not observed in any of the cases and the authors "feel that where a case of pneumonia is treated early with extract of leucocytes, and full and frequent doses given where they are required, this may prove of considerable therapeutic value."

69. **Sera in Tuberculin Cutaneous Reaction.**—The results of Pickert and Löwenstein to the effect that sera of patients tolerant to large doses of tuberculin possess the power of inhibiting cutaneous tuberculin reaction, appear to be confirmed.

73. **Tumors in Wild Rats**—In 100,000 rats examined in the Federal Plague Laboratory at San Francisco from June 1, 1908, to May 15, 1909, 103 presented tumors suitable for examination, many being adenomas and a few typical carcinomas.

74. **Changes in Elastic Fibers of Aorta.**—The elastic fibers in the aorta require from thirty to thirty-five years to reach their full development. After about thirty-five years there is a quiet period for about fifteen years during which no developmental changes take place. After this time degenerative changes of greater or less extent are seen in the elastic fibers.

Louisville Monthly Journal of Medicine and Surgery

November

78 *Medical Education—Past, Present and Future. J. A. Witherspoon, Nashville, Tenn.
79 *Modern Surgery of the Digestive Tract. J. B. Deaver, Philadelphia.
80 Mistakes in Medical Practice. S. G. Bonney, Denver.

78-79. Abstracted in The Journal, Nov. 13, 1909, pp. 1674, 1675. Published in *The Lancet-Clinic*, Oct. 30, 1909.

American Journal of Surgery, New York

November

81 *Experiments in Certain Methods of Intestinal Anastomosis. C. Georg, Ann Arbor, Mich.
82 *Surgical Relations of Intestinal Gases. B. B. Davis, Omaha, Neb.
83 Septicemia Following Submucous Resection of the Nasal Septum: One Death, One Recovery. H. Hays, New York.
84 Spoon Enucleation of the Tonsil. A. M. MacWhinnie, Seattle, Wash.
85 Tracheotomy for Foreign Bodies in the Air Passages. W. F. Westmoreland, Atlanta, Ga.
86 Treatment of Eclampsia. F. C. Holden, Brooklyn.

81. **Intestinal Anastomosis.**—As the result of experiments which have extended over a period of two years, Georg concludes that the method of Parker and Kerr is the most practical for end-to-end anastomosis, and that of Capek for lateral anastomosis and gastroenterostomy.

82. **Surgical Relations of Intestinal Gases.**—Davis has found in his clinical work that postoperative tympany and trouble in securing intestinal evacuations have decreased in proportion to the care used in keeping the operating room warm and the exposed coils of intestines protected by gauze pads wrung out of hot normal salt solution. Even the slighter abdominal sections done with equal care in handling, but in a cool operating room, and without the protection of hot pads, have been followed by a stormy period of tympany and other disagreeable symptoms which accompany this condition.

Postoperative treatment should be as simple and natural as possible. There should be no starvation, unless the stomach or small intestine is in a condition to prohibit food, but also no forced feeding at first. The weakness which follows denial of all food, and the discomfort and disgust of too much should alike be avoided. Water given as soon as the patient calls for it has been found greatly to promote comfort and a feeling of well-being. It also seems to encourage postoperative peristalsis. Something to promote early restoration of peristalsis is of great importance if a patient would pass a comfortable convalescence.

For fourteen years Davis has made a routine use of strychnin hypodermically after operations, not so much as a heart stimulant as to encourage peristalsis. When it was first made use of it was a matter of frequent remark in the hospital that trouble from postoperative tympany was of rare occurrence. Of late cases that give trouble from unusual accumu lation of gas have been treated with salicylate of eserin in doses from 1/60 to 1/40 gr. hypodermically. Its use has been followed often by an early passing of gas and there can be no doubt that it promotes peristalsis to a remarkable degree and is of great use when the tympany is due solely to muscular atony. An absolute contraindication to the use of eserin is mechanical obstruction and it should be avoided just as one avoids cathartics when mechanical obstruction is present. When rightly used, eserin is an important advance in the treatment of atonic tympany.

Davis says that the points that practical surgeons need especially to have in mind are (1) to have as little fermentable substance as possible in the intestines before operation; (2) to do as little as possible during the operation which will interfere with the normal circulation in the intestinal wall; there should be a minimum amount of handling and resulting trauma; (3) to leave the intestines in the best condition for active peristalsis; long exposure and much cooling are inimical to active peristalsis.

St. Louis Medical Review

October

87 Wassermann Reaction for the Serodiagnosis of Syphilis. J. W. Marchildon, St. Louis.
88 Diseases of the Gall-Bladder. C. H. Powell, St. Louis.
89 Claims of Charles Darwin on the Homage of Scientific Posterity. J. Knott, Dublin, Ireland

American Medicine, New York

October

90 Cancer of the Breast. A. L. Smith, Montreal.
91 *Nutrition During Critical Physiologic Periods. J. E. Davis, Detroit.
92 Value of the Obstetric Forceps in Abnormal Labor. V. A. Robertson, Brooklyn.
93 Recent Investigations of the Pituitary Gland. H. G. Beck and J. J. O'Malley, Baltimore.
94 Fracture of the Inferior Maxilla. N. P. Geis, Brooklyn.
95 *The Life-Insurance "Urine Examination"—A Farce. H. R. Harrower, Chicago.
96 The Surgical Treatment of Hemorrhoids and Choice of Method. A. Strachstein, New York.

91. **Nutrition During Pregnancy.**—Davis emphasizes the fact that food therapy in the toxemias of pregnancy is a factor of utmost importance as a preventive as well as a remedial measure. A high fat content is demanded in periods of enormous growth. In certain specific periods of growth a high proteid percentage is safely metabolized. A constant carbohydrate content must be obtained regardless of the proteid and fat proportion. In acidosis a high or almost exclusive carbohydrate diet for a short time is very efficacious.

95. **Life Insurance "Urine Examination."** Harrower says that the examination of the urine, and especially that made for the benefit of life-insurance companies is altogether too crude, and not nearly extensive enough. Because of this individuals are being refused life-insurance who would make excellent risks, and, on the other hand, others are "passed" who are by no means what might be called healthy, and, in fact, are in a serious condition. The examination should be made by such as are skilled in this work and should be paid for accordingly. Three dollars is not an unreasonable figure.

St. Paul Medical Journal

November

97 Ocular Manifestations of Hereditary Syphilis. F. E. Burch, St. Paul.
98 Analysis of Kotzebue's "*Die Organe des Gehirns.*" C. G. Cumston, Boston.
99 Medical Treatment of Gastric Ulcer. J. S. Gilfillan, St. Paul.
100 Benzoate of Soda as a Preservative. F. N. Foot, St. Paul.

Annals of Otology, Rhinology, and Laryngology, St. Louis

September

101 Laryngology and Rhinology Since Invention of the Laryngoscope: Especially the Participation of America in this Progress. J. Sendziak, Warsaw, Poland.
102 Nasal Obstruction: Its Effects on the Respiratory Organs and the General System. W. S. Anderson, Detroit.
103 The Phenomena of Vestibular Irritation in Acute Labyrinthine Disease: Studies of Dr. Barany of Vienna. P. D. Kerrison, New York.
104 Necrosis of the Cochlea. A. Michaelis, New York.
105 *Suppuration of the Labyrinth. L. Page, Indianapolis.
106 Sloughing Fibroma of the Nasopharynx. H. L. Swain, New Haven, Conn.
107 *Fatal Status Lymphaticus in a Patient Operated on for Tonsillar Hypertrophy under Cocain-Adrenalin Infiltration. T. J. Harris, New York.
108 Nerve Distribution in Relation to Nerve Reflexes Simulating Local Inflammation. A. A. Bliss, Philadelphia.
109 *Taking Cold. D. B. Kyle, Philadelphia
110 Laryngeal Paralysis as Early Indication of Systemic Disease. G. T. Ross, Montreal.
111 Nasal Myxosarcoma in a Child of Three Years. G. T. Ross, Montreal.
112 *Aural Complications in the Exanthemata. C. R. C. Borden, Boston.
113 Nasal Tuberculosis. W. S. Renner, Buffalo.
114 Complete Extirpation of the Diseased Faucial Tonsil. J. S. Gibb, Philadelphia.
115 Surgical Treatment of Otitis Meningitis. G. Alexander, Vienna.

105. **Suppuration of the Labyrinth.**—Recently most exhaustive tests have been applied to these cases to determine if the labyrinth of the affected ear was in any way functionating. The Barany tests were negative in all cases for the operated ear. The hearing tests were uncertain. Until the Voss test for eliminating the normal ear was used, it was impossible to determine if a certain degree of hearing did not exist in the operated ear of all these patients. Page is of the opinion that all reported cases in which it is claimed that any degree of hearing remains after removing a part of the cochlea is a mistake, and that if the Voss test for eliminating the normal ear is applied to these cases it will convince the operator that complete destruction of hearing always follows the removal of any part of the cochlea.

107. **Status Lymphaticus.**—Harris' patient had an enlarged thymus, weighing 18 grams, which accounted for all the symptoms produced. There was the convulsion with pallor, followed by the intense cyanosis. There was, however, no tracheal stenosis, and the death, as shown by autopsy, was undoubtedly of cardiac origin.

109. **Taking Cold.**—Kyle divides the condition of taking cold into three classes: First, actual cold; taking cold; acute rhinitis. Second, an underlying systemic condition which produces some local manifestation and irritation in the mucous membrane, predisposing the individual to taking cold. Third, an underlying systemic condition in which the patient has not taken any cold, but the symptoms produced in the mucous membrane are those of a cold. Therefore, the expression "taking cold," as so frequently used by patients and sometimes by medical practitioners, is in many cases a misnomer. The practitioner of special medicine so often sees the individual with a condition resembling a cold in which there is no history of exposure nor usual systemic phenomena, and yet, to all intents and purposes, the patient is suffering from a cold in the head, or has taken cold. Review of the systemic conditions which bring about irritation of the mucous membrane which resembles taking cold, show that in a large percentage of cases of so-called cold in the head, no one remedy can be applied, and that the individual must be studied as carefully for the predisposing cause or underlying element as though typhoid or a beginning pneumonia were suspected.

The individual study of cases enables the physician to apply his remedial agent scientifically and not empirically prescribe a "cold" remedy. Kyle's experience has been that out of 100 persons presenting themselves for relief of what they call a cold in the head, or having taken cold, or frequently taking cold, at least 80 per cent. belong to the class of the systemic condition, either constitutional, organic, or chemical.

112. **Aural Complications in Exanthemata.**—Borden urges that general practitioners should regard aural discharge as a menace to hearing, and occasionally to life, and not as a more or less common complication without special importance. In a series of 1,164 cases previously reported by Borden in children up to 16 years of age, having aural diseases, 31.6 per cent, had chronic purulent otitis media of long standing.

Buffalo Medical Journal

November

116 *Personal Experiences in Gall-Bladder Surgery. H. E. Hayd, Buffalo.
117 Care of the Sick and Injured. J. C. Young, Cuba, N. Y.
118 Experiments on Animals Relative to the Question of Abdominal Supporters After Laparotomy. R. T. Morris, New York.
119 Consideration of Two Distinctly Different Types of Talipes Equino-Varus. R. O. Melsenbach, Buffalo.

116. Published in *American Journal of Obstetrics and Diseases of Women and Children*, November, 1909.

Journal of New Mexico Medical Society, East Las Vegas

November

120 Medical Education. G. K. Angle, Silver City.
121 *Hypodermic Injection of Mercury in the Treatment of Tuberculosis. L. S. Peters, Silver City.
122 Indigent Consumptive Proposition. C. M. Mayes, Rozwell.

121. **Hypodermic Injection of Mercury in Tuberculosis.**—Peters' report covers a series of 7 cases. He found that his results with mercury are not better than with any other method of treatment.

California State Journal of Medicine, San Francisco

November

123 Diagnosis and Treatment of Ureteral Calculus. R. L. Rigdon, San Francisco.
124 Headache—A Symptom and its Significance. F. W. Miller, Los Angeles.
125 *Medical Side of Headache. J. W. Shiels, San Francisco.
126 The Eye as a Causative Factor in Chronic Headaches, with Reference to the Ear, Nose and Throat. W. S. Franklin, San Francisco.
127 *Nephritis with Unusual Features. C. H Harry, Stockton.
128 Visible Movement of Blood in Retinal Vessels. C. S. G. Nagel, San Francisco.

125. **Headache.**—The following classification of headache is offered by Shiels:

I. FUNCTIONAL HEADACHE

A. TOXEMIC HEADACHES

(1) *Acute*

1. Specific infections (fevers) frontal or general, seldom vertical or one sided. Increased by congestion.
2. Acute nephritis (following the above) acute uremia.
3. Acute composite diabetes (autointoxication with acetone bodies).
4. Puerperal states other than nephritic failure, preseptic.
5. Acute drug poisoning *e. g.*, amyl nitrite, nitroglycerin, etc.

(2) *Chronic* (Including products of defective metabolism):

1. Kidney headache. From slight neuralgic type to severe with high grade arteriosclerosis. D.D. when severe with albuminuric neuritis from cerebral tumor.
2. Gouty headaches. May be a severe "plus tension" headache or mild "minus tension" headache.
3. Malarial headache, neuralgic in type, "brow ague." Short intermissions.
4. Rheumatic headaches common in childhood and associated with "school pressure." Frontal.
5. Syphilitic.
6. Sluggish liver headache associated with constipation.
7. Cirrhotic liver headache (more complicated than No. 6).
8. Constipation headache, without liver associations. (Also reflex.)
9. Intestinal dyspepsia headache, with or without constipation. (Also reflex.)
10. Gastric dyspepsia. (Also reflex.)
11. Gluttony of fats, proteids, or carbohydrates, i. e., acid products.
12. Slow drug poisoning, *e. g.*, arsenic, lead, etc.
13. Noxious air, etc.

B. NEUROPATHIC

1. Emotions and other psychic faults. (Hyperemic.)
2. Migraine (typical), two types, tonic or paralytic, but generally combination.
3. Recurrent or periodic headache without visual phenomenon.
4. Simple neurasthenic headache. (Not sharply defined, "cephalic sensation.")
5. Traumatic neurasthenic headache. (Generally sharply defined.)
6. Epileptic with or without fit.
7. "School pressure" headache.
8. Premenstrual headache other than migraine.

C. REFLEX

1. Errors and disorders of eye, ear, nose, throat and mouth. (When recurrent usually neuropathic, frontal sinus.)
2. Gastric, including hunger and fasting, hyperesthesic, scalp areas, temporal and parietal (D7 and D8).
3. Thoracic and hyperesthesic; scalp area, midorbital and fronto temporal (D4 to D7).
4. Abdominal and hyperesthesic skin areas, occipital, parietal, vertical and temporal (D7 to D10).
5. Migraine (anemic and hyperemic).
6. Periodic other than migrainous.

II. ORGANIC

1. Inflammations within: Encephalitis, local or diffuse from any cause. (This includes many of the above.) Leptomeningitis and pachymeningitis.
2. Inflammations without: Sinus disease. Bone disease (including middle-ear, syphilis, etc.).
3. Arterial degeneration (see chronic toxic headaches).
4. Tumors (including syphilis, tubercular cysts, etc.), severe, dull or acute, constant with paroxysmal attacks. No definite position unless superficial, preventing sleep. Intracranial pressure augments, vertigo, optic neuritis, etc.
5. Indurative (see toxic).

III. CIRCULATORY

A. Anemic, slowly produced; majority "minus tension" headaches; controlled by position and alcohol.
1 Systemic (convalescence).
2. Blood dyscrasias.
3. Cardiac debility.
4. Consequent on pressure.
5. Consequent on spasm.
B. Hyperemic, majority "plus tension."
1. Heart hurry (exophthalmic goiter, etc.).
2 Cold, etc. (peripheral spasm).
3. Drugs, nitroglycerin, etc.
4 Sunstroke (excessive heat, alcohol, anger)
C. Passive Congestion, "mechanical headaches."
1. Mitral and other head lesions.
2. Mediastinal tumor.
3. Persistent cough.
4. Faulty attitude in sleep.
5. Collar restrictions, etc.

127. **Nephritis with Unusual Features.**—Harry's cases are interesting from the fact that, although the patients were all comatose before they died, none of them had any muscular twitching or convulsions. One case was remarkable from the fact that the patient lived six days with a total secretion during that time of from 4 to 6 ounces of urine. She was perfectly conscious until the night before she died, and did not complain from anything except the soreness of her gums from ulceration.

Journal Indiana State Medical Association, Fort Wayne

October

129 *The Art of Medicine. G. D. Kahlo, French Lick.
130 *Heredity and Disease. J. Collins, New York.
131 Sketches of the Medical History of Indiana. H. W. H. Kemper, Muncie.
132 Race Suicide. E. E. McGriff, Portland.

129, 130. Abstracted in The Journal, Oct. 23, 1909, p. 1422.

Albany Medical Annals

November

133 Import of Medical Education. F. C. Curtis, Albany.
134 *Use of Nitroglycerin in Chronic Myocarditis and Edema of the Lungs. S. B. Ward, Albany.
135 *Thymus Death. W. Kirk, Troy, N. Y.
136 Desirability of a More Perfect Medico-Dental Schindylesis. S. L. Dawes, Albany.
137 The Albany Hospital. J. M. Mosher, Albany.

134. **Nitroglycerin in Chronic Myocarditis.**—In Ward's experience, one-drop doses of 1 per cent. solution of nitroglycerin, given with digitalis, every two or three hours, are practically inert; but if from 1/20 to 1/10 of a grain be given every minute, for twenty or thirty doses, brilliant results will be obtained, days before the effect of digitalis can possibly be expected. In edema of the lungs the toleration for this drug is most extraordinary, and relief from dyspnea is uniformly obtained before the physiologic effects, such as flushing of the face and throbbing headache, are produced. Ward reports two cases of myocarditis with cardiac failure and edema of the lungs, one without and the other with valvular lesion, in which nitroglycerin was of the greatest service.

135. **Thymus Death.**—Kirk reports 2 cases with autopsies. Case 1, a boy aged 18 months found dead in bed. Thymus; greatly increased connective tissue, very slight fatty change; increase in lymphoid and large polyhedral cells. Case 2, sudden death after illness of two hours' duration. Enlargement of thymus; enlargement of mesenteric glands (lymphatic); hypostatic congestion of both lungs.

Atlanta Journal-Record of Medicine

October

138 Cases of Pellagra. H. R. Slack and W. R. McCall, La Grange, Ga.
139 Duties of the Obstetrician to His Patient. J. H. McDuffie, Columbus, Ga.
140 Diagnosis of Breast Tumors. J. P. Watkins, Opelika, Ala.
141 Rôle of Insects in the Transmission of Diseases. B. F. Rea, La Fayette, Ala.
142 Intussusception. W. C. Cook, Columbus, Ga.
143 Anesthesia. E. T. Green, Hickory Flat, Ala.
144 Intracapsular Fracture of the Hip-Joint. A. D. McLain, Salem, Ala.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

October 30

1 *Hernia of the Uterus in Men and Women. J. Bland-Sutton
2 *Increase of the Hemolytic Power of Serums. D. Embleton an H. B. Shaw.
3 Appendicostomy for Various Forms of Colitis. F. C. Wallis
4 *Fulminating Appendicitis. H. B. Butler.
5 *Pneumococcus Invasion of the Throat. W. E. Peacock.
6 *Whitehead's Operation for Hemorrhoids. E. S. Bishop.
7 *After-Results of Operative Treatment of Hemorrhoids. H. G Anderson.
8 Acute Necrosis of the Pancreas: Sudden Death. B. H Shaw
9 Congenital Pyloric Stenosis Successfully Treated withou Operation. E. M. Pearse.

1. **Hernia of Uterus in Men and Women.**—Bland-Sutton has collected many instances in which men with incompletely developed external genital organs have been brought up as women, and late in life suffered from strangulated hernia. Bland-Sutton says that it sometimes happens that herniotomy is performed on a child with normal female external genitalia, the surgeon removes a rounded grandular body from the inguinal canal, which he believes to be an ovary, but on microscopic examination it proves to be a testis. The most remarkable cases are those in which the surgeon performs an operation on a man with well-formed external genital organs for the purpose of removing a tumor from the scrotum, but the suspected tumor proves to be a uterus.

2. **Hemolytic Power of Serums.**—Embleton and Shaw succeeded experimentally in developing in the serum of animals, into which injections had been made of the organs of another animal of the same species, a change which consists in part at least, in the increase of the hemolytic power of the serum. Further, the emulsions of different organs appeared to have different powers of checking the hemolytic property of such experimental serums, the kidney possessing the greatest and the liver the least power, while the spleen and heart occupy an intermediate position, and are equally or nearly equally potent.

4. **Fulminating Appendicitis.**—According to Butler, the fulminating cases of appendicitis are due to the formation of a volvulus of the appendix, which is thereby strangulated, and the toxemia and localized peritonitis, which mark ordinary cases of appendicitis, are not present. Gangrene supervenes rapidly, and there is no time for adhesions to form and to shut off an abscess. General septic peritonitis, therefore, ensues if an operation is not performed in the first few hours after the onset of the pain. Volvulus of the appendix may, he thinks, develop in any case in which the appendix lies free in the abdomen, but not when it lies in the retrocecal fossa.

5. **Pneumococcus Invasion of the Throat.**—Peacock reports a case of this kind which was followed by pleuropneumonia and appendicitis. Operation was performed and the patient recovered.

6. **Whitehead's Operation for Hemorrhoids.**—After twenty years' experience with various operations for the cure of hemorrhoids, Bishop recommends Whitehead's operation as at once the most effective, the least painful, and the safest method, but it is necessary for success that certain precautions should be taken beforehand, and that the technic should be carried out very carefully. The intestinal tract should be previously cleared as much as possible. It is not only annoying, he says, but distinctly detrimental to the work, if large masses should make their appearance in the rectum during the ensuing week. Probably the best method of insuring their absence is the administration on the day but one before, of an ounce of castor oil, the taste of which may be disguised by an admixture with it of 2 drams of tincture of cardamom. On the day before operation, the action of this should be supplemented by a copious enema of soap and water, so that the rectum may be clean. At the operation itself another free douche of weak permanganate of potash solution should also be used during the process of dilatation.

Free dilatation of the sphincter should be done before any cutting is commenced. It should be gradual, plenty of time being taken over it, so that no tearing of the muscle is possible. During the operation any actively spurting vessel hould be tied, but venous bleeding may be ignored; this bleeding is sometimes free, but will cease as soon as the operation is completed.

Hundreds of patients have been so treated by Bishop without any mortality, and in all with a speedy convalescence. n a few—possibly 2 per cent.—spasmodic urinary retention or a few hours occurred, and, in still fewer, pain at the nus has been complained of, but both speedily yielded to hot oric acid fomentations applied to the part. Catheterism has ever been required and, although hemorrhagic discoloration as been seen in a few instances, suppuration or abscess has never followed. Recovery has, in the great majority of cases, been singularly uneventful, and in all complete.

7. **Operation for Hemorrhoids.**—Anderson claims that the Whitehead method should not be employed in all cases of hemorrhoids and that it is indicated in the following conditions: (a) When there is a general hemorrhoidal condition involving the whole circumference of the anal canal, and especially if there is a good deal of prolapse, and also in cases in which there is extensive thrombosis. (b) In cases in which, though the piles may not be large, there is a pathologic condition which may be described as a prefissure or a prefistula state. In this condition the anal valves are enlarged, and curious little blind submucous pockets may be found running for a varying length upward. In other cases these pockets run downward toward the anal margin.

Lancet, London

October 30

10 Balneology and Climatology. L. Williams.
11 *Need for Legislation in Regard to Anesthetics. F. W. Hewitt.
12 Certain Bacillus Coli Infections. J. C. Briscoe.
13 *Perforation of Stomach and Duodenal Ulcer. J. G. Andrew.
14 Selection of Patients for Spa Treatment. N. Wood.
15 Ankylostomiasis and its Complications in Eastern Bengal. R. W. Burkitt.
16 Case of Typhoid Spine. C. J. Wilson.
17 Endemic Cerebrospinal Meningitis Treated by Intraspinal Injections of Flexner's Serum; Recovery. D. D. Rosewarne.

11. **Legislation in Regard to Anesthetics.**—That legislation is necessary before the administration of anesthetics can be placed on a safe basis is the contention made by Hewitt. He points out that there is too much single-handed anesthetizing and operating done, especially by dentists, and that this is, in large part, responsible for the mortality from anesthesia. He presents the draft of a bill which proposes to make it a penal offense for any person other than a legally qualified medical practitioner to administer either a general or a local anesthetic. Such a step would also encourage physicians to specialize in anesthesia, which would be most desirable for all parties concerned.

13. **Perforation of Gastric and Duodenal Ulcer.**—Thirteen patients with perforation of the stomach and duodenum were seen by Andrew within a period of nine months. One patient with gastric perforation came to the operating table on three separate occasions; 10 of the cases were gastric and 3 were duodenal. The ages ranged from 16 to 72 years. The average age over all was 37.7 years. The average age of the gastric patients was 36.8 years, of the duodenal patients 41 years. Of the 10 gastric cases only 3 occurred in females, whose average age was 19 years. The 3 duodenal perforations were in men. In 12 of the 13 cases the onset might be said to be instantaneous; in one the onset was more or less subacute. In the majority no food had been taken for some time previously, and the time of perforation was oftenest in the late hours of the evening or in the early morning. In 8 there was definite history of pain after food and other gastric symptoms; in the remaining 5 no history of previous gastric trouble was obtained. In every case of this series pain was a prominent feature, but was quite impossible to define, except that it was severe, "doubled him up," "made him cry out," etc., and was equally difficult to locate apart from surface tenderness. The patients were so ill that speaking was an additional agony and as little as possible was said and indeed asked. In 6 cases, however, the pain was definitely referred to the epigastrium, in 3 others, the pain began around the umbilicus, remaining there in 1, and in the other 2 becoming epigastric later. In 2 the pain was felt in the shoulders as well as in the abdomen—both gastric—so that in 9 out of 13 cases the pain was referred to the upper part of the abdomen. Vomiting subsequent to the onset was stated to have occurred in 7 cases. Collapse was a prominent feature in most of the cases, depending on the length of time since the onset.

Appearance in most cases was indicative of severe pain; the patient looked very ill; the face was pale with malar flush. Distention was definitely present in 4 cases. Rigidity of the abdominal wall, with one exception, was present in every case. In 11 of the cases the rigidity was general, in 2 it was epigastric, but in every case it was more than evident over the stomach. In one case the main rigidity was found on the right side; in another the contraction of the recti was visible. The earlier the case the greater was the rigidity. In the only case in which it was stated to be absent nearly sixty hours had elapsed from the time of onset, and the general peritoneal cavity was found to be shut off. Tenderness, abdominal, on palpation, was present in every case but one, and in that case there had been tenderness which had passed off, and as this patient was seen within a few hours after perforation the tenderness from peritonitis had not had time to manifest itself; the ulcer, moreover, was on the posterior wall. In 6 cases there was epigastric tenderness only; in the remaining 7 it was general, with perhaps a greater degree of tenderness in the epigastrium. In 10 cases there was some alteration in the liver dulness; in 3 cases the liver dulness was completely gone, in 7 it was encroached on, and in 3 cases the liver dulness was normal. Signs of free fluid in the abdominal cavity were obtained in 6 cases. The length of time between onset and operation varied from four and a half to eighty hours. Seven patients were operated on under twelve hours; of these 2 died. In 8 instances the perforation involved the anterior wall of the stomach; in 6 of these it was toward the lesser curvature and close to the pylorus. In 2, the posterior wall was the seat; in 1 of these about its center, and in the other at the pylorus. In the 3 duodenal cases the ulcer was situated in the anterior wall of the first part, so that it might be said that in 11 out of the 13 cases the ulcer was situated in the immediate neighborhood of the pylorus.

Journal of Tropical Medicine and Hygiene, London

October 15

18 Dengue, or Three Day Fever. J. C. D. Allan.
19 Is Hemoglobinuric Fever the Expression of Anaphylaxis to a Malarial Plasmodium? J. B. Cleland.
20 *Rare Case of Congenital Maldevelopment. B. N. Ghost.

20. **Congenital Maldevelopment.**—The points noted in this case by Ghost were: 1. Talipes of the right foot; besides there were six toes on that foot. 2. Imperforate anus. 3. No external organs of generation, but only an atrophied scrotum, without the testes in it. 4. The abdominal wall, from the navel downward in the middle line, was partly deficient, and there was a protrusion, possibly the lower gut, with an opening at the end, looking upward, and through which the child passed stools. This protrusion could not be separated from the wall with which it was intimately fixed. The navel coalesced with this protruding mass, the umbilical cord coming out from the top. 5. Urine was passed in drops from a very small opening just under the protruding mass, but there was nothing like a urethra. The child was otherwise healthy and took milk well. No other organs seem to have shared in the defective growth. Heart sounds were normal. The whole protruded portion was not covered with skin, but had a mucous lining, quite soft and red.

Ghost believes that the rectum had no mesorectum developed to keep it *in situ*; it turned upward and found its way through the abdominal wall, which was deficient, and got fixed there. The opening at the end of it, which still serves as the outlet for stools, is looking upward and is big enough to admit a goose-quill. There being no external organs of generation and no urethra, the neck of the bladder opened directly at the lower part of the deficient wall.

Glasgow Medical Journal

October

21 Modern Moods and Movements in Medicine. T. Oliver.
22 Schools for the Deaf in Scotland and Ireland (concluded). J. K. Love.
23 Condition of the Eyes in the Deaf. W. Thomson.
24 A Retrospect of Glasgow Physicians and Surgeons. R. B. Lothian.

Intercolonial Medical Journal of Australasia, Sydney

September

25 Dysmenorrhea. G. R. Adam.
26 Distribution of Trachoma in the State of Victoria. J. W. Barrett and W. F. Orr.
27 *Abdominal Crises in Diabetes. R. M. Downes and R. A. O'Brien.

27. **Abdominal Crisis in Diabetes.**—Downes and O'Brien report two cases which suggest that a condition resembling abdominal crisis, apparently requiring operation, may occur in diabetes. They claim that a routine test for sugar in the urine in all acute surgical abdominal cases is not sufficient, for diacetic acid and acetone may be present in the absence of sugar in the urine. The first case was at first regarded as one of acute intestinal obstruction. The patient complained of pain in the lower abdomen, extending right across, and this pain had apparently gradually increased in severity. Bowels had not been open for about thirty-six hours—not even to flatus. Vomiting occurred three or four times during the day, and about two hours before admission the patient became very restless, with a rather vacant expression, and his mental condition became progressively duller, so that he was only semi-conscious on admission, and quite unable to answer any questions rationally. It was known that he had suffered from diabetes mellitus for the past eighteen months.

When about to operate it was found that one drop of urine markedly reduced Fehling's solution, and that the test with ferric chlorid for aceto-acetic acid was positive, so that it was considered wiser not to operate. The patient was sent back to the ward and given rectal injections of sodium bicarbonate solution every four hours. His bowels were slightly open a few hours later. He was given sodium bicarbonate—an ounce to a pint—intravenously, also rectal injections of half a pint, containing sodium bicarbonate (half an ounce) with dextrose (a dram) every four hours. He had two hourly drinks containing sodium bicarbonate half an ounce. At first his condition improved, but later the coma increased, and he died the next morning. At the post-mortem examination nothing abnormal was found in the gastrointestinal tract; the pancreas was small, atrophic and firm, but no microscopic examination was made; the kidneys were rather large, no other pathologic conditions being apparent. A younger brother, also a diabetic, died with rather similar symptoms.

The second patient, a girl, had been on strict diet for two months, with entire disappearance of sugar. Limited carbohydrate (toast) added to the diet, caused immediate reappearance of sugar (1.25 to 2.25 per cent., acid 1030, 21 to 40 ounces per day). Milk and toast were withheld, and the sugar immediately disappeared. Finally the patient vomited several times, and looked ill, complaining of intermittent paroxysms of abdominal pain. A late afternoon specimen of urine contained some diacetic acid and a slight trace of acetone. She was given a high enema, with return of a fair quantity of feces. Late that evening she complained of severe pain over the right kidney, traveling toward the labia. Early the following morning there was constant vomiting, with pulse 140, temperature 99.4 F. General tenderness over abdomen, dulness to deep and light percussion over lower abdomen, below a line joining the anterior superior spines, convex upward, and passing through the umbilicus, resonant in flanks, slight distention of upper abdomen, and greatly decreased liver dulness, no rigidity or lessened respiratory movement. Leucocytes, 47,000 and 50,000 (two counts). Some diacetic acid and acetone were present. A diagnosis was made of acute intestinal obstruction of some undetermined kind, probably causing autointoxication with production of diacetic acid and acetone. Later the abnormal abdominal dulness entirely disappeared. In the intervals of pain she was very sleepy, and almost semi-comatose.

It was decided that the child had had an abdominal crisis of unexplained origin, occurring in a diabetic, and, as only 2 drams of sodium bicarbonate out of 6 given by rectum during the morning had been retained, one pint of normal saline, with one dram of sodium bicarbonate were directed into the median basilic vein in forty-five minutes. Marked improvement in color and a drop in pulse rate to 144 was noticed within ten minutes of the insertion of the cannula Vomiting ceased immediately. The first urine passed was strongly acid. She took 2 ounces of sodium bicarbonate in milk during the next eighteen hours, after which the urine became alkaline, diacetic acid and acetone gradually lessening, disappearing in a period of ten days, though sugar reappeared on a relaxed diet. Further course was uneventful

Journal of Laryngology, Rhinology and Otology, London

October

28 Sarcoma of the Nose. J. Price-Brown.
29 Otosclerosis and Autointoxication. P. Cornet.
30 Labyrinthine Suppuration. A. Politzer.
31 Entotic Tinnitus. H. B. Tawse.

Dublin Journal of Medical Science

October

32 Pathologic Report of Rotunda Hospital for Year Ending Oct. 31, 1908. R. J. Rowlette.
33 Retroperitoneal Sarcoma. G. J. Johnston.
34 Outbreak of Typhoid Fever at Clontarf (Dublin County Borough). D. E. Flinn.

Annales de l'Institut Pasteur, Paris

September, XXIII. No. 9, pp. 665-743

35 *Immunization of Cattle and Horses Against Tuberculosis. (Vaccination du cheval. Essai de sérothérapie. II.) H. Vallée.
36 Experimental Basis for Preventive Vaccination Against Bacillary Dysentery. C. Dopter.
37 Intestinal Tuberculosis in Cattle. (Tuberculose intestinale chez le bœuf.) P. Chausse.
38 Biology of Vaccine Virus. Répin.
39 Intracellular Parasite in the Partridge of Indo-China. (Leucocytozoon de la perdrix du Tonkin.) M. Leger and C. Mathis.

35. **Vaccination Against Tuberculosis.**—Vallée reports what e thinks were the first attempts to hyperimmunize the horse y means of living tubercle bacilli, human or bovine. Of the 1 horses injected in the course of five years, 3 died accientally and 4 were slaughtered, but not a trace of tuberulosis could be detected in any, while the serum of all had vidently acquired limited specific qualities, adapting it for uman vaccination. About 100 tuberculous patients have een vaccinated with the horse immune serum thus obtained, ith no mishaps, the results encouraging its further use.

Annales de Médecine et Chir. Infantiles, Paris

October 15, XIII. No. 20, pp 685-720

40 The New-Born Infant. (Le nouveau-né.) E. Périer and E. Gaujoux.
41 *Blunders in Diagnosis in Respect to Intestinal Helminths. (Des erreurs de diagnostic pouvant survenir à l'occasion de vers intestinaux.) Baros.
42 Benefit from Polyvalent Antidysentery Serum in Dysentery in Children. P. Coyne and B. Auche.

41. **Blunders of Diagnosis from Intestinal Worms.**—In the rst case reported, a young man, a plasterer, had a tendency mild epilepsy in early childhood but had outgrown it. He plied for relief from symptoms suggesting a serious heart fection, chills, cough, dyspnea, epistaxis, pulse very slow, ight fever, and abnormal heart sounds. Revulsion was apied to the heart region, and strophanthus and calomel were ven, but the dyspnea increased with extreme oppression, accato respiration, pulse of 43 and subnormal temperature; e face flushed and paled alternately. An enema brought a rge ascaris and after a course of santonin all symptoms vanhed. In the other case, the stools of a little girl, during a stroenteritis, contained numbers of ovoid vesicles, supposed be the ova of some unknown helminth until the microope revealed that they were orange pulp cells.

Bulletin de l'Académie de Médecine, Paris

October 12, LXXIII, No. 32, pp. 167-192

3 *General Anesthesia by the Spinal Technic. (Rachianesthésie générale.) T. Jonnesco.

43. **General Anesthesia by the Spinal Route.**—Jonnesco does t consider it necessary to restrict the puncture to the lumr region, but the chief innovation in his technic is the adxture of strychnin with the anesthetic which, he says, ems to annul its toxicity.

Presse Médicale, Paris

October 16, No. 83, pp. 729-736

4 *Benefit from Secondary Staphylococcus Infection in Tuberculous Pyopneumothorax. (Etude des réactions digestives des leucocytes.) A. Coyon and N. Fiessinger.

October 20, No. 84, pp. 737-744

5 Louis, the Father of Medical Statistics. (La méthode numérique en médecine.) A. Chauffard.
6 Lordosis not Sole Cause for Orthostatic Albuminuria. G. Schreiber.

44. **Benefit from Secondary Infection in Tuberculous Process.**—The young man in the case reported presented sympus of tuberculous purulent pleurisy of acute onset but becoming torpid with encysted pneumothorax. The effusion was evacuated occasionally and signs of secondary infection with the *Staphylococcus aureus* were discovered in a few months. This transformed the torpid tuberculous process and a cure followed. The secondary infection in this case evidently attracted increased numbers of polynuclears and their active ferment dissolved the tuberculous masses and permitted their absorption. After this digestion by the ferment, the tubercle bacilli in the focus were overcome by the natural defenses of the body.

Semaine Médicale, Paris

October 13, XXIX. No. 41. pp. 481-492

47 *Protrusion in Supraclavicular Fossa as Sign of Excessive Amount of Blood. (La voussure sus-claviculaire comme signe de la pléthore.) C. Trunecek.

October 20. No. 42, pp. 493-504

48 Paroxysmal Tachycardia and Arrhythmia. (Battements de cœur et arythmies.) H. Vaquez.
49 Treatment of Varices by "Intramuscular Inclusion of the Veins." M. Katzenstein.

47. **Protrusion in Supraclavicular Fossa as Sign of Plethora.**—Trunecek calls attention to the marked protrusion of the supraclavicular fossa when the vascular system contains an excessive amount of blood. This plethora is not so evident in the stronger-walled arteries as in the veins, and it is most evident where the veins are large and especially in the supraclavicular fossa. As the veins here dilate, the pressure from the excessive distention elsewhere on the parenchymatous organs is correspondingly reduced. There is no protrusion at this point when there is merely engorgement of blood in part of the vascular system; it appears only when the plethora is general, and generally is a sign that venesection is required. When sufficient blood has been withdrawn the protrusion subsides.

Archiv für klinische Chirurgie, Berlin

XC. No. 4, pp. 865-1102. Last indexed Oct. 16, p. 1339

50 Phenomena Observed after Inducing Defects in Lining of Stomach and Intestines of Dogs. (Folgeerscheinungen nach künstlicher Fortnahme einerseits des Serosamuscularisüberzuges, andererseits des Mucosaüberzuges am Magendarmtractus des Hundes.) A. Hoffmann.
51 *Treatment of Paralysis from Spondylitis. (Behandlung spondylitischer Lähmungen.) M. Gaugele.
52 *Treatment of Deformities. (Neue Probleme zur Behandlung der Belastungsdeformitäten.) H. Krukenberg.
53 *Cancer of Rectum. (Mastdarmkrebs.) A. Zinner.
54 *Experiences with Operative Treatment of Gastric Ulcer. (Erfahrungen über Excision und Resection bei Magengeschwüren.) E. Payr.
55 *Trephining for Traumatic Injury of Vault of Skull. (Zur Frage der Trepanation bei traumatischen Verletzungen des Schädeldaches.) M. M. Kusnetzow.
56 Alcohol and Iodin Disinfection of Hands and Field of Operation. (Desinfection der Hände und des Operationsfeldes mit Alkohol und Jodtinctur.) I. I. Grekow.

51. **Treatment of Spondylitic Paralysis.**—Gaugele declares that slow gradual reduction of the hump has proved extremely effectual in his experience in the cure of paralysis resulting from the deformity. He applies the correcting force after the child has been encased in a plaster cast reaching from the buttocks to the chin. The force is applied by means of a perpendicular screw in the top of a right-angled frame screwed to the table on which the child lies. A metal plate, cushioned with felt, is interposed between the hump and the correcting screw and the child rests on two concave cross-bars but does not feel them through the plaster cast. Gaugele has applied the correction 140 times in thirty cases, and has had a mishap in only one instance—a boy of 13 experienced transient tenesmus and weakness of the legs, but this was before the present dosage of the force had been adopted. He relates the details of a number of the cases in which complete paralysis or paresis was entirely cured by this simple technic which allows the children to be up and about, besides other advantages. The two cases of which illustrations are given show excellent results; the hump had existed for four and six years.

52. **Treatment of Deformities.**—Krukenberg thinks that sufficient attention is not paid to weight-bearing as a factor in the aggravation of commencing deformities. If a post stands squarely on top of another post of the same diameter, pressure from above will hold the posts all the more securely, but if the top of the lower post is pushed out of plumb, pressure from above only aids in pushing the lower post farther

out of the perpendicular, and the lower end of the upper post follows until the juxtaposed ends form an angle instead of a straight line. If the bottom of the lower post can then be tilted in such a way as to bring the plumb-line still through the center of the juxtaposed ends of the posts, pressure from above will still hold them together and tend to correct the position back into the single vertical line. This is the principle which he applies in correction of genu valgum and genu varum and other deformities, and with which he has obtained good functional results. Uncorrected, the deformity is being constantly aggravated by the weight-bearing pressure. He gives mathematical diagrams to explain the principle more fully and to show its application to various deformities. For flatfoot, a stirrup-like projection from the sole of the shoe, between the heads of the metatarsal bones and the tuberosity of the calcaneus, prevents the foot from being planted with the weight in the center; the weight has to be thrown either on the toes or on the heel, each of which positions corrects the tendency to flatfoot and puts an end to the flatfoot disturbances. Thirty-two illustrations accompany the article, showing the application of functional correction in this way to various deformities.

53. **Rectal Cancer.**—Zinner reports the ultimate outcome of 320 cases of rectal cancer in which an operation was done at Hochenegg's clinic since 1887. Permanent cures were realized in 25 per cent. of the 256 cases with an interval of more than three years. He gives summaries of 201 cases. His experience indicates that a complete cure is possible with any form of epithelial cancer, so that the anatomic variety is of comparatively little moment in comparison to the clinical course.

54. **Operative Treatment of Gastric Ulcer.**—Payr has treated gastric ulcer with resection or excision in seventeen cases since 1902, and states that the indications must be strictly individualized for each case but, other things being equal, that resection guarantees better results than excision. He urges the necessity for keeping record of the after-history of such patients to determine the technic ensuring the most favorable end-results, and whether resection and excision promise results superior to gastroenterostomy enough to justify their more common use.

55. **Trephining After Traumatic Injury of the Vault of the Skull.**—One of the eleven patients whose cases are reported by Kusnetzow was a woman of 70; the others were men. Each had a compound fracture of the vault of the cranium. When splinters are driven inward, the earlier the operative intervention the better the results; with simple fracture it is not indicated unless there are brain symptoms, and with simple fissure injuries expectant treatment is justified if the patient can be kept under constant supervision. Primary trephining is better for various reasons than when done secondarily. In case meningitis develops, the best treatment is by broad exposure of the field, by removal of large pieces of the skull bones, and introduction of absorbent tampons under the opened dura. When an operation has been done for cranial injury, the patients should be kept under observation for years to note the condition of the central nervous system in after years. Injuries of the frontal lobe are liable to entail a peculiar change in the character and temperament, a tendency to silly joking. *Witzelsucht*, the Germans call it.

Beiträge zur Klinik der Tuberkulose, Würzburg

XIV, No. 2, pp. 97-257. Last indexed Oct. 9, p. 1240

57 *Experiences with Spengler's I K in Pulmonary Tuberculosis. Alexander.
58 *Modification of the Death-Rate Studied from Standpoint of Progress of Civilization. (Wandlungen der Sterblichkeit im kulturgeschichtlichen Zusammenhang.) F. Köhler.
59 Granular Form of Tuberculosis Virus Taking Stain. (Ueber die nach Much färbbare granuläre Form des Tuberkulosevirus.) E. Wehrli and W. Knoll.
60 *Diagnosis of Human Tuberculosis by Anaphylaxis. Roepke and Busch.
61 Advanced Tuberculosis of Bronchial Glands without Clinical Manifestations. (Fall hochgradiger Bronchialdrüsentuberkulose ohne klinische Symptome.) A. Heisler and H. Schall.
62 *Specific Precipitins and Autoprecipitins in Tuberculous Blood and Influence on them of I K and Tuberculin. (Zur Carl Spenglerschen Blutzellenimmunität.) S. Fuchs-Wolfring.

57. **Spengler's I K in Treatment of Pulmonary Tuberculosis.**—Alexander reports indifferent results in the 11 cases in which this treatment was systematically applied. It proved by no means so harmless as Spengler claims, a febrile reaction being frequent with minute dosage.

58. **Modifications in the Death-Rate with the Progress of Civilization.**—Köhler cites historical records to show the conditions in regard to public health and hygiene in Germany from the thirteenth century to date. There are no records of the death-rate before that time. The wars and dispersion of troops at the close of campaigns contributed to the spread of epidemics, fully one-fourth of the population of Europe succumbing to the plague in 1347-1350. He states that at the beginning of the thirteenth century there were 19,000 leper asylums. Until the beginning of the fourteenth century there was no such thing as a medical profession, the care of the sick being almost exclusively in the hands of the priests or barbers. But as a medical profession became organized the members early acquired influence and many privileges in the cities, and city physicians were appointed. From this period hygienic conditions began to improve and the death-rate to decline.

60. **Diagnosis of Tuberculosis by Anaphylaxis.**—Roepke was unable to confirm Yamanouchi's statements in regard to the diagnostic value of the anaphylactic reaction in tuberculosis. (His statements were summarized in The Journal, Jan. 9, 1909, page 172.) Roepke is inclined to attribute Yamanouchi's findings to the preservative in the tuberculin used for the tests, as he was able to elicit the anaphylaxis reaction with a carbolic-acid solution alone.

62. **Spengler's I K in Pulmonary Tuberculosis.**—This communication issues from Spengler's laboratory at Davos and the findings in 1,200 examinations of blood mostly from different persons, are presented in tabulated form with the clinical experiences and conclusions in regard to the influence on the "blood-cell immunity" of I K and tuberculin. Eleven tables of curves are given showing the findings in regard to human and bovine tubercle bacilli under the influence of this specific treatment. The conclusions confirm, he asserts, his previous announcements in regard to the red blood corpuscles being the producers and storehouses of the immune bodies. (I K stands for *Immun-Körper*, "immune bodies.")

Berliner klinische Wochenschrift

October 11, XLVI, No. 41, pp. 1838-1876

63 *Appearance of Albumin and Tube-Casts in Urine with Chronic Constipation. (Auftreten von Albuminurie und Cylindrurie bei chronischer Koprostase.) W. Ebstein.
64 Chlamydozoa in Non-Gonorrheal Ophthalmia Neonatorum. L Halberstaedter and S. v. Prowazek.
65 Cobra Venom Test in the Insane. (Ueber die Ablenkung der Kobragifthämolyse bei Geisteskrankheiten.) L. Omorokow

63. **Albuminuria and Tube-Casts with Chronic Constipation**—Ebstein always found the tube-casts few, small and hyaline when they were due to chronic constipation. In one such case a woman had been referred to him for chronic nephriti with hypertrophy of the heart, but all the symptoms subsided when the existing constipation was relieved, and there have been no signs of nephritis during the ten years since The grave prognosis in this case had been based on the tube casts and the fat granules clinging to them and the frequent intense headache supposed to be a symptom of uremia. Th toxins developed in constipation irritate the surface of th tubules in the kidneys, without injury of the parenchym and interstitial tissue, but whether actual nephritis ca develop merely from chronic constipation is still a questio It is certain, however, that in case of actual nephritis or othe severe infections every effort must be made to put an en to autointoxication from chronic constipation. For this h has found large oil enemas the most effectual means. I some recent cases of severe diabetes the albuminuria vanished when the constipation was relieved, and even th glycosuria has materially subsided under appropriate die In all such cases the prognosis should not be made until th effects of constipation have had time to subside.

Deutsche medizinische Wochenschrift, Berlin

October 21, XXXV, No. 42, pp. 1817-1864

66 *Treatment of Contracted Pelvis and Indications for Pelvi Enlarging Operations. (Behandlung des engen Beckens J. Veit.
67 *Indications and Technic for Puncture of the Pleura. H. Ho haus.

68 *The Epidemic of Acute Infantile Spinal Paralysis. P. Krause and E. Meinicke.
69 *Seroreaction in Idiots. (Wassermannsche Reaktion bei Idiotie). Kellner, Clemenz, Brückner and Rautenberg.
70 Negative Results of Serotherapy of Pneumonia in Children. (Kinderpneumonie und Pneumokokkenheilserum.) H. Brüning.
71 Negative Results of I K in Treatment of Tuberculosis. O. Roepke, H. Weicker and B. Bandelier.
72 *Objective Index of Condition of Nourishment. (Versuch zur objektiven Darstellung des Ernährungszustandes.) K. Oppenheimer.
73 Placenta Praevia. M. Hirsch.

66. **Indications for Treatment of Contracted Pelvis.**—Veit discusses the various measures in vogue among obstetricians and the indications for them according to the most recent published data and his own experience. He summarizes as follows his views in regard to the indications: Avoid all measures during pregnancy and in prophylaxis. Operate only in strictest necessity. Cesarean section should be done with an absolute contracted pelvis. With moderately contracted pelvis, in case of peril to the mother, forceps may be allowable in a few cases but otherwise Cesarean section is indicated. Pubiotomy is indicated in case of fever and streptococci in the birth passage. Version should be performed in case of peril to the child; Cesarean section only when version or forceps is impossible. All other operative measures should be rejected, as a rule, although they may be occasionally justified in special cases.

67. **Indications and Technic for Puncture of the Pleura.**—In concluding his article Hochhaus mentions that he has applied in a few cases Gilbert's method of auto-serotherapy, reinjecting at another point a small amount of the effusion aspirated. The results were not conclusive in his hands but he adds that they have been satisfactory in the experience of others, although not so striking as those realized by Gilbert.

68. See Berlin letter. The Journal, Nov. 6, 1909, page 1575.

69. **Seroreaction in Idiots.**—Kellner states that among 216 idiots tested for syphilis by the Wassermann technic, a positive response was obtained in only 16. Some French writers have recently published a series of 76 positive responses in 246 idiots tested. Kellner thinks that the rarity of positive findings in his series shows that syphilis is not an important direct factor in the etiology of idiocy. Among the 16 giving a positive response to the Stern modification of the Wassermann technic, only 6 were free from signs of inherited or acquired syphilis, while the other 10 were in the group of 16, who were the only known syphilitics among the 800 idiots in the institutions investigated.

72. **Objective Index for the State of Nourishment.**—Oppenheimer says that he has long felt the need of some means to express objectively the actual condition of the patient in regard to nourishment, the significance of the terms "well" and "poorly nourished" varying with each speaker. After years of investigation he announces that the chest measure, taken at the nipples, multiplied by the circumference of the middle of the upper arm and divided by the height, gives a "nourishment measure" which is small in the poorly-nourished and large in the well-nourished and can thus serve as an index for the conditions in this respect. A still more exact index is the quotient of the chest measure divided by the arm measure; this he calls the "nourishment quotient." In a group of 123 well-nourished persons, the "nourishment measure" was 6.6 and the "nourishment quotient" 31.2 in 31 new-born infants; 8.5 and 31.4 in 34 older infants; 9.1 and 30.9 in 8 children, and 14.27 and 29.8 in 50 soldiers. In 110 moderately well-nourished infants and children the measure ranged from 5.9 to 9.3 and the quotients from 27.5 to 29.3. In 26 poorly nourished infants and children the measure was 5.6 to 7.1, and the quotient 25.9 to 27.1, while they were respectively 11.7 and 26.2 in 28 adult consumptives. Comparison of extensive series shows that the "nourishment measure" increases with the age but that the "quotient" is independent of the age and is a more exact index of the true relative condition of nourishment. The great drawback of the method is that it cannot be applied to women on account of the development of the breasts, and that a contracted thorax gives measurements liable to be misleading. In the 50 soldiers examined, the nourishment quotient averaged 30, the average chest measure being 92.1 cm. and the arm measure 27.4 cm., with an average height of 176.7 cm.

Deutsche Zeitschrift für Chirurgie, Leipsic

October, CI, Nos. 5-6, pp. 413-606

74 Ivory Prothesis for Lower Jaw. (Ersatz einer exartikulierten Unterkieferhälfte durch die König-Roloffsche Elfenbeinprothese.) P. Sudeck.
75 Involvement of Bone in Pavement Epithelium Cancer. (Auf Knochen übergreifende Plattenepithelkrebse.) T. Nakahara.
76 Experiences with Nail Extension. (Erfahrungen mit der Nagelextension.) W. Anschütz.
77 Abnormal Ossification in Cretin Skeleton. (Zur Kenntnis der Wachstumsstorungen am Kretinenskelett.) A. Läwen.
78 Primary Sarcoma of Knee Capsule. (Ein primäres Sarkom der Kniegelenkskapsel.) H. Burckhardt.
79 Carcinoma in Jejunum. (Ein hochsitzendes Carcinom des Jejunums.) Aizner.
80 Two Cases of Primary Gastric Sarcoma. (Primärer Magensarkom.) F. Lofaro.
81 Operative Treatment of Serratus Paralysis. (Beitrag zur Operativen Behandlung der Serratuslähmung.) E. Enderlen.
82 Influence on Thyroid of Removal of Pancreas in Dogs. (Einfluss der Exstirpation des Pankreas auf die Schilddrüse.) C. Licini.
83 Outward Dislocation of Lower Jaw. R. Rube.
84 Abdominal Injuries in Troops During Peace. (Ueber die Bauchverletzungen in der Königl. Preussischen Armee, den Sächsischen und dem Wurttembergischen Armeekorps in den Jahren 1896-1906). Thöle.
85 Operative Bladder Hernia. (Das Hervorziehen der Harnblase bei Hernienradikaloperationen.) F. Brunner.
86 Exostosis on Plantar Aspect of Calcaneus. (Ueber den sogenannten Calcaneussporn.) E. Boerner.

Fortschritte der Medizin, Leipsic

October 20, XXVII, No. 29, pp. 1089-1120

87 *Stab Wounds of the Liver. (Stichverletzungen der Leber.) A. Nehrkorn.

87. **Stab Wounds of the Liver.**—Nehrkorn operated on three patients with stab wounds of the liver in the course of a few weeks in 1905. The injury was made with a knife with suicidal intent in one case, but it soon healed without complications. In another case a boy of 9 was impaled on an iron spike; the wound in the liver soon healed, although a hernia at the point where the drain had been inserted required a second operation three years later. In the third case a man fell on a tool he was carrying. The wound in the liver in all these cases was drawn up with two or three sutures. An empyema developed in the third case and a series of complications followed, but with final restoration to comparative health.

Jahrbuch für Kinderheilkunde, Berlin

October, LXX, No. 4, pp. 391-528

88 The Law of Energy in Human Physiology. (Das Energiegesetz in der menschlichen Physiologie.) W. Camerer.
89 The Differences Between Human and Cow's Milk. (Beitrag zu den Unterschieden zwischen Kuh- und Menschenmilch.) A. Schwarz.
90 Pathologic Anatomy of Atrophic Condition in Infants. (Zur pathologischen Anatomie der Pädatrophie—Dekomposition.) H. F. Helmholz.
91 Body Dimples on Children. (Hautgrübchen am Kinde.) W. Knoepfelmacher.

Medizinische Klinik, Berlin

October 10, V, No. 41, pp. 1539-1578

92 Cataract Operations. (Ueber Star- und Nachstar-Operationen.) C. Hess.
93 Application of "Optic Method" to Immunity Research. (Anwendung der "optischen Methode" auf dem Gebiete der Immunitätsforschung.) E. Abderhalden.
94 *Venous Thrombosis and Embolism of Pulmonary Artery. R. Kretz.
95 *Diagnosis and Treatment of Enlargement of Prostate. P. Wulff.
96 *Headache and Syphilis. (Kopfschmerzen und Syphilis.) Pickenbach.
97 Explanation of Action of Ferments. (Zur Klärung der Fermentwirkung.) Scherk.
98 Cystoscope Snare. (Verbessertes Operationszystoskop zur endovesikalen Entfernung von Blasentumoren.) H. Lohnstein.
99 Measurement of Radium Emanations. (Zur Messung der Emanation.) W. D. Lenkei and E. Weiss.

94. **Venous Thrombosis and Pulmonary Embolism.**—Kretz has been able to find some primary infectious focus in every case of fatal pulmonary embolism from primary thrombosis. In some cases the walls of the vein are inflamed but in others infection of the blood is responsible for the intravascular coagulation.

95. **Treatment of Enlargement of the Prostate.**—Wulff calls attention to the fact that sometimes it is impossible to palpate the prostate causing disturbances; in two such cases the gland was even abnormally small, and yet prostatectomy was followed by a clinical cure. Such cases reduce the impor-

tance for examination of the prostate by way of the rectum. The most important means for diagnosis is the discovery by catheterization of residual urine. When there is no trace of this, the disturbance is usually due to neurasthenia or kidney disease. In one such case a man of 70 had pus in the urine and signs of enlargement of the prostate, but the absence of residual urine led to discovery of a tuberculous process in the right kidney. In another case a man of 55 was referred to Wulff for prostatectomy after fifteen years of symptoms; ligation of the vasa deferentia ten years before had failed to benefit. The trouble proved finally to be tabes. In another similar case a man of 50 had complete retention about twice a year but no residual urine and he was advised against an operation. The diagnosis was cleared up by other signs later of a nervous affection. After discovery of residual urine, the nervous system should be examined and the prostate palpated through the rectum to exclude cancer and tuberculosis. Cystoscopy is generally unnecessary. A careful examination should also be made for a calculus; the presence of stones for years in the bladder may cause no symptoms. The bowels must be kept open and regular, to prevent aggravation of prostatic trouble. Extreme care should be taken not to "catch cold," as this is especially liable to induce cystitis. Such patients should sleep in a warm room in winter and should wear woolen stockings and underwear. Wulff deprecates the dread of the catheter. If infection, hemorrhage and debility compel surgical measures, the only treatment is prostatectomy; partial operations are inadvisable.

96. **Headache and Syphilis.**—Pickenbach reports two interesting cases in which tentative syphilitic treatment cleared up the diagnosis and cured intense headache rebellious to all other measures. The first patient was an apparently healthy woman of 38, with a healthy husband and children. Headache suddenly developed refractory to treatment for neuralgia. Examination for a brain tumor proved negative, but an old scar gave the clue to a mild brief syphilitic infection twenty years before, and complete cure followed under potassium iodid. The other patient was a young man.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

October, XXX, No. 4, pp. 417-540

100 *Genital Hemorrhages in Hemophiliacs. (Genitalblutungen bei Hämophilie.) L. Fränkel and L. Böhm.
101 Is Cesarean Section an Advance in Treatment of Placenta Prævia? (Bedeutet der Kaiserschnitt einen Fortschritt in der Therapie der Placenta prævia?) J. Novak.
102 *Sterile Catgut. (Steril-Katgut.) F. Kubn (Kassel).
103 Elimination of Antitoxin and Precipitinogen Through the Mammary Gland of Passively Immunized Mothers. (Ausscheidung von Antitoxin und Präzipitinogen durch die Milchdrüse bei passiv immunisierten Müttern.) M. Sohma.

100. **Genital Hemorrhage in Hemophiliacs.**—Fränkel and Böhm review the facts known to date in regard to bleeders; two-thirds of all the hemophiliacs known belong to bleeder families. The majority of the bleeders die young, but Fränkel and Böhm have discovered that this hemorrhagic diathesis is fully as common among women as in the male sex. They have encountered 7 such cases in which nothing but hemophilia could explain the tendency to genital hemorrhage. The hemophilia was evidently inherited in 5 and sporadic in the other cases. They have found records of 151 similar cases in the literature, with a positive heredity in 99 cases, dubious in 18 others. The data show that the genital organs seem to possess some special mode of defense so that even in hemophiliacs the danger from this source is not so excessive as might be expected, although in 10 cases on record the women bled to death during menstruation while 6 others barely escaped this fate. In 32 cases the hemorrhage never ceased spontaneously. The duration of the hemorrhage ranged from three to sixty-four days, in one case over fifteen months. There did not seem to be any special tendency to abortion or premature delivery in these women; 100 became pregnant. There were 30 fatal hemorrhages in the total of 151 cases, but only 24 in consequence of genital hemorrhages. Prophylaxis and treatment comprise internal treatment of the hemorrhagic diathesis and local gynecologic measures; marriage can be permitted to a male hemophiliac but not to a female. Besides general tonic measures, he advises calcium salts internally and, locally, adrenalin, gelatin and blood serum; tamponing of the uterus and vagina is the sovereign measure, gelatin and serum requiring at least two hours before their influence is felt. The general impression left by the article is that although hemophilia is always a serious affection, yet it can be kept under control better in women than in men. Women are naturally used to greater losses of blood than men, and are better provided with means to arrest hemorrhage and to recuperate after loss of blood. It is generally assumed that women are less subject to hemophilia than men, the proportion being stated variously as 1 in 4 down to 1 in 13. The total 104 cases in which female hemophilia was manifested in genital hemorrhage are tabulated for comparison, the list filling twenty pages.

102. **Sterile Catgut.**—The Journal has mentioned from time to time Kuhn's plea that catgut should be obtained and prepared with as strict regard to asepsis at every stage of the process as in the production of diphtheria antitoxin. He here describes the technic which he has worked out from this point of view to produce what he asserts is "absolutely sterile catgut."

Münchener medizinische Wochenschrift

October 12, LVI, No. 41, pp. 2089-2144

104 *Suture of Gunshot Wounds of the Lung. (Behandlung schwerer Schussverletzungen der Lunge mit Naht.) M. Grasmann.
105 *Serodiagnosis of Syphilis. (Erfahrungen mit der Wassermann-Neisser-Bruckschen Syphilisreaktion.) A. Reinhart. (Mechanismus der Seroreaktion der Lues.) H. Liefmann.
106 Cobra Venom Reaction in the Insane. (Die Muchsche Hemmungsreaktion bei Geisteskranken.) Nitsche, H. Schlimpert and H. Dunzelt.
107 *Early Diagnosis of Measles. (Zur Frühdiagnose der Masern.) Hecker.
108 *Disturbances in the Feet. (Fussbeschwerden.) F. Tausch.
109 Alimentary Glycosuria in Chronic Enteritis. K. Funck.
110 *Radiotherapy of Tuberculous Bone Lesions. (Strahlenbehandlung der Knochentuberkulose.) L. Freund.
111 Influence of Carlsbad Cure on Gall-Stone Trouble. (Fünfter Bericht über den Einfluss des Kurgebrauches in Karlsbad auf das Gallensteinleiden.) F. Fink.
112 *Geographical Distribution of Diabetes. B. T. Williamson.

104. **Suture of Lung for Gunshot Wound.**—Grasmann has found on record 18 cases of injury of the lung treated by suture. The list includes 9 cases of gunshot wounds with recovery of 6 of the patients and 6 stab wounds with 5 recoveries, a fatal case of rupture of the lungs, and 2 cases in which the actual injury is not mentioned. He reports the details of 2 cases from his own experience in which prompt suture of the lung after a gunshot wound was followed by recovery. The indication for operative interference in both was the distention from a pneumothorax and extravasation of blood in the pleura. The patients made a smooth recovery in each case, which he attributes to the complete evacuation of all blood from the pleural cavity.

105. **The Seroreaction in Syphilis.**—Reinhart reports application of the Wassermann test in 1,600 cases. The findings were almost invariably negative in cerebral syphilis but positive findings were constant in syphilitic bone lesions. Of the parasyphilitic affections, paralysis gave the highest proportion of regular serum and cerebrospinal fluid positive findings. In tabes the findings were more frequently positive in the early than in the later phases.

107. **Early Diagnosis of Measles.**—Hecker has noticed a marked reduction in the total number of leucocytes as an early sign of measles infection, sometimes fully ten or eleven days before Koplik's spots became evident, but as a rule from one to three days before the development of the spots. There was a reduction also in the numbers of lymphocytes during the incubation of measles, and from three to five days before the spots developed. There seems to be actually a disappearance of lymphocytes with a slight increase in the neutrophiles. This premonitory reduction in the numbers of lymphocytes and the reduction in the total numbers of leucocytes just before the appearance of the eruption may prove important for early differentiation of measles in institutions.

108. **Static Disturbances in the Feet.**—Tausch has had occasion to study in his own person a disturbance in the foot which causes great discomfort with scarcely any objective

findings. The foot is inclined to assume the valgus position when bearing weight and it tires readily. The fatigue is felt more in the calf of the leg than in the foot itself and pain develops similar to that of phlebitis, for which it is often taken. The pain persists even after retiring. It may extend into the thigh or buttocks and may simulate neuralgia. Various muscles become involved as the insufficiency of the muscles of supination increases. Treatment should include the wearing of proper shoes, strengthening the supination muscles with gymnastic exercises, learning to plant and raise the foot normally, supplemented by mechanical means to restore normal static conditions in the foot, correcting the pronation angle and supporting the arch until the foot is brought from the valgus position into supination, placing it on a slanting plane provided by an insole made from a cast of the foot taken while it is bearing the weight of the body. With a correct insole, the stiff joint mobilized with gymnastic exercises, and the atrophied muscles strengthened, all disturbances vanish at once, and the patients are relieved from what seemed to be an incurable and tormenting affection. Tabes had been assumed in some of the cases to which he refers.

110. **Radiotherapy of Tuberculous Bone Processes.**—Freund discusses the advantages of heliotherapy in treatment of these lesions, supplemented by radium and Roentgen treatment on days without sufficient sunshine. His experience has been favorable.

112. **Geographical Distribution of Diabetes.**—Williamson's figures show that the mortality from diabetes per 100,000 inhabitants ranges from 6.6 to 12.7 in the different cities of England and Wales, with a general average for the country of 9.6; in Malta and Gozo, 37.8. In Europe the extremes are 5 in Helsingfors, 4.5 in Italy to 15.8 in Copenhagen, 20 in Berlin and 25.8 in Bordeaux; in Asia, from 0.15 in Hong Kong to 9.2 in Calcutta; in America, from 5.8 in the province of Quebec to 27.3 in Worcester, Mass., with 17.4 in New York, 10.7 in Chicago and 17.9 in Boston, and a general average for the United States of 13.9; for Australia of about 8; for Buenos Aires, 5.6, and Cuba 2.8. His research, he states, shows that the disease is gradually increasing. Men are more frequently affected than women in most localities.

Gazzetta degli Ospedali e delle Cliniche, Milan

October 14, XXX, No. 123, pp. 1297-1304

113 *Suture Through Laparotomy of Severed Ureter over Retention Catheter. (Sutura per via addominale dell' uretere sinistro sopra catetere permanente dal rene in vescica.) A. Boari.

October 17, No. 124, pp. 1305-1320

114 Granules in Leucocytes in Gonorrhea, Taking Sudan Stain. (Le granulazioni sudanofili dei leucociti nel sangue dei blenorragici.) G Sarra.

October 19, No. 125, pp. 1321-1328

115 Difference Between the Temperature of the Axillæ in Tuberculous Patients. (Differenze tra le due temperature ascellari nei polmoniti.) L. Casali.

October 21, No. 126, pp. 1330-1336

116 Surgical Treatment of Jacksonian Epilepsy. T Clemente.

113. **Suture of the Ureter.**—Boari introduces a catheter into the ureter and merely approximates the stumps of the ureter over the catheter, joining the stumps together with interrupted sutures without invaginating one stump into the other which is almost sure to entail stenosis. The retention of the catheter in the ureter caused no disturbances, although it projected for nearly three inches into the bladder in the case described. After allowing ten days for the suture of the ureter to heal, he extracted the retained catheter with the aid of the cystoscope, and there has been nothing to suggest any anomaly in the ureter during the two years since. A catheter passed through the ureter up into the kidney meets with no obstacles. The ureter was injured in his case during a hysterectomy.

Policlinico, Rome

October 10, XVI, No. 41, pp. 1285-1316

117 *Hemolytic Jaundice and Syphilitic Infection. (Gli itteri emolitici e l'infezione sifilitica.) G. Basile.

118 *Tabes Dorsalis. (Sopra un caso di tabe dorsale.) E. Fenoglietto.

117. **Jaundice from Hemolysis: Syphilitic Origin.**—Basile refers to the jaundice in which the trouble is evidently the result of extra fragility on the part of the red corpuscles. Autopsy in the few such cases examined post-mortem disclosed that the liver and biliary passages were intact. Syphilitic infection may be responsible for the extra fragility of the corpuscles in some of these cases.

118. **Tabes Dorsalis plus Morphin Addiction.**—The gastric crises in the case reported were followed by intestinal crises, sometimes brought on by a purgative or enema. The tabes developed in this case as early as five years after primary syphilitic infection, and mercurial treatment seemed to have a favorable influence in reducing the frequency and severity of the crises.

Policlinico, Rome

October, XVI, Surgical Section, No. 10, pp. 429-476

119 Sarcoma as Recurrence of Carcinoma in the Thyroid. F. Nassetti.

120 *Organic Free Bodies in Hernial Sac and in Peritoneal Cavity. (Dei corpi organizzati nei sacchi erniari e nella cavita peritoneale.) G. Palazzo.

120. **Organic Free Bodies in Hernial Sac and Peritoneum.**—Palazzo gives the details in tabulated form of 18 cases from the literature in which an organic body was found free in a hernial sac, and of 31 others in which a similar organic body was found free in the peritoneum. In 2 cases personally observed the organic body found non-adherent in the hernial sac was a fragment of omentum, evidently detached from a fold of the omentum included in the hernia at first. He further describes experiments on dogs and guinea-pigs striving to induce the production of an organic foreign body in the peritoneum by injection of fresh fibrin or extract of organs with an internal secretion, or of dead micro-organisms liable to induce precipitation of fibrin. The results were constantly negative.

Riforma Medica, Naples

October 11, XXV, No. 41, pp. 1121-1148

121 Central Neuropathies of Malarial Origin. (Anartria, convulsioni epilettiformi, sindrome cerebellare.) E. Grande.

October 18, No. 42, pp. 1149-1176

122 *Differentiation, Prophylaxis and Treatment of Septicemic Fevers. (Sulle febbri e febbricole setticemiche polimorfe. XI.) G. Rummo. Commenced in No. 41.

123 Mixed Cirrhosis. (Contributo clinico ed anatomo-pathologico allo studio delle cirrosi miste.) T. Casoni.

122. **Differentiation of Typhoid, Paratyphoid and Malta Fevers.**—Rummo tabulates for comparison the various clinical features of these fevers. In the last two the spleen does not become enlarged, or only slightly, late in the disease, while there is generally obstinate constipation and the fever starts with abrupt onset and a chill, without prodrome, while the type is altogether different from the typhoid curve. He warns, however, that in all three the prognosis should be guarded. The general idea that paratyphoid and Malta fever are benign affections is frequently shown to be erroneous by the serious form which they sometimes assume. In Malta fever in particular, the disease may drag along to such an extent that it may be regarded as the one of the trio which is liable to try the patience most of both patient and physician. Early differentiation of typhoid is of the greatest importance as otherwise household remedies may be applied which are liable to do irreparable harm. The diet may be a little less exclusive in paratyphoid and Malta fever than in typhoid, but he warns that convalescence from typhoid is like a new disease which has to be supervised and combated, mainly on account of the impatience and appetite of the patient and the heedlessness of his friends. Nothing but milk should be allowed, he declares, for a week after defervescence.

Hospitalstidende, Copenhagen

September 1, LII, No. 35, pp. 1081-1104

124 *Roentgen-Ray Treatment of Skin Diseases. (Behandling af Hudsygdomme med Röntgenstraaler.) A. Reyn. Commenced in No. 34.

September 8, No. 36, pp. 1105-1136

125 Two Cases of Gas Constantly in the Urine. (To Tilfælde af Pneumaturi.) E. Sorensen.

126 Successful Thyroid Treatment in One of Two Cases of Dementia Præcox. P. Levison.

September 15, No. 37, pp. 1137-1168

127 Serum Anaphylaxis in Forensic Tests of Blood. (Fortsatte Undersøgelser over Blodanafylaxi og denne Reaktions Anvendelse i Retsmedicinen.) O. Thomsen.

128 *"Primary" Tuberculosis of the Spleen. (Milttuberkulose.) C. Permin.

124. **Roentgen-Ray Treatment of Skin Diseases.**—Reyn reports from the Finsen Light Institute at Copenhagen the experiences with various skin affections treated by Roentgen exposures during the last year. His experience with eczema was extremely favorable, only 17 of the total of 184 patients not displaying more or less marked benefit. amounting to a permanent cure in 88 and in 15 others after a slight recurrence had been treated. The others did not continue the exposures to a complete cure but were satisfied with the results already attained. He regards Roentgen treatment as the most valuable means at our command for eczema rebellious to the ordinary measures perseveringly applied. The affection in some of his cases was from two to five years' standing in 43. from five to ten in 41, and from ten to twenty in 40. The experiences with other cutaneous affections were contradictory, complete cure in some and failure in others. In treatment he uses only from one-half to two-thirds of the S N erythem dose (Sabouraud and Noire radiometer) and fractions it over three days. The series is repeated again if necessary after a pause of three weeks. In 100 cases of epithelioma the results of Roentgen treatment were also encouraging; much larger doses were required. about two erythem doses. S N, fractioned over two days. He appends an extensive bibliography on Roentgen treatment of cutaneous affections.

128. **Primary Tuberculosis of the Spleen.**—Permin's patient was a man of 21 supposedly healthy until a period of languor and depression so extreme that he entered the hospital after two months. During the last week he had also experienced oppression and pain in the left side of the abdomen. soon accompanied by high fever. slight cyanosis, enlarged glands in the neck. axillæ and groins. a solid tumor in the region of the spleen and anemia. The leucocyte picture was approximately normal. The spleen was found studded with tuberculous nodules and was removed. after which all symptoms vanished and the patient returned to work. Parmin reviews the other cases of the kind on record, this being the eleventh in which splenectomy has been done for primary tuberculosis of the spleen. and discusses the differentiating points. At the time of the operation there were no signs of tuberculosis elsewhere but the patient returned to the hospital before the year was out with pleurisy and signs of apical involvement. although the sputum was free from tubercle bacilli. The glands in the neck suppurated. and after their removal pleurisy developed. which ended fatally on the ninth day. The case emphasizes the importance of general measures after the splenectomy to tone up the general health instead of allowing the patient to resume at once his former occupation. It also shows that splenectomy is a comparatively harmless means of freeing the patient from the otherwise fatal tuberculous process in the spleen.

Ugeskrift for Læger, Copenhagen

September 23, LXXI, No. 38, pp. 1049-1070

129 *Origin of Uric Acid. (Fortsatte Undersøgelser over Urinsyrens Oprindelse.) H. Trautner. Commenced in No. 37.

129. **Origin of Uric Acid.**—Trautner reports extensive research which has convinced him that uric acid is the result of proliferation of colon bacilli causing a more or less latent chronic colitis. These bacilli produce reducing substances which undergo chemical changes in the blood and may be the first stages of uric acid. He discusses the medical history of uric acid. the lack of it in young children. of whom he examined 88. and also the lack of colon bacilli in the newborn and in older infants in health. He found both colon bacilli and uric acid in children with intestinal derangement. In examining 25 older children. including 13 with diarrhea. the presence and amount of uric acid in the urine and of colon bacilli in the feces constantly paralleled each other. He also found in experiments on 22 young rabbits that there was no appreciable uric acid in the urine when there were no colon bacilli in the feces, but that the uric acid appeared when the animals were given colon bacilli added to their food. He also examined 32 typhoid patients, 70 patients who had a history of typhoid, and 327 other persons either normal or with other affections. The uric acid disappears from the urine during typhoid more or less completely and the proportion persists low for a long time, suggesting that the typhoid bacilli seem to deprive the colon bacilli of some substance, normally present in the intestines. which they require for their growth. The proportion of uric acid in the urine of a person with a tendency to gout, rheumatism or uricacidemia increases during constipation He found that the fetal uric acid in the new-born disappeared in the course of five days, and that none was detectable thereafter. while there were no colon bacilli at first and they were scanty in the infants' stools later.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Quain's Elements of Anatomy. Editors. Edward Albert Schäfer, LL.D., Sc.D., F.R.S., Professor of Physiology and Histology in the University of Edinburgh. Johnson Symington, M.D., F.R.S., Professor of Anatomy in the Queen's University of Belfast. and Thomas Hastie Bryce, M.A., M.D., Professor of Anatomy in the University of Glasgow. In Four Volumes. Vol. III. Neurology. By. E. A. Schäfer and J. Symington. Part II. Containing the Descriptive Anatomy of the Peripheral Nerves and of the Organs of Special Sense. Eleventh Edition. Cloth. Pp. 363, with illustrations. Price, 15 shillings net. New York: Longmans, Green & Co., 1909.

Materia Medica and Therapeutics, Preventive Medicine, Climatology. Edited by George F. Butler, Ph.G., M.D., Henry B. Favill, A.B., M.D., Norman Bridge, A.M., M.D. Vol. VIII of The Practical Medicine Series. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Series 1909. Cloth. Pp. 338. Price, $1.50. Chicago: The Year-Book Publishers.

A System of Medicine. By Many Writers. Edited by Sir Clifford Allbutt, K.C.B., M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge. and Humphry Davy Rolleston. M.A., M.D., F.R.C.P., Senior Physician, St. George's Hospital. Vol. VI, Diseases of the Heart and Blood-Vessels. Cloth. Pp. 844, with illustrations. Price, $1.50 net. New York: The Macmilian Co., 1909.

Diseases of the Nose, Throat and Ear. Medical and Surgical. By William Lincoln Ballenger, M.D., Professor of Otology, Rhinology and Laryngology, College of Physicians and Surgeons, Department of Medicine. University of Illinois. Second Edition. Cloth. Pp. 901. with illustrations. Price, $5.50 net. Philadelphia: Lea & Febiger, 1909.

Die innere und die chirurgische Behandlung des chronischen Magengeschwurs und ihre Erfolge. (Work Awarded the Alvarenga Prize by the Hufelandsche Gesellschaft.) By Dr. L. Bamberger, Head Physician at the Grunewald Sanatorium. Paper. Pp. 269. Price, 8 marks. Berlin: Julius Springer, 1909.

I. The Presence of Tubercle Bacilli in the Circulating Blood in Clinical and Experimental Tuberculosis. By John F. Anderson. II. The Viability of the Tubercle Bacillus. By M. J. Rosenau. Hyg. Lab. Bull. No. 57, September, 1909. Paper. Pp. 42. Washington: Government Printing Office, 1909.

Primer of Sanitation. A Simple Work on Disease Germs and How to Fight Them. By John W. Ritchie. Professor of Biology. College of William and Mary, Virginia. Cloth. Pp. 196, with illustrations. Price, 50 cents. Yonkers-on-Hudson, New York: World Book Co., 1909.

Introduction to Practical Chemistry. For Medical. Dental, and General Students. By A. M. Kellas, B.Sc., Ph.D., Lecturer on Chemistry at the Middlesex Hospital Medical School. Cloth. Pp. 249. Price, $1.35. New York: University Press. 1909.

Anatomy and Physiology of the Nervous System. By Sedgwick Mather, M.A., Professor of Neurology, The American College of Neuropathy. Cloth. Pp. 145. with illustrations. Price, $1.50 net. Philadelphia: John Joseph McVey, 1909.

Some Plans and Suggestions for Housing Consumptives. Paper. Pp. 87. with illustrations. Published by the National Association for the Study and Prevention of Tuberculosis, 105 East Twenty-second Street, New York, 1909.

Probleme der Tuberkulosefrage. By Dr. Julius Bartel, Privatdocent and Assistant at the pathologisch-anatomischen Universitäts-institut in Vienna. Paper. Pp. 146. Leipsic and Vienna: Franz Deuticke, 1909.

Die Serodiagnose der Syphilis. By Dr. Carl Bruck, Privatdozent and Oberarzt of the Dermatologische Universitätsklinik in Breslau. Paper. Pp. 166. Price, 4.80 marks. Berlin: Julius Springer, 1909.

Air and Health. By Ronald Campbell Macfie, M.A., M.B.C.M., Author of "The Romance of Medicine," etc. Cloth. Pp. 328. Price, $2.50. New York: E. P. Dutton & Co., 1909.

Transactions of the Medical Association of the State of Alabama, Organized 1847, Meeting of 1909. Birmingham, April 20-23. Cloth. Pp. 714.

The Physician's Visiting List for 1910. Flexible Leather, with Pocket and Flap. Price. $1.00 net. Philadelphia: P. Blakiston's Son & Co.

The Decay of the Church of Rome. By Joseph McCabe. Cloth. Pp. 309. Price, $2.50. New York: E. P. Dutton & Co., 1909.

Cancer and Sarcoma. By H. D. Walker, M.D., Buffalo, N. Y. Paper. Pp. 59, with illustrations.

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Address

SOME OF THE RELATIONS OF OCCUPATIONS TO MEDICINE *

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On an occasion which, as I comprehend it, serves not only as your annual meeting, but also, to a considerable extent, as a means of formally introducing your body to the school of medicine recently inaugurated in this state, it is interesting to reflect that a generation ago conditions were such that the influence exerted on the profession at large by any individual medical school in this country was exercised chiefly through the clinicians connected with the school; while, at present, circumstances are so largely altered that a school like that situated here may have no dealings with the directly clinical side of medicine and yet, youthful as it is, be generally recognized as certain to have a large influence on medical progress, because of the character of the provision it makes for the teaching of the medical sciences. Indeed, the change has been so great that we now hear more frequently and more insistently than ever before the warning that has been uttered at times throughout several generations—among others, by such wise and charming writers as John Brown and Oliver Wendell Holmes—the warning, that is, that we are in danger of overdoing the scientific side of medical instruction at the expense of the clinical. I do not intend to discuss medical education here, or even that constantly recurring question as to the relative amount of time that may properly be assigned to the clinical branches and the medical sciences; but, since it bears closely on my purpose in discussing occupations in their relation to medicine, I would say that I do not feel the slightest sympathy with the frequently expressed fear that the tendency at present is to train up investigators, rather than clinicians, my reason being the very definite one that, to my mind, a sound clinician is essentially an investigator, whether he works in a laboratory with all possible facilities or in hard country practice; whether he conducts extensive studies of special questions or simply attempts to learn as precisely as possible what needs to be done for each separate patient. In the latter case, as much as in any other, he will be successful and useful in direct proportion to the degree to which he has been trained into the point of view and the methods of a careful investigator.

The most apparent defect in medical teaching, it appears to me, is not that students are taught too largely of the medical sciences: it is rather that they are not yet sufficiently trained in making their more scientific information a living and integral part of their clinical procedures, and still tend to place the two in their minds on each side of a wide chasm that is crossed only by means of bridges so frail and slippery that they are all too seldom used. This is not due solely to the methods employed by those who teach the medical sciences: it is equally and perhaps even more largely due to the tendency of those of us who are clinicians to allow both ourselves and our students, in considering clinical questions, to wander more widely into mere impressions and crude hypotheses than we should permit ourselves to do in dealing with matters that relate directly to the medical sciences. This attitude, so common among clinicians, is, I think, in large part due to our misfortune in having been brought up to the almost religious belief that the practice of medicine is an art, rather than a precise science, and an almost purely empirical art at that—a partial truth that, happily, is continually growing less true, but that has done much to obstruct progress, because we can so readily fall back on it, when we feel inclined to be easy-going, rather than precise.

In large part, also, the relative lack of precision in clinical work, a lack that is seen especially in therapeutic practice, is due, not to the impossibility of being exact, but to the fact that it is somewhat difficult to use precise methods in the circumstances of practice, which are so much less favorable to such methods than are the surroundings of the medical sciences. It is, however, largely because it so strikingly illustrates the fact that precise methods tinctured with some personal investigativeness are open to us all even in the most commonplace things in practice to a much larger extent than we customarily make use of them, that a study of occupations in their relation to medicine appears to me to be a matter of most especial interest as an example of the practical value of a training in the preliminary subjects in medicine such as that offered now by your own state school; for, in the consideration of occupations in their relation to disease, and in appreciating their effects properly, we need to make constant and lively use, not only of our knowledge of the medical sciences, but also of whatever knowledge we may possess of an infinite variety of technical subjects. Indeed, in the course of an ordinary practice any one can in this connection, by means of a little extra precision but with very little extra effort, both gain interesting diversion and varied knowledge by inquiring into this point, and at the same time elicit many facts that are extremely valuable in properly comprehending and in treating cases of all sorts; and these facts are often overlooked entirely by the ordinary routine method of recording the occupation of an individual. This point in the history affords, to my mind, more than does any other, an endlessly varied interest, both humane and scientific, on the one hand, and great practical help, on the other; and yet, in many an instance, very little attention is devoted to it.

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* Address in Medicine at the Annual Meeting of the Wisconsin State Medical Society, Madison, July 1, 1909.

INEXACTNESS IN CASE RECORDS

We often content ourselves with the mere names of occupations; indeed, we very frequently find in case-records names that not only mean absolutely nothing as to what the individual at hand does when at work, but that are mere general terms, covering a host of different occupations—terms, I mean, such as laborer, mechanic, machinist, mill operative, and the like, which are very common even in the best kept of hospital records, so common that Arlidge,[1] in his work on occupational diseases, stated that hospital records are so inexact on this point as to be practically worthless to one who is studying the effects of occupation on health. Though much information has meanwhile been accumulated, there has been no general change in this regard since Arlidge's book was written. While, therefore, we make a great point of putting down the name of a patient's occupation in his record, this is only too often merely a part of a general dull routine, and is frequently of no more value, so far as diagnosis and treatment are concerned, than the name of the patient himself. To be sure, if the patient says that he is a lead-worker, his whole trouble often becomes illuminated at once; if he is a drayman or works with heavy metals, we see immediately that he is subject to severe physical strain; if he is a sailor, we know that he is exposed to rough weather; if he is in finance, we know that he is likely to have severe nervous strain. There are, of course, a variety of such ways in which our common sense and our casually acquired knowledge make us see at once some of the main ways in which particular occupations may affect people; but it may fairly be said that we have too little system in dealing with this question, and that it is too generally the custom to pass over the occupation and go on into the other details of the history, unless there are some peculiar conditions in the case that suggest an unusual degree of relation to the individual's work or unless the mere name that the patient gives recalls at once some familiar consequences of such employment. This is more especially true of work in internal medicine. In some of the specialties there is a wider and often very alert appreciation of the importance of the occupation.

Indifference to this point is assuredly a very stepmotherly way of treating what is one of the chief factors in producing disease; probably, indeed, the most important of all, not only in interesting and unusual cases, but also in a large proportion of instances of the most every-day and commonplace types of disorders. There is a vast difference in the interest and profit attaching to a record of the occupation, if, on the one hand, one merely records the name of the trade, or, on the other hand, inquires routinely into the exact nature of the work in so far as concerns certain points that are likely to have an especially important bearing on the type of case under consideration. It would be folly to recommend that we elicit all the details of the work in all instances, or that we attempt to carry knowledge of the details of all occupations. Unless one should devote his entire time to acquiring information regarding the endless technical details of the almost innumerable occupations that we meet, it is impossible to conceive of carrying with us knowledge of even a small fraction of these sufficiently complete to make us see at once, when the name of a certain employment is mentioned, that this means a particular kind of physical or nervous strain, an especial exposure to dust or to some poisonous substance, or unusual tax in some other way. The impossibility of this is seen, for instance, in the conditions pertaining to lead-poisoning.

OCCUPATIONS PREDISPOSING TO PLUMBISM

Years ago Layet collected one hundred and eleven occupations in which there was more or less danger of lead-poisoning; and, through clinical experience and reading, I have been able to add a considerable number to this list. The uses to which this metal is put are so nearly endless that new sources of poisoning, previously unheard of, are still occasionally appearing. We cannot hope to remember such a mass of facts about one particular form of occupational poisoning, and we can still less attempt to remember the details and varied kinds of dangers associated with large numbers of occupations. We can, however, adopt some system of attempting to elicit the main elements of importance in relation to a particular case. This, I think, can be most readily done by, first of all, getting the patient to tell us briefly, but as clearly as he can, the main details of his work; and then attempting to follow particularly any suggestion that comes from this or from his type of disorder. In case I am not already familiar with the details of the occupation, I try to learn in different cases, as far as possible, what sorts of substances the patient works with, what position he works in, how heavy his work is, what his hours of work are, whether it is day or night work, the degree of exposure to heat, cold, or wet, and a few similar points: and, especially among well-to-do patients, but also with those of simpler life, I determine, of course, the degree of responsibility and general nerve strain.

I am aware that in mentioning such commonplace matters and insisting on their importance I lay myself open to the caustic criticism that James Mackenzie[2] applied long ago to Friedrich Hoffmann, when he said that there are certain persons who go about talking of well-known things as if they were themselves the discoverers of them. While I do not lay claim to be the discoverer of the importance of such things, I do have the temerity to repeat the statement that there is a vast difference between the results obtained in this way and those that one gets from accepting the mere brief statement of the name of the occupation as it is given in the ordinary history.

I may possibly make it clearer that I am not urging the use of methods that are employed by every one, if I give some illustrations. Some of you may not be familiar with the fact that carriage-painters are very much more subject to lead-poisoning than are house-painters. Stüler found in Vienna that they were from ten to twenty times as subject to lead-poisoning as were house-painters; and the average each year among carriage-painters was nearly three days' illness from lead-poisoning for each man employed. Of the painters whom I have seen in the last five years with lead-poisoning, about half were carriage-painters, while, of course, carriage-painters are only a small fraction of the whole number of painters. If we inquire into the details of their work it is perfectly clear why this should be the case, and we need not have been taught it beforehand to realize that it is likely to be true. Contrary to the well-known conditions under which house-painters work, carriage-painters apply a large number of coats of paint and varnish, polishing between each coat, and thereby enveloping themselves in dust which contains much lead. They also work largely in an enclosed atmosphere, to prevent dust and dirt from being blown on the surface, which must remain smooth. Clearly their opportunities for lead-poisoning are very great, as are their opportunities for acquiring respiratory diseases, tuberculosis and the like, to which they are very subject.

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[1] The Hygiene, Diseases and Mortality of Occupations, London, 1892.

[2] A History of Health and the Art of Preserving It. An Account of All that has been Recommended by Physicians and Philosophers toward the Preservation of Health from the Most Remote Antiquity to the Present Time, Edinburgh, 1758.

Again, we know well that workers in wood are subject to the moderately bad mechanical effects of ordinary sawdust. When we inquire more precisely into this, however, we find that a certain number of workers, most strikingly those engaged in working with boxwood, teak, and sequoia woods, are subject also to the general poisonous effects of alkaloids or other substances contained in these woods, which may have interesting and rather serious general effects, chiefly on the circulation and, still more frequently, a marked local effect on the mucous membranes and the skin—a matter that is of some importance in this country and that has been discussed in an interesting way in relation to conditions in England by Oliver.[3]

SCIATICA IN LOCOMOTIVE ENGINEERS

I know of no better additional example of the necessity of obtaining data regarding the occupation of patients than that mentioned to me by Dr. Latta, head of the Pennsylvania Railroad Relief Service. It was found that an especially large number of cases of right-sided sciatica were being reported in locomotive engineers, and it seemed quite clear that this was due to something peculiar in their work. An exact inquiry into the conditions under which these men worked, so far as they bore on the point, almost at once laid emphasis on the fact that every one had known before, but had given no attention to, namely, that the engineman had customarily sat sidewise on the bench of the right-hand side of the engine-cab, and, in the constant jolting, the weight of his body was continually thrown violently on the right thigh and buttock. The simple expedient of cutting off the forward part of the bench, so that the engineman had to sit squarely facing forward, sufficed to reduce the number of cases of sciatica to the normal and to eliminate any especial prevalence of right-sided cases.

DISORDERS DUE TO HEAT

I have recently had a somewhat analogous experience in connection with the disorder that I have described as occurring in consequence of exposure to severe degrees of heat. I saw some years ago two peculiar cases of acute and violent muscle-spasm that had no analogues in medical literature; and, on more exact inquiry, I learned that both were in men exposed to unusual degrees of heat. Inquiry among other men who were severely exposed to very high temperatures in their work showed that nearly all men in such occupations are familiar with such attacks and that a large proportion of them have had attacks themselves. Through subsequently watching for such cases I have seen a number more, all exhibiting the same cause. I find through physicians whose work brings them into frequent touch with persons in such occupations, through the men themselves, and through their employers, that this, which is clearly a well-defined disorder, though not recognized in general medical literature, is astonishingly common in certain occupations; is of a good deal of importance from the economic standpoint, in its effects on the men and on the productiveness of the occupations in which they are employed; and seems to be always due to the same cause.

I have become convinced, also, that there are other important effects of heat that have not been generally recognized in medical literature, because attention has been too exclusively fixed on so-called heat-stroke and heat-prostration as consequences of exposure to high temperatures. More thorough study of conditions in cases that I have seen myself has shown instances of nervous lesions, such as focal meningitis, that were almost undoubtedly due to local or general exposure to intense heat, and I have seen likewise more or less serious effects on other organs. The literature of occupational disorders also contains numerous more or less well-substantiated statements as to the effects of heat in various ways, particularly on the nervous system.

More than seventy-five years ago Thackrah[4] said that MacTurk had described to him the frequency of various head-symptoms in workers in heavy metals—due, he thought, to heat; and Layet, a generation ago, described similar conditions. The statistics of some of the foreign sick-benefit societies and the writings of various authors indicate that several nervous conditions, meningitis, epilepsy, insanity and even suicide, are relatively common in some of these occupations. More or less serious circulatory weakness, anemia, acute and chronic disturbances of digestion, acute and chronic nephritis, respiratory disease and skin-lesions also appear to be unduly frequent in such persons. In addition to this, there has been much discussion regarding the incidence of cataract, retinal and choroidal changes, and chronic conjunctival lesions in glass-blowers; and similar conditions clearly occur also, though less well recognized, in iron-puddlers and other persons whose eyes are exposed to very intense heat. Dr. de Schweinitz states that he could often tell whether men working at puddling-furnaces were right-handed or left-handed by studying the effects of their work on their eye-grounds; and Röpke[5] states that Quint described to him cases of right-sided cataract in right-handed iron-workers and left-sided cataract in those who were left-handed.

The instances that I have mentioned are, of course, exceptionally striking, and a study of them has been unusually productive of results. I venture to state, however, that there are few, even of the commonplace occupations, in which more careful inquiry into the details of the work will not be repaid by a much broader understanding of some of the ills that people engaged in these occupations complain of—even though one may not often elicit points that are worthy of separate record in medical literature. For instance, it is known that those who work with heated tallow and other animal grease are subject to gastrointestinal disturbance, apparently from the volatile fatty acids that are given off and that the workers ingest and inhale. Recently I saw a man whose chronic gastroenteritis was almost certainly due to his work as a bullet-dipper, in which he was constantly exposed to the fumes of hot grease.

LOCAL EFFECT OF STRAIN

One of the first cases that aroused my special interest in the effects of occupation was an instance of that extremely common and endlessly varied subject, the local effects of strain: and it was, at the same time, an instance of the necessity for understanding quite precisely what the individual does. This man had signs suggesting contraction at the base of the left chest. He had had pleurisy, but on the right side. I was puzzled to explain his physical signs, but the man finally gave the whole explanation himself. He had been put down in the history simply as a machinist. He elaborated on this by saying that he was a "bit-and-auger fitter-up"; and further inquiry showed that he had spent most of his working hours for twenty years with his left arm advanced holding the piece of steel that he was fitting, and turning it forcibly every few moments in such a way that each time he did this he twisted the lower part of his left thorax inward.

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[3] Diseases of Occupation, 1908.

[4] Effects of Arts, Trades, and Civil States and Habits of Living on Health and Longevity, Second Edition, 1832.

[5] Weyl's Handbuch der Arbeiterkrankheiten, 1908.

SOME OCCUPATIONAL CAUSES OF HEART STRAIN

These effects of strain, both the general effects and especially those that are exerted on particular organs, are daily experiences and frequently most interesting and illuminating; and the fact that they are every-day things, of course, makes them of greater interest. They are of particular frequency and importance in connection with circulatory disorders. Not long since I saw in quick succession a man with mitral insufficiency that appeared to be well compensated but that gave him much distress at his work; another man with aortic insufficiency that was giving him terrible distress when he was admitted to the ward but improved with surprising rapidity; and a third who had very dangerous myocardial failure with dilatation. The last-mentioned man had undoubtedly damaged his heart by alcoholism some years before, but neither with him nor with the others was there apparent any sufficient immediate reason for the development of symptoms. In none of them did the occupation as given in the record seem a sufficient cause for their symptoms. The first man was recorded as a carpenter; the second as a paper-cutter (starting and stopping a cutting machine); the third had a newspaper stand. Inquiry showed, however, that the first was a specialist in his trade in that he worked for large builders and that his duties consisted almost entirely in putting up heavy parts, and he had to lift every few minutes and put into place pieces weighing from one hundred to one hundred and twenty pounds. The second man proved to have as the chief part of his duties not simply cutting paper, but lifting and placing in the machine every few moments bundles of paper weighing from fifty to one hundred pounds; while the third man himself delivered newspapers to his clientele and this meant that in order to do his work quickly and hold his trade he set off twice daily with a package weighing fifty pounds or more (about one hundred pounds with Sunday editions), and went a circuit of two or three miles as nearly on the run as possible.

I would repeat that I am well aware that in dwelling on such simple things as important I am liable to the same comment that one of my friends applied recently to a distinguished man: "He learns out loud simple things that other persons know already." I mention them deliberately, however, for the very reason that they are the simple things that we meet with daily. Such things could be mutiplied *ad infinitum;* but I would especially note their importance in connection with chronic diseases of the joints, in a large proportion of which, more particularly in non-infectious cases, strain plays a most important part, especially in some of the apparently obscure cases of spondylitis and, of course, in flat-foot and knock-knees. Indeed, the latter are so common in some occupations that the laity, especially the Germans, have applied special terms to the disorders or infirmities produced.—*Bäckerbeine, Kellnerbeine.*

MERCURY POISONING

Finally, before leaving this part of the subject, let me give an instance of the fact that little points in the abstract information that we have acquired in some of our earlier studies not infrequently come into play in a very lively and human way in connection with occupations. The fact that mercury is volatile at ordinary room-temperature does not appear to be of much practical value in medicine until we see the exceedingly interesting results of its volatility in those who work with mercury; and recently this came even more closely home to me when I found a friend, who is much engaged in working with physical apparatus, exhibiting the remarkable erethism and apprehensiveness so common in chronic mercury poisoning, together with apparently causeless but persistent diarrhea. As an example of his nervous state, I would say that he told me that he left letters unopened for days for fear that they might contain some news that would distress him. He had an open jar containing mercury constantly on his office-desk, and had frequently spilled quicksilver on the floor of his office and of his bedroom, without paying any attention to it. About two-thirds of the twenty-four hours were spent in these two rooms. After he had had his attention called to this and had had the floors and cracks very thoroughly cleaned, puttied, and painted, and kept his mercury-receptacle tightly closed, his diarrhea and neurotic symptoms disappeared. They have since remained absent, now more than a year.

An undescribed, but perfectly rational cause of occupational mercury poisoning, which depends on the well-known fact that mercury is absorbed through the skin, is to be found in the custom that many dentists have of working up their amalgam in the palms of their hands. I have notes of two dentists who acquired poisoning in this way. I did not see either of these cases myself, but both are well authenticated by physicians.

Instead of being a frequently dull and profitless part of history-taking, occupations of even the most ordinary kind, when looked at in this way, become a constant source of useful information and of very interesting diversion. When viewed in this manner one appreciates also the second point that I would make, that is, that we may profitably look on the conditions in occupations as providing numerous massive experiments from which one can gain many broadening conceptions, and, furthermore, from a study of trades new facts that influence general medical conceptions may occasionally be gained ready-made, especially if the suggestions that they give are made more secure through animal experimentation and the precise studies that the latter permits of. In this way we can get answers to many questions that, approached by any other means, are much more difficult and at times impossible to elucidate, and that, in certain instances, have very important influence on our conceptions of some forms of disease and our methods of treating them.

It has been chiefly from study of occupations that we have learned the important effects of local and general strain in producing their very striking results on the circulation and other general functions or on especial local tissues. Occupations have also, of course, furnished practically all our knowledge of the effects of dust of various kinds, and our conception of the importance of commonplace things in producing disease must certainly be made much more emphatic by considering the dreadful evidence of the influence of very dusty occupations on health, evidence such as that found in the statistics of Sommerfeld,[6] Calwer,[7] and others regarding the duration of life of workers in stone, which appears to average only about thirty-three years. That is, as Calwer remarks, "a boy of fourteen taking up this occupation has a prospect of only about nineteen years more of life." Calwer puts the mortality of stone-cutters at over 5 per cent.; while the average among all persons studied was only a little over 1 per cent. Other figures showing the possible results of dust-inhalation in an astounding way are those of C. I. Birmingham[8] regarding the ganister-grinders in England, whose annual mortality reaches as high as 179.8 per thousand. Fortunately, this mortal industry employs but few men. Oliver has also given a most interesting description of the curious effects of gold-mining on the Rand in South Africa, an occupation that has had results only less deadly than ganister-grinding.

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[6] Die Berufskrankheiten der Steinmetzen, etc., Berlin, 1892.

[7] Die Berufsgefahren der Steinarbeiter, Denkschrift an dem Bundesrat, 1901.

There are some exceedingly striking differences in the effects of different forms of mineral-dust. In a plant with which I am very familiar, the men stay for hours each day in an atmosphere so charged with dust from crushed ore that one can see only a few feet away; and yet, in over a decade, no marked bad results have appeared as a consequence. The difference is attributed by an able engineer who is familiar with the last-mentioned place, and who was also on the commission that investigated the miners' disease on the Rand, to differences in the physical characters and the solubility of the two forms of dust. It is doubtful whether there is not some other more peculiar explanation, however, for Oliver especially notes that certain of the miners in India, although they work with the same character of rock, escape the effects that are seen on the Rand.

LOCAL EFFECTS OF POISONS

It is also largely through our knowledge of occupations that we have learned of the curious way in which many poisons exert their effects on particular tissues, a point that is seen so strikingly in the fact that lead, in a large proportion of cases, picks out not only the nerves of the upper extremity, but a particular nerve in the forearm, in adults: while in children it more commonly attacks the nerves of the lower extremities. Arsenic, on the other hand, usually attacks most severely the nerves of the lower extremities; and while arsenic violently affects sensory nerves, lead scarcely does so at all. Methyl alcohol, in strange contrast to both these, shows a striking affinity for the optic nerve alone, a peculiarity that, curiously, is to a large extent shared by the newer organic preparations of arsenic, atoxyl and arsacetin. Facts like these have largely influenced our conceptions of toxemias, and help to point the way toward future precision in understanding and controlling toxemias.

There are a variety of other ways, also, in which important general conceptions have already been gained from occupations. A number of points of this kind that appear to me to be of great interest I have not seen emphasized. For instance, does it not greatly help to define our views of hysteria and neurasthenia (or of the condition that is now fashionably termed psychasthenia) to know that every conceivable symptom of these states occurs either in carbon bisulphid poisoning or in chronic mercury poisoning and that hysterical laughter and tears are common in chronic manganese poisoning. The symptoms usually disappear as the poisoning is relieved, and are, therefore, a direct effect of the poisoning. In chronic mercury poisoning there is in most cases absolutely no evidence of any organic disease that can be focalized, and the same is often true of carbon bisulphid poisoning. In the latter, however, there may be all forms of combinations of apparently functional disorder with the signs of organic disease, from the slightest to the most severe, and at times there remain permanent evidences of spinal lesion or persistent psychoses.

Such conditions properly make one suspect even more strongly than before that such states are *usually* due, not to mere psychic factors, but to some toxemias, and probably often to some special form of toxemia—when we consider that these neurotic symptoms are so frequent in certain known forms of poisoning and so closely dependent on them, while in other forms of poisoning they are actually uncommon. Surely the frequent toxic origin of such states is made very probable by Köster's experiments, in which he produced in rabbits, by exposing them to carbon bisulphid, glove-like areas of anesthesia; or, in other words, a characteristic hysterical stigma. This makes one feel even more strongly inclined to check the unbridled advance of pure psychotherapy in this country, especially when it is employed by non-medical persons.

On the other hand, we have likewise striking evidence that such neurotic states may at times follow on purely nervous and chiefly psychic influences—evidence provided by the studies of telephone-operators, for example, whose work is so full of strain that Wernicke[9] stated that every one of them who continues at work for several years becomes hysterical. This is probably an extreme view, but nevertheless Schuster,[10] Tommasi, and others, who also have studied this question, agree that hysteria and neurasthenia are most unduly common among these persons.

INFLUENCE OF OCCUPATION ON POSTERITY

In the half-medical and half-economic question of the influence of occupations on future generations, there are scarcely any more impressive points than those found in the fact that the mortality among the infants of mercury-workers is much higher than even the distressingly high figures given by the French and many other foundling asylums; and Constantin Paul's and Lewin's[11] studies of mothers who were engaged in working with lead and its salts showed even more dreadful effects on their progeny. Among a group of the latter women that Paul studied there occurred 123 pregnancies, of which 64 terminated in miscarriage, 5 in still-born children and 4 infants died after premature birth, while of the infants that lived longer, 20 died in the first year of life, 8 in the second year, 7 in the third, 1 later, and only 14 were living at the time of the report. Such effects are, I am sure, due in part to direct placental poisoning of the fetus or at times to poisoning through the mother's milk after birth, for lead has repeatedly been found in the fetuses of these women, in the bodies of their infants that died soon after birth, and in the milk of the lead-poisoned mothers. It is however largely due also to the effects on the child produced by the general degradation of health that this poisoning causes. This fact and the much broader fact that the parent has a profound physical responsibility toward the child are wonderfully illuminated by the observation that seven women who were the wives of men working in lead, but who were themselves free from lead-poisoning, had in the course of 32 pregnancies 11 miscarriages and 1 still-birth, while 8 children died in the first year, 4 in the second year, 5 in the third, 1 later, and only 2 lived. In these instances there was essentially no possibility of lead-poisoning in the fetuses and infants, and the dreadful effects must have been due to the disturbed health of the father. There are possibilities suggested by this of valuable studies on heredity, and it clearly shows that we tend nowadays to swing too much to the side of environment in explaining disease. Such studies show also that we probably think too quickly of lues when we get a history of habitual abortion.

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[8] Quoted by Oliver, loc. cit.

[9] Monatschr. f. Psychiat. u. Neurol. Ergänzungsheft, xvii.

[10] Weyl's Handbuch der Arbeiterkrankheiten, 1908.

[11] Berl. klin. Wchnschr., 1904, p. 1074.

These latter points that I have mentioned as being illuminated by a study of occupations are semi-medical and semi-philosophical. There are many more of the same kind that are of very great interest, such as the direct influence of various occupations on the occurrence of alcoholism, sexual immorality, and other forms of depravity; the effect of employment on home conditions; the influence of the latter secondarily in producing depraved nutrition and its consequences, especially tuberculosis; and many other such questions. Besides these, however, there are numerous points that are open to investigation by the more precise methods of the laboratory, and particularly by animal experimentation; and in some instances such studies are perhaps capable of settling or greatly clarifying important questions.

Opportunities for valuable study of this sort have repeatedly gone begging until the matter was cleared up in other ways. For instance, there is no more important practical fact in controlling infectious diseases than that which has been borne in on us in overwhelming fashion by the studies of recent years—the commanding influence in the propagation of these diseases of more or less direct contact with the sick. Filth, important as it is in providing conditions favorable for the spread of infections, has taken a place of secondary importance in managing them, for contact can never be controlled, but only lessened, through controlling filth. The conviction that this was likely to be true and the stimulus to undertake the work that would prove it might have been gained much earlier than it was had thoughtful attention been given to studies such as those of Augustus Gay[12] on "nightmen" scavengers and dustmen, which showed that, while these men spent their lives chiefly in dealing with filth, they exhibited an unusually good average health; and the limits of the relation of dust and dirt to disease are made much clearer by the fact that Oliver[13] reached similar conclusions from his studies of the "dust-women" of London, whose occupation consists in rescuing petty trifles from dry refuse and sweepings. Our general position at the present day in regard to this whole matter of infections was long ago stated tersely and clearly in Gay's conclusion that "filth is rather the *nurse* than the *parent* of fever." Earlier appreciation of this would inevitably have led to earlier appreciation of the actual importance of contact.

Again, it is not improbable that at least one, and perhaps more, of the valuable observations of the Pawlow school and of those who have followed Pawlow might have been brought out years before they were had thoughtful attention been given to a very old method of preventing lead-poisoning, which probably has some virtue More than one hundred and twenty years ago Richardson[14] said: "In order to defend themselves from the bad effects of lead, all those that are in any manner exposed to its daily influence should eat some fat broth, or bread spread thickly with butter or lard, before they enter on their work." He also recommended salad-oil, likewise to be taken fasting. The latter measure is, I know, still used in some lead-works, and in some of them it is required of the men, with, it is claimed, good results. Not improbably it does good; at any rate had the suggestion that this point gives been followed up it might have been shown long ago, instead of only in recent years, that fats depress the secretion of gastric juice and have important dietetic use because of this fact, and it might likewise have been found as a corollary to this, long before Oliver, Bedson and Best actually pointed it out, that the hydrochloric acid of the gastric juice is the chief factor in getting the insoluble lead salts into solution, and thereby causing their absorption. It is an interesting fact, also, though not a very relevant one, that other observations than those mentioned indicate that the gastric hydrochloric acid is a dominant factor in leading to lead-poisoning. Carnivorous animals are much more subject to lead-poisoning than are herbivorous when living about lead-works, very probably because the former have a much higher percentage of hydrochloric acid than the latter.

RELATION OF OCCUPATION TO MALIGNANCY

There would appear to be an opportunity, also, to advance our knowledge of cancer in ways that might be very useful through studying occupations more accurately. There is sufficient evidence that chimney-sweeps and workers in tar pitch and paraffin get cancer from the substances with which they come in contact in their occupations to make it desirable to attempt more earnestly than has yet been done to determine what the nature of the peccant substances is—whether chemical or possibly micro-organismal—and the character of the cell proliferation that they produce in the earlier stages. There have been a series of studies of this matter, but not convincing ones. It appears to me to be not a question merely of chronic irritation of the skin in any of these conditions; for in a considerable variety of occupations severe skin irritation is common, as in bakers, and in a number of them (chrome-working especially) violent non-malignant skin lesions occur frequently, but in only a very few occupations do progressive proliferative changes in the skin appear to be set up. A similar tendency to cancer of the skin prevails among gardeners and agriculturalists, who have a very abnormally high incidence of this disease. There is evidence that this is not true of these occupations in certain regions, as in Erfurt (Loth: Weyl's Handbuch), but this may indicate the interesting possibility that the exciting cause is limited to certain localities.

Such are some of the suggestions regarding investigations of general significance that are to be obtained from a knowledge of occupational conditions. There are many other suggestions of interesting studies that relate to especial disorders themselves, rather than to general medical questions. An important instance of this is carbon monoxid poisoning. This is, in the first place, probably the most important form of suicidal poisoning at present; it is a somewhat frequent form of accidental poisoning from broken gas-mains or house-pipes, Dr. R. S. McCombs having seen over 500 such cases, he tells me, in a few years in his work with a large gas company. It is also an occasional cause of more or less serious danger to families from poor drafts in heating apparatuses. Beyond this, however, it is a somewhat common form of intoxication in men working in iron and other mills and furnaces, in miners, in those working in deep excavations, in those employed in the commercial use of electric furnaces (which are becoming of considerable industrial importance), and even in laboratories in which the electric furnace is used in investigations. The poisoning occurs, furthermore, in men in fire companies and a variety of other occupations, the most recent source of it being the exhaust of automobiles—chauffeurs and car owners whom I know having repeatedly been mildly overcome when running the engine of a motor-car in a small, closed garage for some time and serious cases having been reported in noteworthy number. It has even caused somewhat serious accidental poisoning of the occupants of a closed automobile in which there was a defect in the floor above the exhaust (Oliver). For a subject that has so much clinical interest, especially to those engaged in hospital practice, and one that relates to such a variety of occupations, the literature is in a curiously unsatisfactory state and is much in need of a systematic overhauling and improvement as regards sources of the poisoning and many points in the clinical history and treatment, and a determination of the importance or lack of importance and the clinical characteristics of chronic poisoning of this sort, from both accidental and occupational sources, is especially desirable.

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[13] Oliver: Dangerous Trades, etc., 1902.

[14] Chemical Principles of the Metallic Arts, with an Account of the Principal Diseases, etc., Birmingham, 1790.

There is no dearth of subjects to work on, and the problems vary from those that are very simple to those that are so complex that one can scarcely hope to add more than slight fragments of knowledge. We do not need to search for a subject to work on so much as we need to avoid the superficial methods of reaching conclusions that have been so common in this class of studies. Thackrah very properly said of Ramazzini,[15] who was the earliest writer on this subject, that he had too strong a disposition simply to investigate the conditions surrounding an occupation in a general way, to decide that certain results must occur, and then to describe these results as occurring—a tendency that Thackrah modestly says he has often detected in himself. It is a tendency that may be seen widespread in medical literature, and it has caused many erroneous statements to become traditional.

EMPHYSEMA IN GLASS-BLOWERS

For instance, the teaching that glass-blowers and those who play on wind instruments are very subject to emphysema is quite general; but the most recent studies of the musicians in the German military bands, and the studies by Prettin and Leibkind[16] of glass-blowers who had been at this occupation for at least ten years, are directly opposed to this. The latter showed that only five of 230 glass-blowers had emphysema, and it was probable that in all these cases it was due to other causes than the glass-blowing. These observations are concurred in by Schmidt and others. This, then, is apparently a tradition and not a fact. It is also possibly an illustration of the adaptability that tissues frequently exhibit to an extra tax, so long as they are not diseased, though it appears to me that careful observation of these persons shows that the strain comes very much more on the mouth cavity than on the lungs, and the mouth often showed marked results—hernia of cheeks and perhaps dilatation of Steno's duct.

INDUSTRIAL HYGIENE IN THE UNITED STATES

Just as a more precise study of individuals in relation to their occupation leads one to some actual investigation of occupations from a medical standpoint, so does it almost necessarily lead one to the third point of my remarks, namely, the taking of a sociologic as well as a medical interest in the matter. In conclusion, let me emphasize some reasons for more thorough studies of the hygiene of occupations in this country, in order that special provision may be made for the circumstances that exist here. When one considers all the attention that hygienists in nearly every other highly civilized country have given to the study and control of the ill effects of occupations, and when one merely reads over some of the many regulations that have been established abroad to improve conditions, it lowers one's pride to realize that in America the national government has made no noteworthy original studies of the question, and the only government contribution of importance is the recent report from the President's Homes Commission, written by Dr. Kober, in which, however, he was obliged to get his facts not from government investigations, but wholly from other sources. Of the states, Massachusetts is the only one that has conducted an investigation that deserves any special attention, and this was naturally limited in its scope. As to regulations, these are exceedingly few in number and inefficient, except as regards a few striking points such as the regulation, in a limited way, of the hours of work, the danger of accidents, etc. Indeed, in regard to most occupations as they exist in this country, we have no systematic information from either government sources or individuals that would be sufficient to base just and comprehensive laws on. In considering occupations from a legal standpoint, as in using this question in our medical practice, we are in almost all instances dependent chiefly on information that comes from European writings, and conditions are known to be in some instances very different in this country, and they are probably different in numerous instances.

A concrete illustration of this latter point is seen in connection with phosphorus-poisoning. This furnishes, also, a striking illustration of the fact that industries in this country are very frequently controlled by great corporations, while abroad they are still often found to a large extent in the form of small domestic industries. Matchmaking is, in Germany, still largely carried on in little home factories, and when the recent law making it illegal to use the poisonous white or yellow phosphorus was passed it was felt necessary to make this prohibition apply to the home industries, because many of the worst cases of poisoning came from these sources. It was, however, considered necessary at the same time to avoid killing off the little home factories, because of the numbers of people that were engaged in them. Hence a clause was introduced which exempted these little factories from the provisions of the patent on the methods of making safety matches. So different are the conditions in this country that at the present time almost the whole match-making industry is confined to one large corporation, and this concern has so thoroughly recognized the valuable effects of hygiene from both the humane and the economic standpoint and has established such effectual measures that phosphorus-necrosis has almost disappeared in their factories even in those who work with the poisonous forms of phosphorus, a result that at one time was considered impossible to achieve. The concentration of capital that is so remarkable a feature of the industries of this country has, therefore, in this, as well as in some other ways, made our conditions greatly superior to those in most other countries. In many instances, however, it makes them worse, for, if a corporation be rapacious, the larger it is the worse its evil effects. That the conditions are wonderfully good in individual corporations but astonishingly bad in others, and, further, that there is a sad lack of power to make them good when they are bad, is shown better perhaps than it could be shown by any native studies, through the dispassionate report of a foreigner, Dr. Gallard,[17] who was sent here by the French government to determine what the conditions are in this country as regards industrial hygiene. He speaks with enthusiastic admiration of the remarkable things that certain large concerns have done for their employees; but, on the other hand, he discusses with courteous but severe condemnation some other conditions, and he refers with considerable amazement to the *laissez-faire* attitude of the government and the general public. Especial condemnation is visited on one concern that makes a valuable safety device, but does not use it in the factory where it is made, although it is specially needed there!

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[15] De Morbis Artificium Diatriba, 1703.
[16] München med. Wchnschr., 1904.

There are various other things than those mentioned that make conditions in this country very different from those abroad. Indeed, there are certain occupations that are more or less important as causes of ill health abroad that practically do not exist here, at least in a form to cause the same sort of disease. There are, on the contrary, others that are of importance in this country, but are scarcely touched on in foreign writings.

The much greater use of machinery here than abroad, in replacing hand labor, is an element of much importance. I visited, for instance, a certain paint factory, in investigating some phases of occupational lead-poisoning, and found that only one man was at all seriously exposed to lead. Machinery, indeed, did so much of the work that fewer men were employed in the large factory than at the desks in the offices. In some instances, as in this, the effects of such modern machinery are extremely good. In others they are bad, because they throw an exceptional amount of physical or nervous strain on a few individuals, as, for example, in running some of the more complex textile machines, and any good physical effects of such improvements that may occur are, in this country, too often purely incidental to the commercial value of the changes in technic. The deliberate introduction of such measures because of their hygienic effects has been much more extensively practiced abroad than here. There is in Europe a very much more general requirement of efficient means of ventilating and cleaning working-places and of other important general measures; and also of many special ways of overcoming the particular evils of particular occupations. Power is very frequently given by law to see that these measures are carried out. Furthermore, the frequency with which they offer in several foreign countries such philanthropic measures as providing means for working mothers to nurse suckling infants is admirable, as is the frequency with which they demand less taxing work or entire rest for women in the latter part of pregnancy and in the puerperium.

When contrasted with foreign conditions, our nation seems in many ways to be generations behind numerous other civilized countries. I would have it understood, however, that I do not advocate as the dominant means of overcoming the evils that exist the enactment of special laws. Laws are essential, in order to control those who have neither altruism nor breadth of view; and that they may do great good is seen in the fact that in France they have long had careful regulations governing the manufacture of lead products, with the result that in Paris, one of the two chief centers of the lead industry in that country, the cases of industrial lead-poisoning admitted to hospitals a few years ago averaged only 13 per annum (Gautier), while in Klagenfurt, Austria, also a center of these industries, but in a country where they are essentially uncontrolled, the number of attacks of lead-poisoning in one factory averaged nearly 1½ per annum for each man employed. The justification for laws because of the loss that occurs to the state is seen in the fact that in the one city of Vienna, among the pottery-makers, painters, printers and typesetters, about 45,000 persons in all, and engaged in occupations that by no means head the list in the danger of poisoning that they entail, the annual loss of labor through lead-poisoning alone was over 43,000 working days.[18] In this country this would probably mean at least $100,000 of direct annual loss, besides the confusion and inefficiency lent to the work by constant changes of employees. When one considers that tuberculosis and other diseases that are secondary consequences of the poisoning that occurs in such occupations produce an even greater loss of labor and expense to the state, the economic effects of the evil conditions of occupation and the desirability from the standpoint of the commonwealth and nation that they be lessened become quite apparent.

As a very striking illustration of the influence of laws, I would mention that the English pottery workers showed per annum but 1.5 per cent. of lead poisoning, while the Viennese engaged in the same sort of work showed 34.1 per cent.—a difference that appears to be almost entirely due to the fact that there are no laws controlling this industry in Vienna, while the English laws, particularly in regard to the fritting of the glaze, are strict. Again, Gautier, as I stated, mentions that in Paris, one of the two main centers of the white-lead industry in France, the total number of cases per year of industrial lead-poisoning admitted to hospitals during two years was only 13, owing to their very careful regulation of these industries, while we have had in one hospital in Philadelphia, the Episcopal Hospital, each year many more than this number of cases from one such factory.

APATHY OF THE WORKER

But regulation is not the first, nor is it the only important step. This is especially true for this reason, if for no other: Laws or voluntary altruism may lead employers to make regulations and to provide special hygienic facilities, but the greatest difficulty in many instances is in getting the working people to take precautions intelligently. Even when any time consumed was paid for as if it were labor, I have known employees to object obstinately to regulations demanding bathing, for example; and those who have devoted much time to the study of occupational conditions frequently bewail such difficulties. Employees think the precautionary measures are too much trouble or require too much thought, or they often feel that any regulations interfere with the rights of a free American citizen, or they have other reasons. Very often they object simply because the regulations are new and are against their traditions. This attitude and the selfishness and apathy of some employers can best be overcome by finding out what the exact details of the process are, so far as they affect health, and then pointing out to both employers and employees how these difficulties can be overcome. Employers are very quick to see the economic value of hygienic measures if they can be convinced that they actually accomplish results, and especially if it is clear that they are in themselves ultimately accompanied by reduced expense. Suitable laws will come much more quickly and more certainly when there has been accumulated general knowledge of the conditions that actually exist in this country and of the things that are needed in correcting them. This must originate in very large part from physicians, for they alone have frequent occasion to see clearly what the effects are. It is because, with very little effort or expenditure of time, almost every one of us can not only increase the precision of his own clinical methods, but can also contribute to a growth of knowledge that will tend enormously to benefit human kind that it seemed suitable to digress, in this latter portion of my remarks, into matters that are quite as much sociologic as medical.

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[17] L'hygiène de l'ouvrier aux Etats-Unis, etc., Paris, 1905.

[18] Kaup: Gesundheitsgefährliche Industrien, etc., 1903, ed. by Bauer.

Original Articles

THE RESPONSIBILITY OF THE PHYSICIAN IN THE CAMPAIGN AGAINST TUBERCULOSIS *

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The subject of tuberculosis has been considered from great many points of view, but I do not think that he responsibility of the family physician has been ufficiently emphasized. The object of this paper is to ring existing conditions to the attention of this society and to make an appeal for the more faithful recognition of our very great responsibility in the campaign gainst tuberculosis.

The apathy, indifference, and often hostility, displayed by so many physicians is one of the greatest bstacles to the successful prosecution of the fight gainst the greatest enemy of the human race.

The public has a right to expect of us that we, indiidually and collectively, do everything possible to proect it; people are looking to us to devise means to rotect them in the home and the workshop; they expect s to instruct them, in our capacity of family physicians, n the means to be employed in its prevention.

The active work of the campaign has been conducted y a few earnest and sincere men, but it has not met the nterest and thorough cooperation of the great majority f general practitioners. Unless the profession as a nit support this movement its consummation will be ery materially delayed.

We have often failed to recognize the social aspects of e disease. We have not insisted on our patients giving p their work, in the early stages of the disease, before ey become incapacitated; we have not pointed out the und business principle of this course.

We have sent our patients to Colorado and California nd other health resorts, without sufficient inquiry into eir financial ability to meet the increased expenses in ose places; we have encouraged the hope, which few f them realize, that they may find gainful occupation ere; the cry has come to us from those places to keep ur patients at home, and we must heed it.

Have we realized the possibilities of home treatment?

good food and rest—are by no means universally prescribed, but they should be, just as much as quinin in malaria or mercury in syphilis, for they approach nearer to a specific than anything in the Pharmacopeia. It is wonderful what results they will produce in the home of the patient, many times under very unfavorable conditions. We do not allow a typhoid patient to get up until his temperature is normal; then why a tuberculous patient? No objection on the part of the relatives or friends should deter us from insisting on these essentials of treatment.

The responsibility of the physician embraces his obligation to his patient, to society and to the state.

RESPONSIBILITY TO THE PATIENT

As the family physician is generally the first to be consulted, he has the opportunity first presented to him for early diagnosis, and as the subsequent career of his patient, both of health and fortune, depends on the early recognition of the disease, he has a very great responsibility.

A few very important helps to diagnosis are:

1. Careful attention to early symptoms.
2. Thorough physical examination.
3. Examination of sputum.
4. Tuberculin tests.

1. *Careful Attention to Early Symptoms.*—Among these may be mentioned cough, afternoon fever and loss of weight.

Cough is generally the symptom that prompts the patient to seek advice. It may not be constant, but may occur only in the early morning, on rising, or at night. When it occurs in a person previously healthy it should be looked on with suspicion. This symptom should be more seriously considered than it habitually is by a great many men, especially when accompanied by a slight elevation of temperature.

Afternoon fever will not be detected in the early stage, unless it is looked for; therefore the necessity for the use of the clinical thermometer. This simple procedure is frequently neglected. If a slight elevation of temperature is found or suspected it is the proper thing to give the patient a thermometer, with instructions in its use, and have him take his temperature every four hours during the day and keep a record. The great majority of patients will be thoroughly capable and willing to do so, and it will be a great help to diagnosis.

Loss of weight is a very important symptom. The patient should be weighed by the physician himself, so that it is important that the latter have scales in his office. This symptom, associated with cough and afternoon fever, will add another very important link in the evidence.

There are many other important symptoms, which I have not time to consider in detail, such as spitting blood, malaise, fatigue after the usual work, loss of appetite, etc. They should each be carefully considered.

2. *Thorough Physical Examination.*—This cannot be too strongly insisted on. Many early cases are overlooked because the doctor does not remove the patient's shirt. It is absolutely impossible to detect the early physical signs without a careful and thorough examination, which may have to be several times repeated, before definite lesions can be detected.

The physical examination is the most important of all procedures. Although by itself it may leave us in doubt, through physical examination, in association with the symptoms mentioned above, we may be able to arrive

3. *Examination of Sputum.*—Although tubercle bacilli are not found until there has been some destruction of lung tissue, they will often be found very early in the disease, even when the symptoms are slight. When they are found we shall be able to give positive proof of the existence of the disease. They should therefore be sought; still, this simple procedure is neglected by a great many physicians. The city provides a laboratory where the examination is made, yet the number of physicians who availed themselves of this privilege last year was but 393 out of a total of about 1,300 in the city of Baltimore. Allowance must be made for those who do not see tuberculous cases, for those engaged in specialties and for those who have sputum examined elsewhere; still I think it may be safely estimated that 50 per cent. of practitioners do not avail themselves of this privilege. But 1,932 examinations were made in this laboratory in the past year.

Another proof to be kept in mind is that failure to find tubercle bacilli in the sputum does not exclude the possibility of the disease, as they may be absent from the sputum, or they may not be found microscopically. Repeated examinations may be necessary. Their demonstration is positive proof of the existence of tuberculosis, but we should not exclude it when they have not been found.

4. *Tuberculin Diagnosis.*—The diagnosis of tuberculosis by the use of tuberculin is now within the reach of the general practitioner. He may employ the ophthalmic or the skin test, or may use tuberculin subcutaneously. There is no reason why these valuable tests should not be generally adopted, the only precaution necessary being the proper attention to dosage.

It is only by careful attention to all these points that an early diagnosis is possible, one being corroborative of the other.

Another important measure which should be more generally employed is the examination of persons who have been exposed to the disease, either in their own homes or elsewhere. I have on many occasions discovered early cases by this means.

Tell the Patient the Truth.—After we have made a definite diagnosis, it is our duty to tell the patient the whole truth. It will not be so great a shock to him, if we are able to say that the disease is in its early stages, and that proper treatment, adopted at once, will restore him to health, as to wait until the disease has advanced, when he discovers the truth himself, or is told by another physician, and when we cannot honestly give him a favorable prognosis. There is no justifiable excuse for secrecy; the theory that it does the patient harm to know the truth has not been the experience of those who are working in dispensaries and sanitariums. It is impossible to institute proper treatment unless the patient understands the objects to be obtained; consequently those who hide the truth are not giving their patients the full benefit of their knowledge. A patient will not take the proper measures to protect those around him, unless he knows that he has a contagious disease, which he can communicate to them.

A great many doctors consider it poor business policy to tell the patients, as they may lose the patronage of the latter. In this they make a great error, as they will surely lose the patients' confidence and respect; when the truth comes to the patients they are very likely to say that the doctor did not know, or that he deceived them.

It is not sufficient to tell the patient that his lungs are weak, or that he has catarrh of the lung, or that he has a deep-seated cold, which will clear up when war weather comes, or a great many other indefinite o meaningless terms, which many men do, but they should be told in terms which they understand; the disease should be called consumption. As I said before, i does no harm, and the doctor is saved from subsequen humiliation or abuse.

That the patient is not told the truth is the observation of everyone who has attended many advanced cases It is a disgrace to the profession when a patient, writin to the public press of his individual experience, relate that he consulted four or five doctors, among them personal friend, and also visited a dispensary in ou city, that none of them told him the truth, and that i consequence he was allowed to subject his family to infection for a considerable length of time, when he shoul have taken measures to protect them, and should himsel have been under proper treatment.

The time is not far distant when the doctor will b held legally responsible when he neglects the prope measures for diagnosis, or hides the truth afterward. do not think it would be difficult to convince a jury o the doctor's responsibility and liability, if he failed t examine the sputum, when it could be shown that tha was all that was necessary for a diagnosis.

Another practice that has been carried on by some i to deny to the patient the existence of tuberculosis when the latter has been informed, either at the dispensary or by a conscientious physician, the result bein that all prophylactic measures were discontinued, th patient given false hope, and the influence of the dispensary decidedly diminished in the neighborhood Such a case has recently come under my personal obse vation. Such a practice cannot be too severely censured

RESPONSIBILITY TO SOCIETY

The further the obligations are removed from the individual the fewer the number of those who appreciat them; consequently a larger number fail in their obligation to society. One of the principal reasons for thi is that the individual must often sacrifice his inclinatio for the good of society. The old Mosaic law which required the leper to cry out "unclean" at the approac of anyone may seem a hardship, but it was the mean of preventing the spread among the Jewish nation of very loathsome disease. We are unwilling to subjec our patients to partial or complete isolation, wherea this must become the most effective means in preventin the spread of the disease. We must discourage marriag among consumptives, unless the disease has been arrested for a considerable time. We must prevent tuberculous mother from nursing her babe, not onl because of the ill effects on the mother, but because o the very great danger of infecting the child. We mus protect the laundress who washes infected clothing an the woman who cleans the rooms. We should protec the family whose cook has tuberculosis. All these an many other obligations belong to the physician an should be assumed by him.

RESPONSIBILITY TO THE STATE

This requires that the physician fulfil the requirements imposed on him by law. Has he done so? Th advantages of registration no longer admit of discussion, and this has been enacted into law. It is therefor the duty of the physician to register his cases as soo as he makes a diagnosis. I cannot see what possibl objection he can have to doing so, yet of over 2,20 physicians in this state, only 595 reported one or mo cases to the State Board of Health; most of these r ported one each, and not more. It may be only fair to state that probably 25 per cent. of the physicians are not in active practice, or may not have tuberculous cases under their care. Assuming that there are 1,600 physicians in active practice in this state (Maryland), who see cases of tuberculosis, but 595 or about 37.5 per cent. are fulfilling the requirements of the law.

These 595 physicians reported 1,483 cases to the State Board of Health, while seventeen dispensaries and hospitals reported 1,130 cases and the tuberculosis nurses reported 870 cases. The Phipps Dispensary alone reported 33 per cent. of all the cases.

Although I have been unable to obtain the exact figures, I think that I am conservative when I state that 90 per cent. of all cases reported to the State Board of Health are in the second or third stage of the disease, and not more than 10 per cent. of early cases. This would indicate that the diagnosis is not made early, or else that the cases are not reported early.

Some men allow their cases to be reported by the dispensary or the nurse, because they do not care to take the time to fill out the very excellent form of instruction required by the state board of health, for which the state allows a fee of $1.50, and which is no more voluminous than that required by every fraternal or beneficial society, and for which he receives a fee of $1.

I wish to make a plea for a more general observance of this requirement. There should also be a more general observance of the law requiring rooms occupied by consumptives to be fumigated when they are vacated either by death or removal. No objection by householder or landlord should deter us from this obligation.

There are several reasons why these conditions exist: (1) incompetency; (2) carelessness; (3) economic considerations. There is no justification for any of these.

1. *Incompetency.*—There are abundant opportunities for every practitioner to acquire sufficient skill in physical diagnosis, if he will avail himself of them; but he need not be a skilled diagnostician; if he will faithfully watch the symptoms mentioned above he will generally be able to make a probable diagnosis. If he be in doubt, consultation is always available.

2. *Carelessness.*—This is thoroughly inexcusable, but may be in a great measure overcome by the adoption of a definite plan of examination, which should be recorded. Such a procedure will require very little time, when once adopted as a habit.

3. *Economic Considerations.*—These are rather more difficult to combat, the enormous increase in the number of practitioners, the multiplication of dispensaries and hospitals, the increased cost of living, the reduction of fees, and many other considerations—all combine to make the practice of medicine less remunerative than formerly, and thus increase the temptation for irregular and unprofessional practice, but, as I have tried to show, even from this standpoint it is a short-sighted policy, that will react to the disadvantage of the one pursuing it.

In conclusion I will appeal to all members of the profession to uphold their traditions for honesty and unselfish devotion to the interest of their patients. I appeal to them to recognize the fact that they are the most important factor in this great campaign, which has just fairly begun, but which gives promise of developing into one of the most popular movements that has ever existed. I appeal to them to recognize their obligations before they are compelled to do so by popular demand.

102 East Twenty-fifth Street.

THE TREATMENT OF CANCER OF THE UTERUS WHEN TOO FAR ADVANCED FOR CURE BY EXTIRPATION OF THE UTERUS *

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Although my primary purpose is to speak of the treatment of inoperable cancer of the uterus, a few words regarding the general subject of uterine cancer may not be out of place.

Most important in this connection, it seems to me, would be the formulation of some plan whereby the number of women hopelessly so afflicted may be lessened. This can be accomplished only by teaching women that there is no one symptom peculiar to cancer alone. While it is true that the disease is more likely to occur about the climacteric period, yet no period of life is exempt from it. Its approach is so insidious that, when symptoms of an alarming nature manifest themselves, the disease is usually so far advanced that it comes under the head of "inoperable cancer." Women must be taught to apply to their physicians on the first manifestation of a pelvic symptom at variance, even though very slightly, with their normal condition; in particular a variation of the menstrual function, including a leucorrheal discharge, and especially if their age be past 40 years; though, let me reiterate, they must be made to realize that no age is exempt from uterine cancer.

In Germany women have been taught by Duehrssen and Winter, especially by the latter, the necessity of early consultation with their physician, when any abnormal symptom presents itself. The teaching by Winter has been through the lay press, with the result that already in many parts of Germany there is a decreased percentage of "inoperable cancer" patients. Physicians, too, have learned the necessity of carefully examining every patient that applies to them with such symptoms, and the wisdom of expert consultation whenever there is question as to the diagnosis. The American conception of what is ethical is somewhat at variance with that of Germany; yet similar methods must be adopted here if we are to gain early practical results. It is for such men as those composing this Section to determine on the best means of diffusing information among women without violating the standard of ethics, and I would earnestly suggest that a committee be appointed to consider this important matter and report its conclusions, with a view to letting the main body of the Association take such action as may be most useful to womankind, and at the same time strictly ethical.

I am convinced that only by such means can we hope to lessen the mortality from cancer of the uterus, and that the early recognition of the disease, followed by prompt proper intervention—not the very extensive abdominal operations now practiced by many, particularly in Germany—will prove an important agency in decreasing the death rate from this malady.

Since the revival of the abdominal route for the extirpation of cancerous uteri, and the employment of the modified paravaginal section for extirpation by the vaginal route, the number of patients left to die of the disease without any surgical attempt at cure has been lessened. Nevertheless there is a large number of women for whom nothing can be done, save palliative treatment

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

It is unfortunate that women with inoperable uterine cancer should be undesirable patients at most hospitals, for proper hospital care is fully as necessary to these unfortunates as to those still in a condition permitting of an attempt at radical removal of the disease by surgical intervention. It is, indeed, pitiful to see how little is done to mitigate the misery of these sufferers; how frequently every shadow of hope is taken from them by some unfeeling person—very often the physician—who does not withhold the truth as to their condition.

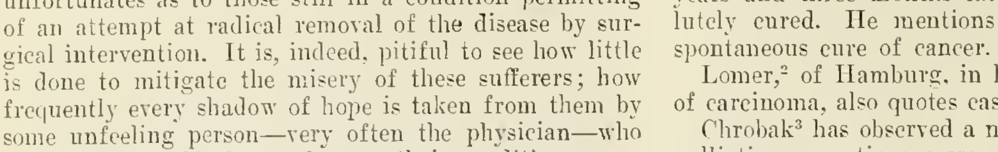

Fig. 1.—Heavy curette or "cancer spoon" for scraping a carcinomatous uterus.

The palliative treatment of cancer becomes especially important when we recall that, by preventing the nutrition of the cancer cells, we cause them to undergo retrograde metamorphosis and thus destroy their activity. We know from the experience of the late John Byrne and many others, myself among them, that even in carcinomatous uteri of long standing the further progress of the disease may be checked by proper heat application. It has been asserted by some, particularly by Byrne, that cures even have been brought about by such means, the cancer cell having very little power of resistance against heat. The late Lawson Tait asserted that he had seen some spontaneous cures of cancer. I myself saw such an instance: a pathologist of international repute had made the positive diagnosis of cancer, and so far as the macroscopic appearance of the tumor went, his opinion seemed correct. When a few years later the woman died of some ailment of a different nature, the postmortem failed to show evidence of the tumor found by me at the time of making the abdominal section. The carcinomatous structure had disappeared. This observation, personally made, would have a tendency to verify the statement of Lawton Tait, that an exploratory abdominal section, in some instances, suffices to bring about a cure of intra-abdominal cancer. In addition to the case verified by the report of a prominent pathologist, I saw another tumor, which, from its macroscopic appearance and from the clinical course of the patient prior to the doing of the abdominal section, was likewise an inoperable cancer. Not only I, but Drs. John Wyeth and Sims, who were present at the time the exploration was made, thought that the tumor, for the purposed extirpation of which the exploration was made, was a carcinoma. The abdomen was closed. and then, for more than ten years, I observed the woman. The tumor gradually disappeared, and three years later not a vestige of it could be felt. Moreover, the woman, who was emaciated at the time of operation, became robust, the picture of health, without further treatment. The family had been told, after the exploratory operation, that the patient would probably die within a year from the cancer which, even before the abdomen was opened, was thought to be present. Inasmuch as no histologic report from an excised piece of the neoplasm was obtained in this instance the clinical diagnosis lacks confirmation by the microscope. There can be no question, however, that the system, under some circumstances, checks the proliferation of cancer cells and occasionally succeeds in destroying their life

Czerny[1] reports an instance of "inoperable" cance of the vaginal part of the cervix, for which a palliativ operation was done. Re-examination of the patient, fiv years and three months later, showed her to be abso lutely cured. He mentions several other instances o spontaneous cure of cancer.

Lomer,[2] of Hamburg, in his article on the curabilit of carcinoma, also quotes cases of similar cure.

Chrobak[3] has observed a number of patients on whor palliative operations were done, with entire recover following.

It seems certain that small cancer remnants left i the body are sometimes taken care of by the system What the conditions are in such instances no one ha yet determined. An example illustrating this was th case of an incipient cance of the tongue, for which operated in associatio with the late William T Bull in 1888, when I wa still doing general surger The clinical diagnosis wa verified by the microscope, and it seemed later from th macroscopic appearance of the tongue, and also from microscopic examination from the edges of the specime removed, that a small remnant was left behind; yet th patient eventually made a good recovery, and five yea later was living without evidence of the disease.

Clinical experience has shown beyond doubt tha palliative treatment may benefit cancer patients b directly destroying the cancer cells with the agent use and perhaps by forming a protection against the cance proliferation.

As to palliative treatment by surgical means, the di ease in some instances has advanced too far even t allow such a course to be considered, because its appl cation might—yes, in all probability would—leave th patient in a worse condition than before the interve tion. We know that in young persons especially t neoplasms grow rapidly, so that the nutrition of t tumor does not keep pace with its rapid growth. T result is that the central part of the tumor breaks do because of the sparsity of blood vessels there. Hen the destruction may have proceeded so far as to make hazardous for us to use proper energetic surgical mea to correct the symptoms caused by the breaking do of the new growth, because of the danger of injury the bladder or the rectum.

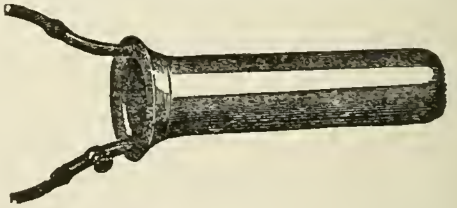

Fig. 2.—Metal speculum with double hull, for use in cauterizing the uterus.

Some surgeons have gone so far as to assert that refusal to do a radical operation for cancer of the uter is justifiable only after an exploratory abdominal s tion has shown it to be impossible, except in those ca in which it is obvious that the bladder or the rectum already affected. I confess that I consider this going too far, for, while we may still be able to complete the operation, I can not conceive what the patient is to gain, even if she does recover primarily. I look on an operation simply as a surgical possibility when uterine cancer has passed beyond the boundaries of the uterus to such an extent that palpation can readily show that it has done so. I prefer to resort to a palliative operation with a curette and a cautery under such circumstances, and I believe that the results are just as satisfactory as to the longevity of the patient, and far better as to immediate mortality; for the curette and cautery operation should cause no deaths directly, unless from the anesthetic.

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[1] Czerny: Unerwartete Krebsheilungen, Ztschr. f. Krebsfors v, 28.

[2] Lomer, R.: Zur Frage der Heilbarkeit des Carcinoms, Ztsc f. Geburtsh. u. Gynäk., 1903, l, 305-384.

[3] Chrobak, R.: Zur Behandlung des inoperablen Uteruska noms Wiener klin. Wchnschr., 1905, No. 38.

Before beginning the surgical intervention with a curette and a cautery, a careful examination is essential to determine, as nearly as possible, to what extent the neoplasm has progressed. For this purpose a cystoscopic examination of the bladder is important. If the mucosa be found very edematous, or other evidence of inflammation be present, it is obvious that the neoplasm is approaching the bladder, and one must then be very careful in one's subsequent work. If the vagina be extensively infiltrated by the cancerous growth, it is inadvisable to do anything with the curette and the cautery.

I have had a specially heavy curette constructed for doing the scraping as expeditiously as possible. I have named it the "cancer spoon" to distinguish it from the smaller forms of spoons and curettes generally in use. Such a large instrument has an additional advantage: one is not so likely to perforate into the peritoneal cavity as with the ordinary small curette. All readily breaking-down structure is rapidly excavated with the spoon. The bleeding is stopped with an extra large dome-point electrode of a galvanocautery, so that it can be done more rapidly. To avoid burning the vulva and the vagina, I devised a speculum a few years ago which is constructed of metal and has a double hull, cooled by a continuous flow of cold water through the dividing space. In shape it is like the old style Ferguson speculum. The burning or charring is done very thoroughly, so as to leave practically only an outer shell of the uterus. The operation must be controlled by frequent examinations with the finger, lest we perforate the uterus and injure other structures. This has happened with me but once when using the cautery, though it occurred several times while doing the excavating with the style of spoons and curettes generally used. On these occasions I immediately ceased the operation, and no harm resulted. With the large spoon now used by me I have never broken through the uterus. It is well, now and then, to cool off the cavity which is being charred. This is easily done by putting ice shavings, or very small pieces of cracked ice, through the speculum, leaving them for a few minutes and then drying the surface before again applying the heat. Before the cooling speculum was devised I used vaginal retractors, wrapped with gauze wrung out in ice-water; yet this did not prevent occasional burns. With the cooling speculum, burns are entirely obviated.

After the eschar has been thrown off, it is best to use strong tincture of iodin in the cavity once every second day until the cavity has contracted. Or, judging from Gellhorn's experience with acetone, that remedy might be used with even greater benefit to the patient following the casting off of the eschar. Once I saw a fatal secondary result from the treatment. After the eschar was thrown off, a branch of the uterine artery began to bleed. I was called to see the woman in the middle of the night. The artery could be seen spurting. The cavity was tightly tamponed, but this did not stop the bleeding. By the time I saw the woman again, after returning home and preparing myself more energetically to control the hemorrhage, she had lost so much blood that she died of acute anemia. While it is asserted that patients have been cured by such treatment, I can not verify such results among patients observed by myself. I have seen, however, a number of patients whose lives were prolonged three years and more, and who were made comfortable for that period. It has been my custom to repeat the cauterization whenever necessary; i. e., when even a little bleeding showed itself, or if there was evidence of softening of the diseased uterine structure. I have recauterized some patients six times, and oftener, during three or four years.

A Paquelin cautery, a galvanocautery put in operation by a battery, or the old style "hot iron," are not so serviceable for this work as is the heating of the electrodes by the direct, or by the alternating current supplied for lighting purposes. I know of no method of treatment that will control the two symptoms, bleeding and offensive discharge, so satisfactorily as that of excavation and cautery.

The late Marion Sims used strong chlorid of zinc solution for this purpose. The objection to this procedure is that one can not know in advance how deep the destructive process of concentrated solutions of chlorid of zinc may go. In one instance that I have observed it went to such depth that the slough caused both a vesicovaginal fistula and a fecal fistula. It has been asserted that deep destructive action can be avoided by not allowing the tampon which is impregnated with the solution to remain for more than a day, or even for so long. I have found it very difficult to remove such a tampon until it has become loosened by the chlorid of zinc slough being ready to be cast off spontaneously. Indeed, I have found it impossible without causing so much traumatism to the underlying tissue that profuse bleeding must result. More important, however, is the question: If the full action of the medicament is not taken advantage of, why use it at all? Furthermore, despite the precautions that one may take by employing bicarbonate of soda, according to the directions laid down by Sims, I have never seen an instance in which the cauterizing effects of the zinc did not occur on parts other than those for which it was intended, and particularly in the vagina.

Carbid of calcium was also used on a number of patients many years ago, but, like other agents of supposed curative value, it proved a complete failure in my hands. Moreover, its caustic action is fully as intense on parts where it is not desired as is that of strong chlorid of zinc solution; and I know of no way to prevent this.

Several years ago, when the treatment of inoperable cancer with pyoktanin became known, through the late Mosetig-Moorhof, I used this remedy very extensively, and believed that, in some cases, I observed good results. A continuance of the observations made, however, proved my conclusions fallacious. Undoubtedly now and then a patient is benefited by the injections into the tumor, so far as the local condition is concerned, but the improvement is not permanent. This applies also to the injections with absolute alcohol, for which, for a short time, extravagant claims were made.

Some surgeons assert that the chemical destruction of the new growth is far superior to the destruction by means of a curette and cautery. I have made painstaking studies on this point, and am of the opinion that, if a patient is still in a condition for the application of such direct surgical methods as the curette and cautery operation, they afford the best palliative means at our disposal.

After cauterization has been completed, nothing further is necessary until the eschar begins to slough and excretions from the wound begin. Then the treatment with tincture of iodin, or with acetone, as advocated by Dr. Gellhorn, should be begun. After applying the iodin, it is best to put a tampon of absorbent cotton or sterile gauze into the cavity, so as to get it dry after treatment. The use of vaginal douches, so frequently employed to overcome discharge and to keep the patient clean, should be prohibited.

Gellhorn, of St. Louis, has published an article[4] which seems to be of value. He utilized the laboratory observations of the effect of acetone in a practical way on cancer of the uterus. He claims for it that it hardens the tissues. His method is as follows:

The new growth should be excavated as thoroughly as possible, and then the acetone applied through a Ferguson speculum. The pelvis should be elevated and the solution poured into the speculum. Care should be taken not to allow the acetone to come in contact with the external genitals. The surplus of acetone, after the remedy has remained in contact with the raw surface for from fifteen to thirty minutes should be absorbed with cotton. The treatment should be repeated every two or three days. Gellhorn maintains that this invariably relieves the patients of the main symptoms.

An analysis of the results with trypsin treatment does not seem to me to make it desirable to give trypsin a prominent place.

Fulguration is one of the latest therapeutic agents employed in the treatment of cancer. Czerny[5] asserts that if all the carcinomatous structure can be made accessible to fulguration the cancer may be cured, because fulguration does destroy the cancer cells. The "dose" of fulguration may be administered with exactness, and the treatment by the method is elective. With the patient under the influence of narcosis, fulguration may be applied for an hour, then the exposed cancer area may be excavated, and the wound surface again fulgurated for from ten to fifteen minutes. Wonderful therapeutic results are claimed for the treatment, which was first described by Keating Hart, of Marseilles.

As with all new remedies, one is apt to become overenthusiastic; I have so often been compelled to recede from an expressed opinion that I now believe it safer to test a remedy thoroughly before endorsing it.

This much we may say from accumulated experience: If in young persons with cancer beginning in the cervical canal the disease has perceptibly progressed beyond the line of so-called operability, life is not long to be enjoyed, no matter which of the palliative forms of treatment at present known to us is employed.

It may be that in the future a valuable therapeutic agent will be found in the ferments, judging from the results obtained by the injection of placenta ferment: but at present it is too early to be sanguine. This is said because we have been disappointed in every in stance in which we were led to hope, from the claim made, that we had at last in our possession a remed that would cure cancer of the uterus. I call attentio only to a few of the more prominent ones: the Roentge rays, radium, trypsin, etc.

The work of Professor Bier[6] is exceedingly interes ing. Bier began his experiments—the injection of bloo of a different species into malignant tumors—and pul lished his investigations[7] in 1901. His object was t cause an artificial inflammation with an elevation c temperature and thus demonstrate that inflammatio and fever were associated, especially so far as concerne the chemical process. He selected defibrinated bloo from swine for his experiments, because hog's bloo causes, when injected into cancerous, or into sarcoma tous tumors, decided local and general manifestation When 10 to 20 c.c. of such blood are subcutaneousl injected, invariably, after the lapse of several hour an inflammation is caused at the point of injectio This attains its maximum degree of severity in fro one to three days. Then it gradually subsides. O repetition of the injection with such different blood th reaction is caused by a smaller quantity.

From lamb's blood, used by Bier in other diseases, much milder reaction resulted. Never having observe any permanent ill effects from such injections, he be lieves them the safest method of producing fever an local inflammation. While the defibrinated blood doe not contain leucocytes, these are supplied in abundanc by the body of the recipient of the blood. Such bloo does not seem to have any influence on normal tissue

The action of the blood on tumors varies. Almos invariably, in suppurating carcinomata, the secretion are diminished. On existing pain, caused by the tumo it does not seem to have marked influence. The growt of carcinomatous neoplasms is not noticeably infl enced. The experiments are still being continued.

Though we know that women with inoperable carc noma of the uterus have been kept alive for many year apparently entirely cured, we can not be absolutely cer tain that there are not within the body some remainin cancer cells with latent avidity. I believe the recu rences after five years and more that have been reporte from time to time may thus be explained. In other i stances, it is likely that the diagnosis of carcinom lacked verification under the microscope by a compete pathologist. To my personal knowledge, several suc patients have been reported as cured by palliative trea ment.

The pain that is caused by pressure of the tumor c nerves must be combated with narcotics. Of thes opium and its alkaloids are the only ones that gi entire satisfaction. A number of substitutes have bee proposed, with the assertion that they act equally w or even better; but none of them has stood the test. do not hesitate to confess that I am an advocate euthanasia in the case of such patients, if the giving relief from pain by the administration of remedies th we are sure will give such relief can be so called. O should begin with as small a dose of morphin as is su ficient to relieve a patient, and then not repeat oftener than necessary. The dose must be increas later, and the intervals of administration shortened. have had patients who required five grains of morph at intervals of from three to four hours in the last stages of the disease, if they were not more or less uremic.

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[4] Gellhorn, George: A New Mode of Treatment for Inoperable Cancer of the Uterus by Means of Acetone, THE JOURNAL A. M. A., 1907, xlviii, 1100.

[5] Czerny: Ueber die Blitzbehandlung der Krebse, München med. Wchnschr., Feb. 11, 1908.

[6] Bier, August: Beeinflussung bösartiger Geschwülste du Einspritzung von artfremden Blut, Deutsch. med. Wchnschr., 19 No. 29, 1161.

[7] München. med. Wchnschr., 1901, No. 15.

In summing up, allow me to repeat that we must formulate a plan whereby we can teach women, not singly here and there, but in the mass, and in an ethical way, the insidiousness of the onset of cancer of the uterus; the necessity of consulting a physician on the first manifestation of any abnormal pelvic symptom; and the fallacy of the view that cancer occurs only at the climacteric period.

Physicians must accept the responsibility of letting no question in diagnosis remain unanswered. If they can not themselves make a positive diagnosis, they should ask aid of those who can.

39 East Sixty-first Street.

THE PALLIATIVE TREATMENT OF CANCER OF THE UTERUS ESPECIALLY WITH THE THERMOCAUTERY *

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As a preliminary to this paper I wish to state, in the most unequivocal terms, that the palliative treatment herein recommended is not advocated as a substitute for the early extirpation of the diseased structures by appropriate surgical procedure, but that it is applicable to cases in which the time has passed for such treatment, and also in certain cases in which the consent of the patient can not be obtained for early hysterectomy, who will accept a cautery operation as an alternative; neither is it my purpose to inquire into the etiology of the disease or review the literature of the subject, but to study it chiefly from the clinical point of view, with the reference to the one topic of palliation.

The prophylaxis of smallpox by vaccination, the curability of diphtheria by antitoxin, the relief of epidemic cerebrospinal meningitis by Flexner's serum, and the cure of certain cases of septicemia by antistreptococcus serum, have marked epochs in medical progress. Just at present the professional mind is focused on the preventability and curability of tuberculosis, with results which must count for a lessened mortality and increase in average longevity, with a corresponding freedom from avoidable invalidism and suffering.

The advocates of preventive medicine are engaged, in no small measure, in the efforts to discover the cause and cure of cancer; but the cause has so far escaped observation; and it is painfully evident that early radical measures have about reached the limit of their curative efficiency. It must be apparent, however, to the scientific and humane practitioner that the palliative treatment of uterine cancer is not receiving that attention which the subject demands, and it is to this aspect of the problem to which I ask your considerate hearing.

In 1903 I presented a paper on this subject to the American Association of Obstetricians and Gynecologists, while on previous and subsequent occasions I have called the attention of the profession to the appropriate treatment of these most unfortunate and neglected patients, and in what I shall say on this occasion I shall quote freely from that paper.

I count myself fortunate in presenting this topic for your consideration to-day, not alone from the distinguished character of this representative body, but for the larger opportunity it affords of reaching so great a number of the medical profession, in the hope that these suggestions will stimulate a renewed effort for the relief of a large class of unfortunate sufferers.

What I have to say will treat more of cancer of the cervix than of cancer of the body of the uterus, though in principle it applies to both. The specific indications for treatment will depend on the local involvement and the extent of tissue destruction; the end to be attained is to get rid of all diseased structures possible. When the disease has passed beyond the cervix, involving the bladder, the broad ligaments, and adjacent structures, it may be advisable to limit the treatment to the superficial area of ulceration. The cautery or caustic applications which result in opening into the bladder or rectum or which involve the pelvic viscera are to be avoided. The important problem is usually the exercise of that judgment which decides the conservative limit of approach and that skill which renders such effort availing.

After long personal observation and experience, I am convinced that no palliative treatment is at once so simple and effective as the thermocautery; and one advantage it has over all other methods resides in the fact that it effectively closes the lymphatic vessels, as is noticed in thermocautery operations elsewhere, notably in operations for hemorrhoids.

A well-equipped galvanocautery plant for hospital work leaves nothing to be desired; and as between a portable galvanocautery apparatus and a Paquelin cautery for non-hospital cases circumstance will decide. Those who attempt the operation with one apparatus will not infrequently regret another had not been supplied. Whether the superiority of the thermocautery over caustics is due to the influence of heat on the diseased cells beyond the area of cell destruction is a matter of opinion, but, in view of the better clinical results of the former, the deduction suggested is altogether logical and probable. To meet the varying indications a variety of platinum knives and electrodes are necessary.

I desire to give special emphasis to the fact that it is quite exceptional for the patient to suffer pain after the use of the thermocautery, provided, however, the mucocutaneous surfaces are not seared or burned. This requires tact and experience. I have usually found it easy to protect the vaginal surfaces from the injurious heat of the cautery by the use of strips of asbestos paper of proper size and shape. Where large areas of ulceration are present the curette may first be used to advantage. This is likely to result in pretty active hemorrhage. This bleeding is usually easily controlled by the application of pledgets of cotton applied with pressure, first dipped in dilute acetic acid, usually of half strength, or by the use of the adrenalin chlorid. After this, the cautery knife is to be applied at a dull red heat until the surfaces are thoroughly charred. The after-dressing consists of 5 per cent. iodoform gauze, reapplied daily, after cleaning the parts with liquor cresolis compositus or permanganate solution douches. The use of peroxid of hydrogen is likely to provoke hemorrhage.

To Dr. John Byrne, of Brooklyn, recently deceased, the professions are indebted to an elaboration of the correct use of the galvanocautery. His method of operation in cancer of the cervix was to introduce, well up into

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

the cervical canal, an expanding double tenaculum forceps that when opened held so firmly that any practical degree of traction could be made. A circular fissure, close to the vaginal junction, was then made for the reception of a platinum wire loop. By continued traction while this wire was slowly eating its way through the structures the entire cervix was removed. His next step was to use a sharp curette within the whole area of the uterine cavity. This afforded sufficient space for the introduction of another electrode, having a larger cauterizing surface, going over this entire surface. The cavity was then sponged dry and a tampon soaked in acetic acid and tannin applied, and the parts made dry; after which a dome-shaped cautery instrument brought to a cherry-red heat was slowly applied to this whole area until the parts were completely charred and black. By proper application of this thermocautery nearly the entire uterine structure is destroyed, save a shell of tissue and the peritoneal covering.

It was by his skill and persistency that the efficacy of the galvanocautery was established on a solid basis. The skill in the use of the thermocautery was, first, in not going far beyond the area of involvement, and, second, in having the cautery knife hot enough to burn the structures and not hot enough to disintegrate them too rapidly. If the proper heat is not maintained, troublesome hemorrhage may follow. I have seen patients far advanced with cancer of the cervix and uterine body, showing signs of grave systemic infection, who lost their cachectic appearance after thermocautery operations.

The primary objection to the powerful escharotics like mineral acids, caustic potash, etc., is the difficulty, if not the impossibility, of gauging their corrosive action, the pain of which is often atrocious and far greater than that of the thermocautery.

Daily vaginal douches with permanganate of potassium or compound solution of cresol are the best antiseptics. In all manipulations of the parts subsequent to the operation the greatest gentleness should be observed. Generally the use of bivalve speculum should be avoided, as it is likely to impinge on this area. Usually the dressing is best accomplished by having the patient in the Sims position and by using a medium-sized or small Sims speculum. Mention should be made of the utility of oxid of zinc, carbolized, or iodoform gauze. The slough separates usually in from one to two weeks. Daily dressing must be faithfully applied every day until healing follows, or, should it not follow, its use must be continued to keep the parts as aseptic as possible. Where healing is imperfect, and unhealthy granulations reappear, they may be touched with carbolic acid or silver nitrate, pure or diluted as the case may indicate. As in granular surfaces, generally the recognized healing power of silver nitrate must not be forgotten.

In cases in which healing does not follow, or in which the disease returns, the acrid discharge is a prominent factor in the production of pain, and it goes without saying that local cleanliness and disinfection are constantly required.

In hopeless cases this local treatment is a *sine qua non* for the patient's comfort; and it is at this point in the history of many patients that the failure to give relief occurs. It is possible in some instances to train an intelligent nurse to do the dressing, but the skilled hand of the attending physician is most satisfactory. It takes time and patience, but the careful expenditure of both gives the largest degree of comfort and the pain is reduced to the minimum. Sometimes the patient experiences much relief from the local use of cocain, frequently repeated. Not infrequently rectal suppositorie containing two grains or more of codein and three o extract of hyoscyamus add materially to the relief o the pain. Later on morphin sulphate in increasing dose may be required to minimize suffering. If this is no well borne the deodorized tincture of opium may be substituted. Again I reiterate the necessity of constan cleansing of the parts, by skilled hands, as indispensabl to greatest relief from suffering.

I can not speak from the magnitude of experienc which Dr. Byrne presented in his paper to the American Gynecological Society several years ago, in whic he stated that he had never known a recurrence of th disease at the part from which it had been thus remove but that it had reappeared in the fundus, ovaries, o some adjacent structure. In this I have not been so fortunate, owing perhaps to technic less perfect than his By this method in the report referred to Dr. Byrn operated on 367 patients with cancer of the uterus, o whom at the end of five years 19 per cent. were stil alive. This is the most remarkable, as he operated i every case which presented itself, without a single primary mortality. Taking this fact into account, his statistics show most remarkable results, for probably th statistics of no other operator include the cases of sc called inoperable cancer.

The conjecture—well founded in regard to some late ones—that statistics are too often a medium for personal exploitation rather than a scientific record o actual events in support of their authors' declaration can not be entertained by those who knew Dr. Byrn personally, in regard to his statistics, which are open t no such suspicion or doubt, and are entitled to the confidence of the profession.

There is, it should be mentioned, no reason why i recurrent cases the thermocautery can not be repeatedl applied with benefit. It should be mentioned that a the time these several cases reported came under observation the disease was so far advanced as to leave n doubt of its malignancy.

I regret that want of time prevents more than passin notice of the utility of x-ray and radium treatment i uterine cancer. My use of either has not been sufficiently extensive to enable me to speak authoritatively as t their value. So far as my experience goes I regard th radium as far the more useful, in that granulating surfaces take on more healthful activity after its us than that which follows the use of the x-ray, and this i I believe, in keeping with the recent observations. A illustrative of the results of palliative treatment I report briefly the following cases:

Case 1.—The patient, a married woman, aged 43. entered th Skene Sanitarium, in March, 1901, with a cauliflower excre cence of the cervix as large as a man's fist. She had had numerous conceptions, all of which terminated in miscarriage; bu as these were intentionally procured there was a well-grounde suspicion that her disease was related to the incident traumatism. This growth was reflected on the vaginal wall anter posteriorly and laterally, which forbade a primary effort a hysterectomy. On March 14 I removed the growth by the ga vanocautery and amputated the cervix at the vaginal junctio The surfaces healed kindly, save a small area on the uterin stump about the size of a silver half-dollar. On May 21, fe lowing, the patient re-entered the sanitarium and I performe an abdominal hysterectomy. Prior to this operation she wa weak, anemic and in poor physical condition. Her convale cence was satisfactory. She was kept under monthly observa tion by her physician, and in May, 1902, a year later, the appeared at the seat of the vaginal cicatrix a nodular ma rather larger than a silver twenty-five-cent piece. At th time she entered the Memorial Hospital and I removed a bu tion of structure, opening from the vagina into the peritoneal cavity, the size of a silver half dollar. I examined her during the past year and she is in perfect health, with no sign of the return of the growth.

Case 2.—The patient, a married woman, aged 46. German, multipara, dated her trouble to a miscarriage seventeen years previously. She had a large, bleeding, ulcerating cauliflower excrescence of the cervix, extending to the vaginal walls, which nearly filled the vagina. The discharge was offensive and the patient's health was seriously impaired from the frequent hemorrhages, associated with marked cachexia. She entered the Memorial Hospital Sept. 23. 1902, and on the 25th I removed the entire growth by the thermocautery. In two months' time it had healed under daily dressings, save for a cup-shaped cavity three-quarters of an inch in diameter and one-half inch deep. The patient's general health was greatly improved. Owing to non-healing she had two more thermocautery operations in November, 1902, and June. 1903. In November, 1903, the disease having made some progress without materially affecting the patient's general health, Roentgen ray apparatus was installed in the home and on every second or third day for nearly three months treatment was given. This was followed by the use of radium and the ulcerative process was greatly retarded, and the patients general health fairly maintained with but slight pain, up to the time of her death, May 7, 1904. For several weeks previous to her death the normal anatomic relations between the vagina, bladder and rectum were altogether lost and the amount of gauze daily used to fill this cavity amounted to many yards. During the twenty-one months of attendance the patient was visited by myself or my assistants about 750 times. It is at once apparent that such attention is most exacting in its demands on the attendant, but it demonstrated the fact that almost entire freedom from pain was the result, and that it was worth all it cost.

Case 3.—The patient, a married woman, German, multipara, entered the Memorial Hospital in September, 1902, with carcinoma of the cervix. The typical symptoms of malignancy were in evidence. I did a high thermocautery operation, entering well up into the uterine cavity, which was unexpectedly followed by prompt healing. About four years ago the patient was in excellent health locally and generally; since that time I have lost track of her owing to the absence of her physician, Dr. Frederick A. Cook.

Case 4.—During March, 1896, a married woman, multipara, aged 42, came under my observation with typical cancer of the cervix, accompanied with extensive involvement. Hemorrhage was violent and the patient was cachectic. She was greatly exsanguinated and very weak. She entered St. John's Hospital in March, and I did a high galvanocautery amputation as soon as her health permitted. She made a slow but satisfactory recovery, as far as the healing and local symptoms were concerned, and after two or three months she was able to resume her family duties. In November of the same year she entered the Bushwick Hospital for extirpation of a large gland of Bartholin. At this time there was no sign of return of the cancerous growth. On June 16, 1897, she re-entered the Bushwick Hospital, being seven months pregnant. The disease had returned, springing up around the old stump. After watching its behavior, I feared, from the hardening and infiltration of the uterine and contiguous structures, labor might induce rupture of the uterus, and on July 18, at the eighth month of pregnancy, I removed the diseased growth, which encircled the uterine outlet, by the thermocautery. No shock followed and the patient was delivered of a healthy living child on August 6. Her convalescence from the confinement was satisfactory, as was the healing after the cautery. She enjoyed good health for nearly a year. Then the growth reappeared and she entered the Central Hospital, June 21, 1898, and I removed as far as possible the cancerous mass which had returned. She returned home August 25. The healing was not satisfactory and she died a few weeks later from cerebral embolism, which only anticipated the inevitable results of her condition.

In the cases reported, ultimate recovery from the disease was not expected, and no promise of cure was held out to the patients. Patients 1 and 3, after periods from four to eight years, according to accepted standards, were cured. Patients 2 and 4 were greatly benefited and their lives were prolonged for years with very little suffering—a result unattainable so far as I know by any other method of treatment.

In view of these results, I appeal to the members of this Association, and to the medical profession everywhere, not to allow these cases of so-called inoperable cancer to go on without an honest effort to afford relief by the means herein recommended; these efforts will, I am convinced, be appreciated alike by the sufferer and her friends, will give the physician the sense of obligation and duty discharged, and perchance save some life to happiness and usefulness.

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. BOLDT AND CHASE

Dr. G. Betton Massey, Philadelphia: I hope that within five years, as the undesirability of stimulating cancer tissue by traumatism is fully appreciated, we will see the end of cutting into the tissue itself, whether by the sharp curette or the knife. I protest against the curette in living cancer tissue as productive of regional and distant metastases. The tributes to the late Dr. Byrne in the papers on the thermocautery are pleasing and indicate progress in the right direction. While the thermocautery in cancer of the cervix represents improvement on previous procedures there are three practical objections to it: 1. The difficulty in avoiding accidental burning of the vagina. 2. The difficulty in maintaining a sufficiently high heat at the tip of the instrument. The loop must be heavy and the chances are that most of the heat is expended at the proximal end of the loop rather than at the tip, where the disease is most virulent, thus rendering the destruction of the actively-growing periphery uncertain. 3. The third objection is the horrible odor emanating from the slough during its separation, compared with the slight odor from sloughs produced by the electrosurgical use of zinc mercury ions. All these difficulties are avoided by the use of the electrochemical method, the technical details of which may be briefly stated as follows: With the patient in either the dorsal or Sims' position, and reclining on a large, moist kaolin pad, slender zinc needles of sufficient length and insulated to within 2 cm. of the tip are amalgamated and inserted in the diseased tissue and a current of 100 milliamperes turned on and maintained for thirty minutes. As the zinc-mercury points are connected with the positive pole the tips are dissolved and the two metals, in the form of ions, are driven into chemical combination, with the cancerous tissue, devitalizing and sterilizing it. The applications are repeated daily, being well-borne without anesthesia other than a possible dose of morphin, until a total current of 1,000 milliamperes has been employed for an hour, or the tissue seems free of the living growth, when they are intermitted for three or four weeks to permit the sloughs to separate. The best results are secured in the earliest cases, and in patients who are carefully watched for years afterwards and replaced under the method on the slightest evidence of abnormal conditions.

Dr. J. H. Carstens, Detroit: The only difference virtually between my treatment and that of Dr. Chase is that I do not, as a rule, use the galvanocautery, but use chlorid of zinc, which I think accomplishes identically the same results. I teach the general practitioner, especially the practitioner from the country, to watch these cases, examine them every two or three weeks, and on the appearance of a little raw spot and the recurrence of the growth, it may be only the size of a pea, to remove it immediately and put in a wad of cotton with a saturated solution of zinc chlorid so that it will be cauterized, and this should be repeated when necessary. Of course, the cancer that is inside and is not ulcerated does not produce the serious results that we get from the ulcerated condition. The physician curettes thoroughly, cleans and cauterizes, or uses the x-ray, and the woman thinks for six months that she is well. Then there will be recurrence. Last year at the meeting of the Michigan State Medical Society I read a paper urging that a circular be issued by the state board of health on what women in the "cancer age" should know about cancer. A few of the things suggested were that a woman who was flowing more than usual was in a suspicious condition; that a woman who had a discharge at that time was in need of examination; that a woman who had a discharge which became irritating ought to be thoroughly examined. The circular should be small, just about ten lines. It must be short, otherwise, women will not read it. The State Board of Health has agreed to issue such a circular. It will be furnished to all the county societies so that all the physicians can distribute them. I furthermore suggested that cancer be taken up in the same way as has tuberculosis; and that every year, on a certain day in the year, there be what may be called "cancer day," when the people shall talk about cancer, and the symptoms of cancer, and every paper in the state shall publish an article on cancer. In this way I believe women would be led to consult their physicians before the condition was past hope.

Dr. C. C. **Frederick**, Buffalo: I have had some experiences which have been very satisfactory and which lead me to emphasize the points brought out by Dr. Boldt and Dr. Chase in the effort to stimulate general practitioners to make an effort at palliative treatment in inoperable cases of cancer of the uterus, and with the idea of lengthening the days and of securing some comfort for these poor unfortunates. I believe that no cancer of the cervix which has gone beyond the limits of the body of the uterus ought to be subjected to attempts at radical removal because it is futile. But the use of the curette and the cautery does do a great deal for these patients and some of them are cured. The patients will get rid of the infection which occurs; their appetites will improve, the anemia disappear, and for a time they will think they are well, and then they will go down again. To prevent them going down so rapidly the curette and cautery should be used every two or three months. In other words, the patient should be watched and the treatment repeated. I have two patients whom I consider cured. In one, a woman with inoperable cancer of the cervix, the disease occurred twelve years ago. I opened the abdomen with the idea of removing the uterus, but found that there was involvement at the vesicoperitoneal fold, and as she had been bleeding a good deal I tied both uterine arteries and closed the abdomen. I scraped out the cervix and used a cautery. She recovered, and to my astonishment that woman is living to-day. There is a hard cicatricial mass present, but she says that she is absolutely well. I cauterized her only once. What the cautery did and the tying off of the arteries in conjunction with the cautery I do not know. I suppose there was a diminution of the blood supply preventing the further growth of the carcinoma. I have another patient, treated similarly, minus tying the uterine arteries, four years ago last September. I cauterized and curetted the woman four times in the course of the year. The cervix contracted and later I did a total hysterectomy and she is perfectly well to-day. I have four other patients in whom I have done the same thing. The process of constriction due to the cautery, the scar tissue contracting and inhibiting the growth of the cancer cells render it possible often times at a later time to take out the uterus and make a clean operation with the chance of recovery.

Dr. Henry O. **Marcy**, Boston: I have one criticism to make of Dr. Boldt's instrument; it does not give the hand room. Many years ago I found in curetting that in leaving a piece of cotton about the area and applying the thermocautery, steam was generated in a considerable degree and from that day on my colleagues and I have used a considerable amount of wet cotton packed above and below and we find that the steam thus generated penetrates the connective tissue deeper than the cautery itself and yet does not destroy the vitality of the structure. I believe that we can do a great deal in the palliative treatment of cancer.

Dr. John A. **McGlinn**, Philadelphia: I think the first part of Dr. Boldt's paper in reference to the necessity of early diagnosis is of special importance. If we fully realized just what this cancer problem means, probably we would be more alive to the necessity of waging an active campaign of education among the profession and laity for the early recognition of the disease. With our present knowledge our sole hope of combating the evil lies in its early recognition. That cancer is on the increase is beyond question. In the decade from 1890 to 1900 it showed, in the registration area, an increase of 12.1 per 100,000 population. Statistics show that it has increased in this area from 53 per 100,000 population in 1890 to 70.8 in 1906. Williams has shown that in England one woman out of eight past the age of 35 dies of cancer. In a recent paper I have shown that in the registration area one woman out of eleven at all ages dies of cancer and past the age of 35 one woman out of nine will die of the disease. The age of greatest frequency is between 50 and 54, when one man in fourteen and one woman in five die of cancer. In the registration area in 1906, had cancer been cured, there would have been a total saving of life of 373.574 years, or a tota saving of earning capacity of $224,144,400, enough to endow for all time laboratories and clinics of research which would eventually solve this most important problem of public health In many parts of Pennsylvania the cancer death rate now exceeds that of tuberculosis. I have shown that if the present increase of cancer death rate and decrease of tuberculosis be maintained the foul plague will displace the white plague as the great curse of mankind by the years 1931. Practically one-third of all deaths due to surgical conditions are caused by cancer. When we realize that the uterus is the site in 27.6 per cent. of all cases of cancer in women, as gynecologists, we know that there is a splendid field for our endeavors. If such measures as Dr. Carstens suggested were adopted much could be done to eradicate this evil. As teachers we should remember that the profession needs to be educated in the need of early diagnosis just as much as the public.

Dr. I. S. **Stone**, Washington, D. C.: I am not going to discuss the question in its broadest sense. Twenty-five years ago Dr. Bryne taught us the application of the cautery in the treatment of cancer of the uterus and Dr. Van de Walker how to use the chlorid of zinc for the same disease, and I believe we have learned very little since that time. Dr. Smith, of the United States Fish Commission, has recently told me of something which may at some time in the near future be announced from one of the laboratories of the United States making a study of cancer. In a certain lake there have been observed innumerable fish with cancer of the thyroid gland That at first thought seems a little thing, but there is an association of cause and effect right there which these men are undertaking to sift to the bottom by transplanting the disease into other fish. We have always had a hope that the proof would come of the parasitic nature of the disease. Of course, I know nothing about the project personally or experimentally, but I think that this little ray of hope is something which may give us encouragement and I want everyone to believe that we will yet be able not only to teach concerning the danger of cancer, but that we shall eventually find a cure.

Dr. Howard A. **Kelly**, Baltimore: There are only two or three ways by which we can get around this cancer problem One is by discovering the cause, and I hope we shall learn something from the work mentioned by Dr. Stone. Another method is by more radical operation. I feel that we have gone to the limit there. Another method is to get at the disease in an early stage. We ought to bend all our efforts to attacking the subject on that side. I would suggest circularizing the public and that we should not be too afraid of talking about these things in the public press. We talk a good dea about tuberculosis. This is a little more recondite, but whe we have an enemy to face we have to bring him out in th open. We are entirely too reticent about telling reporter what they want to know, and in this way disseminating th information which will guide the people. One more suggestio is that every woman who has borne a child should be examined at least once a year from her thirtieth to fiftieth year. I this were done we would find the cases which to-day are coming to us too late to be helped. I use curettage and cauterization in these cases, but have a little different method from th one in general use. Dr. Spencer Brown, of Montclair, N. J told me of the method of surrounding the parts with asbesto When you get deep into the disease, instead of continual burning the area, use the asbestos around one of the electrodes; do not touch the disease, but hold the cautery while it cooks the tissues. Hold it at one place for three, four or five minutes, and then move it to another point. You will find this a very satisfactory and effective way of using the cautery.

Dr. John Osborn Polak, Brooklyn: In cases which seem beyond the reach of radical surgical procedure, the disease may sometimes be completely extirpated by the cautery. By the use of Byrne's divulsing tenaculum the uterus may be drawn into a large, yet short, Ferguson speculum, and the entire body of the uterus burned out with the cautery, leaving only the peritoneal shell. I know several women who are living from six to ten years after this treatment, who were beyond the reach of radical operation at the time they presented themselves. To make this procedure successful, sufficient time must be taken carefully to char every surface, and to permit the slow radiation of heat. Great credit should be given to the memory of Dr. Byrne for all he did for cancer, and those of us who have lived within the radius of his work can testify to the high character of it.

Dr. Emil Novak, Baltimore: The question of educating the public in the crusade against cancer is one of the greatest importance. I think that in the life-history of cancer we can recognize several stages: (1) From the beginning of the cancer until the woman first observes symptoms; (2) from this period until she brings her symptoms to the attention of the physician; (3) the period between the time she calls the attention of the general practitioner to her symptoms to the time they are brought to the attention of the gynecologist; (4) from the latter period until the operation is performed. These stages are all of variable length, as we all know. Very few men will hold that the surgeon himself is often culpable in delaying operation on cancer. I think that all of us realize that the general practitioner is frequently to be blamed for tardiness in bringing the cancer patient to operation, and that the patient herself is even more frequently to be blamed for allowing her symptoms to go on until she is in a hopeless condition. The only aspect of this general problem on which I wish to speak is the rôle played by the ignorance of the patient and the point already made by Dr. Carstens and Dr. Kelly on the value of circularizing the public. I have had some little experience in trying to educate the public along medical lines, not only concerning cancer, but on general hygiene. In Maryland, we have an almost perfect system of public instruction in medical matters, carried on by means of public lectures, along the same lines followed out at the Harvard Medical School, also by a system of minor lectures to organizations of various kinds, and finally, in a rather novel way—by means of the newspapers. The two largest newspapers in the state have joined hands with us, and we issue a weekly "health bulletin" in which topics of interest to the public are discussed by authorities on these subjects. The articles are not signed, but are simply labeled as being issued under the auspices of the state medical organization. Week by week both newspapers publish identically the same articles, and they have done a great deal of good. Among other things, we have discussed cancer, and although we realize that the newspapers offer the best medium for reaching the public, we have also come to realize that we cannot do as much with the newspapers against cancer of the uterus as against other diseases. Newspapers which do not hesitate to publish advertisements of "female regulators," etc., assume a very bizarre modesty in discussing such subjects as cancer of the uterus in their reading matter. I think Dr. Kelly is right in saying that from the standpoint of cancer of the uterus we must for the present rely mostly on pamphlets. In this way we will educate the public and the public will educate the newspapers. We want to create first of all a good healthful public sentiment. People die of cancer because they do not realize the significance of the early symptoms. Ignorance is the fundamental obstacle in attacking the question of cancer, and we must save the people, not from their own folly, but from their own ignorance.

Dr. H. G. Wetherill, Denver: I want to call the attention of the Section to a little device which is very useful for other purposes and which Dr. Kelly's suggestion leads me to think might be applied to this particular use. The instrument is what is known as a "blender" in a pyrography outfit; a platinum point, such as is used in making burnt-wood pictures, having an opening in the end. A stream of hot air passes through the hole in the point and without touching the surface with the point the tissues may be cooked or cauterized to any desired degree. I see no reason why it should not work within the speculum as Dr. Kelly has suggested. We now know that primarily cancer is a local disease and that the successful treatment of cancer hinges on its early diagnosis. When we devise some means by which an early diagnosis may be made, then the results of the treatment of cancer may be improved. In the discussion on another paper the statement was made that there was no relation between fibroid tumors and carcinoma. We often find an association of fibroid tumors and carcinoma, but rarely find a true carcinoma originating in a uterine fibroid, and one sometimes sees uterine carcinoma which has not invaded an existing fibroid growth, but has skirted or circumscribed it. In some instances, however, fibroid tumors may cause carcinoma of the opposite wall of the uterus from pressure and irritation. We have that phase of fibroid tumors to think of in the consideration of this question.

Dr. H. J. Boldt, New York: The point has been this: All the talking that we do without some action is not going to be of benefit. I wish a committee might be appointed from this Section to formulate a set of resolutions in regard to the education of women concerning cancer. We will then get some results in the matter of early diagnosis. In the application of the galvanocautery a portable battery will not give a continuous heat sufficiently long, but if we have the direct or the alternating current, there is absolutely no trouble in getting enough heat. The prevention of burns has interested me very much. I have tried the different devices and find them all useless compared with the cooling speculum which I have shown. We may use any degree of heat and as long as desired without burning the vulva, or any part of the vagina on which we do not want the action of the heat. I have cauterized a large number of patients; furthermore, there is plenty of room to work through the speculum. The best form of treatment at the present time is enucleation with a sharp spoon, provided the disease has not advanced too far. Leopold has done considerable experimental work on animals, rats and mice; similar experimentation as is done in Buffalo. The important point is the early diagnosis. I hope some one will make a motion to the effect that the chairman appoint a committee from this Section to present resolutions to the main body, who shall communicate such resolutions to the public at large. The fact should be emphasized that cancer is not limited to any particular time of life. Women should be instructed to apply to their physicians at once on the first manifestation of any abnormal pelvic symptoms. Then if the physician does not feel himself competent, or if there is any question as to the diagnosis, he should endeavor to have some one help him in the case.

Dr. W. B. Chase, Brooklyn: I am entirely in accord with the sentiments expressed by Dr. Boldt and the others regarding prevention. Dr. Polak was mistaken in the fact that reference was not made to Dr. Byrne's thermocautery methods of treating cancer of the cervix. I believe that the pain of cauterization is far greater than the majority of physicians believe it to be. In fact, as I know, the pain is so great that it is very serious; whereas, the after influence of thermocautery is practically painless. If the cutaneous surfaces are not burnt the subsequent pain is practically *nil*. I congratulate the Section that evidences of cure of certain cases of carcinomatous disease of the uterus, even when the treatment is undertaken as palliative, are coming to our notice. It certainly ought to be encouraging to every one of us not to forsake a case simply because we believe it to be hopeless. We have struck the keynote of the whole situation when we ask that knowledge regarding early successful treatment be disseminated, not only among the profession, but among the laity, the sooner will the mortality diminish. While we are doing all we can to disseminate information, it behooves us as physicians and surgeons that we do not forget suffering womanhood, and that we continue as best we may to meet the indications for relief of these sufferers.

THE ANALGETIC EFFECT OF LOCAL APPLICATIONS OF SOLUTIONS OF MAGNESIUM SULPHATE AND OTHER SALTS

PRELIMINARY NOTE *

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In certain cases of cutaneous inflammation, arthritis, etc., in which I was led to make observations on the effects of external applications of magnesium sulphate, certain deep-seated pains independent of the particular affection of which a patient complained, apparently disappeared in sequence—I do not say in consequence, but in sequence—of the application. In order to test whether or not this was a psychic phenomenon, other applications were made—simple saline solution, distilled water, magnesium chlorid, sodium sulphate, etc.; and, while any moist dressing in these particular cases (I am not referring now to cases in general) seemed to diminish the pain somewhat, none of them had the same decided effect as the magnesium sulphate. The nearest in such power was sodium sulphate.

As to classes of cases: One was an aneurism. A man suffering from thoracic aneurism with projection of the chest wall had some slight cutaneous irritation over the mass—I have forgotten its cause. Application of magnesium sulphate solution was made. The relief to his deep pain was so great that he asked to have the dressing repeated after the irritation had subsided. This apparently was a psychic reaction; yet when the application was changed to sodium chlorid solution without the man's knowledge it failed to produce the same effect. But magnesium citrate likewise failed. The effect was not lasting and the application had to be repeated from time to time, and finally in this particular instance of aneurism it failed to have any further effect. Other cases in which this apparently reflex analgesia was observed were cases of gastric ulcer, gastric carcinoma, lymphatic leukemia, acute pericarditis, sciatica, headache of unknown origin, chronic pleurisy. In many instances it failed completely. To determine whether in any case there was any local anesthesia produced, tactile sense, pain sense, thermal sense, etc., were tested in normal persons, in the patients relieved by magnesium sulphate, and in the patients not relieved by it. In no instance was any effect of any kind on the cutaneous sensation detected, whether the examinations were made within ten minutes or after thirty minutes to an hour. I present this merely as a curiosity of observation. The measure may be useful at times when one does not care to give morphin in cases of deep-seated pains, acute or chronic.

The problem is complicated and the method of observation is inexact, so that I am not now prepared to say that there was a definite chemical or pharmacologic action of the magnesium sulphate in these cases. The matter seems, however, to be worth proving further.

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ABSTRACT OF DISCUSSION

DR. REID HUNT, Washington, D. C.: Dr. S. J. Meltzer, New York, did some experiments on animals in such a way that the psychic element could be completely eliminated. The remarkable results shown seem to be good reasons for believing that magnesium sulphate will relieve pain materially. Dr. Meltzer anesthetized a rabbit and while the animal was deeply anesthetized placed both ears in hot water for a very short time and then the right ear was treated with a strong solution of magnesium sulphate and the left ear with an isotonic solution of some other salt. Some little time afterward, the ear treated with magnesium sulphate was upright and seemed normal, the ear treated with salts of the same concentration was drooping and evidently not on the road to recovery. Later, the ear treated with magnesium sulphate was practically normal, only a few small ulcers being present; the other ear, treated with other salts had largely sloughed away. Dr. Meltzer suggested treating burns with magnesium sulphate. It has been used to some extent for burns of the first and second degree and has given much relief and evidently aided greatly in healing.

DR. THEODORE POTTER, Indianapolis: Do the members of this Section use the solution of magnesium sulphate in erysipelas? It is coming to be talked about recently and in some localities is rapidly supplanting the application of various other medicaments like ichthyol. We run from one thing to another and at present we run toward sulphate of magnesium. I have used it in a few cases of erysipelas, perhaps it has done as much good as cold water, which thus far seems to do as much good as anything. It appears that this drug will supplant other things rapidly, such as ichthyol, once widely used, and in which the profession has largely lost confidence.

DR. SOLOMON SOLIS COHEN, Philadelphia: I am, fortunately, or unfortunately, of that mental temperament which cannot always make an unqualified statement. I remember very well that my honored teacher of therapeutics used to be very positive concerning each particular drug that he was lecturing about, that it would "cure" many and various affections. All I am able to say of this or any drug is that it is useful under certain limitations. Magnesium sulphate, applied locally, in certain cases of erysipelas, is useful. But there are cases of intense, rapidly spreading and erysipelatous inflammation, with toxic systemic symptoms, in which I should be very reluctant to depend on the external application of Epsom salt as being all that medical science could do for the relief of the patient. In mild cases of strictly localized erysipelas, without much toxemia, a dressing of cold, saturated magnesium-sulphate solution, properly applied, seems to be about as useful as, and perhaps a little more useful than, anything else that I have used. It is not so dirty as ichthyol and seems to afford the patient a great deal of comfort. It relieves the burning especially. I don't know that it checks the spread of the local infection, but it does relieve, to a marked degree, the local distress. It may confidently be used for such purposes, but it should not be used for the things that it will not do. I may add that I sometimes say to my students, and I think it may be said to physicians, while an elephant cannot climb a tree, yet an elephant is a very useful animal for heavy draught purposes. So with our drugs. Magnesium sulphate in the case of erysipelas may climb a tree; but it is not to be depended on for heavy draught.

Physical Strain on Soldiers.—The British Army Annual for 1909 asserts that smartness of drill often causes unnecessary heart strain. "The position of attention is most injurious to the health of the soldier, and far too much of his time is passed in that attitude. The movements of respiration are seriously checked in the effort to keep the chest expanded. After a time the chest walls become more or less fixed in a position of expansion, and the range of expansion is permanently diminished. This condition greatly reduces the efficiency of the lungs, and thereby of the aeration of the blood, and is therefore a cause of disease and a lessened resistance to disease. 'A factor in causing heart strain in soldiers is excessive 'smartness' of the drill in certain regiments. Men are taught to move so promptly at the word of command that they anticipate orders with strained attention. This is harmful, and probably quite unnecessary." The annual urges that training should commence gradually and should never take place before breakfast or for too long a time. It is argued that it is not an advantage to train soldiers to be good acrobats or heavy weight lifters, and that training should be carried on with a constant view to avoid strain on the heart.

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THE CORRECTION OF DEPRESSED AND IRREGULAR DEFORMITIES OF THE NOSE BY MECHANICAL REPLACEMENT

WITH REPORT OF CASES TREATED BY THE AUTHOR'S COMBINED BRIDGE AND INTRANASAL SPLINT *

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A year ago I called attention to an apparatus designed for the purpose of bringing into proper position the several parts of a depressed nasal arch and holding them until union had occurred. Some months after my first presentation of this subject I learned of an apparatus used several years ago for the support of a depressed fracture of the nose by Dr. O. B. Douglas. Dr. Douglas' device consisted of a mask fitted over the nose and fastened around the head by a band; to this was attached a bar extending above the nose. Holes were bored in the nasal bones, and through these sutures were passed which were tied to this bar. This appliance differed from mine as much in its mechanics as it did in its technic of application, for it did not give the proper support to the base of the nasal triangle, an important feature of my instrument.

The chief object of this paper is to report the work done and the results obtained, and to suggest the further application of the apparatus to deformities other than those of depression.

My apology for using some illustrations that have appeared before is that they represent the fundamental principles on which the action of the instrument rests, and are necessary to make the text clear.

The bridge of the nose is a bony arch formed by the nasal bones and the nasal processes of the superior maxillæ. The extent to which the latter enter into its formation varies greatly in the skulls of different races and in those of the same race. In examining a large number of Caucasian skulls, I was much surprised to find that from one-half to three-fourths of the nasal elevation was due to the nasal processes of the superior maxillæ, and in some skulls the nasal bones formed only the crown of the arch. The extent to which these processes enter into the formation of the arch is a matter of considerable importance, as will be seen when we come to consider the restoration of a depressed bridge.

The nasal bones articulate with each other, the frontal bone, the superior maxillæ and the vertical plate of the ethmoid, while to the lower edges are attached the lateral cartilages. Traumatic deformities of the nose are due to dislocations at these connections and to fracture of the bones.

Any method of treatment for depressed deformity of the nasal bridge that ignores the mechanical principles of the arch does not rest on a scientific basis, and, therefore, can not produce uniform or satisfactory results. Each word in the definition of the arch carries with it practical significance to the surgeon. An arch is a structure built in a curved line in such a manner that it will retain its position when the structure is supported only at its two extremities. In making a practical application of this principle, we must assume that the arch is made up of an indefinite number of segments, on the proper position and mutual pressure of each one of which depends the integrity of the entire structure. If any of these elementary segments are destroyed or displaced, the segments next in line fall together and the arch is established on a new and lower level, or, if the injury has been very extensive, it may be destroyed altogether. Now, if the segments of bone forming the nasal arch are only displaced by the injury, it is possible that, after the thorough mobilization of the bony structures, the original nasal arch may be restored by applying an apparatus that will exert force along lines that would tend to construct a normal arch; the displaced segments are then drawn back into proper position. If there has been destruction of any of the bony segments, either from extensive injury or, as more frequently happens, from disease, we have a different proposition before us; in this case the piers of the arch (the nasal processes of the superior maxillæ) must be brought closer together narrowing the span of the arch and raising its crown; if this can not be done to the normal extent, our only recourse is the injection of paraffin to fill out the deficiency.

In enunciating the basic principles on which this method of treatment rests, no reference has been made to the septum. It is my belief, founded on an experience in over 300 submucous resections of the septum, that in the adult the septum, as a vertical support, takes no part in the preservation of the nasal arch. It must not be forgotten, however, that the upper edge of the septum, wedged in between the lateral cartilages, is one of the segments of the arch and performs the important function of the keystone, and its displacement means the destruction of the arch.

Many of the methods in vogue for the treatment of fractures of the nose and for the correction of depressed deformities have not been based on proper mechanical principles; in fact, the laws of mechanics have been altogether disregarded. It is unnecessary to refer to the various means that have been proposed for meeting the conditions; suffice it to say that nearly all exert pressure in one direction only, and, if counterpressure has been applied at all, there has been no combined action between the two and the results have been neither uniform nor satisfactory either from a cosmetic or functional point of view.

The custom prevalent, especially among general surgeons, of placing straps of adhesive plaster across the nose and splints within the nasal cavities in cases of recent fractures, is to be condemned, for not only is the flattening increased by pressure of the straps, but the nasal chambers are broadened by the splints. Both influences tend to produce a flat nose.

It is mechanically impossible for any form of splint, packing, or intranasal appliance to raise or even to support a depressed bridge, for, according to measurements which I made on a large number of cadavers, the roof of the nose, if prolonged downward and forward, would meet the level of the floor at an angle of 70 degrees, while the vertical diameter of the nasal orifice is only three-eighths of the distance from the center of the nasal bone to the floor of the nose. It can be seen at once, therefore, that any intranasal appliance depending on the floor for support would immediately be propelled toward the choanæ by the inclination of the dorsal plain.

It is only by applying a combination of these two forces, one acting from within the nose at its apex and

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* Read in the Section on Laryngology and Otology of the American Medical Association, Atlantic City, June, 1909. This article is here abbreviated by the omission of several pictures taken from casts of deformed noses. These pictures appear in the Transactions of the Section, and in the author's reprints.

the other from the outside at the base, that the former symmetry of a flattened nasal arch can be restored.

A careful study of the forces employed by Nature in the development of the flattened nose of the infant suggested the following apparatus, which is intended to duplicate these forces. The apparatus, shown in Figure 1, which has been made familiar to many rhinologists by a former presentation, consists of a fenestrated steel bridge, the wings of which are connected by a hinge, and the distance to which they can be separated is regulated by a thumb-screw. The edges of the wings are padded with rubber, and the small holes near the edges permit of gauze padding being stitched on. The second part of the instrument consists of two small hard-rubber splints perforated by four small holes.

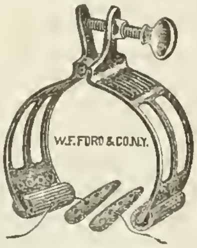

Fig. 1.—Bridge and intranasal splint for correcting depressed deformities of the nose.

The application of the apparatus is as follows, assuming that there is a recent depressed fracture, or, in the case of an old deformity, that the tissues have been thoroughly mobilized by a previous operation to be described later: No. 14 iron-dyed silk is passed through one of the holes in the hard-rubber splint and knotted; the other end is threaded into a large curved needle; this is passed from within the nose through the cartilaginous dorsum just below its attachment to the nasal bones. This process is repeated on the opposite side. The bridge is then applied and the wings adjusted with the thumb-screw to give the proper support to the base of the nasal triangle. The sutures are then run through the fenestræ in the bridge, corresponding vertically to their exit from the nose and drawn tight enough to lift the dorsum into its proper position. The sutures are then tied together over the hinge. There should only be sufficient tension to support the bridge. The diagram (Fig. 2) shows the bridge and splint in position. The splint rests partly under the nasal bone and partly under the cartilaginous dorsum. The resultant of pressure and counter-pressure keeps the apparatus in position; it should be worn for ten days or two weeks.

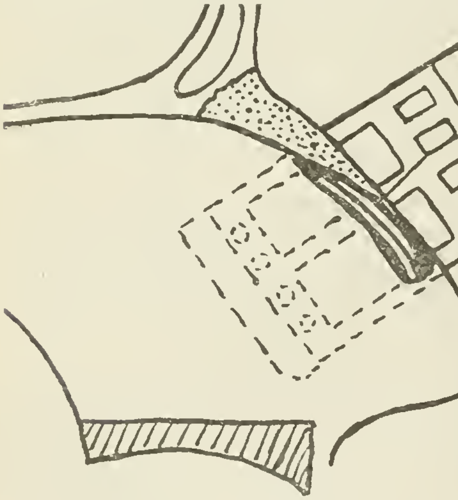

Fig. 2.—Sectional view of splint and bridge in place.

On account of middle-ear complications in two cases, I have ceased using the spray and douche in the after-treatment as previously advised. I now clean out the nasal cavities each day with pledgets of cotton soaked in Dobell's solution and then introduce a small quantity of petrolatum. The wings of the bridge should be carefully padded and the skin where these rest should be bathed each day with alcohol and should be watched for evidences of too great pressure.

The respiratory function of the nose is not interfered with after the first two or three days, and the patients do not complain of great discomfort while wearing the apparatus. It is better for the patient to remain in bed during the treatment, but if the bridge is anchored to the forehead with adhesive plaster he may sit up.

According to Treves, in uncomplicated fractures of the nose, there is fixation in eight days and bony union in two weeks.

The mechanics of the apparatus is shown in the diagram (Fig. 3). A represents the downward pressure applied to the base of the nasal triangle and is produced by the tension of the sutures passing through the dorsum of the nose; B shows the horizontal pressure under the control of the thumb-screw. The resultant force—that actually applied at the base—is represented by a line, C, bisecting the angle formed by A and B, and is the proper direction to support the base of the nasal triangle. A combination of this downward and inward pressure applied at the base and the balancing upward pull at the apex of the nasal triangle when applied to a nose in which the bony framework has been mobilized will tend to construct a normal symmetrical organ. This I have demonstrated on the cadaver as well as on the living subject.

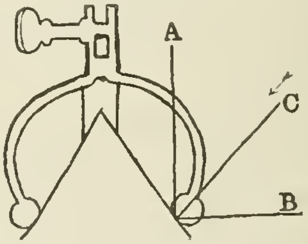

Fig. 3.—Illustrating the mechanics of the intranasal splint and bridge.

External deformities of the nose to which this method of treatment may be considered applicable may be classified as (1) congenital, (2) deformity due to disease, (3) traumatic.

The extent to which those included in the first two subdivisions, that is the congenital cases and those in which deformity is due to disease, can be benefited by this method of treatment depends on the amount of healthy bony framework available for reconstructive purposes. This is always deficient; hence in these cases perfect results are not to be expected without the aid of paraffin.

Traumatic deformities may be divided into (1) recent fractures, (2) deformities resulting from old fractures, (3) habit deformities. The latter consist in deflection of the entire nose to one side, caused by the long-continued effort of the patient to relieve an obstructed nostril by pressing the nose to one side.

In simple recent fractures in which one or possibly both nasal bones are broken and slightly displaced, the fracture can frequently be set by manipulation and a good result obtained without the use of any apparatus. But when the nasal bones tend to separate and in severe cases in which the nasal bones, the nasal processes of the superior maxillæ and the cartilaginous and bony septum are fractured and perhaps comminuted, the basic supports of the nasal arch have been destroyed and an apparatus is needed to hold the parts in proper position during the process of repair. Such cases present ideal conditions for the use of the combined bridge and splints. As soon as the swelling subsides after the injury, the broken parts should be carefully placed in position. The Adams forceps, the handle of a knife, a periosteum elevator may all be found useful in accomplishing this. Particular attention should be paid to the septum, for this is practically always fractured, and the disagreeable features arising from its permanent displacement are familiar to all.

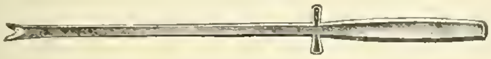

Fig. 4.—Carter's chisel for the nasal processes of the superior maxillæ.

After the apparatus has been applied, the nose should appear normal in shape and it should be retained so until union has occurred.

In old traumatic deformities it is necessary to mobilize thoroughly all the tissues, and, in addition, if the nose is very flat, and there has been loss of tissue, it is frequently necessary to utilize a portion of the nasal processes of the superior maxillæ. A narrow chisel of special design (Fig. 4) is placed against the anterior edge of the nasal process of the superior maxilla and driven upward; the progress of the chisel can be watched by placing the finger on the side of the nose—care should be taken not to go through the skin. When the chisel has been fairly engaged, the strip of bone can be broken off by turning the chisel from side to side. There is little or no danger of splitting the bone into the lachrymal canal, for, as shown by Berens, the grain of the bone runs away from the canal. I found by measurements made on a large number of skulls that the lachrymal canal is about five-eighths of an inch behind the anterior border of the nasal process of the superior maxilla; this places it beyond the danger zone in the normal skull.

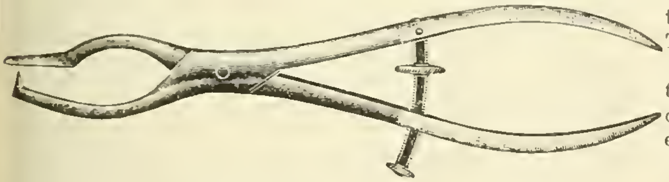

Fig. 5.—Carter's chisel-forceps for cutting through the nasal bones.

Further mobilization of the tissues is accomplished with the Adams forceps (Fig. 6) by placing one blade inside the nose and the other covered with rubber tubing on the outside. The septum is then grasped between the blades and mobilized. A specially devised chisel forceps (Fig. 5) I have found very useful in cutting through the nasal bones near their articulation with the frontal bone. The chisel blade is introduced into the nose up to the desired point, the outside flat blade being covered with rubber tubing and the set-screw carefully regulated so that the chisel will not cut through the skin. In cases in which the septum is badly deformed, a submucous operation should be done a day or two before the bridge splint procedure. When the nose is very flat and the shortened septum is holding down the dorsum, I make an oblique incision through the septum, beginning at a lower level and emerging in the opposite nasal chamber near its roof. This permits the upper segment to be raised without leaving a perforation and is a substitute for the sliding flap operation I suggested last year.

Where there is a step-like deformity caused by luxation of the lateral cartilages at the point of attachment to the ends of the nasal bones, before applying the bridge, I make an incision from within through both lateral cartilages and the septal cartilage along the line of depression with a Myles rectangular septal knife. This enables me to lift the cartilaginous portion of the dorsum into line with the bony portion of the bridge.

The following cases which demonstrate the various circumstances under which the appliance may be found useful are from private practice and from Dr. Harmon Smith's clinic at the Manhattan Eye, Ear and Throat Hospital:

CASE 1.—This is reported for the second time to show present condition.

Patient.—An amateur athlete fell from a horse three years ago, striking on his nose. Following the injury the nose was flat and he was unable to breathe through it. The septum was thick, irregular and obstructing. The nasal bones over-rode the nasal processes of the superior maxillæ; the lateral cartilages were displaced backward at the junction with the lower edges of the nasal bones.

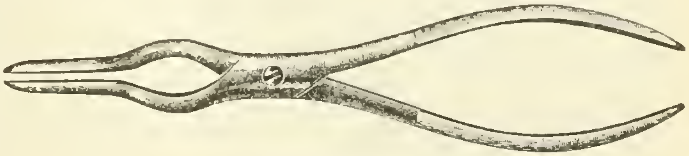

Fig. 6.—Adams' forceps.

Operation.—On Jan. 23, 1908, a submucous resection of the septum was done; two days later the tissues were mobilized and the bridge splint applied. In this case the cartilages of the dorsum had to be lifted in the manner previously indicated. The immediate result was very good.

Present Condition.—There is a slight step-like depression at the juncture of the nasal bones with the lateral cartilages. The contour of the nose is fairly good; the intranasal condition is excellent. Time since operation, 14 months.

CASE 2.—This also is reported for the second time to show present condition.

Patient.—Man, aged 24, no venereal history; he has had atrophic rhinitis since early childhood. The nose is broad and flat, almost on a level with the cheeks. Nasal chambers are roomy and covered with crusts. He was treated with daily irrigation of saline solution and massage with 25 per cent. argyrol solution three times a week for six months.

Operation.—In March, 1908, I lengthened the septum by a sliding flap operation and raised the tip and modified the size and shape of the nostrils by an inverted Y-shaped incision (both procedures have been previously described). Before applying the bridge, pieces were chipped from the superior maxillæ to be used in building up the arch.

Present Condition.—Eight months after the operation, elevation of the bridge was only fair; the tip raised and the nostrils were of much better shape. The septum was perforated, the nasal chambers were much smaller and the atrophic rhinitis was greatly improved. Thirteen months after the operation the external appearance of the nose was the same; the atrophic rhinitis was almost gone. The health of the patient was greatly improved.

Remarks.—The bridge in this case is still depressed, but is higher than it was before the operation. This operation was not altogether a success, due to deficiency of tissue with which to build up the arch.

Case 3.—A boy fell on his nose, fracturing it on Sept. 5, 1908.

Examination.—Two days after the injury, the nose was swollen and discolored; a ragged cut extended across the bridge through which the nasal bones could be felt with a probe. The nasal chambers were completely obstructed.

Operation.—Under ether, the fractured nasal bones were found protruding into the nasal chambers. The septum and left nasal process of the superior maxilla were also fractured. The parts were simply adjusted and the bridge splint applied.

Result.—The result in this case was excellent, both as to function and cosmetic effect. The boy tells me that he can breathe through his nose better than before the injury. These good results have continued up to the present time, five months after the operation.

Case 4.—A boy, aged 14, had his nose broken in May, 1908.

Examination.—There was a step-like depression at the point of junction of the nasal bones with the lateral cartilages and considerable over-riding of the nasal bones over the nasal processes of the superior maxillæ, especially on the left side, where there was a large bony protuberance. The nasal chambers were almost obstructed by a thick, irregular septum.

Operation and Result.—In July, I did a submucous resection of the septum, and in October the bridge splint was applied. In this case the septum had to be lengthened. The result was excellent and has remained so up to the present time. The nasal stenosis is completely relieved.

Case 5.—A young man, aged 25, was thrown from his horse on Nov. 28, 1908. He fell on his nose, sustaining the following injuries, case seen four days after the accident: The nasal bones were fractured and separated and over-riding the nasal processes of the superior maxillæ; the septum was fractured. Operation was done Dec. 3, 1908. The result both from a cosmetic and functional point of view was excellent.

Case 6.—A boy, aged 14, was kicked in the nose by a horse on Sept. 16, 1908. He was treated by a local surgeon, who put splints in the nose and fastened strips of adhesive plaster across the bridge.

Examination.—I saw him for the first time four months after the injury. There was a complete saddle-back deformity. On the nasal bridge was a large scar, and a cicatricial band connected the right ala with the cheek. Both nasal cavities were obstructed by an irregular, thick septum.

Operation.—A submucous operation was done and four days later the bridge splint was applied. There was very little bony tissue left to build upon, as the injury was a severe one and some bone had sloughed out. The cicatrix was removed and the bare surface was skin-grafted.

Result.—The result a month after the operation was very imperfect from a cosmetic point of view, though the nasal cavities were perfectly clear and open. I then made a small incision through the original scar, dissected up the scar tissue and skin and injected about thirty drops of paraffin. The present appearance of the patient is greatly improved (due chiefly to the paraffin injected), and he has a good breathing space.

Case 7.—This was a traumatic deformity of ten years standing in a man of 22. There was no depression, but the entire nose was displaced to the left and the right nostril was obstructed.

Operation and Result.—On January 12, a submucous resection of the septum was done and four days later the nasal tissues were mobilized and the bridge splint applied. The result is perfectly satisfactory, the nose is straight and the nasal passages are unobstructed.

Case 8.—A Jewess, aged 18, fell on her nose eleven years ago, fracturing it. She had a pronounced hump on the dorsum, and the entire nose was displaced to the right. The left nostril was obstructed by a deflected septum.

Operation and Result.—A submucous resection of the septum was done on November 20, and the bridge splint operation on November 28. The hump was subsequently removed through a small incision over the dorsum. The result is very satisfactory, the nose is symmetrical and the nasal obstruction is relieved.

CONCLUSIONS

My experience with this method of treatment for deformities of the nose leads to the following conclusions:

1. Cases in which there has been loss of the bony framework of the nose, either from disease or extensive traumatism, are not suitable for this operation.

2. In recent fractures and old traumatic deformities when the tissues have been properly mobilized, this method should yield good results.

3. After a lateral deformity or displacement of the entire nose has been reduced by operation the apparatus should be worn as a retaining splint. For the elasticity of the skin and soft parts tends to restore the former malposition of the organ if it is not so restrained.

4. The passage of sutures from within the nose through the dorsum does not complicate the case.

5. This method of treatment corrects the deformity by reversing the direction of the forces that produced it. It also relieves the intranasal deformity, which we know tends to increase with age and eventually becomes the predominant feature in the case.

69 West Fiftieth Street.

ABSTRACT OF DISCUSSION

Dr. J. O. Roe, Rochester: In recent fractures, I consider Dr. Carter's plan excellent, but in cases of a distorted nose from an old fracture, where a definite amount of osseous tissue has been thrown out and where there is very much thickening of the parts, making the nose much more firm than it was before, the plan which I have adopted in these cases, it seems to me, gives better results than could be obtained by Dr. Carter's fracturing and suspension method. When there is a fracture of the nose, there is displacement of the nasal bones downward and outward, so that there is a flattening of the top of the nose, with a corresponding bulging at the sides. If the top of the nose is lifted according to Dr. Carter's plan, you must, in order to re-establish the normal outline, have as a result a much larger nose, for the reason that the base of the nose is very much wider than before the injury. Even by his plan of completely mobilizing or severing the bones with his chisel, it would be difficult to stretch them out or get them back to their normal position. Another drawback I should think he would encounter is the raising of the top of the nose from the septum, which has also been knocked down and the top line made much lower. It is true, as he has stated, that the arches of the nose form the main support and that the septum has little to do with holding up the bridge, but in liberating the nasal arch from the septum and raising it up and, of course, holding it there until ossification of these bones in their new position has taken place, the septum would stand up as a partition, unattached except at the bottom and ends. Several years ago I attempted to treat some of these cases in this manner by refracturing the bones, somewhat according to Dr. Carter's plan, and supporting them from the inside. One method that I adopted was to use a bridge, somewhat similar to Dr. Carter's and inserting one of the arms of a U-shaped piece of steel and pulling upward on the outer arm at the point opposite to which I wished the pressure on the inside of the nose and which portion I covered with rubber tubing. Another plan that I adopted was to introduce both arms of a jointed triangle into the nose and forcibly separate them by means of a screw, using the floor of the nose for the fulcrum, and having the upper arm bent in the required shape to give the necessary support at the spot desired. As neither of these plans gave satisfactory results, I, of course, never reported them. The plan that I then adopted and which has given me most excellent results is as follows: I make a subcutaneous resection of this displaced bony tissue and by raising the soft tissue from the top of the nose so as to make a place for this resected portion on the top of the bone, thus filling in the depressed portion. In other words, I take the tissue from the place where it is not wanted and place it in the depressed portion, where it is needed, thereby making a symmetrical nose.

The plan that Dr. Carter suggests for raising the tip of the nose, where the lateral cartilages are flattened and bulging outward, by stitching them together so as to draw their bases in, can not fail to be of service in some cases. In the correction of nasal deformities, however, we meet with such an infinite variety of conditions that the plan which works well in one case will not do at all in another, even though the conditions may seem to be quite similar. Every method has its advantages in certain cases, but the conditions of the case must be studied with a view to ascertaining how and in what manner the deformity can be best corrected, rather than to consider the adoption of any one method for all cases. It is therefore only by varying the different methods to meet the requirements of different cases that we can hope for uniformly successful results.

Dr. C. F. Welty, San Francisco: I have operated on one patient in this way and am sorry to say my results were not perfect, although the man was very much improved. He had a very severe extensive traumatic injury, having been thrown against a street car. I have not tried Dr. Roe's plan, but apparently that would work also. Two or three years ago, I transplanted a piece of bone for saddle nose and had better results with that than I did with this apparatus and three years after that transplantation the patient's nose was in perfect condition. I believe, however, that the Carter splint is a splendid method.

Dr. R. H. Good, Chicago: I have used Dr. Carter's splint with excellent results in a case of marked deformity in which the nose was pushed to one side. I have the pictures both before and after operation. There were several complications which perhaps might have been prevented. For instance, there was sloughing of the cheeks from pressure, which I think could be avoided by having the parts which rest on the superior maxilla flat. Another complication was stitch infection. I used silkworm gut: perhaps if I had used silver it would have been better. I found that the intranasal splint was a little too large for my case, the patient being only 15 years old. The result, however, was very good.

Dr. W. W. Carter, New York: Dr. Roe states that when the bridge of the broad, flat nose is raised the nose will be too large. Now if this were the case I would have to make tissue; for it requires more tissue to elevate a nose and at the same time retain its original breadth, but it does not require more tissue to elevate a nose if we make its base narrower. This is what is accomplished by this method: the excess in breadth of the nose is added to its height by narrowing the base of the nasal triangle by means of the adjustable wings of the bridge. While I do not claim to have obtained perfect results, still I hope that I have succeeded in impressing you favorably with what can be done for a class of patients for which so little has been accomplished in the past. I believe that the instrument is constructed on proper mechanical lines and that by means of it force can be so applied as to construct a normal nose, provided that there is enough bony framework left with which to work.

The sloughing referred to by Dr. Good will not occur if a proper amount of gauze padding is used on the wings, and if the skin under these is bathed each day with alcohol. Then, too, in applying the instrument too much tension must not be employed. I find that silk is the best suture; it is more easily tied and untied, and by capillary attraction it sustains drainage to a great extent. I have had no trouble with stitch abscess. A certain amount of pus always forms around the stitch, but I keep it washed away with boric-acid solution.

No two noses that I have operated on yet have been of the same size or shape, so I seldom use the intranasal splint that comes with the bridge. I usually make them of guttapercha at the time of the operation and mould them to suit each case. Several men have asked me if there is not danger of injuring the turbinate bodies while we are chiseling off the nasal processes of the superior maxillæ: in reply I will say that we are working on a plane anterior to these bodies and do not come anywhere near them.

The Criminally Insane.—Dr. James J. Walsh, New York, favors perpetual confinement of the criminally insane. He holds it absurd that a man may have an attack of mental insaneness that will lead him to take human life, and then be expected to get over his mental condition so as not to be likely to do the same thing again.

VASECTOMY AS A MEANS OF PREVENTING PROCREATION IN DEFECTIVES *

HARRY C. SHARP, M.D.
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The general public is rapidly coming to realize that our public dependents are largely recruited from the defective classes, and that but comparatively few persons become a public charge as the result of disease or adversity.

Neurologists recognize a so-called predisposition to insanity, which in fact is an inherited defect, or perhaps, more correctly speaking, defects, as there are usually several defective conditions in the mental and nervous organization, and frequently very pronounced physical stigmata.

Sanger Brown says, in speaking of this predisposition, that the phenomena which this condition presents may be readily accounted for by assuming a defect or defects in the neurons (the cell units of which the nervous system is composed) of such a nature that stimuli from environment may not reach the neurons of the cortex, or, having done so, the impression made there may not be sufficiently deep and lasting, or, in other words, well elaborated. Keeping in mind this condition of neuronal defects, it is easy to understand how certain individuals fail to respond to educational influences, moral or intellectual, or both.

That Sanger Brown is correct there is no doubt; and it is equally true that the same condition accounts for the large majority of cases of inebriety, pauperism, crime and drug habit. While defectives fail to respond to moral or intellectual influences, there is another fact that figures very largely, especially in the criminal class. It is that the centers of self-restraint are most defective. These persons may have full knowledge of the nature of their offenses and may fully comprehend that these offenses are morally wrong; still they have not the will-power to resist the impulse to commit a wrongful act when the opportunity presents itself. It is possible that such an individual, who would commit a crime under certain conditions, would be the first to reach the mourners' bench at a Methodist revival. He is as a ship at sea without a rudder, wafted about and changing his course with each variation of wind, all being well if the sea is calm and the weather fair; but a disastrous shipwreck is imminent in the event of a storm.

It does not necessarily follow that a defective person is to become a public charge, for included within this class are to be found the most gifted as well as the most vicious, weakest, and ordinarily, the most unhappy of mankind. Chatterton, Goldsmith, Coleridge and Charles Lamb are but a few instances of the class of gifted defectives. Invention, music and art are sometimes of high order among these persons, but desultory, half-finished work is decidedly more common. Concentrated effort is often impossible to such persons. Executive or business faculty and judgment are seldom developed.

Persons of this character who appear on life's stage and play their part contribute much to the world's beauty and pleasure. They fill a place in history, though history often fails to mention the legacy they leave to succeeding generations in the way of defective children, which become a misery to themselves and a charge on society.

There is no disputing the fact that mental as well as physical defects are transmitted to the offspring. If a defective marries a normal person, frequently the departure from the normal is much less marked in the offspring than it was in the parent, while, on the other hand, if two defective persons marry their children inherit the stigmata of both mother and father, thus becoming a more defective type than either parent.

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Naturally the tendency is for the abnormal to mate with their kind—to seeking their own level; then, too, one of this type seldom finds a normal person who would be attracted to him. This condition favors the rapid increase of the number of defectives as well as the accentuation of the type. This class of individuals is very prolific, from the fact that in the matter of sexuality, as in everything else, they know of no self-restraint. They indulge their selfish lust, ad libitum, with no thought whatsoever as to what the result may be; they absolutely refuse to take into consideration their own ability to take care of their offspring. They simply know that they want gratification, and gratification they are going to have.

This is the condition at the present time, and will continue to be so long as this class is permitted to remain fertile.

In addition to the foregoing causes for the rapid increase of defectives, we find that the ranks are being contributed to by persons suffering of some mental, nervous or physical disease or exhaustion, begetting children while suffering from one or more of the above-mentioned conditions. Nature punishes those who violate her laws, and the punishment is visited unto the third and fourth generation. It is very possible that the children of physically exhausted or mentally disturbed parents will manifest a degree of defectiveness.

The children of syphilitics are almost sure to be defectives. Alcoholism, drug habits, immoral excesses are some of the common causes of mental and nervous exhaustion that render a person incapable of begetting normal children. Overwork and many physical maladies which produce in the sufferer a profound mental depression are frequently responsible for defective offspring. Thus it is that we frequently find that the children of ministers, lawyers, doctors and other professional and highly respected business men have pronouncedly disorganized minds, manifesting the same by immoral, criminal or insane acts.

Prenatal impression plays its part in the production of defectives.

Many of you know or have seen physical deformities as a result of profound mental impression during the period of gestation. As the mental faculties are much more highly organized, they are a great deal more susceptible to such impressions. Hence mental markings are more frequent than physical ones. It is very probable that a child of a woman under a mental strain during this period will show some evidence of nervous disorder early in life, and, if not carefully cared for during the critical periods of development, will be the subject of an outburst that will establish it as an abnormal being, beyond the peradventure of doubt.

Several years since a woman who was the mother of a boy at that time serving a sentence in a penal institution told me that during the time she was carrying the boy a man holding a mortgage on her property, taking advantage of her inability to settle the same at the time of maturity, forced a foreclosure, and it excited in her an intense hatred for this creditor. She could think of nothing save his physical repulsiveness and the unprincipled manner in which he had treated her. He was a homely man with very red hair, and she looked on him as a thief and a scoundrel, having robbed her of her equitable right. When this boy was born he had red hair, notwithstanding there was no such thing known in any of his ancestors, and he had always been apparently criminally inclined, although of a respectable lineage. This was undoubtedly the result of a prenatal impression.

The decidedly defective individual is very easily recognized, as the mental abnormality is usually accompanied with prominent physical defects, described by Lombroso, Wiesmann and others as morphologic stigmata. There are quite a number of these stigmata which indicate with considerable certainty the extent and nature of the mental defect. I shall not dwell on the various physical abnormalities that are found in the defective. I do wish, however, to call attention to the two that are found most frequently and the least dwelt on by writers on this subject, namely, imperfect refraction and color-blindness. It is very rare that we find a defective who does not have one or the other of the above-named conditions, though possibly to so slight a degree that the defect may be entirely overlooked. There are persons of this class in whom the only indications are temperamental, the most common being selfishness, ingratitude, inconstancy, egotism, inability to resist an impulse or a desire.

The disposition to permit all classes to procreate without restriction has brought about a condition shown by statistics, the study of which will prove very interesting.

Taking Indiana for the past eighteen years we find the following:

In 1890 the cost of maintaining the inmates in the state institutions, county poor asylum and orphans' homes was $1,201,461.24, while in the year of 1908 the cost was $2,443,140.55, or an increase of $1,241,679.31, which is considerably over 100 per cent. This is for maintenance alone, as none of the appropriations for the purchase of additional property, erecting new buildings or permanent improvements are included in this estimate. Nor is the cost of maintenance of county jails or workhouses included, as I was unable to procure accurate data for this period. But I did learn that in the year 1892 there were 600 jail inmates, as against 1,275 for the year of 1908.

In 1890 there were 8,670 inmates confined in state institutions and asylums for the poor; in 1908 there were 14,398, an increase of 5,728. This relates to such state institutions as those for the insane and feeble-minded, reformatory and penal institutions, poor asylums and Soldiers' and Sailors' Orphans' Home. It does not show the total increase, as the Soldiers' and Sailors' Orphans' Home, which is an institution that in no way should be considered as an institution for the care of defectives, shows a material falling off in its population, while the school for feeble-minded youths, whose entire population consists of the most pronounced defective class, shows an increase from 358 in 1890 to a population of 1,054 in 1908, an actual increase of 696, or over 172 per cent. in the course of eighteen years. The asylums for the poor do not show anything like such an increase. But these abodes, like the soldiers' and sailors' orphans' homes, hold many persons who are there as the result of adversity and not degeneracy.

Beginning with the Soldiers' and Sailors' Orphans' Home, whose population is made up almost entirely of normal persons and which shows a decrease in population, on up through the county poor asylums, county orphans' homes, prisons, insane hospitals, epileptic village, and institutions for the feeble-minded, each insti tution shows an increasing percentage in proportion to the extent that it depends on defectives for its population.

In view of the above-described conditions, it seems to me it is race degeneration and not race suicide that should fill us with apprehension. History teaches that the fall of powers and principalities in the past has been due to the weakness of the people and not to the scarcity in numbers. Shall we follow the example of past ages or shall we learn from them a lesson and profit thereby?

Herbert Spencer says that to be a good animal is the first requisite to success in life, and to be a nation of good animals is the first condition to national prosperity. We may become a nation of good animals if we direct the same intelligence to the breeding of human beings that we do to the improvement of the breed of our domestic animals.

Restricting propagation seems to be universally agreed on as necessary for the relief of the downward tendency. The difficulty lies in deciding on the proper method to bring about this restriction. Some have advocated the education of public opinion so that those who are from defective parentage shall, in the face of such public opinion, abstain from marriage. This seems to me even worse than absurd, for I believe that we shall never be able thus to prevent the sexual intercourse; while there might be fewer marriages there would be more bastards.

Restrictive legislation has been advocated and many states have passed restrictive marriage laws. Minnesota has a law providing that within the bounds of the state no marriage shall be permitted either party to which is epileptic, imbecile, feeble-minded or afflicted with insanity, unless the woman be over 45.

Michigan, Delaware, Connecticut, Indiana, New Jersey and North Dakota have also passed laws for the purpose of preventing marriage among defectives, but unfor-unately matrimony is not necessary to propagation, and he tendency of these several laws is to restrict procrea-ion only among the more moral aud intelligent class, while the most undesirable class goes on reproducing its kind, the only difference being that illegitimacy is added o degeneracy, and thus the children enter on life's battle doubly handicapped.

Dr. R. W. Bruce Smith of Toronto asks:

> What avails the continuous increase of hospitals, asylums, nd similar institutions if the number to occupy them grows aster than the accommodations? How can we possibly leave he world better for our work if we do not, at least, begin ome action to stop this vicious stream at its fountain-head? . . . Those who have faithfully and patiently wrestled ith this perplexing problem have concluded that the only ourse to be taken is to separate all true degenerates from so-iety and keep them by themselves in carefully classified roups, under circumstances which will insure that they shall o as little harm to themselves and their fellows as possible, nd that they shall not entail on the next generation the bur-en which the present one has borne.

This method of segregation would necessitate the ex-enditure of enormous sums of money to establish and aintain colonies or industrial refuges which, I believe, ould be a disappointment in the end. The colonists ould necessarily live under restraint and, unless uarded like actual prisoners, many would escape. In heir effort to escape detection these unfortunates would aturally realize that they could not engage in legitimate ade, and therefore would resort to crime, becoming a urther menace to society. This plan, moreover, means fe imprisonment for a large army of men and women ho should be given the opportunity to enjoy life and erty.

Castration is another means that has been suggested for the purpose of preventing procreation in the unfit. A superintendent of a Kansas institution for the feebleminded thus operated on forty-eight boys in that institution about the year 1898. He has since severed his connection with the institution and if there has been any further report of his work I know nothing of it. This operation is, as I have repeatedly stated, of too much gravity and causes entirely too much mental and nervous disturbance ever to become popular or justifiable as a medical measure; but I heartily endorse it as an additional punishment in certain offenses.

It can readily be seen that one subjected to castration would in all probability become very morose and downcast on account of the deformity alone. Besides, the testicle has a double function, that of providing an internal as well as an external secretion, and the organism cannot maintain a normal condition when robbed of this internal secretion. This is manifested by the perceptible change in the eunuch.

Since October, 1899, I have been performing an operation known as vasectomy, which consists of ligating and resecting a small portion of the vas deferens. This operation is very simple and easy to perform. I do it without administering an anesthetic either general or local. It requires about three minutes' time to perform the operation and the subject returns to his work immediately, suffering no inconvenience, and is in no way hampered in his pursuit of life, liberty and happiness, but is effectively sterilized. I have been doing this operation for over nine years. I have 456 cases that have afforded splendid opportunity for postoperative observation and I have never seen any unfavorable symptoms. There is no atrophy of the testicle, no cystic degeneration, no disturbed mental or nervous condition following, but, on the contrary, the patient becomes of a more sunny disposition, brighter of intellect, ceases excessive masturbation, and advises his fellows to submit to the operation for their own good. And this is the point in which this method of preventing procreation is so infinitely superior to all others proposed—that it is endorsed by the persons subjected to it. All the other methods proposed place restrictions and, therefore, punishment on the subject; this method absolutely does not. There is no expense to the state, no sorrow or shame to the friends of the individual, as there is bound to be in the carrying out of the segregation idea.

There is a law providing for the sterilization of defectives in effect in Indiana and it is being carried out at the Indiana reformatory. I regret very much that it is not being followed up in the other institutions of the state; but there is no doubt that it will come about in a very short time.

Brown-Séquard, one of the earliest observers of the effect of the secretions of the reproductive glands, said that an extract from the fresh testis, when injected under the skin or into the blood current, had a remarkable influence on the nervous system, mental and physical vigor; that the activity of the spinal centers were greatly improved, not only in cases of general prostration and neurasthenia, but also in the case of the aged. Brown-Séquard maintained that the general dynamogenic effect was due to some unknown substance formed in the testicle and subsequently passed into the blood. Although many of the more recent investigators as Poehl, Zath and others assert that it is found in the external secretion, my own observations lead me to indorse the opinion of the latter.

After observing nearly 500 males in whom I had severed the vas deferens I am prepared to state that there is not only a diminution of the muscular and nervous fatigue resulting from muscular exertion, but also a lessening of fatigue sensation and a decided increase of energy and well being. I have observed splendid results in cases of neurasthenia.

That severing the vas deferens or the oviduct does not arrest the sexual development has been proved by doing the operation on young animals before they reached the period of puberty. That there is no atrophy or cystic degeneration has been satisfactorily demonstrated by ten years' observation. It was on account of these facts that I suggested that the vas deferens in the male and the oviduct in the female be severed as a means of preventing procreation in defectives, as the operation has no deleterious effect on the subject, but the contrary. The operation in no way endangers life.

After cleansing the scrotum with soap and water I bathe the part in alcohol, then grasp the spermatic cord between the thumb and the index-finger of the left hand, detect the vas, hold it firmly and fix it with a pair of bullet forceps, then cut down on it, draw it through the scrotal wound by means of a Tenaculum hook, strip it of all membranes and the accompanying artery, ligate above and sever, cutting away any portion from the vas that may have been damaged in the manipulation. This is done in order that the end next to the testicle may not become closed. It is very important that it shall remain open, in order that the secretion of the testicle may be emptied around the vessels of the pampiniform plexus and there absorbed, for it is through this process that the economy receives the tonic effect of the secretion; also where the end closes there is likely to be cystic degeneration. The action of the muscle closes the skin wound and no stitch, collodion or adhesive plaster is needed. The patient returns to his work immediately and suffers but little inconvenience.

There is no diminution of the sexual power or pleasure. The discharge at orgasm is but slightly decreased.

The operation in the female is more difficult, but, if skilfully done, no more hazardous. The oviduct is reached through a median incision, the tube ligated near the uterus and severed beyond the ligature.

There are over 300 girls in the institution for the feeble-minded in Indiana who, if treated in this manner, would be able to leave the institution and be self-supporting, as the only reason for detention is for the purpose of segregation, as they have not the character to resist the importunities of unprincipled men when thrown on their own resources. The result is that when they are released from the institution they shortly return in a state of pregnancy, or marry some one unable and unfit to rear a family. In either event there is an addition to the dependent class. With the oviduct severed this danger is absolutely obviated. In case of the male the desire for the opposite sex is in no way diminished; his mind is strengthened and his nervous system benefited from the reabsorption of sperm. It has a decided effect on the centers of self-restraint, besides improving the physical condition, as the masturbator refrains from excessive indulgence in this practice. Almost wholly as the result of increased will-power, the rapist or criminal will be aided in resisting his pernicious impulses. Thus we have a means of preventing procreation in the unfit, at the same time improving the condition of the unfortunate individual.

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ABSTRACT OF DISCUSSION

DR. L. H. MONTGOMERY, Chicago: If the stigmata of a defective or degenerate are transmitted to the children in man instances, as I firmly believe, how are we going to be entirel satisfied, scientifically and otherwise, that tuberculosis is neve transmitted to the offspring? We are all aware that syphilis insanity, epilepsy and other neurotic conditions are hande down and—due to prenatal influences or otherwise—eve alcoholism is inherited or transmitted sometimes. We all se instances of these influences transmitted to the offspring. Ho are we going to do away, entirely, with this question th author has just raised?

DR. F. C. VALENTINE, New York: Every specialist in genitourinary diseases must agree with the important physiologi and surgical points brought forth by Dr. Sharp. For emphasi it may be permitted to elaborate them by separate discussion He says that vasectomy is easy to perform; to this one ma add that it is the simplest operation in genitourinary surgery It is well known that the health of the testicle is not impaire by severing its excretory duct, as the testicle does not suffe from occlusion of the duct, as occurs in epididymitis. Moreover, within the last few years many vasectomies have bee performed, at White's suggestion, in the hope of thereby relieving prostatic hypertrophy; the testicle, so far as literatur shows, was in no wise affected thereby. Two objections to th operation at once occur to the mind, namely: Most, if not all those operated on were prisoners, therefore the power to procreate was taken from them under duress; it remains questionable that we have a legal right thus to deprive them. O the other hand, the public will soon learn that vasectomy doe not influence the power to perform sexual intercourse, but doe away with the risk of impregnation. This would lead man sexual profligates to importune physicians for this preventiv operation, which involves practically no pain, and, if carefull done, is without danger. To say that no practitioners woul be found thus to subvert the purpose of marriage, would be expressing a faith in the morality of the profession even greate than that which I possess. In mitigation thereof, it is bu proper to admit that should the person operated on desire th restoration of his procreative function, the continuity of th severed vas and its patency can be restored by a second operation. The restoration of the vas is by far a more delicate an difficult operation; nevertheless, when properly performed, i has proved successful. That vasectomy can impart stamina moral strength, the ability to resist immoral impulses an temptation, as suggested by the author, is, I must confess, a entirely new idea. While no explanation presents itself fo this peculiar psychologic victory, the author merits inexpressible credit for the results he has obtained. His essay will doubtless lead many other surgeons of reformatory an penal institutions to test the question. If the reduction o criminals results his name will go down in history as a notabl pathfinder.

DR. W. FORREST DUTTON, Walker's Mills, Pa.: It is no clear to me what is meant by the defective classes and thei limitation. We know that with the increase of population th defectives are bound to increase. We cannot yet deny the par played by hereditary influence. I think we have discovere the efficacy of educational factors in many cases, and tha instruction should bear a great deal on these things. If w get at the root of all this evil, we will have no trouble at a in preventing the defective classes. In the adoption of s many radical remedies for wrong conditions in the past, think the educational feature is the factor that should l paramount in dealing with defective classes, whatever the may be.

DR. WOODS HUTCHINSON, New York: Crime is a medic problem in at least half of its extent; and I look forward t the day when the physician will be looked on as the crimino ogist of the country, and when our police courts and our poli administration will be put largely under medical control; a when that time comes we shall save half of the cost of o courts, our prisons, and our poorhouses. We have the humiliati spectacle of the defective criminal insane of the communit 2 per cent., putting to enormous expense and holding in terr the other 98 per cent. of the community, because we have never taken any steps to stop this at its fountain head by preventing this reproduction of defectives. Those questions of the increase of crime are very difficult of settlement; because, in the first place, we are enlarging our definition of crime constantly, making many offenses which were not considered offenses before; as, for instance, in the prohibition communities it is a crime to buy a drink, and in our new tuberculosis campaign we have taken away our former right to spit. Therefore, it is not safe to judge by the apparent increase in the number of convictions. On the other hand, it seems almost certain that these people are at least holding their own with the rest of the community. They have an enormous fecundity. I had the opportunity, recently, of seeing the family records of defective children who had been committed to the New Jersey home at Vineland. Over three hundred records had been taken for the purposes of correctional care. Most individuals had from one to three, and in some cases six or seven, defective relatives; and the families were large, running anywhere from six to twelve and fourteen. The birth-rate is high among such people; on the other hand, they have a very high death-rate, so that helps to keep matters level. About one-third of all our criminals are born of criminal ancestors, and that reproduction might have been prevented if we had taken the matter in hand. Dr. Sharp has made a valuable practical contribution to this question, particularly he fact that it is an operation which is so painless and produces so few undesirable results that defectives are willing to ubmit to it of their own accord. That, I think, at first appears almost too good to be true; yet those people are not at ll desirous of having children; it is not only the feeble-minded who would be glad to be relieved of that responsibility. One of the objections made to this operation is that it might ecome popular in other classes of the community. By putting hese people in this condition we can allow them to return to utdoor life and to a self-supporting existence. Physicians aving anything to do with defectives are aware that the most erious practical problem in the care of the female defective is his question of preventing reproduction. These women have to e kept under custodial care during child-bearing life. A eble-minded man has to find a feeble-minded woman before e can procreate; a feeble-minded woman has no such limitaion. A movement of this sort would immensely increase the roduction of defectives in the community. Whether it is oing to be productive of all the moral and hygienic benefits the defectives themselves that Dr. Sharp claims for it I do ot know. It is only fair that the male gland should be subect to the same assaults as the female gland has for twenty ears past, and see what the results are. I can easily believe iat the criminal and the defective would be rendered more nenable to discipline by this operation, inasmuch as it has en habitually practiced on horses and other animals for the irpose of making them more amenable to control.

Dr. Charles A. Rosenwasser, Newark, N. J.: As vice-esident of the Dependency and Crime Commission of New ersey, I took part in an investigation as to the causes of dendency and criminality, and had occasion to note the imrtant part played by heredity in the development of the dective and delinquent. That there is urgent need of doing mething practical and effective to lessen the propagation of e unfit, has been strikingly shown by the investigation concted some years ago in Illinois, as a result of which it was rned that all the defectives and delinquents in the state at at time, could be traced to one hundred and fifty families. intend to have introduced into the legislature of New Jery, this winter, a bill similar to the one introduced in Illinois is year, making the sterilization of habitual criminals comlsory. And, at some later time will take up the defective ss. As my work lies largely with inebriates, a class of tients with weakened will power, I am especially interested the statement that the operation of vasectomy helps to rere the will power, and I hope to be able to test its efficacy the near future. As to the value of education in lessening propagation of defectives and delinquents, I am not very peful. That education is of very scant value in such mats is seen in the attitude of the medical profession toward the alcohol problem. Physicians as a class are well informed as to the baneful effects of alcohol on the individual and on society, yet among them we find very few total abstainers. If enlightened persons cannot be brought to total abstinence by education, how can we expect to educate a defective or delinquent to abstain from sexual intercourse or from propagation?

Dr. J. N. Hurty, Indianapolis: I have watched the progress of this work with a great deal of interest. I do not think that we have any figures as yet showing that much in a direct way has been accomplished; but I believe that this may be termed a higher hygiene, through which we can hope to better the race. It is futile to educate these people with criminal stigmata. You can't do it. Education does not reach them at all. They have little moral sense, little moral force, and while you can tell them, and they can in turn preach to you the morals of the situation, they will go straight off and commit the acts. They have no will power, no force of mind, to withstand temptation. So education will not reach them. The knife only can reach them. I was at Mr. Vanderbilt's estate at Asheville. He raises all manner of animals there—cats, hogs and dogs—of many varieties. I was standing near the man who was in charge of the beautiful collies at the kennels; one of them (a female) came up to me, and she looked so pleasant that she seemed to me to have a laugh on her face. I patted her on the head, and she was duly grateful for the attention. I asked him, "Do you have any vicious dogs here?" He said: "Do you suppose that we would breed from vicious animals? If a vicious animal appears here we kill it; we have nothing to do with them at all; and the result is that we have no biting animals, but only those amenable to instruction." Why cannot we apply this to the human family? It seems to me that the application is possible; and I would not term it inhuman. It could not interfere with man's rights. A person who is morally defective has no right to impose another defective on the human family. We take from them their lives when they are murderers—hang them, electrocute them—and it is not nearly so severe to take from them their right to procreate. It has already been shown that there are many of this class who prefer not to procreate and voluntarily submit to sterilization.

Dr. W. Forrest Dutton, Walker's Mills, Pa.: I should like to have Dr. Hurty define the limits of this class. That is to say, What is meant by defectives in the broader sense of the word?

Dr. J. N. Hurty, Indianapolis: That would be difficult, indeed. At the present time I would confine vasectomy, if we adopt that method, to those convicted in the courts. We could not extend it further at present; but science may advance some time in the future so that all could be reached. The law in Indiana says that the man shall be examined; if he is found unfit, and has the stigmata of degeneracy, then he is sterilized. The method is not prescribed; any method may be used. That is about as far as we can go at the present time.

Dr. Harry C. Sharp, Indianapolis: In tuberculosis, of course, we are not dealing with a defect. There are families that have low vitality; and it seems to me to be transmitted from one generation to the other. As to the danger of vasectomy becoming popular with a certain class, I fully comprehend that; and I think we should have on the statute books of every state (and we in Indiana realize this since the matter has become so generally understood) a law attaching criminal indictment to any one submitting to this operation or performing the same without due process of law which would be binding. The statement that no one voluntarily gives up the power of procreating, is, in the face of facts, entirely wrong. Many women in this country, and a great many more in Europe, particularly in France, have submitted to major surgical operations in order to avoid procreation. We are all human beings, and we are all submitted to temptation. The one who is normal withstands the temptation; and the one with weaker powers of resistance succumbs. The present law in the state of Indiana, and the only one I think justifiable now, is the one dealing with people in the public institutions. They may have committed crime; they may be in our poor asylum, orphans' homes, insane asylums, or institutions for the feeble-minded. I stated in dictation of my paper (its omission was an oversight of my stenographer) that while the apparent increase in France is not borne out by facts, the definition of crime has been materially extended in several fields; law has been more vigorously enforced. Furthermore, regarding insane asylums, heretofore people have kept their afflicted relatives at home, now they put them in public institutions. All those things contribute to show an increase in criminals and defectives; nevertheless, the actual increase is out of proportion to the increase of population.

I began this work in October, 1899, and from 1899 to 1907 this operation was done on 176 men in the Indiana Reformatory on request. The request was solely for the purpose of relief from the habit of masturbation, and I will give as an illustration the story of my first operation, in October, 1899. A boy 19 years old came to me and asked that he be castrated, as he could not resist the desire to masturbate. I first had him put in a cell with a fellow inmate, thinking that perhaps he would be abashed and the sense of shame would prevent him. He came to me again, still insisting on castration, saying it was just as bad as ever. I did the operation, and two weeks afterward he came to me and said I was just fooling him, that I had not operated on him and he wanted the other operation. I asked him to wait two months and then, if he was no better, I would perform castration. In two months' time he came to me and told me he had ceased to masturbate and that he was all right. I asked him if he had lost any desire or pleasures of the gratification. He said: "No, but I have the will power to restrain myself." That institution conducted a school of letters. This patient was unable to make any progress in the school. Three months after that operation he made satisfactory advance in the school. This was true, practically, of every man operated on; every man who has ceased to masturbate has assigned the same reason: practically every man has told me he sleeps better, feels better and has a better appetite. In that institution the men are sent out on parole. We have satisfactory and unsatisfactory paroles. That is, those men who violate their parole and are brought back to the institution, "jump their parole" (as it is termed), which means that they leave their place of employment and run off. About 65 per cent of the average of that population are satisfactory paroles; that is, of the number of men who are paroled, 65 in 100 receive their final discharge as "satisfactory"; 35 are either returned or leave their place of employment. My last report indicated 203 of the paroles in these men who had been operated on in the last ten years, and 5 of that 203 were unsatisfactory. Since this law was enacted, of course, we have been doing the operation by means of a commissioner appointed. The man's ancestry is inquired into. If the man has had syphilis he is not considered a fit subject to procreate, and he is sterilized. Any man in a criminal institution, when told that he is to be operated on, resents it; so that all these men we have operated on resent it at the time; but subsequently they approve. I have operated on three physicians, and they have all assured me that they have a decided lessening of muscular and nervous fatigue.

The Histology of the Posterior Lobe of the Hypophysis.—Just behind the posterior lobe of the hypophysis, W. Haberfeld (*Anat. Anz.* Sept. 1, 1909, xxxv 98) finds in the human fetus a peculiar structure, the persistence of which might cause some confusion in a post-mortem diagnosis of glioma of the hypophysis. On the Cohnheim theory, this group of cells also affords an explanation of the embryonal rest from which a glioma of the hypophysis would arise. It occurs almost constantly in the fetus (in 5 out of 6 cases) and the new-born (10 out of 11 cases), is about one-fourth the size of the posterior lobe, and is usually found behind and a little below the posterior lobe. The body is made up of very typical glia cells and usually contains a lumen lined with ependymal cells that have very fine cilia. There is no sharp line of division between the glia tissue and the ependymal cells. This body has not been found in the adult or in children older than 3½ months.

THE EFFECT OF INTERCURRENT DISORDERS ON PRE-EXISTING EPILEPSY *

ARTHUR S. HAMILTON, M.D.

MINNEAPOLIS

In the summer of 1899 my attention was first directed to the effect which intercurrent troubles have on epilepsy and mental diseases. At that time, a small epidemic of measles appeared at the State Hospital for the Insane at Independence, Iowa, and, among others, six epileptics acquired the disease. These patients were not under my direct charge, but I saw them frequently, and it was my opinion, as well as that of Dr. Joseph Ohlmacher, in whose immediate service they were, that their convulsions were lessened in number. This opinion however, was based merely on general observation, and there are no definite records to support it.

The next year, during a prolonged epidemic of typhoid fever, a large number of epileptics became ill, and on the study of these patients my paper is chiefly based. As opportunity offered since that time, I have kept a record of other cases so that now I have notes on a considerable number of epileptics who developed measles, scarlet fever, tonsillitis, pneumonia, grip, gastrointestinal disorders, and pregnancy, or who sustained various injuries, but in nearly all the short duration of the illness, the relative infrequency of the seizures, and the lack of any definite knowledge as to the number of seizures when the patient's general health was good, have prevented me from drawing any positive conclusions, and such cases have been eliminated.

Inasmuch as attacks of petit mal, especially in a large hospital for the insane, are not likely to have been carefully observed in individuals during a state of health, not much has been said here about them. The same is true of psychic equivalents. It is worthy of note, however, that during the typhoid epidemic the patients were carefully observed both day and night by more or less competent nurses, whereas their records previously had been kept by attendants who were by no means always competent or careful. Such error, therefore, as may be due to inaccurate observation is wholly on the side of the contention of this paper. In almost every instance the bromids were discontinued during the period of acute illness and begun again during convalescence. Abstracts only of histories are given.

Case 1.—*Summary.*—Patient, man, aged 40, single; three cousins were insane. Epilepsy began at 7 years of age; patien sent to the state hospital at 25. Gradual mental deterioration Severe attack of typhoid in 1896; pleurisy in 1898 and typhoi again in 1900. Previous to latter, three or four major convulsions a month in addition to occasional attacks of petit mal During forty-six days of typhoid one light convulsion. Towar the end of convalescence, a remarkable diminution in the fre quency of respiration. About a year later, another prolonge period of this respiratory disturbance. Subsequent to recovery convulsions about the same, but mental deterioration mor rapid.

History.—Family history was little known except that tw cousins on the mother's side and one on the father's were in sane. The patient's general health was good so far as know He had a good common school education; never used liquors t any extent.

Present Disease.—The patient had epilepsy (both petit an grand mal) since 7 years of age. When 24 years old, his min began to show signs of failure, and the next year he was sent t the state hospital. At that time he usually had from three to twelve fits within a period of thirty-six hours, and then there was an interval of two to four weeks. A stomach aura was usually present. For three weeks before admission he had been sleepless, irritable and despondent; had threatened to cut his throat, and it was feared that he would do violence to others. At times imagined himself in hell, and again thought he was in heaven. He was first admitted to the hospital in 1886, and remained there most of the time subsequently. At first he was pleasant and fairly bright, but as time went on he became more irritable and demented and excessively religious. He had from 1 to 8 severe epileptic convulsions per month, the average being about 3 or 4. In addition to this, there were occasional petit mal seizures.

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* Read in the Section on Nervous and Mental Diseases of th American Medical Association, at the Sixtieth Annual Session, hel at Atlantic City, June, 1909. Considerations of space compel th abbreviation of this article in The Journal by giving parts of th case reports in abstract The complete article may be found in th Transactions of the Section and in the author's reprints.

In 1896 he had a severe attack of typhoid fever. There is no record as to the number of epileptic seizures during this illness, but it is noted that during convalescence he had them very frequently. In 1898 he had an attack of pleurisy, lasting three weeks. On July 27, 1900, he was again taken ill with typhoid. His attack was unusually severe and lasted six weeks. During the first twelve days, his temperature was usually 104 to 105, and the highest records, 105.8 and 106, were charted on the ninth day. The nervous symptoms were pronounced throughout. During the greater part of the high febrile period, he was delirious and had a marked tremor, and up to the end of his illness he was greatly confused. He had a very well-marked peripheral neuritis, and for four weeks had albuminuria but no casts. The Widal reaction was first obtained August 2. From August 6 to 10 he was very ill, with low muttering delirium, and his death was daily expected. On August 12 he seemed a little better, and from this time he slowly improved. He had a short epileptic attack with slight convulsive movement August 24. At that time his temperature ranged from 99 to 102, pulse 90 to 110, and respiration almost normal. At the end of August his temperature was practically normal, pulse 85 to 105, and respiration a little above normal. September 1 his temperature went to 101.5. There was then a steady decline in temperature and pulse so that at midnight of September 3 his temperature was 95.8, pulse 90, and respiration 18. Six hours earlier his respiration had been 34. From September 3 to September 8 his emperature slowly rose till on the latter date it was normal. From September 4 to 6 his respiration was from 16 to 18, but on the morning of September 7 it was 5 per minute; at oon, 8, and at 6 p. m., 12; September 8, respiration at coresponding hours, 16, 8 and 10; September 9, 6, 8 and 8; Sepember 10, 6, 7 and 5; September 11, 5, 4 and 4. During this ime he slept soundly at night, and even during the day was ften found in such deep sleep that it was difficult to arouse im, but aside from this somnolence and his respiration, nothng unusual was observed in his condition. He was considerbly emaciated, but was on light diet and was gaining in eight. At 5 a.m. on the 12th he had a severe epileptic seizre, and at 6 a. m. his temperature was 98.8, pulse 88, and espiration 18. At 9 a.m. he had a second severe convulsion, nd from this time up to September 17, when he was disharged from the sick ward, his temperature, pulse, and resiration were practically normal. It is worthy of note that hough at the time he was taken ill, his respiratory rate was ormal, it rose steadily from that time until, on the sixth ay of his illness, it was 56, and for ten days thereafter it as in the neighborhood of 40 to 45 nearly all the time, and as without any apparent pulmonary complication. The recd of his epileptic seizures for the months preceding and folwing his illness is as follows: April, 1900, 4; May, 1900, June, 1900, 4, and for twenty-seven days in July, 4. Then ere ensued a period of forty-six days during which he had ut one very slight attack. In October, 1900, he had two tacks; in November, 3; December, none; January, 1901, 4; bruary, 1; March, 10.

After he became convalescent, and up till January, 1901, s general condition seemed somewhat improved, but after at time he became worse mentally, was more silly than he d ever previously been, and the attacks of depression which d preceded his illness were succeeded by periods of mild itement. His weight August 31, 1900, was 101½; by January 1, 1901, it had reached 142½, and on March 31 it was 143½. In April, 1901, he is described as being much more stupid than before, and spending much of his time asleep in his room. His seizures had ranged from one to eight per month in the interval, but were on the average a little more frequent than before the attack of typhoid. In June he was sent to the sick ward on account of his stupidity and "queer feeling" which he had in his head. When received there, his temperature, pulse and respiration were normal, but two days later his respiration again became slow, and during the next four days ranged from 6 to 14 per minute. There was no other change in his condition during this time except that he was very stupid and unusually religious even for him. After coming to the sick ward, he had no bromid, though he had had it previously. On June 12, after praying constantly for fifty minutes, he had a severe seizure at 3 a. m. On June 13 he had two seizures, and on the same day his temperature rose without apparent reason to 102, falling shortly afterward to normal. These seizures had no effect in increasing the rate of respiration. Throughout the remainder of June, all of July, and up to the middle of August, his respiration continued slow, rising gradually during that period from 6 to 12 per minute to about 14 to 20 a minute by the middle of August. He was very greatly disturbed mentally; thought he was to be killed on account of some religious matter, and believed himself cured of epilepsy by the direct intervention of God, though he was at the same time having more numerous seizures than at any previous time of his life. At the end of 1903, he is described as having failed considerably mentally.

Case 2.—*Summary.*—Patient, man, aged 26; single; no occupation. Paternal grandparents defective mentally. Epilepsy began at 17, and mental deterioration was noted a year later. On Sept. 1, 1900, he developed an attack of typhoid fever lasting seven weeks. Albumin and casts were present with very marked irregularity of the pulse. For five months preceding he had an average of fifty-four seizures a month. During the fever he had 3 attacks; in the ensuing three months he had 5, 11 and 10 seizures, respectively.

Case 3.—*Summary.*—Patient, man, aged 27; single; family history negative; at 10 years sustained a severe compound fracture of the skull with considerable loss of bone in the frontal region. Six years later a convulsion followed an attack of scarlet fever. Attacks continued, and at 22 patient was trephined. He was admitted at the state hospital at 26; was irritable and demented. August 2 he went to sick ward with typhoid, which lasted about four weeks. Temperature was 103 to 105.8. Albumin and casts were present. Previous to typhoid, attacks came from four to fifteen per week. There were none during illness and, in month following, seventeen.

Case 4.—*Summary.*—Patient, man, aged 29; single. Epilepsy for ten years. Mental symptoms well marked, but few convulsions. No attacks during a mild run of typhoid. A subsequent attack of acute articular rheumatism with some mental improvement.

Case 5.—*Summary.*—Patient, man, aged 37; married; farmer. Father drank; an uncle was alcoholic and insane. No record of date of onset of epilepsy. Insane four years. A prolonged attack of typhoid in August, 1900, with pleurisy and pulmonary tuberculosis. No seizures during two months of illness and some improvement in general mental condition. Change not permanent.

Case 6.—*Summary.*—Patient, man, aged 22; single; family history unreliable but probably negative. At 16 months of age, following an injury to the head, patient began to have attacks of petit mal, followed later by grand mal; he was admitted at the state hospital in March, 1900. He was in very fair physical condition, but was much demented. He averaged from three to seven convulsions per month when taking bromid, and, in addition, had occasional attacks of mental excitement. In August, 1900, he developed typhoid fever which ran a relatively short course from the date of its recognition, with temperature of 100 to 104. During his illness, the convulsions were about as frequent as formerly, and attending them there were some striking variations in temperature and pulse. Slight improvement mentally and physically during and after convalescence, but no permanent change.

Case 7.—*Summary.*—Patient, woman, aged 24; single. Maternal cousin epileptic. Epilepsy began at 8½ years. Marked mental deterioration appeared at 15. At 24, patient developed typhoid fever, complicated by pneumonia, otitis media and frontal sinus trouble (?), and running a course of eleven weeks. Seven seizures during her illness, but only one positive attack during the continuance of high fever. Increased mental deterioration and number of seizures after convalescence.

Case 8.—*Summary.*—Patient, man, aged 31; single. Family and previous personal history negative. Epilepsy appeared at 13. Second admission to state hospital May, 1900. Patient was demented and in rather poor physical condition. August 14 he was found to be ill with typhoid fever, and died twelve days later of intestinal hemorrhage. No seizures during his illness; from ten to twelve per month previously.

Case 9.—*Summary.*—Patient, man, aged 41; single. Insanity and epilepsy on father's side. At 9 years of age, epilepsy developed. Patient admitted to the state hospital at 34; was irritable and demented. Attacks of grand mal, averaging fifteen to twenty per month. Chronic bronchitis and asthma for some time. In September, 1900, developed typhoid fever, and died on the thirteenth day. No convulsions during his illness.

Case 10.—*Summary.*—Patient, man, aged 22; single. Epilepsy since 4 years of age. Epileptic attacks frequent, and dementia well marked. In September, 1900, patient developed typhoid fever, and nine days later died of typhoid and croupous pneumonia. No seizures during his illness.

Case 11.—*Summary.*—Patient, woman, aged 23; single. Epilepsy began at 3 years and continued to her death. In her twenty-third year patient developed typhoid fever and died in the midst of the typhoid in status epilepticus.

History.—Father living and well at 64; drinks moderately. Mother living at 54; has been an invalid for years with some condition causing contraction of the arms and legs. No history of insanitiy, epilepsy, tuberculosis, or cancer in the family.

The patient was as bright as the average for the first three years of her life, and had good health. Menstruation began at 13, and was normal at the time of examination.

Present Disease.—At 3 the patient began to have epileptic fits, from one in three or four months to three or four a day. During the past five or six years previous to admission, the fits were worse at the menstrual period; there was some mental failure for three years, but for four weeks previous to admission, deterioration was very rapid. There had been no convulsions for two months before admission. The patient was incoherent in conversation; appetite poor; slept well; admitted to the state hospital April 22, 1902.

Examination.—Physical condition was negative except for enlarged uterus and increased deep reflexes. Most of the time the patient was quiet and drowsy; occasionally was restless. Her speech was somewhat incoherent; at times drawling and characteristically epileptic; orientation impaired; intellect, memory and mental reaction only fair. She was irritable, confused, and at times emotional; wanted to go home, and said that she was sent to the hospital to die; thought that everyone discriminated against her, and that she was treated badly. She did not want to eat, as she thought that prevented her recovery. During the remainder of April following her admission, she had seizures almost every day; in May, had 24 day seizures, and 4 at night; during June, had 5 seizures in the daytime and 10 at night; was growing constantly more confused. On July 1 she had 3 attacks; on the 2d, 2; on the 3d, 2; on the 4th, 3, and on the night of the 5th, 8. At 8:30 on the 6th she had a convulsion, and this was repeated at 9, 9:30, 10, 10:30, 10:40, and 11:15. Between 11:15 and 12 m. there were five seizures, and from 2 p. m. they occurred every fifteen or twenty minutes, and she died at 4:20 p. m. in status epilepticus.

Autopsy.—This revealed an acute splenetic tumor, recent ulceration of Peyer's patches, enlargement of the abdominal lymphatic glands, and a few hemorrhages into the lungs. A culture from the mesenteric glands showed a pure growth of typhoid bacilli.

Case 12.—*Summary.*—Patient, woman, aged 19; single Three brothers had epilepsy. Patient developed epilepsy at 6 years of age, and the disease continued to her death from tuberculous bronchopneumonia at 19. Seizures were about one per day previously to, but much less frequent during her last illness, and entirely absent during last four weeks. At the postmortem examination it was found that, in addition to tuberculosis, she had disseminated cerebral sclerosis.

Case 13.—*Summary.*—Patient, a boy, aged 11; schoolboy Alcoholism and insanity in the family. Hemiplegia at 14 months, following an injury to head. Directly after, patient began having convulsions, limited to one side, at first infrequent but later coming as often as three or four per month At 6, he had a severe attack of typhoid, and after this no more convulsions until at 10 years he had an attack of scarlet fever, after which convulsions reappeared and occurred once or twice a month. Following circumcision and bromid treatment, attacks ceased for eight months.

Family History.—Paternal grandfather drank moderately; father drank to excess at times. Mother died at 37 of consumption; had been insane for two months. One sister was "nervous" preceding her confinement. History otherwise negative.

Personal History.—There was no trouble at patient's birth He was unusually healthy as a baby. At 14 months, he fell from a chair and hurt his head. There was no external sign of injury. Immediately following this, he had a partial right hemiplegia and shortly afterward began to have fits which were limited to the right side. Each convulsion lasted about ten minutes, and they averaged about one a month. He would become unconscious, fall over, and bite his tongue. Before the accident he could say a few words and could walk, but after it he did not speak or walk for six months. He is now left-handed; before the injury was right-handed. At 6, he had a severe attack of typhoid fever, and was in the hospital for six weeks. Following this he had no more convulsions until he was 10, when he had an attack of scarlet fever, after which they began again, still limited to the right side.

Examination.—When first seen, Sept. 20, 1905, the patient was well developed and well nourished. There was nothing unusual in the formation of head or face. The left hand and arm were distinctly larger and stronger than right; there was practically no difference in the legs. The right pupil was one-quarter larger than the left; the pupillary reflexes were normal. The deep reflexes were slightly greater on the right than on the left; no Babinski, and no Romberg. The foreskin was much elongated and constricted. Physical examination was otherwise negative. The patient was a little slow in responding to questions, and was not quite as bright as other children in school, but the mental defect was not great. Convulsions were occurring from once in two weeks to once a month.

He was referred to the surgical clinic, where a circumcision was done, and he was at once placed on a bromid mixture. He remained under treatment eight months, during which time he had no convulsions, and according to the testimony of his father and his teachers, he was much better mentally.

Case 14.—*Summary*—Patient, woman, aged 31; married: housewife. Family history negative except that her father showed slight evidence of dementia. Epilepsy began at 17, and eventually she had attacks once or twice a month except during each of seven pregnancies, when they wholly ceased.

Family History.—Father died of an accident at 70; a case of mild senile dementia. Mother died at 68; cause unknown. Five brothers died in childhood; exact cause not stated, but it is said that they had no convulsions. One brother and five sisters are living and well.

Personal History.—The patient's general health was good in childhood; at 2, she had severe diarrhea following teething, but had no convulsions. Since then she was never ill except for the epilepsy. At 13, menstruation began. It was regular, but less in amount than is usual. At 14, she began to do housework and has worked hard ever since. She was married at 20, and has had two miscarriages and five living children. One of the latter died of pneumonia, one of enteritis and one of "spasms." The two remaining are healthy.

Present Illness.—When about 17, the patient caught cold immediately following the onset of a menstrual period, and the flow ceased; she then had her first convulsion. She cried out, whirled around two or three times, and then fell over backward: bit her tongue, and was unconscious for over half an hour. A second attack occurred a month later. Since then she has had them about once or twice a month except during her pregnancies. The attacks always come on during the night or as she is getting up in the morning. Sometimes there is an aura, "something rushes up into my head;' often there is none. The attack is always preceded by a cry; sometimes by the shaking of the hands. She falls over; has convulsive movements, bites her tongue; froths at the mouth; passes urine, and is completely unconscious. With the beginning of every pregnancy the seizures have ceased and have not returned until after delivery, shortly after which they begin again. They do not appear to have been unusually frequent following the intermission. The physical examination is entirely negative except that the patient has a lacerated cervix and perineum and gonorrheal urethritis.

CASE 15.—*Summary.*—Patient, woman, aged 45; married; occupation, housework. Family history negative. Epilepsy began at 26 during her first pregnancy. She has been pregnant four times since, and each time her epileptic attacks have recurred, though she was entirely free from them in the interval. The patient is now demented as well as epileptic. She was seen Aug. 12, 1908, with the permission of Dr. W. M. Chowning.

Family History.—Negative so far as learned. Father and mother died of old age. One brother and a sister are living and well.

Personal History.—The patient was married at 26, and up to that time had been perfectly well. One year after marriage she gave birth to a child. When her pregnancy was three months advanced, she had her first convulsion. She was sitting in a rocking chair, became unconscious; fell over; bit her tongue, and her entire body jerked. After delivery she had no more convulsions until she became pregnant a second time, and another child was born two and one-half years after the first. She had six or eight seizures during this pregnancy. Two years later a third child was born with a similar experience on the part of the mother during that pregnancy. During the fourth pregnancy she had an increased number of convulsions, and also began to show symptoms of intellectual deterioration. At the time of the taking of this history, the youngest child was two years and two months old, and the mother was again three months pregnant. She had no convulsions during the interval, but since the beginning of the pregnancy had had six major epileptic attacks.

She was a well-nourished woman, apparently in good general health, but she had a low and narrow brow and dull, heavy expression. Heart and lungs were normal; arteries moderately thickened; patellar reflexes normal. Pupils were equal and reacted normally to light and distance. The patient was evidently not only an epileptic, but considerably demented. That she should remain free from the attacks in the intervals between her pregnancies seemed almost incredible, but careful questioning failed to elicit any evidence of either petit or grand mal during that time.

CASE 16.—*Summary.*—Patient, man, aged 57; hardware merchant, and single. Family and previous personal history negative. Epilepsy began at 32 years of age. At 44 patient had an attack of mental depression with some confusion, lasting bout eighteen months without cessation of the convulsions, which occurred from once a week to one every month or two. At 55, he sustained a fracture of the ankle. For two years fterward he showed great confusion, but had no convulsions.

Family History.—Father died at 79, of old age; mother, when comparatively young, of unknown cause. Two halfrothers are living and well. So far as known, there is no ther cases of insanity, epilepsy or other nervous disorder in he family; no tuberculosis.

Personal History.—The patient was a strong and healthy oy, and aside from his epilepsy had little sickness throughout is life. He used beer and whisky in moderation. He never married. A good many years ago he entered the hardware business, and was able to continue in charge of his store up to 1889, when he was sent to a hospital for the insane.

Present Illness.—In his thirty-second year he awoke one morning to find his tongue sore, his pillow bloody, and his "stomach very much upset." The first positive attack of epilepsy occurred several months later. Shortly after retiring, he fell out of bed in the midst of a convulsion; was unconscious, and bit his tongue severely. A physician was called, and pronounced it "stomachal epilepsy." Attacks occurred at intervals ever since; at first, always at night. For some years he would go for two to eight months without an attack; later, they came much more frequently. He was first admitted to the state hospital Aug. 31, 1889. It was then stated that his mental trouble had been present a little over a week, and it was diagnosed as "acute melancholia." The cause ascribed was "disappointment at the marriage of an adopted niece." When first admitted he was greatly depressed; would not answer questions, and ate very poorly. A couple of months afterward, he is noted as being a little worse, forgetful, and confused. A few days later, a well-marked tendency to suicide appeared. On April 22, 1890, he was taken home "somewhat improved." He was returned on June 2, his mental and physical condition about the same as when discharged. He remained at the hospital a few months, and improved sufficiently to be able to go home again. Later he spent some time in the county hospital, and then was home again for a period of five years. He had never had a guardian appointed when he was at home, and was at least in nominal charge of his business. He was by no means well, however; had convulsions at intervals, ranging from a week to a month or two, and at times talked to himself, and was restless and uneasy. In August, 1902, he became unusually restless, ate little and slept badly. One night he broke the screen from his window and jumped from the second story to the ground, fracturing his left ankle. For two or three days after the injury his mind seemed perfectly clear. He then became greatly confused, and in this condition was sent to the hospital Aug. 26, 1902. There had been no seizures since the accident.

Physical Examination.—The patient was a small man, fairly well developed, and well nourished, with nothing unusual in the conformation of the head. There were many pimples on the skin over the shoulders. The left ankle was fractured. The heart, lungs, and abdominal organs were apparently normal; the radial arteries not thickened. The urine was negative except for the presence of a few leucocytes and red blood cells.

Mental Condition.—The patient's face had a pleasant but rather dazed expression. He entered at once into conversation, but was very much confused; often began, but rarely completed a sentence; seemed to lose the idea before he had fully expressed it, and even when it was recalled to his attention, he was unable to take it up again. He knew that he was at the hospital at Independence. It seemed to him that he had been there before, but he could not say; he was uncertain. When asked how he came to be here this time, he answered: "Well, he said he wanted me—the man that brought me. He said he would take me back there. I suppose they'd let me go again, wouldn't they? The strangers that brought me here?" When asked if he liked it there, he replied: "Well, I guess so far—I guess—well, I don't know. I think I'll be able to walk on that before long, won't I [pointing to leg] ? I suppose likely——" [considerable delay and he was asked what he meant to say] "I suppose it was all right for me to come here, wasn't it? They brought me here—something the matter with my leg or something. I don't know." [Picked at his nose and stared around.] "Well, I suppose that I'd be right here, wouldn't I?" When asked the date, he hesitated considerably; finally gave it as '92; thought the month was August, but could not go further. After a little delay, he named the president and governor correctly.

Course of Disease.—For two years after admission this man was under my care, was closely watched by nurses both day and night, and during that time he did not have an attack of epilepsy or anything resembling one. For a time after admission, he became more and more confused, and finally this reached such a degree that it was scarcely possible to get any meaning from his disconnected words. It was apparent, however, that he was constantly dominated by the idea that he had done something wrong for which he must make reparation. He would try to speak to the doctor about the matter every day during the period of his detention, yet if given time to explain his case, he became so greatly confused that it was impossible for him to formulate even the simplest sentence. His leg healed slowly, but his general health was good. At the end of two years he passed from my observation, but during his last three months he seemed a little less confused and somewhat more cheerful.

Case 17.—Patient, man, aged 28. Sister epileptic. Patient had epilepsy nearly all his life; he was irritable and, in later years, demented. He was admitted Oct. 18, 1897, in status epilepticus. He was unconscious, with frequent seizures; died Oct. 21, 1897, from pneumonia. His temperature was 101 to 102.2. The anatomic diagnosis was: atheroma of aorta; mitral stenosis; croupous pneumonia; cloudy swelling of the liver: scars from former trephine operation; adherent dura mater; thickened pia mater: sclerosis of cornu ammonis.

Case 18.—Patient, man, aged 25, who had had epilepsy since 4 years of age, following measles. No other statement was given as to etiology. Patient was admitted Sept. 23, 1900; died Nov. 2, 1900. Physical examination, at admission, was negative. Patient was much demented; had frequent seizures. October 29 he developed status epilepticus with axillary temperature of 104.2. From this until death, temperature continued high, reaching 108 (axillary just before death). During all this time he was having frequent seizures. Clinical diagnosis was: Status epilepticus with croupous pneumonia. Anatomic diagnosis was: right lobar pneumonia; hypostasis of both lungs; enteroptosis.

That bodily diseases, and also certain physiologic processes, exercise a profound influence on epilepsy has been recognized from the time of the earliest medical records. There is frequent reference in literature to Hippocrates'[1] statement that acute fevers can influence epilepsy both favorably and unfavorably, and, according to Beckhaus,[2] Plato has stated that lepers are free from convulsions. Lanzoni,[3] in 1691, reported the case of a woman who, during three pregnancies, each time had fits twice per month, and was free from them on all other occasions. De la Motte,[4] in 1740, records the case of a woman who became pregnant three times with boys, each time having convulsions, and five times with girls, with no convulsions. This case also developed about 1690. Both cases have been more or less discredited as being possible instances of eclampsia, the albumin test at that time being unknown. Their description, however, certainly does not suggest hysteria, and it does not seem likely that any one could have passed through so many attacks of eclampsia without a fatal result. In 1803 Maisonneuve[5] reported a man who became epileptic after fright on account of a dog-bite. The fits ceased during an attack of intermittent fever, reappearing when the fever was cured. Gérard,[6] in 1846, reported the case of an epileptic girl of sixteen who had about five or six fits per month. She passed through five attacks of intermittent fever, but each time the fits ceased, only to reappear when the fever disappeared.

In 1854, Delasiauve[7] made the first systematic attempt at a collection of cases, and, as a result of his observations, came to the conclusion that practically all severe and acute illnesses suspend or weaken the fits especially in young epileptics with frequent attacks this modification being more or less durable, and tha chronic ailments diminish rather than abolish the attacks. He also pointed out that, in some cases, the epilepsy persists in spite of intermittent conditions, and may even be made worse by them. Since Delasiauve's time, a voluminous literature has grown up, but much of it consists of reports and observations on isolated cases, on account of which some widely differing opinions have been expressed. Thus, Lannois,[8] as recently as 1893, on the basis of a single case in which, in an epileptic infantile hemiplegic, erysipelas was accompanied by complete suspension of fits, and typhoid fever a little later in the same individual was accompanied by an increase in seizures, was able to come to the definite conclusion that, though intercurrent disorders have frequently a suspensory or curative effect on epilepsy, typhoid must be excluded from the list. In 1857, however, Schlager[9] had reported a case of epilepsy with mental disturbance in which typhoid caused the epilepsy to disappear, and in 1865 Wille[10] stated that the fits ceased during typhoid, but on complete recovery returned with increased severity. Wagner,[11] on the contrary, thought that epileptics were unfavorably influenced by typhoid. In very recent years, several men, such as Friedländer,[1] Séglas,[12] Béraud,[13] Beckhaus,[2] and Pelissier[14] have made more or less extensive collections of cases of intercurrent diseases and of pregnancy in epilepsy, and the opinion of practically all is that during the intercurrent trouble the influence is favorable in most instances, but that afterward the fits are often increased. Indeed, at one time the favorable effect of these conditions on epilepsy as well as insanity was so widely recognized that it was seriously proposed to infect epileptic and insane patients with various diseases; injections of turpentine and sterilized cultures of various bacteria were used a number of times with the hope of producing artificially the effects secured by accidental inoculation, and it was prophesied that some day such means of curing patients, including the building of hospitals for epileptics in malarial regions, would be generally employed.

In addition to the diseases already mentioned, epilepsy is reported to have been favorably influenced by pneumonia, scarlet fever, measles, whooping-cough, loss of blood, and skin eruptions, including the itch, while the favorable influence of traumatic experiences such as wounds and burns, to say nothing of operations, is very widely known. Clarke and Sharp[15] report their experience with epilepsy in twelve cases of measles, German measles and erysipelas, and strongly emphasize their belief that there is little improvement in the epilepsy accompanying these diseases, and that such improvement as is found is not permanent. So far as I know, however, practically no one contends at the present time that the effect of these intercurrent troubles is more than evanescent except in very exceptional cases.

In my series of cases, 11 patients had typhoid or typhoid complicated by some other trouble, and, of th number, 9 showed distinct improvement as respects the number of seizures; 1 was unchanged, and 1 died of status epilepticus in the midst of her attack of typhoid fever. One patient (Case 4) had no convulsions for three and one-half months after his attack of typhoid fever, and was better mentally for one year. In only one instance (Case 13) was there a fairly permanent favorable effect, and in several instances the seizures were really increased in and after convalescence as was also the rapidity of mental deterioration during subsequent months. An epileptic patient of one of the other physicians at the hospital in the same epidemic died of status epilepticus when well along in convalescence, though his epileptic manifestations had been much improved during the period of acute illness. Once tuberculous bronchopneumonia greatly reduced the number of supposedly epileptic attacks. Once typhoid caused cessation of the attacks, which were reinduced, four years later, by scarlet fever. Once pregnancy caused convulsions, and once it caused their cessation. In an old man with a severe traumatism, including fracture, a state of mental confusion was substituted for the attacks, and in two individuals dying of status epilepticus, pneumonia was also found. All the patients were more or less demented in addition to epilepsy, and none showed any permanent mental improvement. In most cases, there was more than the usual amount of mental dulness during the first few days of the typhoid, to be followed by some increase in mental activity in the midst of and toward the end of the disease. Didé[16] says that the convulsions are increased in frequency in the very early period of the typhoid.

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[1] Quoted from Friedländer: Ueber den Einfluss des Typhus Abdominalis auf das Nervensystem, 1901.

[2] Quoted from Beckhaus: Ann. d. Städtischen allg. Krankenhäuser zu München, 1890-92.

[3] Lanzoni: Ephémérides des curieux de la Nature, 1691.

[4] De la Motte: Traité de chirurgie, i, 1740.

[5] Maisonneuve: Recherches et observations sur l'épilepsie, Thesis, 1803.

[6] Gérard: Ann. méd.-psychol., viii, 1846.

[7] Delasiauve: Traité de l'épilepsie, 1854.

[8] Lannois: Rev. de méd., xiii, 1893.

[9] Schlager: Oesterr. Ztschr. f. pract. Heilk., 1857.

[10] Wille: Allg. Ztschr f. Psych., xxii, 1865.

[11] Wagner: Reprint from Jahrb. f. Psychiat., vii, 1886.

[12] Séglas: The Influence of Intercurrent Diseases on the Cours of Epilepsy, Paris Thesis, 1881.

[13] Béraud: The Relation of Pregnancy and Accouchement t Epilepsy, Paris Thesis, 1884.

[14] Pelissier: De l'influence des maladies infectiouses intercur rentes sur la marche de l'épilepsie. Thèse de Montpellier, 1898.

[15] Clarke and Sharp: Med. News, Dec. 1, 1900.

As respects typhoid, therefore, my experience is very similar to that of most other writers. The effect, temporarily at least, is almost uniformly favorable, but there are exceptional cases in which the influence is negative (Case 6) or in which it is highly unfavorable and even produces status epilepticus (Case 11). One of Clarke's and Sharp's patients, when well along with measles, died of status epilepticus and pneumonia.

As a rule, the effect of the individual convulsions on temperature, pulse, and respiration was negligible, but in three instances it was quite otherwise. In Case 2 there was, at two periods of the illness, great irregularity of the pulse, lasting several days, both periods corresponding closely in time to the convulsions, though there may have been no necessary connection. In Case 1 there was a remarkable respiratory disturbance at different periods of the illness. At the onset, the respiration was normal, but, as the illness increased, the respiratory rate rose to from 45 to 56 without organic pulmonary disturbance, and remained elevated throughout the period of acute illness. When convalescence appeared to be fairly well established, the respiratory rate had about reached normal. On the forty-second day of the illness, however, it dropped from 16 and 18 on the previous day to 5, 8 and 12. The next morning it was 16, but dropped again during the day to 8, and 10, and on the two subsequent days varied from 5 to 8. On the following day, September 11, it was 5, 4 and 4. The patient was eating fairly well at this time and gaining in weight, and nothing unusual was noticed in his condition except the respiratory disturbance and an excessive somnolence. At 5 a. m. of September 12 he had a severe epileptic seizure, and at 6 a. m. his respiration was 18, and continued normal in rate thereafter up to June 7 of the next year, when it again dropped to 6, and during the next two and one-half months gradually rose to 14 to 20. Seizures occurring during this interval had had no effect on it. In Case 6, also, there was a marked disturbance of pulse and temperature in connection with certain of the individual seizures, but not of respiration, and the disturbance did not accompany all the seizures. Mivart[17] has reported an epileptic patient with the unusually slow pulse rate of 20 to 24.

Friedländer[1] says that there is only one authentic instance (Prieger's[18]) of a cure of epilepsy by typhoid fever. Case 13 of my list would certainly be accepted as a cure if the subsequent history of the patient were not known, for there was a period of four years following the typhoid with no attacks.

Béraud,[13] in his Paris thesis on the "Relations of Pregnancy and Accouchement to Epilepsy," states that pregnancy is not a cause of epilepsy, and that the uterine epilepsy of the ancients is the modern eclampsia. If we disregard the cases of Lanzoni[3] and De la Motte[4] already mentioned, Béraud's statement was probably correct at the time he wrote. In 1890, however, Gudder[19] reported a woman who suffered from epilepsy during both of her pregnancies, and at no other time. Case 15 of my list clearly comes in this group. There are also many cases in literature in which existing epilepsy was made worse by pregnancy, including one additional case of Gudder,[19] Chambrelet's case,[20] Terillon's[21] case, and others. Though there is still considerable dispute as to the usual effect of pregnancy, the opinion of most recent writers is that it is favorable. Thus, in a series of thirty-one collected reports of cases, Béraud[13] found 8 in which its influence was unfavorable, 8 in which it was negative, and 15 in which it was favorable. Of the latter, the suspension of fits was complete in 8 and partial in 7. It may be worthy of note that in one patient (Terillon's[21]), on whom pregnancy had an unfavorable effect, typhoid gave the same result, and in one (Boyé's[22]), in whom pregnancy caused cessation of the seizures, typhoid also caused cessation. In all of Béraud's[13] cases, the effect, if any, was evanescent. Also the effect in the same patient was uniform. Thus, if the first pregnancy caused the fits to cease, the same results always attend subsequent pregnancies. Pearce[23] reported an epileptic patient of Hirst's, with no convulsions from the third month of pregnancy up to nine months after the birth of the child; also three other women who had no fits during pregnancy, but with recurrence after labor; a fifth woman had five children and had no attacks while carrying them, though having an attack once in three weeks at other times. An ovariotomy on this woman had no effect in diminishing the seizures. A sixth woman had an almost identical history. In the same article, S. Weir Mitchell is quoted as saying that he had never seen epilepsy made worse by pregnancy; that, on the contrary, he has often seen it made better, or entirely cease for the period of pregnancy and even into the puerperium. Putnam[24] reports a woman with no seizures during pregnancy, and final cessation of fits.

As already mentioned, traumatism is widely recognized as having a profound effect on epilepsy, usually

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16. Didé: Rev. de méd., Feb. 10, 1899.

17. Mivart: Lancet, London, Jan. 3, 1885.

18. Prieger: Heilung der Epilepsie durch Typhus, Allg. Ztschr. f. Psych., 1877, vii, 685.

19. Gudder: Quoted from abstract in Jour. Nerv. and Ment. Dis. January, 1892.

20. Chambrelet: Jour de méd. de Bordeaux, Nov. 5, 1899.

21. Terillon: Ann. de gynéc., 1881.

22. Boyé: Traitement de l'épilepsie. Thèse, 1882.

23. Pearce: The Protean Influence of Pregnancy on Idiopathic Epilepsy, Med. and Surg. Reporter, Jan. 2, 1897.

24 Putnam: The Relation of Pregnancy to Nervous Diseases, Am. Med. Quart., April, 1900.

making it better temporarily. I have not, however, found any case in literature in which the fits have ceased, to be followed by a state of constant confusion over a long period of time, as happened in Case 16. I have the record of an additional case in which, in a girl of 27, an accident almost identical with that in Case 16 happened, resulting in a fracture of both ankles. In this girl, the fits ceased for about two months and were succeeded by a state of confusion less well marked than in Case 16, but the previous history of this patient is so meager as not to render it certain that she had not previously had similar attacks even without traumatism.

Pneumonia, among other acute diseases, is mentioned as causing temporary cessation of fits. In a list of thirty-one epileptics who died of various causes at the Independence State Hospital, and in whom a subsequent autopsy showed croupous pneumonia, I could not find one instance in which it could be absolutely stated that the seizures were less frequent during pneumonia than at other times. On the contrary, there was a clear history of status epilepticus in eleven instances, as occurred in Cases 17 and 18, of which I have only a brief summary of clinical findings to accompany the autopsy records. There were several instances in which no fits occurred during the known period of pneumonia, but this always happened in individuals in whom the seizures were infrequent, and it was impossible to say that they were decreased in number.

How it is that intercurrent diseases can exercise this profound influence on epilepsy is almost as much of a mystery now as when the existence of the relationship was first recognized. It was perhaps but natural that the influence should have been ascribed by many, including Séglas,[12] Toulouse and Marchand,[25] to the fever and the febrile reaction, and favorable results obtained in thyroid feeding have tended to confirm this view. A careful study of cases, however, shows that the degree of improvement in no way corresponds to the height of the fever, and, though the rise in temperature may be a factor, there are certainly other and more important causes at work. The highest temperature recorded in any of my cases was 108, which occurred in Patient 18, who at the time was dying of status epilepticus. The association of high fever, pneumonia, and status epilepticus is certainly a common observation among those who have most to do with the care of epileptics. Friedländer[1] asserts that erysipelas exercises a more powerful and prolonged influence on epilepsy than does typhoid, though the febrile reaction of erysipelas is certainly not so high or so prolonged as of typhoid. Lannois[8] insists that it is not the febrile reaction which induces the change in epilepsy, but the presence of a special poison developed during the course of the intercurrent disease, and this seems the more probable view. It may be that the toxins developed stimulate metabolism—or it may be that in some way the invading toxins awake renewed resistance within the body, possibly in the manner described by Metchnikoff.

Assuming that the intoxication is the proper explanation, numerous attempts have been made by means of artificial inoculation to secure the desired effect, and the results have been uniformly less favorable than in Nature's method. My own most recent attempt was with the Wright method of vaccination. I employed this first with a cataleptic young woman who also had a severe attack of acne. In two days, following the injection of sterilized staphylococcus culture, there was a very marked mental improvement. The patient got out of bed, walked about, talked fairly intelligently, ate well and in all respects seemed greatly improved. In two weeks she relapsed completely, and a second and third injection had no mental effect, though the acne disappeared. It is altogether possible, therefore, that the mental change, at the outset, was merely a coincidence The subsequent use of a typhoid culture in a manic-depressive case, the patient being in a state of depression, was also without effect.

Whether we accept the idea of toxins or of the rise in temperature, however, neither explains satisfactorily the effect of such physiologic processes as pregnancy, nor why typhoid in one person is accompanied by the cessation of seizures, and in another by status epilepticus; nor why pregnancy also can produce absolutely dissimilar effects under apparently similar conditions.

ABSTRACT OF DISCUSSION

Dr. Augustus A. Eshner, Philadelphia: Dr. Weir Mitchell, of Philadelphia, had intended preparing a somewhat elaborate paper on this subject. He had received a number of reports from practitioners in various parts of the country in response to a circular letter, in which experiences were related, showing the inhibitory influence of intercurrent disease on the seizures of epilepsy, and I have gone over the literature for him, most of which has been detailed by Dr. Hamilton. Such an influence, usually temporary, though at times apparently permanent, has been observed since the time of Hippocrates. As Dr. Hamilton has pointed out, therapeutic attempts to control the convulsive seizures by means of the artificial induction of intercurrent disorders, have been made. Scabies has been induced artificially, resulting in a temporary suppression of the seizures of epilepsy. Brown-Séquard in the middle of the last century, noting an analogy between intermittent fever and epilepsy, suggested the development of intermittent fever for the purpose of restraining the seizures of epilepsy. Suggestions of a similar character have been made more recently. Lannois actually employed cultures of staphylococci by inoculation for the purpose of restraining the seizures, and he reports a certain measure of success. After him Marie advised the employment of potassium cantharidinate or some other product of cantharides.

Hessler, an American observer, reported the use of antistreptococcic serum in a series of cases, with good results. Turnowsky has recently reported three cases in which it was believed that permanent recovery from epilepsy was secured as the result of intercurrent pneumonia and scarlet fever respectively, and he seriously advised the exposure of cases of epilepsy to infection with these diseases. Dr. Hamilton has referred to the long list of diseases that appear to exercise an inhibitory influence on epileptic seizures. Typhoid fever has been observed most commonly to exercise such an influence, probably because we see typhoid fever more commonly than any other diseases in epileptics. All infectious diseases, all febrile affections, practically have been noted as exercising an inhibitory effect.

It is well-known that such a result often follows surgical interference undertaken with therapeutic intent. Burns, traumatisms, fractures, the introduction of setons have all exhibited a similar influence. It is difficult to assign an explanation for the influence of intercurrent disease on epilepsy, but Lannois believes that it is due to toxic activity. Dr. Mitchell expressed to me the opinion, and he wished me to voice it at this meeting, that the inhibition is exercised especially in cases in which there is cough. I believe his own observation was made in a case of whooping cough.

Dr. M. L. Perry, Parsons, Kansas: I think it is well to warn those who are inclined to take too hopeful a view of these cases that we should be careful about prognosis. In an experience of six years with epileptics and records of 800 cases we have seen a number of instances where we had temporary relief following various intercurrent diseases, but our records show no case of permanent relief; and it is well to bear in mind that these cases of apparent relief, if they are watched closely, will almost invariably recur, and we have little permanent benefit. I recall but one case of relief of several years' duration, and that was following a severe scald. I do not doubt but that in this case also, the patient being a hemiplegic, there was sooner or later a recurrence. We have had a considerable amount of erysipelas, the usual amount of pneumonia, etc., in our institution, and have noticed their effect in temporarily checking pre-existing epilepsy; but I think we should be very careful in the matter of prognosis, as those cases almost invariably recur.

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[25] Toulouse et Marchand: Influence des maladies infectieuses sur les accès convulsifs épileptiques, Rev. de psychiat., March, 1899, No. 5.

Dr. A. S. Hamilton, Minneapolis: In the time at my disposal it has been impossible to read all of this rather lengthy paper and that may have led to some misapprehension. Certainly it was not my purpose to give the impression that permanent results could be expected from these intercurrent conditions and that has, I think, been pretty clearly pointed out in this paper. These are interesting observations and that is, up to the present time, all they amount to. Nevertheless, it seems to me that anything which is capable of exercising so profound an influence on convulsions as acute febrile disorders have been shown to produce, is worthy of consideration, and it may be that at a future time, a better knowledge of physiologic chemistry will enable us to take advantage of the therapeutic principle here involved.

BLOOD-SMEARS, THEIR PREPARATION AND STAINING

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The following article has been written to promote the greater use of slide blood-smears in diagnosis by pointing out simple methods of making them. The average physician will not make cover-glass smears; he will go without smears first. They are too tedious and difficult to handle. To illustrate the simplicity of the method of making and staining slide smears, let me say that the physicians in the receiving ward of the Cook County Hospital, working two at a time, and diagnosing from 100 to 200 cases daily, find time to make, stain and examine blood-smears by this method to help in differentiating typhoid, malaria, and miliary tuberculosis from occult (septic) pyogenic conditions, measles from scarlet fever, etc.

I wish, in the first place, to describe an excellent technic for making smears preparatory to staining them, which, though not original with me, I cannot find in the literature. It should be described in every textbook on hematology and clinical diagnosis.

Second, I desire to emphasize the fact that special cleansing preparations of slides and the skin surface for making smears are not necessary. This is exactly opposite to statements in text-books; and the time-saving element must appeal to physicians.

Third, I wish to show how to overcome difficulties in using the Harlow stain. Even the slight differences in technic in the method described from other well-known methods are all-important for success. Although not new in its details, the summary here given has been collected from many sources, carefully sifted out, tested by experiment, and the important features only are here dwelt on. Two points of special importance in the method here given are (1) the economy in the use of the Harlow stain, because one main objection is the expensiveness of the absolute alcohol used, and (2) the self-correction and future dependability of the stain.

METHOD OF MAKING SMEARS

A correctly made smear is of as much importance as the stain. To make broad, uniform smears and not to crush or to distort corpuscles and other elements, as well as to secure an even distribution of all the cellular elements, is the object in view. Use a good quality of glass slides, cleaned by breathing on them and rubbing off with a clean, dry, old linen handkerchief. I rarely find that any other preliminary cleansing or preparation of the slides is needed.

Cleansing of the ear-lobe with alcohol or anything else is likewise seldom necessary; certainly the rubbing creates a hyperemia and gets more blood from an anemic ear, but the lobe of the ear is rarely dirty or greasy enough to contaminate the exuding drop of blood. As an antiseptic precaution, cleansing is also unnecessary, since infection in the ear-lobe is a very remote possibility, and the usual cleansing methods are, at all events, superficial. It wastes the physician's time, and, worst of all, if the ear is left the least bit moist from solutions used, the blood-drop diffuses over the surface of the skin instead of standing up like a bead; the corpuscles are laked or agglutinated; and the resulting smear is worthless. Many physicians are inclined to blame the stain, when the whole trouble lies in the smear. Dropping the needle, or blood instrument, into alcohol after puncturing the ear is commendable, since it may preclude transference of a bacteriemia or contagion from one patient to another.

Probably the best mode of procedure to make slide smears is as follows:

Have two clean slides, A and B, ready. Stick the ear-lobe with a Hagedorn or similar cutting needle. No blood appears, as a rule, until gentle pressure is applied to the lobe. Touch center of slide A to the rounded drop of blood which exudes. Do not press the slide against the skin surface. Now grasp the right end of slide A, with blood drop on top, between thumb and fingers of left hand (palm of hand upward), and hold slide horizontally with its left end directed obliquely away from the body and projecting two-thirds its length over the radial border of the hand. Take slide B in right hand, apply one end to farther edge of drop and pull B back toward you about one-eighth of an inch. This is to make the drop spread by contact sidewise in the acute angle formed between the slides. Next, holding slide B in place, pull slide A steadily backward beneath it and toward your right until the slides slip past one another. The blood-cells adhere to the moving horizontal surface of slide A and fall off from the posterior surface of slide B in a smooth even sheet, uncrushed—in fact, untouched. Dry at once by shaking vigorously in the air. Thus one smear is made on slide A. Slide B may be smeared in exactly the same manner, using the end of slide A for contact. Stain as soon as convenient. Take care that flies do not walk over the surface of the dried smear or the corpuscles will disappear like magic.

It requires much less time to make the smears than the written description of the method would imply, and after a little practice one can make smears with great dexterity and accuracy. Do not use too large a drop of blood. One that does not spread quite to the edges of the slide is best, for then the leucocytes will not collect along the edges of the smear. In making the second smear and all subsequent ones, use a perfectly fresh drop of blood, not the drop that has exuded by itself during the preparation of the previous smear. Smears of other body fluids are made similarly.

DIRECTIONS FOR STAINING IN BRIEF

Use the Harlow[1] (Skelton[2]) stain. The two staining solutions are kept separate, each in a three-ounce, wide-mouthed bottle. 1. Drop the smear, air-dried, but without other fixation, into the eosin stain twenty seconds 2. Remove, drain an instant against the mouth of the bottle, drop directly into the methylene blue stain twenty seconds. 3. Remove, drain as above, wash rapidly to and fro in a tumbler of tap-water, then shake off the excess of water and blot dry between two folds of filter-paper.

This technic applies to the Harlow stain the principles commonly used in the laboratory for staining sections and smears with ordinary stains, the chief distinctions being the absence of previous fixation or hardening; staining under cover (i. e., the bottles are kept stoppered while staining); there is no washing between stains; and some of the first stain is carried by the smear directly over into the stock solution of the second.

The specimen is ready for examination. The total time spent in staining is less than one minute. Everything is stained—red cells, white cells, the three types of granules, blood-plates, malarial organisms, bacteria, etc., equal to the lithographed plates in text-books. Pleural effusions, ascitic fluids, spinal fluids, pus-smears and similar smears are advantageously stained by this method, since stray red corpuscles which may get into the smear are at once identified by their red stain, whereas lymphocytes, leucocytes, pus cells, mucus, bacteria, etc., show blue.

ADVANTAGES OF METHOD

In a former article[2] I laid stress on the usefulness of blood-smears in general diagnosis and on a special method for using the Harlow stain for cover-glass smears, as well as the many advantages of the stain, and method of staining, as compared with Wright's and others. I prefer the old Ehrlich cover-glass smears for reasons there stated, but the ease with which slide smears are made and stained by the above method deserves special recommendation to busy practitioners.

The method of staining as given above is exceptionally convenient. It will be observed that there is no handling or pouring of the stains at all, no pipettes used, no dilutions on the slide, no special apparatus, preparation, or mixing of stains beforehand, no previous fixation of smears, no soiling of the fingers, table, or aught else, while ordinary tap-water suffices to wash off the excess stain. There is no fear of overstaining should the smear be left in either of the staining solutions; but usually twenty seconds is the minimum time required. With the bottles mentioned, each about half full of stain, the upper end of the glass slide projects well up toward the mouth of the bottle, where it is easily grasped by the thumb and finger. Forceps are unnecessary. The bottles must be kept stoppered at all times, even while staining, and opened only when introducing or transferring the smear. This is to protect the alcohol from evaporation, and to prevent the absorption of atmospheric moisture, and the precipitation of the stains on the surface of the smear. Glass-stoppered bottles are preferable, but corks dipped in melted paraffin will suffice. While staining, the upper end of the slide should be kept clean and dry throughout, so that the fingers need never be soiled.

The 50 c.c. or so of stain in each bottle will keep indefinitely, will stain hundreds of smears, and the liquid is practically never used up, since none is ever thrown away. When the stain gets a little low in the bottles a little more alcohol should be added. When not in use the bottles should be kept carefully stoppered and away from the direct light. An ordinary crayon-box or square cigar-box will answer very well, offering enough room for bottles, filter-paper, slides, etc.

METHOD OF PREPARING STAINING SOLUTIONS

For the sake of completeness the exact method of preparing the staining solutions is here given:

Place one-half gram of eosin (Grübler's water-soluble) in 50 c.c. of absolute methyl (wood) alcohol (Merck's highest purity) in one of the bottles. Similarly place one-half gram of methylene blue (Ehrlich's medicinal) in 50 c.c. of the same alcohol in the second bottle. Do not filter either stain. After dissolving a few hours, the stain is ready for use. Be careful that no water ever gets into either stain. Accurate weights and measurements are not necessary in making up the stains. Both are supersaturated and, in addition, contain insoluble, or slowly soluble, residues.

STAINING TECHNIC AND STAIN CORRECTIONS

On a moment's reflection it is clear that any failure to obtain results in staining a properly made smear must come under one of the four following heads:

1. *Technic of Staining.*—As this consists simply in standing the two stain solutions and a tumbler of water in a row and dropping the smear into each in turn, a mistake here seems improbable. But you must follow directions specifically. Do not try to wash off the excess of methylene blue under the tap—the driving force of the water will take out almost every trace of the blue. There is no occasion to hurry through any of the steps in staining until you come to the washing. This must be done rapidly, but thoroughly enough to rinse off all floating blue stain from the slide. Remember that the blue comes out rapidly and in direct proportion to the time spent in washing. The red stain is removed much more slowly. Three or four quick swashes back and forth should wash it thoroughly. Then with one fling shake the excess water on the floor, touch the lower end of the slide to filter-paper to catch the last drop of water, and finish by blotting dry between two folds of filter-paper, holding the slide and filter-paper carefully in place with left hand while rubbing heavily with the right. The slide should have a pink-red appearance to the naked eye, if the smear is of blood. Use the stains always in the sequence given: red, first; blue, second. Carrying a little of the eosin on the slide into the methylene blue seems to be the main factor in preventing the deterioration of the stain by age.[3] When, by mistake, a little of the methylene blue is carried into the eosin a permanent cloudy precipitate forms in the latter, but apparently not to any real detriment.

2. *Eosin.*—Any sample which will stain red cells when dissolved in alcohol and used alone is all right.

3. *Methylene Blue.*—Any sample which will stain white cell nuclei when dissolved in the alcohol and used alone is all right. It is to be noted that when certain samples of methylene blue are used in the regular stain-

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[1] Harlow: A Differential Staining of Blood with Simple Solutions, Am. Jour. Med. Sc., April, 1904, pp. 662-667

[2] Hayhurst, E. R.: A Satisfactory Method for Staining Blood-smears, The Journal A. M. A., April 3, 1909, lii 1100.

[3] Theoretically the eosin solution becomes more acid by age owing to slow oxidation in the alcohol. The same applies to the alcohol in the methylene blue solution, but the latter appears to contain enough of slowly soluble alkali to more than correct itself and to be just about balanced by the frequent transference of a slight amount of eosin. Hence the frequency of use of the stain bears some relation to its longevity. When used every few days it appears to keep permanently corrected. When used several times daily the acid eosin finally overcomes the alkaline methylene blue the nuclei gradually fail to take the blue so well, and correction becomes necessary. A given sample, so used, lasted six months however, before correction with a drop of alkali became necessary.

ing method a too decidedly alkaline (deep blue) stain results, so that the red cells have a purple or blue tinge instead of the normal pink. Old stains, which have been little used, may take on this tendency. This is doubtless due to a slowly soluble alkaline impurity in the dye or dissolved out of the glass in the bottles. It is easily corrected (see below). With more use the transferred eosin, being acid, will eventually correct it, too.

4. *Methyl Alcohol.*—This is the factor most often at fault. I have always used alcohol recently imported for institutional use and, therefore, fresh. If fresh it is neutral in reaction. Old alcohol may become acid because of the presence of moisture, which, with room temperature and exposure to light, permits slow oxidation of the methyl alcohol to formic aldehyd and finally formic acid. Alcohol obtained through jobbers and supply houses in this country may show this metamorphosis. Peebles and Harlow,[4] however, after calling attention specifically to this defect, have shown how to correct it. In brief, should the stained smear "fail to show any blue," add a drop of strong alkali (20 per cent. potassium hydroxid) to the bottle of methylene blue solution; should it be stained "too blue," with the red cells purple, add a drop of glacial acetic acid to the methylene blue. I find this works admirably. The eosin solution never requires correction—just the methylene blue. Thus the intensity of either stain in a smear, being strictly a question of chemical reaction in the methylene blue solution, is absolutely under control.

As is well known, different bloods vary in the degree of alkalinity they possess. With a given stain properly corrected the normal blood shows only a pale blue nuclear stain, whereas a stain from a case of pneumonia takes an intense dark blue nuclear stain. The red cells are stained red, the depth of red and its distribution depending on the amount and distribution of the hemoglobin. Should the latter show a purple tinge, the blue stain is too alkaline and should be corrected. The granules in the leucocytes are invariably stained (neutrophilic, eosinophilic, basophilic) regardless of slight differences in the chemical reaction of the stain. In order to have perfect stains of all blood conditions it may be well to have two methylene blue solutions, the one made purposely more alkaline than the other. Try a smear in each. My observation is that any sample which will stain a normal blood so as to show pink-red erythrocytes, and pale blue nuclei in the polymorphonuclears, suffices for all elements in all blood smears, as in most of the pathologic conditions the blue intensification is greater, and the contrasts more marked.

SUMMARY

1. Satisfactory blood-smears may be made by following specific directions.
2. The Harlow stain for blood-smears is utilized in a one-minute method so that it "stains everything" with perfect satisfaction.
3. The method is simple, convenient, and dependable.
4. The physician prepares his own stains to start with.
5. The stain solutions are always ready and keep indefinitely.
6. The stain and method of staining are recommended for dried smears of all kinds.
7. Peebles and Harlow's observations on corrections of faulty eosin-methylene blue stains render control practically absolute.

Clinical Notes

INTRAMEDULLARY TUBERCULOMA REMOVED AT THE LEVEL OF THE FIFTH THORACIC SEGMENT OF THE SPINAL CORD

NOTE ON BEHAVIOR OF THE CEREBROSPINAL FLUID *

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WITH SURGICAL REPORT

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Patient.—A. G., aged 36, American, a wood-working machine hand, entered Buffalo General Hospital, Dec. 26, 1907, complaining of general weakness and pain in the left side of chest.

History.—His father died of old age at 82; mother is living and well at 65. He has five brothers and three sisters living and well. One brother died of typhoid fever at 44. There was no family history of tuberculosis, cancer or rheumatism. Patient had three children living and well; wife had had no miscarriages. Patient had had measles, mumps and whooping cough in childhood and had typhoid fever in 1892; was sick in bed about four weeks. Had influenza in spring of 1907 and a slight attack of pleurisy in summer of 1907. Since that time had been unable to do anything, because of general weakness and pain in various parts of body. Had been hard of hearing in right ear since having had influenza, health being good up to that time. Six or seven years ago patient had an operation for what was probably an hydrocele of left testicle. Last spring the right one began to be similarly affected. About one month before he was seen the left one again seemed to be enlarging. He denied all venereal history. His normal weight was from 135 to 140 pounds. One month before he was seen he weighed 117 pounds. Most of his weight had been lost since early in the summer of 1907. Smoked and chewed tobacco and drank moderately.

Present Illness.—Since about Dec. 1, 1907, patient had been growing markedly weaker. He had pain in left chest, especially when lying down and on deep inspiration. During past summer patient had frequent night sweats, and since Dec. 1, 1907, he had had profuse night sweats every night. Had no special cough. Bowels were constipated; during the two weeks before he was seen nothing but an enema proved successful.

Examination.—This showed a fairly well developed but poorly nourished man. Pupils reacted normally. Tongue coated with grayish fur. Chest showed poor expansion throughout; less on right in supra- and infraclavicular regions. The heart was normal in size and position. Patellar reflexes were exaggerated, ankle clonus and Babinski sign present.

December 27, 1907: On right side in suprascapular region, the breathing was bronchial in quality; in the infrascapular, it was exaggerated. Epididymis on each side was very hard and large. Glands in groin were somewhat enlarged, also along Scarpa's triangle. Suggestion of ankle clonus; knee-jerk quick. Some crepitus in left knee-joint on flexion; less in right knee.

December 29, 1907: Blood examination showed: hemoglobin, 85 per cent.; red corpuscles, 5,080,000; white corpuscles, 7,200; differential polymorphonuclears, 75 per cent.; large lymphocytes, 5.5 per cent.; small lymphocytes, 14.5 per cent.; eosinophiles, 3 per cent.; basophilics, 2 per cent.

January 3, 1908: Fluoroscopic examination showed two distinct areas of shadow in the left chest. Right chest was clear. Left chest was slightly darker over upper lobe than on the right side same point. Patient returned to his home unimproved after a period of two weeks. The bowel movements became involuntary. A few days later he lost control of the bladder, and the urine passed involuntarily. The legs became suddenly weaker, and the pain in the lower part of the body and right leg increased in severity. He was seen by Dr. E. R.

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[4] Peebles, A. R., and Harlow, W. B.: Clinical Observations on Blood-Stains, The Journal A. M. A., March 6, 1909, lii, 768-769.

* Read at the meeting of the Eighth District Branch of the Medical Society of the State of New York, held at Batavia, N. Y.

† Dr. Krauss died September 21, after this paper was accepted for publication.

McGuire early in March, who suspected spinal cord tumor, and induced him to re-enter the Hospital March 4, 1908.

March 5, 1908: At Dr. McGuire's request I examined the patient and found him pale, weak, emaciated, lying on his right side, complaining of a great deal of pain over the chest, especially the left side, which had defied all manner of treatment for many months. Movement of the body did not seem to aggravate the severity of the pain, and patient was as comfortable on his left side or back as on his right side. Inspection showed the legs drawn up, flexed at the thighs and knee joints, and atrophied to a very marked degree; there was no difference in measurements between the right and left leg—both were practically reduced to skin and bones. The muscles of the arms, however, were quite well preserved, and not wasted to the extreme which characterized the lower extremities. Some slight degree of stiffness bordering on contracture was present in the legs. The abdomen was flattened; urine and feces were passing involuntarily. No bed sores were present. Testing the muscular strength of the legs gave an absolute negative result. No motion of any kind could be detected from the chest caudad whatever. The patellar tendon reflexes were slightly exaggerated; ankle clonus was slightly exaggerated; patellar clonus was absent; Babinski's reflex and plantar reflexes were slightly present on both sides; the cremasteric and abdominal reflexes were absent. Testing the skin for sensation revealed an anesthesia complete for all forms caudad of the intermammillary line. The ventral level was quite sharply defined, but the dorsal level was marked by a zone of 1½ inches in width, in which the differentiation was less marked. In this zone of uncertainty the patient would be unable to distinguish between sharp and dull objects; would give contradictory answers, and on successive examinations would interchange the anesthetic, hypesthetic and normal areas. Examination of the spinal column elicited by deep pressure a sensitive area over the third to fourth thoracic spinous processes. No deflection or deformity of the spinal column could be detected. On his first stay in the hospital, the temperature on three occasions rose above normal; the pulse ranged from 80 to 90, while the respirations continued 20. Urinary examinations showed absence of albumin and sugar, normal specific gravity, and an occasional leucocyte and granular cast. On the second stay at the hospital, the temperature rose above 100 F. on two occasions, and the pulse ranged from 90 to 100.

Reviewing the clinical history of this case, we have a man without any tuberculous or specific history, attacked by influenza in the spring of 1907, and followed by a weakening of the whole body, pains in the chest, and a slight attack of pleurisy in the summer of 1907; the testicles became involved, he began to lose in weight, and in December, 1907, the process seemed to advance with increasing vigor. With continuous pain, weakness of the legs advanced to such a degree that he was obliged to enter a hospital. A very careful examination of the chest by an experienced clinician revealed a tuberculous process in the left lung, which was verified by the radiograph. All attention was paid to the thoracic contents, and as the pain and weakness and loss of weight could be attributed to the chest lesion, no attention was paid to such symptoms as "marked constipation, patellar reflexes exaggerated, ankle clonus and Babinski present."

Returning home, the symptoms of cord disease advanced much more rapidly than the chest symptoms; bladder disturbances, rapid loss in strength, increasing weakness of the legs even to complete paralysis, exaggerated deep reflexes and absence of the superficial reflexes, all pointed to a slowly increasing intraspinal pressure; the zone or level of anesthesia at the height of the intermammillary line, and the area of sensitiveness over the third and fourth spinous processes spoke for a lesion at the level of fifth thoracic segment. Although the patient was not in a very favorable condition for an operation, his relatives were very favorably inclined, and the patient most desirous for any kind of relief. A laminectomy was agreed on at the earliest moment.

SURGICAL REPORT BY DR. E. R. M'GUIRE

The patient was told of his desperate condition, and little if any hope was given him of recovery. He requested to have something done, however, even with so slight a prospect of success. March 10, 1908, an incision was made from the first to the seventh dorsal vertebra. The muscular attachments were easily separated with comparatively slight oozing. The second, third, fourth and fifth spinous processes were removed with a rongeur forceps, and the canal opened at the fifth spinous process with hammer and chisel. Then with a Doyen forceps the canal was opened from the fifth to the second thoracic spinous process. The dura appeared normal and even palpitation of the cord revealed no evidence of tumor. On opening the dura, the pia appeared dull and of a different consistency at the second dorsal spine. Closer inspection showed a distinct tumor formation involving the greater part of the interior of the cord. With the blunt end of a dressing forceps, the tumor was shelled out with perfect ease. There was very little hemorrhage at any time. After removal of the tumor there was a small section of the cord still intact. The pia and dura were sutured with plain catgut, and the external wound closed with thread, without drainage. The patient left the table in very poor condition. Continuous salt solution per rectum was immediately started, also a subcutaneous injection of 300 c.c. of salt solution containing 0.6 per cent. of adrenalin chlorid. The patient failed to rally, and died one hour later. Permission to reopen the wound was obtained, and the cord was removed and sent to Dr. Burton T. Simpson for examination.

Pathologic Report by Dr. Simpson: The tumor, as received at the laboratory, was 2 cm. by 1.5 cm. (¾ in. by ⅝ in.) in size, of very firm consistency. Cut section showed a glistening white homogeneous surface. Microscopically, the periphery showed numerous giant cells, while the central part was composed of a dense fibrous tissue. Section stained with carbolfuchsin showed a few tubercle bacilli. A section of the cord, at the area where the tumor laid, showed the cord structure completely destroyed, while a section taken about 5 cm. (2 in.) below showed complete degeneration of both ascending and descending tracts. Microscopic diagnosis of the tumor is given as tuberculoma.

This case is unusual in that an intramedullary tuberculoma could exist without producing dissociation of sensation. Repeated examinations were made to test sensation, but patient's answers were always the same.

A phenomenon which I observed during the course of the operation may be of some service in locating the situation of the tumor after the dura has been exposed, provided the tumor is intradural, or intramedullary. The increased bulk of the cord produced by an intradural or intramedullary tumor will completely occlude the lumen of the dura and interrupt the passage or flow of the cerebrospinal fluid. There will result a damming back of the cerebrospinal fluid cephalad of the constriction and an increased tension will follow. Caudad of the constriction (tumor) the cerebrospinal fluid will be diminished in tension, owing to the cutting off of the normal tension and circulation. Incising the dura cephalad of the tumor will cause a spurting of the cerebrospinal fluid, a jet being projected from several inches to a foot or more in height, according to the tension or force of the fluid; while caudad of the tumor, an incision into the dura will cause only a welling out of the fluid from the aperture, flooding the field of the operation without any force or tension. Observing the behavior of the fluid, the surgeon will know whether he is cephalad or caudad of the tumor, and can make his incision accordingly.

This phenomenon has been observed several times at the Buffalo General Hospital, and it is believed that it has some significance and value in detecting the situation of intradural tumors after exposure of the dura.

479 Delaware avenue.

THE TRANSMISSION OF EPIDEMIC POLIOMYELITIS TO MONKEYS

A FURTHER NOTE *

SIMON FLEXNER, M.D., and PAUL A. LEWIS, M.D.
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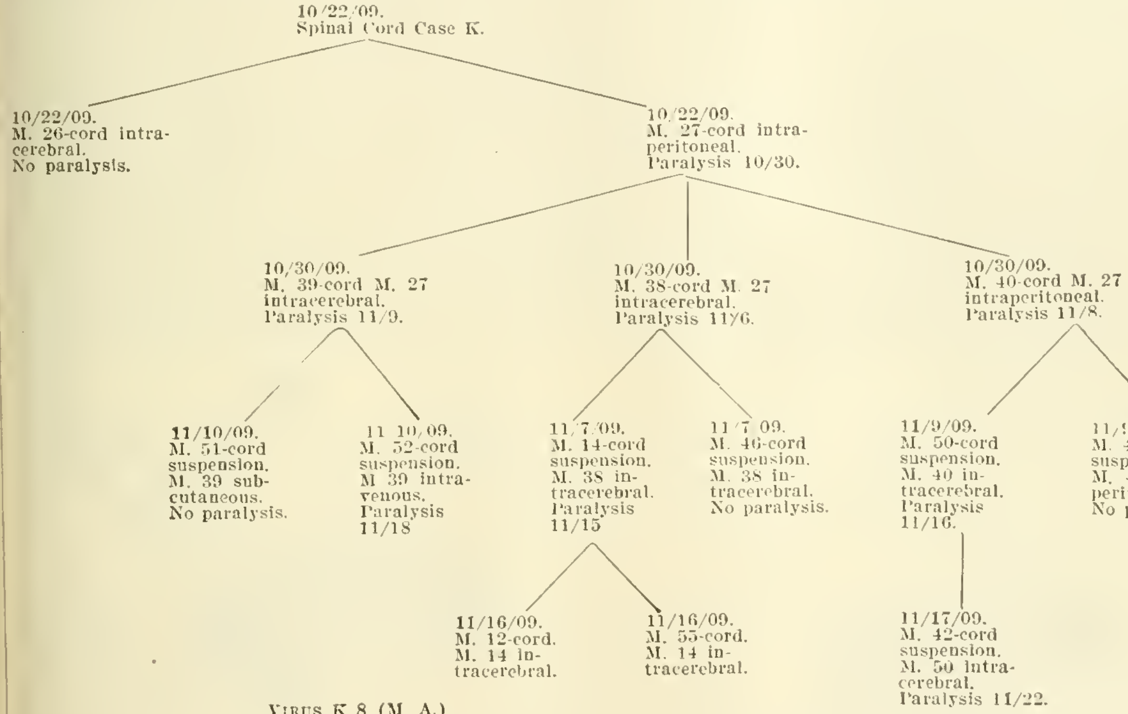
In a previous communication[1] we presented in the form of a chart the results secured up to that time in producing poliomyelitis in monkeys by injecting intracerebrally a virus, denominated M.A., obtained from the spinal cord of a child suffering from epidemic infantile paralysis. The virus had been passed successively through three generations of monkeys and is still being transmitted.

We desire in this communication to present the results in the form of a chart[2] obtained up to this time with the second virus, denominated K. It is, in our opinion, desirable that the facts thus far secured relating to this virus be published, since they extend considerably the previous observations.

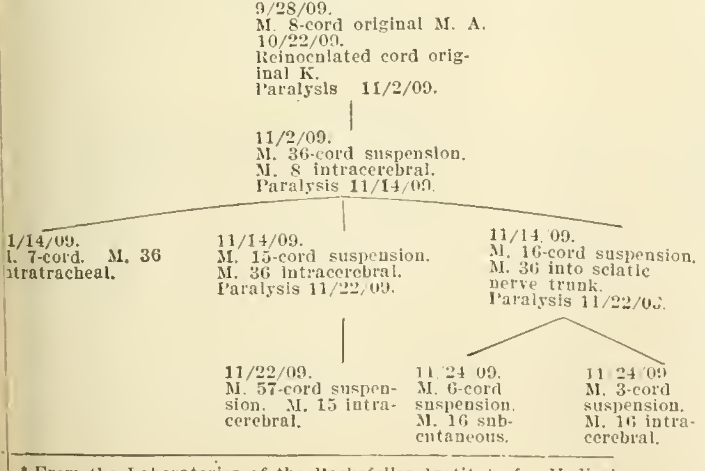
In the first place, it can now be affirmed that the virus of poliomyelitis cannot be very difficult of transmission to monkeys under the conditions leading to the development of the lesions and symptoms characteristic of epidemic poliomyelitis in man, since both specimens of human cord furnishing the original virus have sufficed for the transmission of the disease successively.

In the next place, it can now be stated that it is not absolutely essential that the virus be introduced into the brain, but that successive transmission is possible by way of the peritoneal cavity (Monkeys 27 and 40), by intravascular injection (Monkey 52), and by intraneural injection (Monkey 16). The lesions in the monkey in which the virus was introduced into the sheath of the sciatic nerve developed first on the side inoculated and later extended to the opposite side of the spinal cord.

On the other hand, it cannot yet be affirmed that still other avenues do not exist for the entrance of the virus into the central nervous system. Additional observations are required and are, indeed, in process of being made, before the statement can be ventured that infection does not occur by way of the skin, the respiratory passages and the digestive tract.



Virus K 8 (M. A.)



The conclusions to be drawn from the experiments related are to the effect that the virus of epidemic poliomyelitis is readily transmissible from man to monkeys and from monkey to monkey, by way of the brain, the peritoneal cavity and the circulation, and that, however transmitted successfully, it becomes established in the spinal cord and medulla, where it sets up characteristic lesions which are followed by equally characteristic effects that exhibit themselves as the usual symptoms of infantile paralysis in human beings.

Moreover, it can now be stated that this experimental form of poliomyelitis in monkeys is a severe and very often a fatal disease, and when recovery from the disease takes place there persist residues of paralysis which resemble the paralytic effects also persisting in human subjects of poliomyelitis.

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* From the Laboratories of the Rockefeller Institute for Medical search.

[1] The Journal A. M. A., Nov. 13, 1909, liii, 1639.

[2] In the chart M. signifies monkey.

THE SUBMUCOUS RESECTION OF THE NASAL SEPTUM

A RASPATORY FOR THE AVOIDANCE OF PERFORATIONS

OTTO T. FREER, M.D.
CHICAGO

Perforations in the course of submucous resections of deflections of the nasal septum are, in my experience, oftenest made during the denudation or excision of the bony part of the deflection after the removal of its cartilaginous portion. Nearly all of these perforations occur in baring the so-called ridge of its periosteal coverings, the term "ridge" being used to describe the bony wall which, arising from the nasal floor, forms the base of the septal skeleton and is composed of the incisor crest, anterior end of the vomer and superior maxillary crest. The ridge may be so low that it is barely indicated, or it may form a bony partition whose height may even reach five-eighths of an inch. When the septum is deflected into one or the other nostril, the ridge bends over into the naris of the convexity of the deviation in a varying degree, so that in extreme cases it may lie almost flat on the nasal floor. The periosteum covering the ridge is commonly firm, thick and vascular and envelops its upper border, crossing over it into the other nostril. The periosteal envelope of the ridge is, therefore, distinct from the perichondrial envelope of the cartilage of the septum, but perichondrium blends with periosteum along the top of the ridge, which thus marks the place where both perichondrium and periosteum of one side are continuous with these membranes on the other side of the septum. For this reason, after the removal of the cartilaginous deflection, the upper boundary of the ridge is not seen as bare bone, but is usually invisible under its covering of periosteum and has to be found by feeling with a probe. Observation has shown me that the difficulty so created in finding the ridge and resecting it, thus buried in adherent fibrous coverings, has made many operators afraid to touch it, so that they content themselves with merely removing the cartilaginous part of the deflection. Such neglect to take away the ridge is, in my experience, nearly always the cause of an imperfect clearing of the obstructed nostril. In several instances, when the space gained by a cartilaginous resection seemed sufficient, I have had to remove the ridge in a later operation, and I have known other surgeons to have the same experience. Even when it merely takes up space because of excessive thickness and is hardly bent over, the ridge should always be removed, as the breathing-space thus obtained is of the greatest advantage to the patient.

The perforations referred to are made along the upper limit of the ridge, the operator, after successfully removing the cartilaginous deflection, tearing or cutting his way into the other nostril in attempting to free the bone from its periosteum along the upper border of the ridge and on the side of it which lies in the naris of the concavity of the deflection, the perforation occurring so easily that the surgeon does not know that he has made it until he looks through it into the other nostril. As the upper boundary of the ridge represents the bottom of the groove of the concavity, the perforation is seen in this bottom, when looking into the nostril containing the hollow of the deflection. The mucous membrane seems to tear with especial readiness in this region, so that what seems a mere slit at first usually becomes a large hole when the ridge is resected. While I succeeded in avoiding perforations in all but the rarest cases in this region in my earlier work, I never felt entirely sure that one would not be made until I began to bare the ridge with the little raspatory here described, which gives me a feeling of security in preparing the bony deflection for resection that I never had before I began to use it. This raspatory (Fig. 1) is a small chisel-edged instrument whose blade is curved on the flat, and has a front and lateral cutting edges.

It is used in the following manner: After finding the upper boundary of the ridge with a dull elevator, th

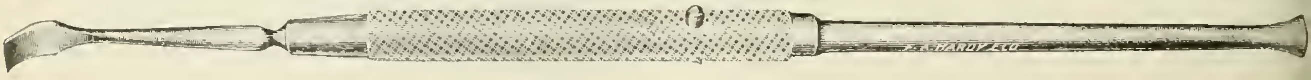

Fig. 1.—Raspatory for the denudation of bony deflections of the nasal septum.

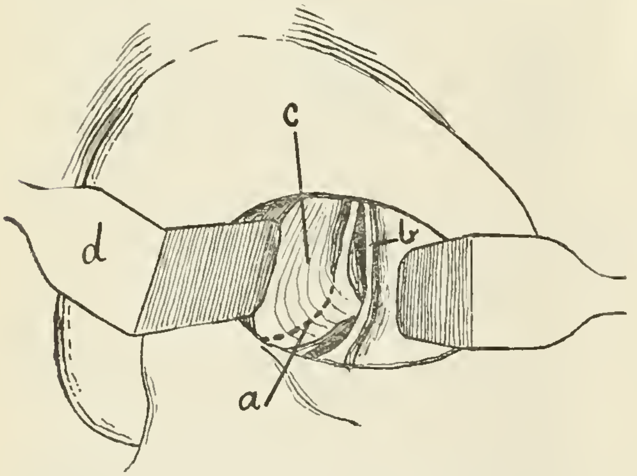

Fig. 2.—The left nostril, held open with retractors; the dotted line, a, shows the incision which splits the periosteum along the upper border of the "ridge;" b, cut edge of the uplifted mucous covering of the posterior part of the deflection; c, the mucous membrane of the opposite nostril (naris of the concavity of the deflection) uncovered by the removal of the cartilage; the retractor (d) holds the anterior (reversed L) flap forward.

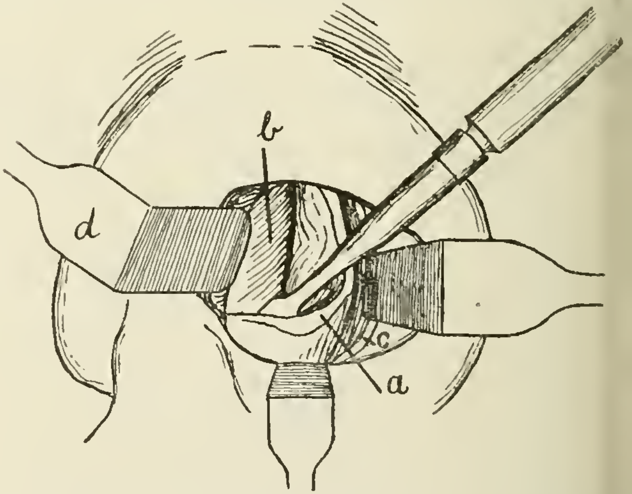

Fig. 3.—The left nostril held open with retractors; the entire bony deflection including the "ridge," a, has been bared of its coverings by the raspatory, which may be seen working toward the nasal floor on the concave side of the deflection; b, mucous membrane of the opposite nostril uncovered by the removal of the cartilage and uplifted from the bony deflection; c, cut edge of the uplifted covering of the posterior part of the deflection held away with a long retractor; d, retractor holding forward the anterior (reversed L) flap.

periosteum is split along this boundary from behind forward (Fig. 2) with a small round-edged knife of my set[1] designated by the capital letter E. The raspatory (Fig. 3) is then grasped firmly, close to its cutting end, so that it may not slip, and the periosteum is scraped away from the bone with it on the side of the convexity of the deflection. Then the denudation of the side of the ridge in the naris of the concavity is begun. Often the upper border of the ridge is found surmounted by a strip of cartilage contained in the periosteum envelope of the ridge, not the envelope of the cartilage of the septum, and this cartilage has to be scraped away with the raspatory from the ridge before the upper boundary of the bone can be found. Then the raspatory is made to work its way cautiously over the top of this boundary and down the other side of the ridge into the naris of the concavity until the bone is bared to the nasal floor (Fig. 3). In performing this denudation the instrument is held so that its long diameter is nearly across the direction of the ridge. After the incisor crest and anterior portion of the ridge are thoroughly denuded to the nasal floor, the raspatory is directed backward into the concavity of the bony deviation formed by the meeting of the deflected perpendicular plate of the ethmoid bone above and the vomer below, the angle made in bony deflections by the junction of these two bones forming a horizontally placed bony V, described by me in previous articles. The advantage of the raspatory over the ordinary sharp and blunt elevator in denuding the bone lies in the constant contact of the cutting edge with the bony surface, so that plunging or unexpected cutting through the coverings by the instrument is avoided, while in distinction to this, the elevator is inclined to leave the bony surface at some point, especially in hollowed places, and so is liable to cut through the mucous membrane.

34 Washington Street.

THE PRESENCE OF TUBERCLE BACILLI IN THE CIRCULATING BLOOD *

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AND
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It has been known since the early days of bacteriology that tubercle bacilli are occasionally found in the circulating blood of patients suffering with tuberculosis. It is probable that every case of advancing tuberculosis is, at some stage of the disease, a bacteriemia; at least, there are times during the progress of every case in which tubercle bacilli can be found in the blood. This has been demonstrated by experiments and is also shown by those cases of miliary tuberculosis in which every organ of the body becomes simultaneously the seat of numerous tubercles.

The question was studied experimentally many years ago by Nocard, Bang, and others in an attempt to discover whether or not the flesh of animals suffering with tuberculosis was dangerous as food. The experiments carried out at that time showed that tubercle bacilli, although introduced directly into the circulation in large numbers, are in a very short time filtered out from the blood. It is universally believed that this action takes place in the lung, of which there is much experimental proof, because the muscular tissue is found free from bacteria, which could not be the case if it took place in these tissues, or if the blood still contained the germs. Much interest was caused, therefore, when in the fall of last year Dr. Rosenberger announced that tuberculosis was always a bacteriemia before it became localized in the various organs of the body, and that bacilli could be demonstrated in the blood by a very simple procedure. His method consisted in drawing from 5 to 10 c.c. of blood into a citrate solution in an ordinary test-tube, which was then placed in an ice-box for twenty-four hours, and the sediment examined without centrifugation. The ordinary stains were used, although Dr. Rosenberger recommended Pappenheim's stain as a decolorizer. In his first paper he speaks of the large number of tubercle bacilli which are sometimes found in a single field. This at once excited skepticism in the minds of many, as it seemed improbable that such masses of bacteria could pass through the capillaries. The alleged discovery was of such vast importance that it merited careful investigation.

Through the kindness of Dr. J. W. Coon, superintendent of the Wisconsin State Tuberculosis Sanatorium at Wales, we were allowed to obtain specimens of blood from a number of the patients known to be suffering with tuberculosis. At our first visit we drew specimens from eighteen patients, following Rosenberger's methods throughout exactly. After allowing the specimens to stand in the ice-chest for twenty-four hours we made smears from the sediment and stained and examined them. We then took the remainder of the blood and put it in a powerful centrifugal machine, and again made smears from the sediment. In all eighteen cases our results were absolutely negative by both methods. It will be observed that our second method, namely, examining smears after centrifugating 10 c.c. of blood, gave us a very much better chance of discovering any tubercle bacilli which may have been in the blood than the former method. We had intended pursuing the experiments on a larger number of patients, but private advices from several laboratories giving results identical with our own convinced us that it was useless. Further investigation may force us to change our opinion, but at the present time we feel justified in saying that the method of Rosenberger is not a reliable one and does not furnish a means for the diagnosis of tuberculosis either in the early stages or later.

Note.—Since the above paper was read the question of tubercle bacilli in the blood seems to have been entirely cleared up. Brem has shown that the acid-fast bacilli, mistaken by Rosenberger for tubercle bacilli, are frequently contained in distilled water as found in laboratories. After spreading the blood on the slide, Rosenberger lakes it by flooding with distilled water, which must stay in contact with it for some time, after which it is dried and stained. During the process of laking the acid-fast bacilli become fixed in the smear and take the subsequent stain. The observation of Brem has been confirmed by numerous workers, and at the present time we can say with a great degree of confidence that tubercle bacilli cannot, as a rule, be found in the circulating blood. Even when introduced directly into the circulation of animals, they disappear from the flowing blood within a few minutes, as has been demonstrated by Schroeder and Cotton, MacFarland, Anderson and others. We therefore feel confident in reiterating the opinion expressed by us in our presentation before the Wisconsin State Medical Society last June.

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* Read before Wisconsin State Medical Society, June 23, 1909.

[1] Shown in The Journal A. M. A., Sept. 30, 1905, p. 988.

CASE OF DERMATITIS HERPETIFORMIS FOLLOWING PAPAW POISONING

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PARIS, ILL.

The following report is interesting mainly because of the apparent etiology of the disease:

History.—Mrs. K., American, aged 45, housewife, health previously good, stated that on the evening of September 18 she handled and smelled some papaws. In the morning an eruption appeared on her body, which she supposed was due to these as she had been affected previously in the same way. She used the ordinary sugar-of-lead lotion, but as there was no improvement in a week (September 26) she called on me.

First Examination.—In general this verified the patient's supposition as to the cause and showed the following condition of the skin: On all portions of the body except the hands, forearms, face, back, legs and feet were many small round vesicles filled with fluid. These were of various sizes, but always small and were round and surrounded by a marked hyperemia. Except for an almost intolerable itching and burning, there were no symptoms. I diagnosed the case as papaw poisoning and advised simple lotions, predicting most probably a speedy recovery.

The progress of the case, however, was not favorable, and on the evening of September 29 the patient informed me that she thought more eruption was appearing, especially on the back. She stated that the character of the eruption did not seem to have altered.

Second Examination.—When I saw her two days later (October 1) I was at once willing to change my diagnosis. Here and there over the skin were drying vesicles showing almost a scar-like character. I was struck at once by the appearance among many of them of a brown pigmentation, the intensity of which, though variable, was often very marked. Here and there were clumps of vesicles with injected bases. These I examined with a double convex hand lens. There were no ulcers nor were there any tendencies to spontaneous rupture. Vesicles, though still varying in size, were somewhat larger than previously. In general they were irregular in shape, often quadrilateral. Intermingled with the vesicles, hyperemia and pigmentation were scales showing the remains of dried vesicles. Blood examination showed no eosinophilia. I diagnosed a vesicular form of dermatitis herpetiformis. I prescribed mercury succinimid in small doses internally as an alterative and gave the patient resorcin-sulphur ointment for external application.

On October 3 practically the same condition was present. The distribution was as follows: neck, arms, flexor side of forearms, chest, back of trunk and on the thighs.

On October 20 the condition was the same except that the eruption was not so extensive. New groups of vesicles identical with the preceding ones appeared from time to time. Where clothing rubbed the body the lesions assumed an eczematous character. Pigmentation marked dying vesicles and slight scars showed the location of the oldest ones.

More Care for Swine than for Men.—The mere question of preservatives and adulterants is only a part of the great question of pure food to which the public must be educated, writes Professor Irving Fisher in a popular article in the New York *Christian Advocate.* We must not forget, for instance, the lack of proper meat inspection for the citizens of this country. The present federal meat inspection is almost wholly for the benefit of foreigners. Efficient state and municipal inspection is needed. Similarly we need a far better protection against an impure milk supply. In at least one of our states, the swine are better protected than the people. In that state the law requires that the skim milk from dairies shall be sterilized before it is fed to hogs, but there is no law requiring the sterilization of the remainder of the same milk which is to be made into butter and cream for human consumption.

Therapeutics

RENAL COLIC

Attacks of renal colic come on so suddenly and so unexpectedly, the pain which accompanies them is so agonizing, and the liability to subsequent attacks is so great, that suggestions concerning their prevention are certain to command attention, and the *New York Medical Journal,* Sept. 25 and Oct. 2, 1909, offers several articles on this phase of the subject.

It is not necessary to describe the well-known treatment for the paroxysm, but the following suggestions for the future management of the patient may be of value:

1. If the calculus becomes impacted in the ureter so that it cannot be dislodged, operation is necessary. If the calculus remains in the pelvis of the kidney, operation is advisable. If the calculus has caused purulent inflammation of the pelvis of the kidney, or abscess of the kidney, or if it has caused retention of urine, operation is immediately necessary.

It cannot reasonably be expected that remedies administered internally will cause the disintegration of a stone which is of sufficient size to set up an inflammation of the pelvis of the kidney, or is of sufficient size to permanently obstruct the ureter.

2. If the calculus is in the pelvis of the kidney, as shown by a radiograph, and is not causing any serious symptoms, and an operation is deemed inadvisable, the danger of its entering the ureter and causing an attack of renal colic will be diminished if the patient avoids muscular strain and unnecessary jolting.

3. If there is no reason to suspect that a calculus remains in the upper urinary passages, and if a calculus has certainly been passed, so that there is reason to believe that there exists in the patient a tendency to the formation of substances which will favor the development of renal calculi, a careful regimen should be laid down for his guidance.

Among the factors which are conducive to the formation of these calculi are intestinal fermentation and putrefaction, which give rise to autotoxemia, disordered metabolism, deficient oxidation and insufficient elimination by the intestines, kidneys, skin, and lungs.

The primary object of treatment, then, is to prevent the conditions from arising which either permit the formation of a calculus or will allow an increase in the size of one already present. As above stated, though a calculus may disintegrate, it should not be expected, and it is little less than reprehensible to promise, that any drug, or any water, will partially or completely dissolve it. However, both patient and physician hope to effect a solution, partial or complete, of calculi already formed, or, at least, that the sharp edges of the newly formed calculus may be rounded so that it will not cause so much pain. If a urate or phosphate concretion has not long been formed it may dissolve, but probably no other calculus can do so under the conditions surrounding it. The sharp edges of all calculi may become rounded, if long in the kidney, from mucous deposits alone.

The digestion must be made as nearly perfect as possible, and foods, drinks, and drugs that irritate the kidney must be prohibited. Intestinal fermentation must be avoided, and daily movements of the bowels must be secured. The diet should be carefully regulated, but the various articles allowed or forbidden vary according to the variety of calculus which the patient has passed.

or it is decided is deposited in the urinary passages. If a calculus of uric acid has been passed, or there are uric acid crystals in the urine, as pointed out by Dr. John B. Talmadge, of New York (*New York Medical Journal*, Sept. 25, 1909), the patient should not take foods which contain large quantities of nuclein, such foods producing uric acid. The meats to be avoided are "liver, kidney, thymus, fish roe, caviar, smoked or pickeled meats, and meat extracts." Talmadge would also prohibit "strong tea and coffee, asparagus, sugars, fats, farinaceous foods, and alcoholic beverages." He advises a diet "of meats which have been boiled to free them from the meat extractives, plenty of milk, eggs, bread, butter in small amounts, mild cheeses, jellies made with gelatin, and fruits in abundance, as the acids in these are not excreted as such by the kidneys."

If the concretions formed are uric acid or urates, uric-acid precursors, as above mentioned, should be avoided. Sugars, fats, and farinaceous foods need not e avoided as a class, though some individual starchy food may produce intestinal fermentation, and should e avoided. It is certainly best to reduce the frequency f the eating of meat to once a day, and it has been ately proved that alcohol in any form taken with a meal f meat tends to cause a decrease in the destruction of uric cid by the liver, or at least tends to cause an increased utput of uric acid in the urine. Also, not all fresh ruits are advantageous, and cooked fruits are better han fresh fruits. Bananas, and especially roasted, are a aluable food. Prunes, especially cooked; oranges, if hey agree with the individual; apples, if they agree, and specially cooked, are the fruits most satisfactory. Grape ruit is often inadvisable. Nuts (especially of the pro- ein-fat type—almonds, peanuts, pignolias (pine nuts) —thoroughly chewed, are of value as food, and are gen- rally readily digested.

It has lately been shown that potassium salts, such as he acetate, bicarbonate and citrate, tend to render the rine less likely to deposit urates and uric acid. This is ot at all new clinically, but has only lately been demon- trated in the laboratory.

If the calculus passed consists of oxalate of lime or if xalate of lime crystals occur frequently in fresh urine, he articles of food that should be especially prohibted, s tending to the formation of this salt, are, as enumer- ted by Talmadge, "spinach, rhubarb, beans, beets, tea, ocoa, gelatin, and all foods containing any great quan- ity of calcium (milk, eggs, vegetables of the cabbage amily)." These foods, he states, contain a great deal f oxalic acid. The possibility of producing this sub- ance from tea and cocoa is remote, and the amount at could be formed from beans is certainly small; ence these three articles of food could be allowed. atients who have oxaluria should take "foods contain- g a high percentage of magnesium, as magnesium xalate is easily soluble and thus oxalic acid is easily creted." Such foods are "meat, fish, bread, farinace- s foods, and apples." Any of the magnesium salts so have this favorable chemical action in preventing e formation of calcium oxalate. Perhaps the best lt to administer is magnesium biphosphate (acid mag- esium phosphate: the dose being 0.50 to 1 gram (7½ to 5 grains). If much is given it acts as a laxative.

If the calculus is phosphatic and the urine tends to posit phosphates, the diet should consist largely of buminous foods and foods containing organic acids. much milk is taken, lactate may be administered at e same time, as it tends to keeps the phosphates in the testines and prevents their absorption.

Nervous disturbances, pain, too much mental work, and worry will increase the output of phosphates, and such nervous tire should be prevented if possible.

Whatever the concretion may be that is deposited in the urine, oxidation and elimination should be promoted by general physical exercise, in the open air, and by bathing, especially warm bathing, and perhaps by other hydrotherapeutic or sweating measures.

The most useful medicinal treatments are the alkaline diuretics and the urinary antiseptics. Of the former class, potassium citrate, which is the pleasantest to take of the potash salts, should be administered in 1-gram doses (15 grains), every three hours, or in 2-gram (30-grain) doses, three or four times a day, preferably after meals. When taken with plenty of water it will, as above stated, aid in preventing uric acid and urate concretions. It is advisable, whatever may be the character of the calculi, that considerable quantities of water be drunk, preferably distilled water, as tending to aid in bringing about solution and keeping in solution the salts of the urine. It is often unwise for a patient to drink large quantities of an alkaline mineral water which may contain ingredients which are inadvisable for him to take into his system. It is also inadvisable to continue for any length of time alkaline salts in sufficient quantity to render the urine alkaline, as a prolonged alkaline urine tends to cause phosphatic deposits, tends to allow germs to grow, and mucous membrane irritation to occur in the urinary tract. Also a too long alkaline treatment is debilitating to the system; the loss of nitrogen is increased, and the weight is diminished. Alkalies tend to produce anemia, and iron must often be administered with the diet necessary to prevent uric acid deposits.

Of the class of urinary antiseptics, the one of most value is hexamethylenamin, which should be given in doses of from 0.25 to 0.50 gram (from 4 to 7½ grains), taken, dissolved, in a glass of water, three or four times a day.

If there is any pus in the urine or any infection is considered to be present, or an extra amount of mucus is produced, which tends so easily to form nuclei for depositions of salts in the urine, the best medicinal treatment is hexamethylenamina or phenyl salicylas (salol). If the urine is ammoniacal the patient should generally be given one of these drugs. Salol should not be administered if there is any kidney inflammation, or if there is albuminuria.

When there are urinary calculi, the condition of the circulation should always be carefully examined, and if there is any failure of the heart or any insufficiency of the heart muscle, or arteriosclerosis, large amounts of liquid should not be given, as the extra work put on the circulation is inadvisable. It is much better to overcome the tendency to the formation of calculi by a proper diet than by very large amounts of water under these conditions.

Tuberculosis in Children of the Tuberculous.—A. Pissavy has been collecting data in regard to the prevalence of tuberculosis in 569 households in France, some in towns and others in rural districts. In 469 of these households neither parent was tuberculous, but 123, that is, 8 per cent. of the total 1,428 children in these families acquired tuberculosis. In 100 other households one or both of the parents were tuberculous and 93 of the 292 children in these families contracted the disease, that is, about 31 per cent. The proportion of children contracting the infection averaged about the same in the country and town families. His communication was published in the *Bull. Soc. Méd. des Hôp.*, 1909, xxvi, 456.

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SATURDAY, DECEMBER 4, 1909

THE PHARMACOPEIA, ITS HISTORY AND ITS IMPORTANCE TO THE MEDICAL PROFESSION

The importance of the next Pharmacopeial Convention should be thoroughly understood by all medical societies and physicians. These conventions, as well as the national Pharmacopeia, originated in a proposition submitted to the Medical Society of the County of New York by Dr. Lyman Spalding in 1817. Dr. Spalding proposed that the United States be divided into four districts—northern, middle, southern and western—and that each district should hold a convention of delegates from the medical societies and schools situated within it, to formulate a pharmacopeia. The four district pharmacopeias were to be taken to a general convention to be held at Washington, composed of delegates from the four districts. From the district pharmacopeias the delegates were to compile a national pharmacopeia. This plan was adopted, the district convention for New England being held in Boston and the convention for the middle states in Philadelphia, June 1, 1819. No conventions were held in the southern and western districts, but delegates to the national convention were appointed. The first general convention for the formulation of a national pharmacopeia met at Washington, Jan. 1, 1820. The two pharmacopeias prepared in the northern and middle districts were consolidated into one work, which was published in Boston, December, 1820, in both Latin and English. A second edition appeared in 1828.

The convention of 1820 provided for its own perpetuation and for future revisions, by instructing its president to issue notices in 1828 to all incorporated state medical societies and incorporated medical colleges and schools, asking each to vote for three delegates to represent the district at the general convention to be held at Washington in January, 1830, the convention to consist of twelve delegates. The second convention was held at Washington on Jan. 4, 1830, thirteen delegates being present. It provided for its perpetuation by instructing its president to issue a notice to incorporated state medical societies, incorporated medical colleges and incorporated colleges of physicians and surgeons, asking each to elect three delegates to attend a general convention to be held at Washington in January, 1840. The district plan of representation was given up and has never bee resumed.

At the third convention, held in 1840, twenty delegate were present. A committee on revision and publicatio was appointed which published the second revision of th Pharmacopeia in 1842. This committee was instructe to ask the cooperation of schools of pharmacy in it work.

In the call for the fourth convention of 1850, incor porated colleges of pharmacy were included and wer allowed to send three delegates, the same as medical col leges. This convention, which met at Washington i May, 1850, was composed of thirty delegates. Only tw pharmaceutical schools were represented, all of the othe delegates being from medical colleges and societies.

In 1860 the fifth convention was held, thirty delegate being present, four colleges of pharmacy being repre sented.

The sixth convention was held May 4, 1870, sixty dele gates being present, seven pharmaceutical schools bein represented. The fifth revision was published in 1873.

The seventh convention met May 5, 1880. One hun dred and nine delegates were elected to represent te medical societies, twenty-three medical colleges, eleve pharmaceutical colleges and the medical departments o the Army, the Navy and the Marine-Hospital Service Seventy-five delegates were present.

The eighth convention was held on May 7, 1890, 17 delegates being present, representing fifteen medica societies, twenty-three medical colleges, twenty-five phar maceutical associations, twenty-three colleges of phar macy and the medical departments of the three govern ment services. The provisions made for representatio in 1900 were the same as those for 1890.

The ninth decennial convention was held at Washington May 2, 1900. Forty-one delegates were presen representing twenty-six medical societies, forty-fou delegates from thirty medical colleges, fifty-three delegates from twenty-seven pharmaceutical colleges an fifty-seven delegates from twenty-eight pharmaceutica societies, the American Medical Association, the Ameri can Pharmaceutical Association and the three govern ment services being represented by twelve member The total attendance, as shown by the official report, wa two hundred and seven, of which one hundred and four teen were pharmacists and ninety-three were physician

The point to be emphasized in the above historica summary is that the convention was originally inaugu rated and for many years carried on solely by the medi cal profession, and that it was not until 1850 that othe than medical societies and medical colleges were autho ized to send representatives. In that year, pharmaceu tical colleges were for the first time given representatio Not until 1890 were pharmaceutical societies added t the list of accredited bodies.

The medical profession during the past thirty years has not given to the revision of the Pharmacopeia the attention which its importance deserves. In spite of the fact that this book originated with the medical profession and was compiled and published primarily for its use, it has come to be regarded too much by physicians as a book which is of interest and value mainly, if not solely, to the pharmacist and in which the physician is not especially concerned. The attitude of the physician toward the Pharmacopeia as well as the lack of knowledge on this subject has been frequently commented on in THE JOURNAL. It is now time that specific and lasting reforms were effected. Two definite steps should be taken before the meeting of the next convention in Washington: (1) All incorporated state medical associations and medical colleges entitled to representation should select the three best representatives possible and should see to it that they attend and take part. (2) Each county society should devote at least one meeting during the winter to a discussion of the present Pharmacopeia and the formulation of suggestions as to its improvement.

There is, indeed, grave danger lest this work, which was primarily a reflection of the needs of the medical practitioner, should become a purely pharmaceutical rather than a medical compilation. There is also danger of its being controlled by commercial interests. Such a result will be due solely to lack of interest and activity on the part of the medical profession. Active interest in his matter should be aroused and medical societies hould see to it that they are properly and effectively epresented in the coming convention, and that their elegates are instructed regarding the desires and opinons of those they represent. If every county society will devote one evening to the discussion of this question nd will send its recommendations to Dr. Reid Hunt, hairman of the Committee of the American Medical Association on the Pharmacopeia or to the Council on Pharmacy and Chemistry of the American Medical Assoation, their recommendations will be transmitted to the onvention and will receive consideration.

ARTHRITIS DEFORMANS

Nothing in medicine is more obscure than the pathonesis of the chronic joint disturbances which we group, order not to commit ourselves, under the descriptive rm "arthritis deformans." One of the essential causes our ignorance concerning them is a lack of thorough d extensive study of the anatomic changes which nderlie the clinical manifestations, which is undoubtly due in large part to the difficulty one meets in taining any considerable quantity of material of this rt. An extensive study of material from sixty-five ses, collected during eight years by Nichols and Richlson,[1] promises to clear up many of the misunderstandings and to furnish the sound anatomic basis which we must have before the etiology (and, depending on that, the therapy) can be worked out.

On account of the close relationship of the several kinds of tissues which make up the joints, it is possible for the same irritant to produce many different kinds of structural changes according as it acts on one or the other of these tissues; or, on the other hand, various agents may produce quite similar changes in the joints. As a matter of fact the lesions found, irrespective of what the clinical features or apparent etiology may have been, fall distinctly into one of two categories, proliferative and degenerative. It being a general law of pathology that the same agent may cause either proliferation or degeneration, in accordance with concentration, tissue nutrition, and other factors, it follows that these two pathologic groups do not correspond to two different sets of etiologic factors or to two different diseases, but merely represent different effects from similar causes, or similar effects from different causes. Clinically, however, there are well-marked differences, corresponding to the degenerative and proliferative types of joint changes, when either of these types occurs in a sufficiently distinct way.

The proliferative joint changes usually predominate in the cases of arthritis which begin rather acutely, resembling acute rheumatism at first, and involving more often persons under 50 than older, and the clinical course is characterized by attacks and remissions of the joint symptoms, often terminating in complete ankylosis. With the pronounced degenerative type of lesions is commonly associated a history of insidious onset, usually affecting older people, and causing great anatomic alterations in the joints with but little tendency to produce actual ankylosis. But, since the presence of proliferative changes in one part of a joint may cause degenerative changes in another part, or conversely, it is evident that both anatomic changes and clinical manifestations are often of mixed character. It is also evident that, once the injury in the joint has been started, a vicious circle is readily established, for a primary degenerative change may start up proliferative processes in the neighborhood, and, these causing degeneration of opposed surfaces, the process becomes progressive; hence the bad prognosis of arthritis deformans and the mixed anatomic picture which has caused so much confusion of classification and pathology. Once the joint injury has become well established, therefore, the pathologic changes may continue even when the original etiologic factor has disappeared, and when this factor is a chronic persistent one the course of the disease must necessarily be downward. In earlier stages the prognosis is better if the exciting cause can be removed, and hence the importance of establishing the etiology of the joint changes. As already intimated, we are commonly at a loss as to etiology, partly because of previous lack of understanding of the pathology, and partly because of the extremely varied causes which may start up joint changes that eventually terminate in chronic arthritis. Nichols and Richardson believe, from their studies, that there is no one specific cause, as some have maintained, but that the same anatomic results may come from the most different causes. Sometimes acute infection begins the joint changes, sometimes chronic trauma, but more often, in all probability, some soluble irritant, presumably of metabolic origin, selectively affects the joints and adjacent bone tissue. With the careful study of the pathology which these authors have supplied for a basis, the search for the etiology should now make more substantial progress than it has heretofore realized.

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[1] Nichols and Richardson: Jour. Med. Research, 1909, xxi, 149.

SUDDEN DEATH DURING ANESTHESIA

Although we have not yet ascertained the nature of the chromaffin substance which Kohn found in the adrenals and other related organs of sympathetic origin, yet that it is of essential importance to the function of these organs is unquestionable, for its presence and quantity stand in direct relation to their functional capacity. For example, Wiesel found that in Addison's disease there was an absence or paucity of the chromaffin substance not only in the adrenals, but also in the other organs of the so-called chromaffin system. Conversely, in cases of destruction of the adrenals by malignant growths without resultant Addison's disease, it has been found that the chromaffin cells in the other organs were well supplied with their specific content, thus explaining why destruction of the adrenal had not resulted in the familiar symptom-complex of Addison's disease. These and other observations indicate that the amount of chromaffin substance present in the tissues is an index of their functional capacity; and this permits of study of the relation of these tissues to various disease processes.

At the present time the chief property which can be ascribed to the chromaffin system is that of stimulating vascular tonicity; and Hornowski, struck by the similarity of the conditions presented by persons dying suddenly during or after surgical anesthesia, to the manifestations of shock, which is essentially a loss of vasomotor tone, began an investigation of the condition of the chromaffin system in death following operations. In four such cases he found constantly a decrease in the chromaffin substance,[1] and he was able to cause a similar reduction in the chromaffin substance experimentally in rabbits by prolonged or repeated anesthetization. This effect he ascribes chiefly to the action of the chloroform, explaining it as follows: Chloroform lowers the blood-pressure, and the chromaffin system is stimulated to neutralize this decreased vasomotor tone; if the stimulation of this system is too violent or protracted, or if previous shock, trauma or infection have injured or overworked the chromaffin cells, they become exhausted and unable to replenish the supply of vasostimulating substance, death resulting from vasomotor paresis. In such cases microscopic examination shows a striking absence of chromaffin substance in the usual locations, whereas when no vascular paresis results from anesthesia and operation, because of adequate compensation by the chromaffin cells, the brown color of this tissue is very pronounced on account of the quantity of stored chromaffin substance.

Schur and Wiesel have also found that the chloroforming of rabbits decreases the staining of the chromaffin cells by chromic acid, and they, too, suggested that this effect of chloroform may account for sudden deaths during anesthesia. Hornowski shows, in addition, that surgical trauma, previous injury or pain, and infection also have a similar effect, so that the exhaustion of the chromaffin system during anesthesia may be more properly ascribed to the added influence of these causes, the chloroform by its depression of vascular tone completing the depletion of blood-pressure-raising substance. Although Schwarzwald[2] and others have not always found demonstrable decrease in chromaffin material in all persons dying during anesthesia, yet the positive results of experiments and the positive autopsy findings that have been recorded are sufficient to indicate the possibilities of this line of research. An interesting observation made some time ago by Hedinger[3] carries support to Hornowski's theory. He found that in status lymphaticus, in addition to the lymphatic hyperplasia, there is a marked hypoplasia of the chromaffin system, analogous to that seen in Addison's disease. Since the most striking effect of the status lymphaticus is sudden death following trivial shock or trauma, this deficiency of the chromaffin system is significant; furthermore, not a few deaths in status lymphaticus have occurred during anesthesia.

THE VALUE OF INDEXED CASE RECORDS

To those who are unfamiliar with the advantages of a system of classifying and indexing case histories th keeping of such records may appear like an entirely unnecessary and laborious piece of work. If the habit i once formed, however, it will be found to be of th greatest help in clarifying the worker's conception o the field in which he is working, and an incentive t more precise observation. If an effort is made at regula intervals—once a week, for example—to record in blac and white the diagnosis of every case that has been see during that interval it will afford a very interesting an instructive review, and the perspective thereby gaine will not infrequently serve to clear up obscure point and to suggest practical points as to prognosis and treatment as well as diagnosis. If the observer is thoroughl honest with himself and takes refuge in no obscure terms or uncertain diagnoses it will inevitably be found that in a fair proportion of his cases a decision must be definitely or indefinitely postponed. Necessary data will be found wanting in certain cases; diagnostic points which have been overlooked and which might throw ight on the problem come to mind, with the result that t the next interview with the patient these points will e noted and the condition will be better understood. As the records grow, their value will be constantly increased by a properly made index, rendering early ma-erial available for study and comparison with recent ases. This advantage of the index will be enhanced if, esides the record of diagnoses, there is kept an index of igns and symptoms. While such an indexed record ould necessarily be voluminous, it could be kept within ounds by recording only the important and unusual henomena, while the observer could accumulate data n any particular subject in which he was interested to he limit of his material and time. An outline of a sys-em for classifying and indexing case records was pub-shed in THE JOURNAL early this year.[1]

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[1] Hornowski: Virchow's Arch. f. path. Anat., 1909, cxcviii, 93.

[2] Schwarzwald: Verhandl. d. deutsch. path. Gesellsch., 19 xiii, 269.

[3] Hedinger: Verhandl. d. deutsch. path. Gesellsch., 1907, xi, 2

So far as the question of time is concerned, the actual ork of writing requires far less than might be imag-ed, and the time spent in thinking over the problems hich present themselves is far better spent in this way an in unsystematic study of abstract problems. Be-des the advantage of obtaining a clearer and more inti-ate knowledge of the individual patients which is fforded by such a review, there is much interest and rofit in grouping the various conditions and comparing e features which serve to distinguish the different roups. Certain pathologic conditions may be found to associated in a number of instances with subsidiary secondary processes, which may or may not be empha-zed in familiar literature; but such a personal observa-on would be of far more value to the practitioner than uld any familiarity with the published opinions of hers. Suggestions of this nature frequently present emselves in a study of groups of cases, and in turn rve as a potent stimulus to more thorough observation the individual patients. The same association will be oked for in new patients presenting one or the other the conditions noted, the suggested hypothesis being oved or disproved as the series is enlarged. In short, ch a system places the "experience" of the observer on foundation of relatively certain facts, instead of on e vague impressions which so often constitute the sis of authority.

It may be asserted with some truth that there is dan-r of being misled by reliance on an insufficient amount evidence, but, as every worker must trust to some tent to his own observations, it is just as well that should have as exact a knowledge as possible of what s own observations really are. This exact knowledge is no more reason for the student's being intolerant of the experience of others than ideas based on a less certain foundation would be. It should be needless to add that any notes embracing data from the misty side of the region that separates the known from the "guessed at" are worse than useless.

ALTMANN'S GRANULES IN TUMOR CELLS

Some time ago it was shown by Altmann that the glandular cells of vertebrates contain well-defined granules which can be specifically stained with acid fuchsin, their number varying with the nature and functional activity of the cells examined. These granules are most commonly called "Altmann's granules," but also "fuchsinophil granules" and "plasmosomes." Similar but smaller granules have been described in plasma cells and lymphocytes by Schridde. A study of the distribution of these intracellular granules in human tissues in normal and pathologic conditions, including particularly tumors, has been made by Beckton, with interesting results which may prove to be of much practical importance.[1] He finds that the granules of the glandular epithelium are probably different from those of the stroma cells, as the former can be fixed by formalin, while the latter are fixed only by bichromate solutions. The presence of abundant granules of the latter type in plasma cells, lymphocytes and fibroblasts supports the contention that these cells have a secretory function, since Altmann's granules are supposed to have to do with secretory activity.

In inflammatory conditions these cells, as well as the proliferating endothelial cells, are found to contain abundant granules, whether the process is acute or chronic. In tumors, however, a suggestive observation was made, namely, that in malignant tumors of all kinds the Altmann granules are absent from the cancer cells, or else are scanty, while in benign tumors they are present in much the same proportion and form as in the normal tissue which the tumor replaces. The importance of this finding lies in two directions: first, it may point the way to an improvement in our differential diagnosis of malignant tumors from benign tumors and from inflammatory conditions; second, it has suggestive bearing on the biology of tumor cells. Thus, as Lazarus-Barlow points out, the absence of Altmann's granules from cancer cells shows that such cells are fundamentally different from the normal cells from which they arose. This difference may be regarded as an expression of deviation from, or loss of, normal function.

If Beckton's observations are confirmed by those who repeat his work—and it will undoubtedly soon be repeated—the differential microscopic diagnosis of cancer will become much easier and more certain than it now is.

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[1] Black, Carl E.: System in Recording Cases, THE JOURNAL M. A., March 6, 1909, lii, 762.

[1] Beckton: Jour. Path. and Bacteriol., 1909, xiii, 185; Arch. Middlesex Hosp., 1909, xv, 182; Brit. Med. Jour., Sept. 25, 1909.

THE RESPIRATORY HIPPUS

A recent note by Roch and Campiche[1] calls attention to an unusual phenomenon, which they had previously described and designated as "the respiratory hippus." This phenomenon, which consists of an inspiratory dilatation and expiratory contraction of the pupils, has been noted also by Wiesenger[2] and by several Italian observers, but its significance is still a matter of doubt. In the cases seen by Roch and Campiche it was always associated with a pulsus paradoxus, and, in their opinion, might be explained on the same grounds, namely, an abnormal respiratory variation in blood-pressure due to unusual variations in the intrathoracic pressure, especially when associated with myocardial weakness.

Medical News

GEORGIA

District Society Meetings.—The Fifth Congressional District Medical Society held its fifth annual meeting in Atlanta October 5. The session was devoted to the discussion of pellagra. The following officers were elected: President, Dr. Hugh M. Lokey, Atlanta; vice-president, Dr. William D. Travis, Covington, and secretary-treasurer, Dr. J. Ross Simpson, Atlanta.——The Tenth District Medical Society, at its annual meeting, held in Augusta, November 9, elected the following officers: President, Dr. Noel M. Moore, Augusta; vice-president, Dr. Joshua R. Beall, Blythe; secretary-treasurer, Dr. George A. Traylor, Augusta; and district councilor, Dr. Wyman W. Pilcher, Warrenton. The principal address was delivered by the president-elect on "Pellagra."

ILLINOIS

New Hospital for Sterling.—The charter for the Whiteside Public Hospital, Sterling, has been applied for and is expected to be granted in a short time. The prospects for the success of the institution are excellent, as both the laity and physicians of the city are interested in the project.

Physicians' Club Organized.—A club has been organized in Lewistown, whose membership comprises all the physicians in the city. The following officers have been elected: Dr. D. D. Talbott, president; Dr. Eli G. Davis, vice-president; Dr. William S. Strode, secretary; and Dr. Samuel Oren, treasurer.

Personal.—Dr. William E. Washburn, Kewanee, received internal injuries in the overturning of his automobile at Cherry, November 21.——Dr. Charles E. Colwell, Aurora, has been elected president; Dr. Oliver H. P. McNair, Batavia, vice-president, and Dr. R. S. Denney, Aurora, secretary-treasurer of the Aurora Hospital.

The New Cook County Infirmary.—All of the buildings of the new Cook County Infirmary, on which work was begun last spring, are under roof, and the present indications are that the institution will be ready for occupancy by the middle of January. The institution, when completed, will have cost $1,750,000, and will accommodate about 1,800 inmates, with ample provision in the general scheme for the erection of additional buildings as required. On the highest spot on the grounds has been built the hosiptal for tuberculosis patients, 300 feet away from the nearest building of the central group.

Chicago

Cornerstone Laid.—The cornerstone of the addition to the Norwegian Lutheran Deaconess Home and Hospital was laid November 25. The new building is to cost $75,000.

Explosion in Hospital.—An explosion in the furnace of the American Hospital, November 28, wrecked the heating plant and created much alarm. The patients in the building escaped injury, as the physicians and nurses were promptly on hand and prevented a panic.

Certified Milk in Chicago.—Dr. Charles S. Bacon, in his illustrated talk on this subject in the Public Library building, November 27, spoke of the organization of the Milk Commission of the Chicago Medical Society, and stated that three country dairymen had been induced to sign contracts draw up after the pattern of the national form, and had agreed conform to the rigid demands of the commission. In retur for this, the commission gives each dairyman a copyrighte trade mark bearing the certification of the society, whic appears on the label or stopper of every bottle.

KENTUCKY

Personal.—Dr. Alexander Vertes, Louisville, has returne from abroad.——Dr. Matthias R. Perry, Russellville, has su ceeded Dr. M. E. Alderson, Russellville, as physician of Loga county.

Society Election.—Hardin County Medical Society ha elected the following officers: Dr. Clyde C. Carroll, Whit Mills, president; Dr. D. Elmo McClure, Sonora, vice-pres dent; Dr. John M. English, Elizabethtown, secretary-treasure and Dr. C. T. Riggs, Upton, delegate to the State Medica Association.

Babies' Milk Fund.—The Babies' Milk Fund Association c Louisville, in its second annual report, showing the work don during the summer of 1909, states that at the beginning c last October the association had to its credit six distributin stations and one laboratory in operation; six graduate nurse four assistants, four supervisors and one assistant supervis on duty; twelve weekly consultations held; affiliation wit eighty-two physicians; registration of 284 children; 2,30 visits made by nurses to homes; $2,900 collected and 34,00 bottles of milk distributed.

MASSACHUSETTS

New Hospital Opens.—The Rufus S. Frost Hospital, Chelse opened its new building informally, October 11, to the members of the medical profession and representatives of th state and city. The hospital is built on the site of th Rufus S. Frost homestead and is three stories in heigh flanked with two-story wings. The right wing is devote entirely to surgery, including a maternity ward; the lef wing to medical wards and private rooms. There are seventy eight beds in the institution. The medical and surgical sta is as follows: Chairman, Dr. E. Frank Guild; secretary, D George B. Fenwick and Drs. Charles N. Cutler, Frank A. Mahoney, Francis B. McClintock, Edward J. Powers, Frederic H. Plummer, Frank S. Garrett, John M. Wells, Joseph B. Fenwick, John M. Doran and John G. McPhail, all of Chelsea Drs. J. Stewart Morris and William C. Newton, Revere; D Horace E. Bragdon, East Boston, and Dr. William J. Porte Winthrop. The consulting staff consists of Drs. George H Cunningham, Jr., George W. W. Brewster, LeRoi G. Crandon Arthur T. Legg, Philip Hammond and Frederick M. Spalding all of Boston.

MARYLAND

Concentration of Colleges.—Senator Linthicum proposes concentration of medical and other colleges which receive stat aid into a state university, to be governed by a board o regents.

Appropriations Asked.—The State Board of Aid and Charities has been asked for the following annual appropriations College of Physicians and Surgeons, Baltimore, $5,000; Maryland Medical College, $4,000; Baltimore Medical Colleg $5,000; University of Maryland, $4,000; Medical and Chirurgical Faculty of Maryland, $10,000; and the Maryland Asylu and Training School, $50,500 for maintenance and $52,500 fo new buildings.

County Society Election.—Queen Anne's County Medica Society, held its annual meeting at Centerville, November 1 The following officers were elected: President, Dr. Ernest Smith, Centerville; vice-president, Dr. James W. Stack, Wy Mills; secretary-treasurer, Dr. Laura E. Reading, Hayden delegate to the Medical and Chirurgical Faculty of Marylan Dr. Norman S. Dudley, Church Hill, and censors, Drs. Willia G. Coppage, Church Hill; Wesley W. Chairs, Queenstown, an Walter H. Fenby, Ruthsburg.

Baltimore

Goldberger Prize Awarded.—Dr. Clemens von Pirquet, John Hopkins University, has been awarded the Goldberger Priz of 2,000 crowns by the Imperial and Royal Society of Physicians of Vienna on account of his discoveries of certain phase of immunity and skin reaction in the diagnosis of infantil tuberculous lesions. This prize is awarded every three year for research work in experimental medicine.

New Buildings on Johns Hopkins Grounds.—The contra has been awarded by the Johns Hopkins trustees for the buil ing of the Phipps Dispensary on the hospital grounds, at cost of $500,000. The building will be five stories in heigh fire proof and will correspond with the other buildings of the group.——The Harriet Lane Johnson Home for Crippled Children is to be erected on the grounds of Johns Hopkins University at a cost of $300,000.

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[1] Roch, M., and Campiche, L.: Coexistence de l'hippus respiratoire et du pouls dit paradoxal, Rev. de méd., 1909, xxix, 661; abstr. in The Journal A. M. A., Sept. 18, 1909, liii, 979.

[2] Wiesenger: Charité Ann., 1904-05, xxx, 591.

Personal.—Dr. A. M. Foster, superintendent of the Eudowood Hospital for Consumptives, near Baltimore, has resigned, to take charge of the Louisville Antituberculosis Association and Municipal Tuberculosis Department.——Dr. Gustavus Charles Dohme is said to be critically ill with uremia.——Dr. Thomas H. Buckler, president of the Paint and Powder Club, has resigned.——Dr. Ira Remsen, president of the Johns Hopkins University, has been made president of the Charity Organization Society.——Dr. John S. Fischer sailed for Europe November 27.

MISSOURI

Tag-Days.—Hospital Tag-Day in St. Louis, November 27, is reported to have netted more than $30,000 for the hospitals of the city.——St. Joseph collected more than $7,500 for charity at its first tag day, November 21.

Antituberculosis League Formed.—The Louisiana Antituberculosis League was organized November 15. Dr. James W. Dreyfus was elected president, and Drs. Joseph B. Unsell a member of the executive committee.

County Society Meetings. The Caldwell County Medical Society, at its annual meeting, October 27, elected Dr. Benjamin F. Carr, Polo, president; Dr. Stephen D. Smith, Cowgill, vice-president, and Dr. George W. Goins, Breckenridge, secretary-treasurer.——Howard County Medical Association, at its annual meeting held in Fayette, November 5, elected the following officers: President, Dr. W. B. Kitchen, Glasgow; vice-presidents, Dr. Thomas C. Richards, Fayette, and Joel Y. Hume, Armstrong; secretary, Dr. Charles W. Watts, Fayette; member of the house of delegates, Dr. Joel Y. Hume, Armstrong; and censors, Drs. Charles O. Lewis, Fayette, Andrew W. Moore, Fayette, and Vaughan Q. Bonham, Fayette.

State Bureau of Vital Statistics.—The State Bureau of Vital Statistics, which was provided for by the last legislature, and which is in charge of the state board of health, is now in process of organization, and will be in full operation January 1 next. Dr. Frank B. Hiller, secretary of the State Board of Health, is registrar for the central bureau. The law prescribes that each city and incorporated town shall constitute a registration district, and for the convenience of the rural profession of the state these sections will be divided into rural districts. All births and deaths must be reported to the local registrar, who in turn reports to the central bureau on the tenth day of each succeeding month. No burial or other disposition of a dead human body can be made without first securing a burial or transit permit from the local registrar. The certificate, in addition to the fact of death, will furnish statistics regarding mortality from various diseases, nationality, occupation, conjugal relation, age, sex, etc., also mortality by cities, towns, and rural districts. Missouri is said to be the first state in the Union to put into practical use the new United States standard death certificate.

NEW HAMPSHIRE

Medical Society Meeting.—The Rockingham County Medical Society held its fifth annual meeting in Portsmouth November 11. The following officers were elected: President, Dr. Elbert A. Landman, Plaistow; vice-president, Dr. Thomas W. Luce, Portsmouth; secretary, Dr. Walter Tuttle, Exeter; treasurer, Dr. Alice M. M. Chesley, Exeter; censor, Dr. John H. Neal, Portsmouth, and delegate to the state society, Dr. John W. Parsons, Portsmouth.

NEW YORK

State Board Approves.—The State Board of Charities has approved the certificate of incorporation of the Newburgh Tuberculosis Sanatorium which is to be the gift of former Governor B. B. Odell.——Approval has also been given to the consolidation of the New York Infant Asylum and the Child's Nursery. This consolidation, when ratified by the Supreme Court, will unite institutions whose joint resources are about $1,000,000, and whose annual expenditures at present are more han $200,000.——The incorporation of the Southampton Hospital Association, which proposes to establish a general hospital at Southampton, L. I., as well as the incorporation of he Lakeview Home, were approved by the board.

Bequests to Charities.—By the will of the late John S. Kennedy, $2,250,000 is devised to the Presbyterian Hospital, 25,000 to the New York Infirmary for Women and Children, nd $10,000 each to the Manhattan Eye and Ear Hospital, the New York Orthopedic Dispensary, the Fordham Home for ncurables, and the New York Society for the Relief of the Ruptured and Crippled.——By the will of the late Mr. Mitchell Valentine, one-half the residue of an estate, after the payment of certain small bequests, is bequeathed to the Presbyterian Hospital. The value of the bequest is estimated at $1,000,000.——The will of the late Emanuel Einstein bequeaths $10,000 to Mount Sinai Hospital and $5,000 to the Montefiore Home for Chronic Invalids.

Radium Institute of America.—At a recent meeting at the New York Yacht Club a society was formed for the study of radium, to discover any radiferous deposits in the United States and to buy quatities of the substance in Europe for clinical use in the United States. The idea of the founders of this society is to establish a clinic in connection with some hospital where radium treatment will be administered free to those who need it. They will endeavor to protect the public against the claims of patent-medicine manufacturers. The following officers were elected: President, Dr. Charles F. Chandler, professor of chemistry in Columbia University; vice-president, Dr. Robert Abbe; secretary, Prof. William Hallock, of the Department of Physics, Columbia University; assistant secretary, Prof. George B. Bertram of the same department; treasurer, Dr. Hugo Lieber, manufacturing chemist.

Tuberculosis Preventorium for Children.—The report of the first preventorium established in the United States emphasizes the fact that prevention of tuberculosis is easier and better than its cure, as overcrowding breeds disease, and quicker results from the relief of congestion are obtained by taking children of tuberculous patients into the country before the infection takes deeper root and the change is absolutely necessary. In this way it is noteworthy that within three months children may be fully restored to health. This work was influenced and made possible by Mr. Nathan Straus, who presented the Grover Cleveland Cottage and eight acres of pine land surrounding it, and the majority of stock in the Lakewood (N. J.) Hotel property, in which his investments amount to half a million dollars. Possession was taken of the cottage in May; the porch was arranged for six beds and the house for fourteen. The girls were all placed in this cottage, and in addition rooms for the matron and the help were provided and a dining room with accommodation for from forty to fifty children. Near the cottage has been built an open-air camp about 100 feet long to accommodate twenty boys. Since the opening of the institution, ninety-two boys and girls ranging from 4 to 14 years of age have been received. During their stay they have been in good health, showing steady improvement in general condition and gaining in weight. Plans are being made to increase the capacity of the institution to 400 children by next summer. The preventorium proposes not only to treat such children as need help but to carefully "follow up" such children and look after their welfare for some time after they have been discharged from the preventorium. A department of industrial education is to be arranged to include carpentering, cobbling, basketry, weaving, stencil work, medal work, etc. This department has been endowed by Miss Dorothy Whitney with $100,000, the interest of which will pay for instruction, tools, and materials. The medical service of the institution has been in charge of Dr. Alfred F. Hess, who has visited the institution at least once a week and has kept in touch with details. Drs. Abraham Jacobi, Hermann M. Biggs and Sigismund S. Goldwater has aided materially by their expert advice, in bringing about a practical organization.

New York City

Hospital for East New York.—Plans for the new Bradford Street Hospital in the East New York section of Brooklyn have been filed. The hospital will cover an entire block and will have a capacity of 100 beds. The estimated cost will be $350,000.

Lower Temperature in School Rooms.—Dr. C. Ward Crampton, director of physical training in public schools, has sent out a notice to all school teachers ordering them to keep the temperature of school rooms at 68 degrees instead of 70 as has been the practice. Dr. Crampton holds that the pupils will do better work if the air is cooler, and it is stated that there is likely to be a further general reduction of temperature in a short time. In England the school rooms are kept at a mean temperature of 60 degrees.

Neurological Institute Opened.—The New York Neurological Institute for the treatment of nervous and mental diseases, said to be the first of its kind in the United States, was opened this week at 149-151 East Sixty-seventh street. The building is six stories in height and fireproof. Dr. Joseph Collins is chief of staff of the medical board, and associated with him are Drs. Pearce Bailey and Joseph Fraenkel, assistant physicians; Dr. Smith Ely Jelliffe, alienist; Dr. Moritz Gross, in charge of the hydropathic department; Dr. Augustin A. Wolf, in charge of the electrotherapeutic department; Dr. D. M. Kaplan, in charge of the laboratory; and consulting physicians, Drs. Charles L. Dana, Francis P. Kinnicutt, Hermann M. Biggs, and Bernard Sachs. Dr. George G. Taylor is house physician. Much of the work done is on a charity basis, but patients may be taken at a cost of from $10 to $15 per week. The dispensary is to be open daily for charity cases only. The special province of the institute is the treatment of nervous and mental diseases with the minimum of medical and surgical interference.

OKLAHOMA

Physicians to Withdraw Advertisements.—Jefferson County Medical Society has asked all physicians belonging to the society to withdraw their advertisements from local newspapers.

Tuberculosis Exhibition.—Under the auspices of the State Medical Association and the State Board of Health, a convention on tuberculosis and exhibition will be held at Oklahoma City, January 10 and 11, at which ways and means will be discussed for the prevention and eradication of tuberculosis.

Personal.—Dr. John W. Riley has been selected as commissioner of health of Oklahoma City.——Dr. Benjamin F. Hamilton has been appointed physician in charge at the Government Indian School, Shawnee.——Dr. James H. Prodlitt, Oklahoma City, was seriously injured in a collision between an interurban car and an automobile, September 3.

Cornerstone Laid.—The cornerstone of the new hall of the University of Oklahoma, Norman, was laid November 16, with Masonic ceremonies. The new building will relieve the crowded condition of the medical department of the university, to which it has been subjected since the destruction by fire last year of one of the largest buildings of the institution.

Licenses Revoked.—The license of Dr. J. M. Means, Claremore, charged with performing a criminal operation, is said to have been revoked, October 13, by the State Board of Medical Examiners. At the same session the license of Dr. Leander M. Overton, Guthrie, was revoked on the ground that he was a graduate of a medical college whose diploma was not recognized by the board. Dr. Overton has filed suit against the State Board, and has asked that it be enjoined from molesting him in the practice of medicine.

Antituberculosis League Organized.—The Oklahoma Colored Antituberculosis League was organized in Oklahoma City, November 18, at a meeting held in conference with Dr. John C. Mahr, Shawnee, state superintendent of health. A local organization in every negro church in the state is planned, and a vice-president is to be appointed to organize the colored people of each county in their campaign against tuberculosis. Dr. Horace W. Conrad, Guthrie, was elected president; W. E. Brooks, Shawnee, secretary; and Dr. Riley A. Ransom, Sewell, treasurer.

SOUTH CAROLINA

Student Magazine is Issued.—The first issue of the *Aesculapian*, a monthly journal issued by the students of the Medical College of the State of South Carolina, Charleston, appeared November 18.

State Board of Charities Needed.—At the state convention of charities and corrections, which met in Columbus, November 19, a resolution was adopted asking the legislature to establish a state board of charities.

Personal.—Drs. Edgar A. Hines, Seneca, and William Eggleston, Hartsville, have been appointed members of the executive committee of the State Board of Health, vice Dr. J. Adams Hayne, Greenville, and Dr. James Evans, Florence, deceased. ——Dr. J. Sumter Rhame, Charleston, has returned from abroad.——Dr. A. Robert Taft has been elected professor of materia medica in the Medical College of South Carolina, Charleston, vice Dr. John Forrest, resigned.

Society Meetings.—At the annual meeting of the Fourth District Medical Association, held in connection with that of the Pickens County Medical Association at Easley, November 15, Dr. William A. Tripp, Easley, was elected president; Dr. Curran B. Earle, Greenville, vice-president, and Dr. Ernest W. Carpenter, Greenville, secretary-treasurer.——At the annual meeting of Lexington County Medical Society, held in Lexington, October 4, Dr. Frank R. Geiger, New Brookland, was elected president; Dr. Rufus E. Mathias, Irmo, vice-president; and Dr. James J. Wingard, Lexington, secretary (reelected).

PENNSYLVANIA

Tuberculosis Mortality.—According to a report issued by the State Department of Health, November 24, the deaths from tuberculosis reached 10,211 in 1908, a decrease of 614 from the number reported in 1907. The report shows that the average age at death was 35.5 years. Sixty-six per cent. of all deaths from this cause occurred between the ages of 25 and 64.

Hospital Suit Dismissed.—On November 24, Judge Brommall, of Media, non-suited the damage cases of Joseph Gallagher and Charles Firth against the Chester Hospital, on the ground that a public charitable institution is not responsible for the negligence of its agents, servants or employees. Legal action, he said, could be taken against the parties responsible but not against the institution.

Tuberculosis Sanitarium for Teachers.—A private sanitarium for the treatment of tuberculosis is to be established at Mount St. Michaels' Seminary, Berks county. The institution is to be erected on a tract of 52 acres of land, 600 feet above sea level. The sanitarium will be devoted exclusively to the treatment of tuberculosis in sisters teaching in the Roman Catholic parochial schools of Pennsylvania.

Personal.—Dr. F. R. McGrew, of Carnegie, was recently seriously injured by a collision between his automobile and a railway train.——Dr. Orlando Logan, Girard, the oldest physician in the Erie County Medical Society, has been presented with a cane by the society.——Dr. Edward B. Mathiot, Pittsburg, was seriously injured in a runaway accident November 23.——Dr. W. H. Chambers has succeeded Dr. W. M. Downey, resigned as a member of the board of health of McKeesport. ——Dr. Benjamin Thompson, Landenburg, is ill with cerebral hemorrhage.——Dr. Frederick A. Rupp has resigned as a member of the Lewistown Board of Health.

Philadelphia

Build Nurses' Home.—Work is to be immediately started on a four-story building to be used as a nurses' home at the Philadelphia General Hospital to cost $13,000.

Personal.—A destructive fire occurred in the home of Dr. John K. Mitchell, November 22, the damage amounting to about $5,000.——Dr. Edw. E. Montgomery was the guest of honor at the regular meeting of the Buffalo Academy of Medicine, November 26.

Bequests.—The will of the late Rebecca Hay bequeathes $20,000 to the Presbyterian Orphanage and $10,000 to the Presbyterian Hospital for the support of free beds.——By the will of the late Anna J. Van Reed of Reading, the Medico-Chirurgical Hospital receives $13,000.

The Alvarenga Prize.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, amounting to about $180, will be made on July 14, 1910, provided that an essay deemed worthy of the prize shall have been offered. Essays intended for competition may be on any subject in medicine, but cannot have been published. They must be typewritten, and must be received by the secretary of the college on or before May 1, 1910. Each essay must be sent without signature, but most be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. The successful essay or a copy of it is to remain in possession of the college; other essays will be returned on application within three months after the award.

TENNESSEE

Health Day.—In accordance with the annual custom, November 19 was observed as public health day throughout the state. Literature was sent by the state superintendent of education to all schools, and addresses were made at the various schools by physicians on that day.

Personal.—Dr. Charles F. Forgey, Columbia, who has been a patient in St. Thomas Hospital, Nashville, has returned home. ——Dr. Arthur H. Gray, Nashville, has been made superintendent of the new hospital at Seattle, Wash.——Dr. James T. Jones, Jackson, has been elected president of the city board of health.

Medical College in Hands of Receiver.—The Tennessee Medical College, Knoxville, now known as the Medical Department of Lincoln Memorial University, is said to have been placed in the hands of a receiver, November 2, by the chancery court, following the filing of a bill by several creditors of the institution. Dr. Walter S. Nash, Knoxville, was named as receiver.

Knoxville Antituberculosis Society.—At a meeting of the board of directors of the Knoxville Association for the Prevention and Cure of Tuberculosis, November 1, it was decided to apply for a charter of incorporation so as to legalize the society and place it on a firmer foundation. Dr. William R. Cochrane, secretary of the city board of health, was elected a director, vice Dr. Chalmers Deadrick, resigned.

TEXAS

Quarantine Raised.—By proclamation of the governor, the quarantine against ports south of 25 degrees north latitude was raised November 1.

Medical Students Issue Paper.—The *Microbe*, a monthly publication issued by the students of the Medical Department of Fort Worth University, made its initial appearance November 1.

Personal.—Dr. Paul Renger, city physician of Hallettsville, has been appointed physician for Lavaca county.——Dr. Zachary T. Scott, Clifton, has succeeded Dr. Lewis B. Bibb, resigned, as registrar of vital statistics of the state——Dr. Cyrus B. Weller, Austin, has been appointed assistant city health officer.

Innovations Advocated.—Superintendent Nichols of the Southwestern Insane Hospital, San Antonio, in his annual report, recommends the building of an east wing on the infirmary to cost $6,000; the erection of a natatorium and bath house to cost $12,000, and the purchase of a sight-seeing motor car with seating capacity of twenty-five, for the use of patients.

Constitutionality of Medical Law to Be Tested.—The constitutionality of the one-board medical act, passed by the thirtieth legislature, is to be tested in the United States Supreme Court. Presiding Judge Davidson of the court of criminal appeals, on November 9, granted a writ of error to the United States Supreme Court in the case of Ira Collins, El Paso, who was fined for practicing osteopathy without having obtained a license from the board. The court held that osteopaths, although they do not use medicine in practice, come within the provisions of the act.

Elect Officers.—At the annual meeting of the Northeast Texas Medical Association, held in Marshall, November 16, Dr. Holman Taylor, Marshall, was elected president; Dr. Walter J. Matthews, Mount Pleasant, vice-president; Dr. Robert H. T. Mann, Texarkana, secretary; and Dr. Charles A. Smith, Texarkana, treasurer. The next meeting of the association will be held in Texarkana.——At the meeting of the Seventh District Medical Society in Austin recently, Dr. Washington A. Harper, Austin, was elected president, vice Dr. Matthew A. Taylor, Austin, deceased.——Wise County Medical Society, at its annual meeting, held in Decatur, November 18, elected Dr. John A. Embry, Decatur, president; Dr. Elden H. Foster, Bridgeport, vice-president; Dr. John F. Ford, Decatur, secretary; Dr. Ambrose C. Bramlett, Decatur, treasurer; Dr. B. M. Jones, Boyd, censor, and Dr. Leopold H. Reeves, Decatur, delegate to the state association.——The Lone Star State Medical, Dental and Pharmaceutical Association held its annual meeting in Houston, November 9-11, and elected the following officers: President, Dr. Napoleon J. Atkinson, Greenville; vice-president, Dr. Russell F. Ferrill, Houston; secretary, Dr. Richard T. Hamilton, Dallas; assistant secretary, N. F. Wallace, Fort Worth; and treasurer, Miss A. E. Hughes, Clarksville, and chairmen of sections, Dr. Benjamin R. Bluitt, Dallas, surgery; Dr. William T. Hughes, Fort Worth, practice of medicine; Dr. Felix A. Bryan, Dallas, gynecology; Dr. Rufus S. Childs, Houston, tuberculosis; Dr. Mary S. Moore, Galveston, obstetrics; Dr. William M. Drake, Marshall, pathology; Dr. Ransom B. Barnes, Cleburne, genitourinary diseases; Dr. Henry E. Lee, Beaumont, hygiene; H. M. Whitey, Houston, dentistry; and G. W. Lemons, Fort Worth, pharmacy. Austin was selected as next place of meeting.

VIRGINIA

Medical Faculty Meets.—At the annual meeting of the Petersburg Medical Faculty, November 19, the following officers were elected: President, Dr. Leverett S. Early; vice-presidents, Drs. W. Preston Hoy, and Hampden A. Burke; secretary-treasurer, Dr. William C. Powell; corresponding secretary, Dr. J. R. Beckwith, and court medical, Drs. Samuel A. Hinton, Franklin W. Hains, William H. Crockford, Jr., J. Boiling Jones, and Daniel D. Willcox.

Personal.—Dr. George K. Sims, Richmond, was operated on November 17, at the Memorial Hospital.——Dr. Truman A. Parker, Richmond, has been elected executive secretary of the Virginia Antituberculosis Society.——Dr. Charles R. Grandy, Norfolk, has been elected a vice-president of the Virginia State Antituberculosis Society, and Dr. Charles P. Wertenbaker, U. S. P. H. and M.-H. Service, Norfolk, a director.——Dr. John W. Winston, Norfolk, has been appointed captain and assistant surgeon, N. G. Va.

State Antituberculosis Association Organized.—The Virginia Antituberculosis Association was organized at Richmond, November 6. Dr. William F. Drewry, Petersburg, was temporary chairman, and Dr. Albert W. Freeman, Richmond, temporary secretary. The following permanent officers were elected: President, Capt. W. W. Baker, Hallsboro; vice-presidents, Governor-elect William Hodges Mann, Governor Claude A. Swanson, President Edwin A. Alderman of the University of Virginia; Dr. Elliott T. Brady, Abingdon; Right Rev. Augustin Van de Vyver, Bishop of Richmond; Dr. Rawley W. Martin, Lynchburg; Dr. Stephen Harnsberger, Catlett; John S. Bryan, Richmond; and Dr. Charles R. Grandy, Norfolk; secretary, Miss Ann Gulley, Richmond; treasurer, Thomas W. Scott, Richmond; and directors, Dr. Charles P. Wertenbaker, U. S. P. H. and M.-H. Service, Norfolk; John T. Maginnis, Radford; Dr. William F. Drewry, Petersburg; George W. Wright, Marion; Mrs. John W. Hayes, Petersburg; Rev. J. T. Mastin, Richmond; Mrs. D. W. Reade, Charlotte; Dr. Ennion G. Williams, Richmond; Dr. Ernest C. Levy, Richmond, and Miss S. H. Cabiniss, Richmond.

WASHINGTON

Local Physicians Elect.—At a meeting of the North End (Seattle) Medical Society, October 29, the following officers were elected: Dr. Walter K. Seelye, president; Dr. Clarence W. Knuedson, vice-president; and Dr. J. Tate Mason, secretary-treasurer.

Hospital Contract Awarded.—The general contract for the erection of the buildings for the Vancouver Branch of the Sisters of Charity of the House of Providence has been awarded to contractors in Vancouver for $111,000. The building is to have a frontage of 160 feet, with a width of 48 feet, a central wing projecting 72 by 35 feet. The building will be practically fireproof.

Personal.—Dr. Elmer M. Brown, Tacoma, has been commissioned colonel and assistant surgeon in the National Guard of Washington, and Dr. John S. Kulp, major, medical corps, U. S. Army, retired, has been commissioned lieutenant colonel and chief surgeon of the medical corps.——Dr. C. R. Duncan is reported to be critically ill with typhoid fever at the home of his sister in Cle Elum.——Dr. Joseph L. Lane, physician at the state penitentiary, Walla Walla, has resigned and will begin practice in Seattle.

WEST VIRGINIA

Free Antitoxin.—The State Board of Health, at its meeting in Parkersburg, November 10, decided to place antitoxin for the treatment of diphtheria in every county in the state for the benefit of those unable to purchase it.

Antituberculosis League Organized.—The Antituberculosis League of Moundsville was organized November 15, with V. A. Weaver, chairman, and A. R. Bennett, secretary. It was arranged to hold an antituberculosis exhibit during December. Drs. LeRoy S. Hennen, John C. McCollough, and Joseph A. Striebach were appointed a committee of arrangements.

Medical Society Meeting.—The Grant-Hampshire-Hardy-Mineral Counties Medical Society held its annual meeting in Burlington, October 22, and elected the following officers: President, Drs. James W. Shull, Romney; vice-presidents, Drs. William T. Highberger, Maysville, Robert W. Love, Moorefield, George H. Thomas, Romney, and Hugh Strachan, Blaine; secretary, Dr. W. Holmes Yeakley, Keyser; treasurer, Dr. Walter M. Babb, Keyser, and censors, Drs. Glenn Mooman, Petersburg, George H. Thomas, Romney, R. W. Love, Moorefield, and Lloyd L. Edgell, Keyser.

WISCONSIN

Marinette County Physicians Meet.—The annual meeting of the Marinette County Medical Society was held in Marinette, November 9, when the following officers were reelected: President, Dr. H. F. Schroeder; vice-president, Dr. Simon Bergland; and secretary-treasurer, Dr. Sherman E. Wright, all of Marinette. Dr. A. F. Lyon Campbell, Dunbar, was elected censor.

Personal.—Dr. L. Rock Sleyster, Appleton, has been appointed physician to the state penitentiary, Waupun, vice Dr. Moore, who has been appointed superintendent of the State School for the Blind, Janesville.——Dr. Mazyck P. Ravenel, Madison, has been reelected president, Dr. Hoyt E. Dearholt, Milwaukee, executive secretary, and Dr. Clarence A. Baer, Milwaukee, secretary of the Wisconsin Antituberculosis Society.——Dr. L. Ward Alger, the oldest practitioner of LaCrosse, announces that he will retire from practice and move to Everett, Wash.

Officers of Hospital for Chronic Insane Elected.—At the annual meeting of the trustees of the Milwaukee County Asylum for Chronic Insane, Wauwatosa, Dr. William F.

Beutler was elected superintendent and medical officer for the fifteenth consecutive term, and the following members of the honorary medical and surgical staff were reelected: Drs. Gustav A. Kletzsch, Uranus O. B. Wingate, A. Hamilton Levings, Ernest C. Grosskopf, Louis Fuldner, Christian H. Beyer, Franklin H. Hagerman and Gustavus I. Hogue, Milwaukee, and Drs. Ferdinand M. Scholz, Moses J. White, Richard Dewey, and Edward A. Schmitz, Wauwatosa.

CANADA

Personal.—Dr. Oscar Klotz, for seven years assistant in pathology to Prof. John G. Adami at McGill University, Montreal, has been appointed professor of pathology in the University of Pittsburg and will enter on his new duties about the New Year.——Dr. H. H. McIntosh has resigned from the superintendency of the Vancouver General Hospital and Dr. W. A. Whitelaw succeeds him.——Drs. George A. Kennedy, McLeod, Alta.; Thomas J. Costello, Calgary, Alta.; and Robert G. McDonald, Sarnia, Ont., have gone abroad.——Dr. George H. Parke, Quebec, has been appointed surgeon to the garrison at St. Johns, P. Q., vice Dr. Chevalier, resigned.——Dr. Hugh A. McColl, Milton, Ont., has returned from Europe.

Dominion Registration.—Dr. Thomas G. Roddick called a meeting of the committee of the Canadian Medical Association on Dominion Registration in Montreal, November 16. British Columbia, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island were represented and the following medical councils or provincial examining boards sent delegates to confer with this committee: Nova Scotia, New Brunswick, Quebec and Ontario. The meeting was called to consider the resolution practically unanimously passed at the annual meeting of the Canadian Medical Association held in Winnipeg in August, which provided that the Roddick Act be put in force whenever five or more provinces agreed to the provisions of the act. It is understood that the meeting was an entirely satisfactory one and that steps will be taken to have amendments made to the Canada Medical Act of 1902 at the present session of the federal parliament.

Tuberculosis.—The Royal Edward Institute for the care of patients suffering from tuberculosis in Belmont Park, Montreal, was opened by King Edward October 22. Addresses were made by Sir George Drummond, president of the institute: Sir Charles Fitzpatrick; Dr. R. W. Philip, Edinburgh, Scotland, and others.——The Lake Edward (Que.) Sanatorium for the care of patients suffering from tuberculosis was opened October 14. The institution has accommodation for about thirty patients and is intended only for incipient cases. Dr. William E. Ainley, Lachine, has been appointed medical superintendent. ——The buildings of the Ninet's Sanatorium, Brandon, are nearly completed and will be ready for occupation about Christmas.——A tuberculosis commission from New Brunswick, consisting of Drs. John R. McIntosh and A. F. McAvenney, St. John, Dr. Robert L. Botsford, Moncton, and Dr. Bourk of Kent county, has recently been in Boston on a tour of investigation and study of the tuberculosis problem in that city.

Hospital News.—At the annual meeting of the Montreal Maternity Hospital held recently, Dr. Andrew MacPhail was made a life governor. Owing to the unsatisfactory financial condition of the hospital, an appeal will be made to the public for better and larger financial support.——The Alexandra Hospital for contagious diseases, Montreal, recently appealed to the public for funds to wipe out its mortgage indebtedness of $100,000, of which amount $30,000 was received. The work in connection with this hospital is increasing very rapidly. During the first ten months of 1908, 367 patients were admitted, while for the corresponding period of 1909, 561 have been received.——Regina, Sask., is erecting a new hospital at a cost of $100,000, to be finished by December, 1910.——Calgary, Alta., is erecting a new hospital in which fraternal societies will furnish wards, while several private individuals will furnish rooms.——The Provincial Royal Jubilee Hospital, Victoria, B. C., is erecting a new Maternity Home.——A new hospital for the insane is being erected at Coquitlam, B. C. It will be called Mount Helmcken, after Dr. J. S. Helmcken, Victoria, dean of the medical profession of British Columbia.

GENERAL NEWS AND COMMENT

Surgeons and Gynecologists to Meet.—The twenty-second annual session of the Southern Surgical and Gynecological Association will be held in Hot Springs, Va., December 14-16, under the presidency of Dr. Stuart McGuire, of Richmond, Va.

Interurban Officers.—Officers of the Interurban Academy of Medicine, whose membership includes physicians of Duluth, Minn., and Superior, Wis., were elected at the annual meeting held November 17, in Superior. Dr. Charles H. Mason, Superior, was elected president; Dr. Robert Graham, Duluth, vice president; Dr. Thomas J. O'Leary, Superior, secretary-treasurer, and Dr. Edward L. Tuohy, Duluth, censor.

Mexican Medical Congress.—The fourth Mexican Nationa Medical Congress is to be held in the City of Mexico, Sept 19-25, 1910. The congress consists of physicians, druggists veterinarians, dentists and sanitary engineers. The congress will award a prize of 1,000 pesos ($200) to the author of the address which may be declared the best, by a jury consisting of five individuals appointed by the president and vice-presidents of sections. The president of the congress is Dr. Porfirio Parra, and the secretary, Dr. Luis E. Ruiz, both of the City of Mexico.

To Discourage Spitting.—The Rochester (N. Y.) Public Health Association has printed quantities of a small yellow slip containing the accompanying statement, printed in red and black. These are for free distribution by policemen street car men and others who are interested in the fight against promiscuous spitting. It is hoped to suggest to offenders the necessity of proper observance of sanitary laws This organization, whose address is 32 South Washington street, requests information, from others who have tried this method, as to the results observed.

My Friend! Let me remind you that spitting on the sidewalks, in the street cars, or in any public place, is forbidden by law. ℭ It is unsanitary and a menance to the health of others. ℭ It spreads

TUBERCULOSIS

Every Gentleman will obey the Law and respect the rights of others

Tri-State Societies Meet.—The Tri-State Medical Association of Mississippi, Arkansas and Tennessee held its twenty sixth annual convention in Memphis, November 16-18, under the presidency of Dr. William H. Deaderick, Marianna, Ark The following officers were elected: President, Dr. James S Rawlins, Danceyville, Tenn.; vice-presidents, for Mississippi Dr. William L. Howard, Greenville; for Arkansas, Dr. John L. Jones, Searcy, and for Tennessee, Dr. Nicholas S. Walker Dyersburg; secretary, Dr. J. H. Eugene Rosamond, Memphis (reelected); and treasurer, Dr. James A. Vaughan, Memphis (reelected). The association will hold its 1910 meeting in Memphis.——The Tri-State Medical Association of Arkansas Louisiana and Texas held its annual session in connection with that of the Northwest Texas Medical Society at Marshall November 16 and 17. The following officers were elected President, Dr. Robert H. T. Mann, Texarkana, Ark.; vice-presidents, for Louisiana, Dr. Mathias M. Collins, Hosston, and for Texas, Dr. John O. McReynolds, Dallas; secretary, Dr Jacob M. Bodenheimer, Shreveport, La.; and councilors, Drs Holman Taylor, Marshall, Texas; Joseph E. Knighton, Shreveport; and Frederick W. Youmans, Lewisville, Ark. Shreveport was selected as the next place of meeting.

American Scientists to Meet.—The sixty-first annual meeting of the American Association for the Advancement of Science, and the eighth of the convocation week meetings, will be held in Boston, December 27 to January 1, on the invitation of Harvard University and the Massachusetts Institute of Technology, under the presidency of Dr. David Starr Jordan president of Leland Stanford, Jr., University, Cal. The following societies have indicated their intention of meeting in Boston during convocation week: American Society of Naturalists, American Mathematical Society, Association of American Geographers, Geological Society of America, Association of Economic Entomologists, American Nature Study Society Association of American Anatomists, American Chemical Society, American Society of Vertebrate Paleontologists American Society of Zoologists, American Physical Society American Psychological Association, American Physiological Society, American Anthropological Association, Entomological Society of America, American Folk-Lore Society, American Federation of Teachers of the Mathematical and the Natural Sciences, American Society of Biological Chemists, Sullivant Moss Society, Botanical Society of America, Society of American Bacteriologists, Association of Mathematical Teachers in New England, Eastern Association of Physics Teachers Physics Teachers of Washington, D. C., American Phytopathological Society, American Alpine Club, and American Breeders' Association.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Nov. 11, 1909.

Quacks on Trial

In the last few weeks two suits against quacks in Germany have attracted general attention. The first suit was for fraud against a spiritualist who had swindled the complainant out of $24,000 (100,000 marks), and who was sentenced to several months' imprisonment.

Still greater interest will be felt in a prosecution of the so-called clay pastor (*Lehmpastor*) Felke. In the Rhine country, a preacher named Felke for some years treated patients with water, air, light and earth, particularly with clay for local baths and poultices. He claimed to diagnose all possible diseases at the first look by certain changes, especially discoloration, of the iris. The fineness of this diagnosis is so remarkable that the pastor, as he stated at the trial, could tell whether any one ate much butter on his bread, whether the grandfather of the patient had had the itch, whether one had eaten an egg, and much more of the same kind. Thousands, among them well-to-do people from the better circles of society, consulted him.

One day he overlooked an appendicitis in a young man of 18 and by improper treatment caused his death. On trial for manslaughter by criminal carelessness, the court at Cleve acquitted him; the state's attorney appealed and the highest court in Germany, the imperial court, reversed the verdict and ordered a new trial in the county court at Krefeld. The height of excitement was reached when an opportunity was given the pastor, at the motion of the defense, and naturally with the support of the unprejudiced medical experts, among which were the renowned Professor Garré of Bonn, to exercise his eye diagnosis on twenty patients of the Krefeld city hospital. Not a single diagnosis was correct. Serious diseases were not recognized and symptoms were diagnosed which were not present. Even the fact that one patient was blind in one eye escaped the pastor.

The court decided that Felke had made a false diagnosis in he case involved in the trial and by prescription of improper neasures had caused the death of the patient. In regard to carelessness, the court said the eye diagnosis was not reliable. However, inasmuch as the apparent successes of the treatment stablished by Felke and the respect of his patients extending almost to idolatry had confirmed him in the belief that he had he capacity of diagnosing disease correctly, the court gave an acquittal!

The state's attorney will appeal and there is no doubt that the imperial court will again reverse the decision. The mperial court has repeatedly expressed the view that quacks are responsible for their mistakes and liable to punishment in he same way as physicians. This is most distinctly stated in n opinion given in 1900, saying: "It is clear that an experience which dispenses with all scientific tests and basis for the connection between treatment and results has only the value of a guess and must always reckon with the danger of error nd of mistakes and their consequences and that for this only he judgment of ordinary human intelligence is necessary. Whoever disregards this neglects his own capacity for thought nd whoever undertakes the medical treatment of patients without having obtained the necessary scientific education is acting with a disregard of the attention necessary for such an mployment which it is his duty to give it, i. e., is acting carelessly. Whoever exercises the healing of disease as a trade must acquaint himself with the rules of this science and must follow them if he is to escape the accusation of criminal carelessness against the life and health of another. And if he does not do this he is responsible for his offenses and their consequences."

On this principle the quack pastor will probably be convicted at the next trial. It is even more certain that, in spite f this, fools will still persist in their foolishness and quacks till find their supporters.

The Cholera

The cholera cases in East Prussia have not yet entirely disppeared. From the middle of July to the end of October, 33 cases have occurred, with 12 deaths. The government has instituted stringent measures requiring inspection of corpses by physicians, warning against the use of river water, supervising marine and river traffics (as without doubt the invasion f cholera from Russia occurs by water), installing steam disinfection apparatus at all quarantine stations and at the two holera hospitals, and enforcing medical examination and aths for emigrants and immigrants and disinfection of their nen and clothing. The Russian raftsmen are returned to the order in closed cars.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Nov. 11, 1909.

Adulteration of Foodstuffs

The report on the budget of the Department of Agriculture gives an extensive review of the functioning of the service for the repression of fraud. During the year 1908, there were 67,726 samples of foods and drinks seized, out of which 14.4 per cent. were regarded as suspicious. Except in the Department of the Seine and some places where there were special agents, the seizures were made without discrimination. Sometimes the seizures are made on suspicion, and more frequently at random by way of control. In 1907 almost 20 per cent. of the samples seized were reported to the courts. In 1908 this average was lowered to 14.4 per cent., then to 14.1 per cent. in the first semester of 1909. The improvement was much more important in the provinces, where the average of suspicious samples was lowered from 18.3 to 10.4 per cent., but in Paris the average has risen from 23.7 per cent. to 31.6 per cent. At the period when the service for the repression of fraud began to act, the most frequently adulterated products were oil, milk, vinegar and wine. One of the most extensive frauds of recent years has been practiced in regard to mineral waters, both in the concerns which supply the groceries and in many of the most fashionable restaurants in Paris. The seizures of mineral waters began only at the end of the year 1907. The first case dates from Dec. 17, 1907, when a restaurant put ordinary water on sale in bottles bearing the trade-mark of a well-known mineral spring. In the course of 1908, numerous frauds in mineral water were brought to light in various restaurants which sold ordinary Paris drinking-water under the names of various mineral waters. From seizures made at groceries the service for the repression of fraud ascertained that the trade-marks of certain mineral waters have been tampered with. A strict surveillance was then placed over the wholesale dealers and at two wholesale establishments complete outfits for the manufacture of a mineral water were found. From October 22 to December 21 45,888 bottles of fraudulent water were sent out from the factory. In another factory the agents of the service for the repression of frauds found workmen occupied in filling bottles with "mineral water" that they were drawing from iron casks. The amount of ordinary water consumed by this concern, as registered on the meter, was, in 1907, 331,219 gallons (1,254,000 liters), and in 1908, 447,436 gallons (1,694,000 liters). The culprit confessed that he had made with ordinary water and bicarbonate of soda over 650,000 bottles of counterfeit mineral water.

Comparative Sanitary Conditions of the Troops at Paris and at Berlin

Last June, Dr. Lowenthal read before the *Académie de médecine* a paper on the comparative sanitary condition of the French and German armies from 1902 to 1906, from which it appeared that the general mortality in the French army was much larger than in the German army (The Journal, July 10, 1909, liii, 126). On November 9, Lowenthal placed the conclusion of his work before the academy, showing the mortality and morbidity of the garrisons of Paris and Berlin. This comparison is still more unfavorable. The general mortality of the army of Berlin is 10.5 per cent. lower than that of Paris. The morbidity from scarlatina in the army at Berlin is 25 per cent. lower and the mortality is 150 per cent. lower than that at Paris. In five years the number of measles patients in the Paris garrison is twice as numerous as in the whole German army; the number of deaths is seven times as large. The troops at Paris, if as numerous as the troops at Berlin (the garrison of Paris is composed of only 45,000 men against 65,700 men at Berlin) would furnish as many deaths from typhoid fever as the whole German army. The sanitary condition of the forces at Paris is deplorable not only as compared to that of the forces at Berlin, but even when compared with that of the army of the interior. Out of twenty corps of which the army of the interior is composed, the troops at Paris occupy the eighteenth place in the ascending scale of mortality and morbidity. The insalubrity of Paris, which increases each year because of the continual upheavals of the soil, is the primary cause of the unsatisfactory health of the troops, but another cause is the deplorable condition of the barracks, of which the greater number in Paris date from the 16th and 17th centuries, and meet the demands of modern hygiene hardly better than the cannons and guns of those periods satisfy the demands of modern warfare.

Mutual Benefit Societies and Social Hygiene

The *Alliance d'hygiène sociale* has taken advantage of the congress of the *Fédération nationale de la mutualité* which is now in session at Paris to draw the attention of the mutual benefit societies to the part which, even in their own interests, they ought to take in promoting social hygiene. M. Léon Bourgeois, former cabinet minister and president of the alliance, undertook to show the members that such societies would be acting wisely in their own interests if they employed part of their reserve funds (at present amounting to about 150,000,000 francs or $30,000,000) in the preservation of public health. In aiding the construction of cheap dwellings, for example, the mutual benefit societies would make a particularly advantageous investment, for they would then hinder one of the principal causes of long illnesses, particularly tuberculosis, the victims of which are such a heavy burden on the treasuries of the benefit societies. It was unanimously decided to form a permanent social hygiene commission of the mutual benefit societies, which will try to obtain from legislators and public authorities the right to use part of the reserve funds of the mutual aid societies in works of social hygiene, as has been done in Germany, where the insurance societies participate with so much success in the strife against tuberculosis. A particularly urgent feature is organization of insurance for chronic partial invalids, who, for lack of continued care, end by becoming permanent charges on the mutual benefit societies or on the public charities (*Assistance Publique*). The combat against unhealthful dwellings should also have an important place in the activities of the benefit societies, the improvement of the dwellings resulting in the decrease of the mortality from tuberculosis. If this double task cannot be accomplished by local societies, it is not beyond the powers of the department federations.

Election of Dr. Wurtz to the Académie de médecine

In its session of November 9, the *Académie de médecine* elected Dr. Wurtz an honorary member in the Section of Hygiene, Legal Medicine and Sanitary Police in place of Dr. Motet, who died last March. Dr. Wurtz, son of a celebrated chemist, is about 50 years old. He was a pupil of the late Professor Strauss, and when very young became successively professor *agrégé* at the Paris medical school and physician of the hospitals. He is known especially for his works on colonial pathology which he studied in the colonies, especially in Africa. One of the last missions that he accomplished was in Abyssinia, where for two years he was called on to attend the Emperor Menelik and his suite.

An Apostle of Repopulation

A few days ago Senator Piot died in his eighty-first year. He was one of those who first raised the cry of alarm in regard to the slow progressive depopulation of France. From his entry to the senate in 1897, M. Piot cooperated with the efforts of the statistician, Dr. Bertillon, against the decrease of the birth-rate in our country compared with the increase in other nations. He wrote many pamphlets and published two books, "Enquiry Into the Depopulation of France" (1899) and "Depopulation" (1903). All the acts of his political life were toward a single end, an effort against depopulation. To this end he proposed a bill for a special tax on bachelors and childless citizens; he obtained the creation of an extraparliamentary commission for the study of depopulation, the work of which unfortunately was interrupted by the lack of provision for its expenses. M. Piot also carried on an energetic campaign in favor of large families, which made him one of the most prominent political characters and won him the title of the "apostle of repopulation."

First Congress of Public Health Officers

A few days ago the first congress of sanitary physicians was held at the Pasteur Institute. It was due to the initiative of the Society of Public Medicine and Sanitary Engineering and was composed of public physicians and officers charged with the administration of the law of 1902 in regard to the protection of public health. Two of the questions discussed were of particular importance, namely, that of the reporting of infectious diseases, and that of the rôle of the departmental hygienic inspection. The congress resolved that the reporting of infectious diseases should be obligatory jointly on the head of the family and on the physician; also that the reporting of measles should be compulsory, disinfection being optional, and done at the demand of the family or of the physician. Dr. J. Courmont, professor of hygiene at the Lyons medical school, argued that the optional departmental service of hygienic instruction ought to be made compulsory for eac department. The inspector ought to be a doctor of medicin and selected by competitive examination. His function shoul be to direct the service of disinfection and vaccination, t keep the sanitary records of the communes, to inspec unhealthful occupations, etc. The congress approved thes conclusions. At the close of the congress a special commissio met immediately to study the best means to bring about th necessary close relations between public physicians, sanitar officers and practicing physicians. The following are the conclusions of this commission:

1. It is important to improve the relations between practicing physicians and sanitary officers. The latter ought t furnish free when practicing physicians request it, everythin necessary for isolation and disinfection.

2. Practitioners should have at their service laboratorie where they can obtain free for their poor patients bacteriologi diagnoses in suspect cases. As moreover there are payin cases in which a practitioner may need bacteriologic diagnoses but does not desire to inform the family, and as the servic rendered is a public one, in such cases bacteriologic diagnose should be furnished free to the practitioner.

3. Sanitary officials should try to reach an understandin with the physician of a case and to cooperate with him.

4. The practitioner in charge of the case should be invite to communicate his diagnosis as soon as possible and to poin out suspected cases which are sometimes the most interestin from point of view of prophylaxis.

Congress of Sanitation and Salubrity of Dwellings

The third national congress of sanitation and salubrity o dwellings which has just been held at Paris, of which I mentioned the program in a previous letter (THE JOURNAL, Oct 16, 1909, liii, 1304) also took up modifications to be made i the law of 1902 in regard to public health. It especiall asked resolutions to the effect that the declaration for th disinfection of buildings in cases of contagious diseases ough to fall on the head of the family; it also resolved that a bil be brought forward authorizing expropriation on account o insalubrity, the expenses of expropriation to fall on th expropriated owner.

Prosecution for Delayed Report of a Case of Typhoid Feve

Dr. Forquin, a physician in Mirecourt (Vosges) was recentl condemned to a fine of $10 (50 francs) for infringing the law in regard to the reporting of epidemic diseases. He had bee called on April 5 to see a patient whose case he reported o April 27 as typhoid fever. He was prosecuted for his delay He pleaded that his diagnosis had not been certain until th night of the 26th, and that consequently he was not able t make a report earlier. The court of Nancy, to which appea was taken, reversed the decision of the lower court an acquitted Dr. Forquin.

The Ultra-Microscope and the Cinematograph

Much interest has recently been shown in a communicatio by Dr. Comandon to the *Académie des Sciences* in regard t the application of the cinematograph to the dark fiel microscope. According to Dr. Doyen cinematographic image of microscopic objects were made in London in 1906 by a distinguished naturalist, Mr. Marc Duncan.

International Conference Against Saccharin

On November 15, the international conference for th repression of the use of saccharin opened in Paris. Professo Bordas was elected president. The governments represente were those of France, Germany, Austria, Belgium, Greece Hungary, Italy, The Netherlands, Portugal, Russia an Switzerland. The first session was devoted primarily to th examination of existing legislation for the repression of th sale and use of saccharin and similar sweetening substances.

Courses on Care of Infants

Dr. Maygrier, head accoucheur at the Maternité, has jus inaugurated at the Fondation Pierre Budin (THE JOURNAL June 19, 1909, lii, 2006) courses in "puericulture" from th earliest ages. This course will be completed in ten lessons an there will be several series during the school year.

Death of Professor Mayet

Dr. Octave Félix Mayet, former professor of general pathology at Lyons medical school, former physician of the hospitals of the same city, has just died, aged 74. He was th author of a treatise on medical diagnosis and semeiology i two volumes, published in 1897.

LONDON LETTER

(From Our Regular Correspondent)

London, Nov. 20, 1909.

Short Sight in the Upper Classes

In delivering his presidential address to the Illuminating Engineering Society, Prof. Sylvanus Thompson, the eminent physicist declared that there was a greater percentage of short sight among the upper classes than among the poor. His explanation is that the illumination of the schools and colleges in which the children of the former class study, is defective and thus that in using their eyes the children are actually forced into short-sightedness. He reviewed the science of illumination from the days of rush-lights and candles to the present era of electric light and incandescent mantles, and he made a strong plea for an international unit of light. The present unit of so many candle power is vague and indefinite. It is now possible by the photometer to define the measurement of light. Why, therefore, should it not be employed for the measurement of light? There was no reason why schools and other public buildings should not be properly illuminated on a scientific basis. The factory acts contained no regulation except that the building should be "adequately lighted." What did adequate lighting mean? The health authorities had not a single photometer to ascertain whether buildings were adequately lighted or not. The only country in Europe which had sensible regulations on the point was the little kingdom of Holland.

Disease and Crime

The doctrine of the late Professor Lombroso that crime is due to an abnormal physical constitution of the criminal has not obtained much support in this country. The following extracts from the prison commissioners' report for England and Wales, 1909, shows, however, that mental and physical disease bear some relation to crime: "The number of convicted prisoners certified insane during the previous year was 97 men and 38 women, most of whom showed signs of insanity when admitted. There were 259 others listed as feebleminded. At least 3 per cent. of the inmates of prisons are obviously mentally defective." In 1898 careful observations made of all youths detained in Pentonville (a large London prison) between the ages of 16 and 21 showed a deficiency of both height and weight. Their average height was two inches less than that of the general population and their weight average was fourteen pounds less. No fewer than 26 per cent. of them were afflicted with some disease, deformity, or disablement.

The Queen Alexandra Sanatorium at Davos

A new sanatorium for consumptives has been built under the patronage of the queen at Davos, the well-known Swiss resort for sufferers from that disease. It is to accommodate British patients who cannot pay for the charges of a private sanatorium. As the wooden structures used for sanatoria in England would not be suited for the climate of Switzerland, in which it is necessary to build in solid masonry, alike for durability and safe and efficient heating, the new sanatorium has been built of stone with concrete floors, roof, staircases, and balconies. The walls of the foundations, cellars, and basements are of immense thickness and the main walls are nowhere less than two feet. The building is close to Davotz Platz on the mountain side, about 300 feet above the town of Davos. The pine forest stretches almost to the doors, and affords a variety of sheltered walks. At present 54 patients can be accommodated, but the public rooms, kitchens, etc., have been constructed for the requirements of 120 and the building can be enlarged to furnish additional bedrooms. A new feature of the construction is that each patient will have a separate room divided from the others by a stone wall. As is always necessary in the high Alps, the outside doors and windows are double, but ample ventilation has been provided. The lodgment of dust is guarded against by the rounding off of all corners and angles. The resident staff consists of a medical superintendent, a junior medical officer, a matron, and two trained nurses, all of whom are British.

Compulsory Operations and Workmen's Compensation

As shown in previous letters the Workmen's Compensation Act, which renders employers liable for every accident which may befall a workman in the course of his employment, has caused considerable litigation. One point raised was whether a workman suffering from some disability is entitled to continue to receive a pension if the disability can be removed by an operation to which he refuses to submit. The point was first raised in 1903, when the court decided that no workman could be compelled to undergo an operation. In 1908 the point was again raised in another case when the court decided that the workman ought to have submitted to the operation and that his incapacity arose, not from the original injury, but from his unreasonable refusal to undergo operation involving only a slight risk. About the same time a similar case came before the Court of Appeal in Scotland, in which country the laws differ in many respects from those of England. In this case three out of five physicians recommended the amputation of a workman's second finger, which was crooked as the result of injury and interfered with his work. The court decided that his refusal to undergo operation destroyed his right to any further compensation, because like any reasonable person who wished to be restored to health, he should submit to an operation attended with little risk. A decision in a somewhat similar case has now been given by the English court of appeal in favor of the workman. This man was engaged on board a ship where he met with a serious accident which caused a double rupture. As he was suffering from disease of the kidneys his family physician advised him not to undergo an operation, though this was recommended in hospital. The judge in giving judgment said that the case was most important. The question was whether the man unreasonably declined operation. He could not admit that the man acted unreasonably under the circumstances in following his physician's advice. The judge in the lower court had decided to the contrary on the balance of the medical evidence before him as to whether the operation was reasonably safe or not. But that was not the real question; the point was whether the man had acted unreasonably in refusing to undergo the operation. After the evidence of his own physician his lordship thought that no amount of other medical evidence was relevant. He therefore allowed the appeal. The importance of this judgment is great, for it lays down the principle on which must be decided in future as to what is "unreasonable refusal" to undergo an operation.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Nov. 15, 1909.

Proposed Tax on Alcohol and Mineral Waters

The increased demand for funds for defensive purposes has prompted the minister of finance to suggest, among other taxes, taxes on medicinal waters and alcohol, which would materially hamper the treatment of disease. The tax on alcohol used in the composition of drugs, formerly only about 8 cents per liter or 4 cents per pint is expected to be not less than 20 cents. Pharmacists are already trying to produce remedies free from alcohol. The substitution of glycerin for alcohol has been shown to be possible in a good many prescriptions, so that the result of the increased tax would hardly meet the expectations of the government. Even more marked is public dissatisfaction with the proposed tax on mineral waters. In many places the ordinary water is not always quite reliable; therefore the natural sparkling waters are consumed in this country in enormous quantities; and medicinal waters are an absolute necessity with many persons. The tax would be a heavy burden as, although only 1 or 2 cents are to be levied per bottle, this runs up into high figures when the annual consumption is considered. Therefore, not only medical men, but also the *Curorte*—the health resorts which bottle such waters— have remonstrated. Not only the waters mentioned but all aerated waters, including the common "soda-water" are to be taxed. In one of the numerous mass-meetings to protest against such taxes, one of the speakers, a medical man, hit the nail on the head, saying that it was a wrong policy, if the state wanted to become stronger, to prevent the sick from regaining their health. This tax, together with the constantly rising prices for cereals and meat, is sure to bring down the national health from the comparatively high level it had reached a short time ago. Already some classes of the population have to reduce their annual consumption of meat, as the prices are getting exorbitantly high; on the other side, butter, fat and bread are also much dearer so that in the memorandum addressed to the government, medical bodies have pointed out these points too, which speak against the above-mentioned taxes being made lawful.

Medical Inspection of School Children

In a large number of cities an attempt has been made to ascertain through the public health officers the percentage of healthy and unhealthy children frequenting the public schools within a certain time; the results and conclusions are interesting. Altogether, about 250.000 children have been examined in the months of May, July, October and November (the end and commencement of our school year). Eyes, ears, nose, throat, teeth, condition of joints and bones as well as general health are chiefly examined; the ages of the children were from 6 to 14 years. Only 22 per cent. had normal teeth; those between the ages of 6 and 9, 13 and 14 were especially affected. The eyes were found myopic in only 10.5 per cent., hypermetropic in 3 per cent.; the percentage of both abnormal conditions was fairly constant at all ages, which is rather unexpected as regards the younger children at least. Tonsils were enlarged in 30 per cent., adenoids were present in 20 per cent.; both conditions in about 19 per cent. It could not be ascertained exactly in how many cases removal had been effected previously to examination. A fairly large percentage had chronic rhinitis, without adenoids. In 27 per cent. the nose was not normal, and deviations of the septum seemed to become more frequent in the older children. Affections of the ear were noted in 32 per cent.; mostly a simple catarrh of the tube and the tympanic cavity, while otorrhea was present in about 30 per cent. of the ear patients, that is to say, in about 11 per cent. of all children. Measles, scarlet fever and diphtheria were most often the cause. After-effects of rickets were noted in 20 per cent.: in another 5 per cent. the history allowed the assumption of the disease having been present. Disease of the joints was seen only in 3.5 per cent., mostly in the knee, then in the talocrural joint, then in the fingers (spina ventosa), then in the hip. Only 20 per cent. of all children could be classified as perfectly healthy; in the majority there were combinations of ear and nose and throat, or teeth and throat diseases. Disturbances in the function of the eye and ear were observed in 5 per cent.; of more than two important organs in only 2 per cent. Altogether the national physique would be supposed to be at a very low standard were it not proved that the majority of children outgrow their diseases, except the irreparable conditions of eye, ear and joints.

Pharmacology

THE UNITED STATES PHARMACOPEIA

The Report of the Committee of the American Pharmaceutical Association

It is important that physicians and pharmacists should become acquainted with the views of members of both of these professions in regard to the revision of the Pharmacopeia. We therefore review this committee's report (published in the *Am. Pharm. Assn. Bull.*, November, 1908, iv, 395), as one of the most important contributions from the pharmaceutical side. In regard to the scope and policy of the Pharmacopeia we quote the words of the report:

"The real and immediate interests of physicians and retail druggists should not be overshadowed by those of the large manufacturers, importers, food officials and others, who desire the Pharmacopeia to be almost a universal standard for chemicals. It is to the best interests of the members of this association that the U. S. P. continue to be what its founders intended it, viz., a medium of communication between the prescribing physician and the dispensing pharmacist. It should not be made a standard for drugs which the retail pharmacist is not called on to dispense except in so far as the quality of the preparations which he does dispense is directly dependent on the quality of the crude drugs. It should not be a standard for articles, the chief uses of which are those of foods, beverages, or flavoring agents. . . . It is to the interest of this association that the Pharmacopeia be made to meet as nearly as possible the present-day needs of the medical profession. Hence we believe that full cognizance should be taken of the fact that the science of medicine is international and that every effort should be made to make the U. S. P. correspond as closely as practicable in strength of preparations, nomenclature, etc., to international usage."

If the views just quoted are followed there can be no possible ground of conflict between the medical and pharmaceutical professions over the revision of the Pharmacopeia. Physicians will probably feel disposed (and with good reason) to leave the question of botanical names to the discretion of others; also to a certain extent, chemical names except in so far as physicians demand that those which are to be generally employed shall be the least cumbersome that are consistent with scientific terminology.

A troublesome question is that of names of mixtures. It is evident that potent drugs should not be dispensed under names which favor forgetting their character. The committee states that only the hypercritical will object to the name of "compound mixture of glycyrrhiza," though that mixture contains a small amount of opium. The name sets a bad example at least: if there is enough opium in the mixture to produce its effect it should be indicated in the name; if the amount is too small to produce any effect it should be omitted from the preparation.

While the question of additions and dismissals from the Pharmacopeia rests primarily on the judgment of physicians, pharmacists are in a position to form an estimate of the attitude of the medical profession as a whole toward specific drugs; hence the committee presents lists of articles to be dismissed or added, and promises more complete lists at a later date. Pharmacists can also aid in determining which of certain commercial varieties of drugs are obtainable and which are not.

The committee takes up the question of increasing the number of assays of organic drugs; Lyons advises against this. It must be apparent to every physician that the time has come when we must introduce physiologic standardization for at least a few drugs, such as ergot, digitalis and strophanthus and their preparations, which are unsuited for chemical assay. Some pharmacists will urge the objection to this that only the larger manufacturing firms are in a position to standardize drugs physiologically and that this measure would compel the pharmacist to depend on these manufacturers. This argument should not be permitted to stand in the way of real progress.

A suggestion which will probably meet much favor at the hands of physicians, who should really have the larger share in deciding the point, is that all tinctures shall be made of uniform percentage strength.

If physicians will manifest as much interest in the forthcoming revision as the pharmacists are doing, and if the various problems concerned in revision be considered broadly, we should have a Pharmacopeia in which pharmacists and physicians may feel a just pride—a work which will command confidence and general respect and which will come to be regarded by all really progressive physicians as the storehouse from which to select agents for their prescriptions. Then shall we see the beginning of the end of the reign of the nostrum evil and the rise of legitimate pharmacy and therapeutics. It remains to be seen how far the selfish interests of certain manufacturers will be permitted to thwart this much-to-be-desired result.

Correspondence

Industrial Section of Congress on Hygiene

To the Editor:—Section IV of the International Congress on Hygiene and Demography, meeting in Washington, Oct. 1, 1910, will deal with industrial and occupational hygiene. This is an almost entirely unexplored field in our country and the coming congress offers for the first time an opportunity for a full discussion of the diseases incident to industry in the United States and the measures of prevention which should be advocated. Many papers dealing with conditions in Europe and England have been promised, and it is hoped that conditions in this country will also be thoroughly discussed. Physicians whose private or hospital practice lies among people of the wage-earning class are reminded that very little original work has been done by Americans in industrial diseases and that statistical studies of the morbidity rate in the different trades would be of great value. Communications regarding such papers should be sent to 1819 Q street, Washington, D. C.

George M. Kober, President.
Alice Hamilton, Secretary.

Dr. Jacobi Refuses to Endorse Promoter of Unethical Advertising

To the Editor:—I request you to publish this protest of mine against an attempt on the part of William Edward Fitch, M.D., the new editor of *Pediatrics* to use my name as that of a renegade from decent professional behavior. In the first number controlled by him, he places, without my permission or consent, my name at the head of his "Editorial Council," whatever that may mean. His introductory chapter on "Advertising in *Pediatrics*" sneers at those who look on "all advertising as venal muck" that would soil their "pharisaical fingers," and whom he calls "pharisaical pariahs," etc., and invites the "liberal patronage of legitimate advertisers." The editor might have known that I approve of purity and ethics in the medical profession, as represented in such of its magazines as are not mercenary or meretricious, and of its aversion to the advertising of nostrums. I shall thank you for publishing the following copy of a letter I sent to Dr. Fitch, November 19:

> I never read your first number until my attention was called to it by a western correspondent. In using my name as a member of your "Editorial Council" you made a mistake and committed a wrong. I never gave you permission; you never asked for it. In shaping your policy, I am sure you never consulted anybody who cares for the editorial standing and progress of the profession. That policy of yours may be successful from a financial point of view, which I doubt, however; for what you gain in advertisers, you will lose in readers and friends. It is an abomination. Please remove my name from the place it now occupies and have the goodness to tell your readers of your mistake. Yours truly,
>
> A. Jacobi.

November 22, I received the following reply:

> *Dr. Abraham Jacobi, New York City.*
>
> *Dear Doctor:* In reference to our telephone conversation of a few moments ago as stated, I now advise that I interpreted your letter in reply to my letter of September 15, to mean that you were willing to become a collaborator to the new *Pediatrics*. It seems that I have misunderstood the purport of your letter for which I am exceedingly sorry, since you would be the last gentleman in the world that we would care to offend, and we beg to assure you, dear doctor, that no offense, discourtesy, or anything of the kind was intended, and it will be our pleasure in our next issue (December) to make the necessary explanation and remove your name from the place it now occupies.
>
> Regretting the occurrence and imploring your forgiveness the writer begs to remain,
>
> Most sincerely and respectfully yours,
> W. E. Fitch, M.D.,
> Editor of *Pediatrics*.

I am sorry to say that the courteous tone of this letter does not improve Dr. Fitch's position as a promoter of unethical advertising, nor that of his magazine as a worthy part of medical literature.

A. Jacobi, New York.

Comment:—In the October issue of *Pediatrics* (the first under the new management) it is stated editorially that:

> "No advertisements will appear in the advertising section of *Pediatrics* exploiting any pharmaceutical product, the manufacturers or proprietors of which do not freely and accurately give the exact character and ingredients entering into or forming its component parts."

In the same issue is to be found an advertisement of enteronol," the nostrum which was exposed in The Journal Nov. 20, 1909. The Enteronol Company, it will be remembered, claims that it does not pay cash for advertising space ut takes it "in trade"—either in "our guaranteed 7 per cent. referred stock" or in enteronol itself. As to how accurately he "exact character and ingredients entering into" enteronol, re given by its manufacturers see the exposure in The ournal. Another editorial statement regarding the advertising standards of *Pediatrics* is:

> "Any advertisement containing dangerous or toxic ingredients ill be refused."

This probably means that *products* "containing dangerous r toxic ingredients," etc., will not be advertised. Danger and oxicity are relative terms, but if used absolutely, then it ould seem that *Pediatrics* will refuse to advertise most of ie valuable drugs in the pharmacopeia; if used relatively ien it would seem in order for that publication to drop the lvertisement of what Mr. Adams calls "that hoary and ingerous fake, antikamnia," which is sent to the laity direct ad which contains a heart depressant both dangerous and oxic.

> "Advertisements presenting extravagant or impossible statements ill be refused."

On advertising page xv of the same issue of *Pediatrics* hich contains the above excellent sentiments, occurs this atement:

> "Enteronol, the Greatest Gastro-Enteric Antiseptic and Germicide known to Medical Science."

If this is the editor's idea of a non-extravagant and not-impossible statement then his "rules and regulations to which all advertising must conform" will not offer insuperable barriers to the acceptance of peruna, Duffy's malt whisky or any "patent medicine" frauds.

The editor of *Pediatrics* says: "We hold that the advertising pages of every scientific publication is [are?] entitled to a 'square deal.'" It is respectfully suggested that the medical profession and the public are also entitled to a "square deal," and when the frauds and humbugs of the proprietary world are exploited in the pages of a medical publication the medical profession and the public are not getting it.

We do not blame Dr. Jacobi for his evident indignation. It would be interesting to know how many more physicians' names have been thus misused.

Miscellany

The Quack and the Laity.—Maynard A. Austin (*Indianapolis Medical Journal*, October, 1909) holds that the practitioner of medicine alone is to blame for any lack of standing he may have in his community. This neglect of psychologic principles, he believes, has been the cause of the great success of the religio-medical movements. Considering the personality of the average quack, he must be credited with exhibiting a good front on all occasions and always making occasions for putting up the front. He is egotistic and in his egotism believes himself capable of much that is beyond his ability. Patients are impressed with this sort of thing, and against their own judgment will place themselves in the hands of such men. An interesting fact is the ease with which fees are secured by quacks in advance, while the home doctor waits six months to five years, and feels lucky if he gets his pay then. If a patient pays out a hundred dollars to be cured of some malady, that hundred dollars is going to be a wonderful inducement for that patient to carry out every instruction that is given to him. If he sees his family doctor once a week, and pays him a dollar or two (or has it charged on the books) the patient is little or nothing out, and with the average patient with a chronic affection, the amount of assistance he gives in helping himself get well is a negligible quantity. To do away with all these things Austin regards as an impossibility. So long as people live and suffer, the reputable physician will have to contend with impostors and charlatans. To do away with the worst features of quackery is a matter of education, not condemnation. Few physicians, to say nothing of the laity, know of the various schemes the "patent-medicine" concerns are working to gain the confidence of, and much valuable information from, the women of various cities. Under the pretext of giving health lectures, hygienic demonstrations and physical culture training, a number of women are employed who go out in the various cities with letters of introduction and a good front, approach a few of the prominent club women and get in touch with the church people through the ministers and ministers' wives. One of the peculiar facts of the business is the ease with which the churches are secured for the furtherance of these affairs, and occasionally it has leaked out that the minister has been the recipient of a percentage. This is not to be wondered at in the light that the religious papers have been among the worst offenders in the class of advertising they carried. One church paper, recently inspected by Austin, carried thirteen advertisements offering cures for such conditions as cancer, consumption, fits, rheumatism and other chronic conditions for which no certain cure has ever been discovered. These conditions are brought about not only by the superstition of the laity, but also by their refusal to believe—when told them by their physicians that some conditions have no certain cure, that others are incurable and that others need nothing but mental treatment because they are purely imaginary. Austin says that even the reputable profession could be given a house-cleaning with great benefit, moral, professional and financial, to the good of the profession itself and the physical and financial welfare of the laity.

Deaths

William Biddle Atkinson, M.D., a member of the American Medical Association since 1859 and its permanent secretary from 1864 to 1899; died at his home in Philadelphia, November 23, aged 77. He was born in Delaware county, Pa., received his preliminary education in Philadelphia, and commenced the study of medicine in 1850 under the preceptorship of Dr. Samuel McClellan, one of the founders of Jefferson Medical College and the Pennsylvania Medical College, Philadelphia; after a three-years' term of study he was graduated from the Jefferson Medical College in 1853. For several years thereafter, in addition to the practice of medicine, he taught mathematics and the classics at Gregory's Classical School.

In 1854 he became a member of the Philadelphia County Society; was its secretary for seven years; a reporter of its proceedings for medical journals, vice-president of the society, and in 1873 its president. He was permanent secretary of the Medical Society of the State of Pennsylvania from 1862 to 1897; secretary and later president of the Northern Medical Association of Philadelphia, and in 1894 was elected president of the State Associated Health Authorities of Pennsylvania.

For several years Dr. Atkinson acted as correspondent of the *New Jersey Medical and Surgical Reporter*, *New York Medical Times*, *Nashville Medical Journal*, *New Orleans Medical Journal* and others; in 1858 he became associate editor of the *New York Medical and Surgical Reporter*, and a year later was appointed editor of the department of obstetrics and diseases of women and children in the *North American Medico-Chirurgical Review*. His literary work also included the editing of the annual volume of transactions of the American Medical Association; the publication of several annual editions of the Philadelphia Medical Directory, a biography of physicians and surgeons of the United States, and many valuable monographs on obstetrics and gynecology.

He commenced his medical teaching as assistant professor of obstetrics and diseases of women and children in the Pennsylvania Medical College in 1859, retaining this position for two years until the college became defunct, and at this time he conducted the only gynecological clinic in the city; from 1877 to 1886, he was lecturer on diseases of children in Jefferson Medical College, and in 1887 was made professor of sanitary science and pediatrics in the Medico-Chirurgical College.

William Biddle Atkinson, M.D.

During the Civil War he served as acting assistant surgeon in the army for two years, and from the creation of the State Board of Health in Pennsylvania in 1886, was medical inspector. In 1861 he was made physician to the department of diseases of children, and president of the staff of Howard Hospital, Philadelphia, and held this position for several years. The American Medical Association owes much to Dr. Atkinson, who, during the years of relative weakness of the organization, served faithfully as its secretary, sparing neither time nor strength for the furtherance of its best interests and its upbuilding.

Frank Bradford Sprague, M.D. University of Vermont, Burlington, 1889; a member of the American Medical Association, New York Academy of Medicine, American Otological Association, American Laryngological, Rhinological and Otological Society; and American Academy of Ophthalmology and Otolaryngology; surgeon to the ear, nose and throat department of Rhode Island Hospital, Providence; and aural surgeon on that staff; well-known as a specialist of diseases of the ear; died at his home in Providence, November 17, from septicemia, due to an operation wound, aged 44.

Frank Merriam Johnson, M.D. Albany (N. Y.) Medical College, 1898; a member of the Medical Society of the State of New York; and health officer of East Nassau, N. Y.; died at his home in that place, November 8, from the effects of a gunshot wound of the thorax, self-inflicted, it is believed, with suicidal intent, while ill and despondent, aged 40.

William J. Purkhiser, M.D. Kentucky School of Medicine, Louisville, 1882; a member of the Indiana State Medical Association, and secretary of the Third Councilor District Medical Society; in 1888 and 1889, senior assistant in the Central Indiana Hospital for the Insane, Indianapolis; local surgeon for the Monon System at Salem, Ind.; died in his office in that place, November 15, from the effects of a gunshot wound of the head, self-inflicted, it is believed, with suicidal intent, while despondent on account of ill health, aged 48.

William H. Finley, M.D. Medical College of Ohio, Cincinnati, 1858; assistant surgeon of the Twelfth Iowa Volunteer Infantry and surgeon of the Eighth Iowa Volunteer Cavalry during the Civil War; a member of the local pension board; coroner and commissioner of Dubuque county, Iowa, and a member of the common council of Cascade; died at his home, November 13, from senile debility, aged 78.

John H. Britts, M.D. Missouri Medical College, St. Louis, 1867; a member of the American Medical Association; surgeon in the Confederate Service during the Civil War; once mayor of Clinton, Mo., and state senator; died at his home in Clinton, November 13, aged 74.

Charles Henry Ott, M.D. Jefferson Medical College, Philadelphia, 1883; a member of the American Medical Association; superintendent and surgeon-in-chief to the Robert Packer Hospital, Sayre, Pa.; local surgeon to the Lehigh Valley Railroad; supreme medical examiner of the Modern Protective Association; died in the Robert Packer Hospital, November 1, from carcinoma of the liver, aged 48.

David Herrick Beckwith, M.D. Eclectic Medical Institute, Cincinnati, 1849; emeritus professor of sanitary science in the Cleveland Homeopathic Medical College; formerly president of the city and state boards of health; consulting physician to the Huron Street Hospital, Cleveland; vice-president of the Cleveland Medical Library Association; died at his home, November 19, aged 84.

Quincy Orlin Sutherland, M.D. Hahnemann Medical College, Chicago, 1873; a member of the Wisconsin State Board of Health, American Public Health Association, and Lake Michigan Sanitary Commission; at one time president of the board of education of Janesville, Wis.; died suddenly at his home, November 16, from angina pectoris, aged 61.

James William Stuart, M.D. Medical School of Maine, Brunswick, 1873; a member of the Maine Medical Association; formerly president of the Oxford County Medical Association; died at his home in Rumford Corner, November 10, from embolism, aged 65.

John Pierre Frishmuth, M.D. University of Pennsylvania, Philadelphia, 1890; of Philadelphia; a member of the American Medical Association; a specialist on diseases of the stomach, and formerly visiting physician to the American Hospital for Diseases of the Stomach; died in the University of Pennsylvania Hospital, Philadelphia, November 20, after two operations for tumor of the brain, aged 41.

Burr K. Ellis, M.D. University of Minnesota, Minneapolis 1903; formerly of Jackson and Sparta, Minn.; and later of Greeley, Colo.; a member of the Colorado State Medica Society; died in Rock Valley, Iowa, November 4, from tuberculosis, aged 32.

Clifton Mayfield, M.D. George Washington University, Washington, D. C., 1880; a member of the American Medical Association; formerly of Washington, D. C.; died at his home i Canarsie, Long Island, N. Y., November 15, from heart disease aged 51.

John Patrick Henry, M.D. New York University, New York City, 1886; a member of the American Medical Association Physicians' Alliance, and Celtic Medical Society; died at hi home in New York City, August 31, from neuritis, aged 50.

John Parker Powell, a pioneer practitioner of Oregon; fo more than fifty years in practice in Gresham; for many year coroner of Multnomah county; died at his home in Gresham October 30, from angina pectoris, aged 87.

John H. Seegraves, formerly of Rector, Ark.; assistant surgeon of volunteers during the Civil War; died at the home of his daughter in Mayfield, Ky., October 21, from malaria and acute articular rheumatism, aged 69.

John S. Cornwell, for more than sixty years a practitioner of Carthage, Tenn.; a surgeon in the Confederate Service during the Civil War; died at his home in Watertown, Tenn., July 28, from senile debility, aged 93.

Charles LeGrand Hayes, M.D. Vanderbilt University, Nashville, Tenn., 1877; a member of the Mississippi State Medical Association; died at his home in Byhalia, November 16, from cerebral hemorrhage, aged 50.

R. Augustus Evans, M.D. Western University, London, Ont., 1905; councilor for the town of Sutherland, Sask.; died in the ;eneral Hospital, Saskatoon, Sask., November 2, from chronic interstitial nephritis, aged 29.

Jay Judson Thompson, M.D. Chicago Homeopathic Medical ;ollege, 1888; professor of surgery in Hering Medical College, ;hicago; died at his home in that city, November 22, from ;erebral hemorrhage, aged 52.

Nathaniel Williams, M.D. University of Pennsylvania, Phila- lelphia, 1868; a surgeon in the Confederate Service during the ;ivil War; died at his home in Hampton, Va., November 18, 'rom heart disease, aged 66.

William J. Chittenden (license, Ill., 1877; license, Colo., 894); a veteran of the Civil War; died at the home of his laughter near Neodesha, Kan., May 15, from gastrointestinal atarrh, aged 68.

A. L. Holliday (license, Marshall county, Ala.); for more han thirty years a practitioner of Albertville, Ala.; died at he home of his son in Fairview, Birmingham, Ala., Novem- er 16, aged 75.

Cortez Nelson, M.D. Long Island College Hospital, Brooklyn, . Y., 1908; a surgeon on South American steamers; died in ;ellevue Hospital, New York City, November 1, from tropical ever, aged 45.

John Washington Shell (license, Iowa, 1895); for more than orty years a practitioner of Iowa; died at his home near Decatur, March 16, from cerebral hemorrhage, aged 85.

Rawdon J. Arnold, M.D. Kansas City (Mo.) Hospital Med- al College, 1883; (license, Cal., 1877); of Oakland, Cal.; ied in the Alameda County Hospital in April.

John M. Cooper, M.D. Medical College of Ohio, Cincinnati, 857; of Wellsburg, W. Va.; died at the home of his daughter Charleston, W. Va., November 17, aged 77.

John Thomas Fleming, M.D. Baltimore (Md.) Medical Col- ge, 1904; died at his home in Pascoag, R. I., November 11, om heart disease, aged 35.

Samuel Martin Kelso, M.D. Jefferson Medical College, Phila- elphia, 1868; died at his home in Xenia, Ohio, October 17, om heart dicease, aged 71.

Rodney F. Crowther, M.D. Baltimore (Md.) Medical College, 383; died at his home in Earleigh Heights, Md., July 27, from nile debility, aged 84.

Dennis J. McLaughlin, M.D. University of Pennsylvania, hiladelphia, 1880; died at his home in Philadelphia, Novem- r 11, aged 52.

Lebbeus Curtis, M.D. Dartmouth Medical School, Hanover, . H., 1878; died at his home in Hephzibah, Ga., November 16, ged 63.

Nathaniel C. Whitfield, M.D. Hahnemann Medical College, icago, 1883; died at his home in Los Angeles, November 7, ed 66.

Marriages

Elisha Flagg, M.D., to Mrs. Hugh Whitney, both of Bos- n, November 17.

William A. Dorsey, M.D., Seattle, Wash., to Miss Blanche ntz, at Seattle, November 12.

Carroll Leja Nichols, M.D., to Miss Hazel Louisa Howe, th of Brooklyn, N. Y., November 2.

Robert L. Mitchell, M.D., Baltimore, Md., to Miss Annie skip Smith, of Elkton, Md., November 17.

Edwin Dixon Carder, M.D., to Miss Barbara Fraser Mac- nan, both of Vancouver, B. C., October 12.

Richard Henry Lawlor, M.D., Methuen, Mass., to Miss Catherine V. Murphy, of Boston, November 18.

John Wilson Somerville, M.D., Norfolk, Va., to Mrs. Louise Gay Stubbs, of Atlanta, Ga., November 17.

Karl Francis Little, M.D., Westwood, Cincinnati, to Miss Dona Tebbs, of West Harrison, Ohio, November 17.

Patrick William O'Brien, M.D., Toronto, Ont., to Miss Helena Margaret Graves, at London, Ont., October 26.

Herman Louis Kretschmer, M.D., to Miss Lucy North Barnett, both of Chicago, at Richmond, Ind., November 17.

Eugene Boykin Elder, M.D., to Miss Margaret Selena Borthwick, both of Macon, Ga., at Toronto, Ont., September 18.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

RUHEMANN'S URICOMETER

To the Editor:—Please answer the following questions regarding the workings of Dr. F. Ruhemann's uricometer. The normal marking on the scale is said to be 0.65; suppose that the reaction is not complete until the instrument is filled to the top, 0.25; then subtracting 0.25 from 0.65 we have 0.40. I take it that 0.40 means so much less than the urine should contain, but I would like to have you show how, with 0.40 to start with one can figure out the amount of uric acid the person is passing in 1,500 c.c. of urine. Kindly take some marking which shows that too much uric acid is being passed and work out the problem of telling the amount of uric acid in 1,500 c.c. of urine. J. L. Tracy, Toledo, Ohio.

Answer.—The principle of Ruhemann's uricometer is that uric acid will absorb iodin. A definite amount of iodin is placed in the instrument in a solution composed of iodin, 1.5; potassium iodid, 1.5; alcohol, 15; water, 185.0. In the very bottom of the instrument is a quantity of carbon disulphid. The carbon disulphid dissolves the iodin with a brown color. The urine is added gradually with shaking after each addition. When all the iodin has been absorbed by the uric acid in the urine, the carbon disulphid will be colorless (one must stop with a faint pink color). The less the proportion of uric acid in the urine, the more urine must be added to decolorize the iodin solution. Consequently the scale is arranged with markings for cubic centimeters on one side and amount of uric acid per thousand of urine on the other. The percentage of uric acid necessarily decreases with the increased amount of urine, so that the scale for amounts of uric acid reads from above downward. If 7.2 c.c. of urine must be added, a percentage of uric acid corresponding to 0.25 per thousand would be indicated. If the patient is passing 1,500 c.c. of urine this would amount to 0.375 gm. of uric acid. Suppose that it required the addition of only 4 c.c. of urine, the corresponding figure in uric acid would be 0.8 per thousand and the amount for 1,500 c.c. would be 1.2 gm. A normal marking on the scale is only an estimate, as what is normal in one case might be abnormal in another and this figure has nothing to do with the calculation except that if 0.65 is marked as the normal, we would calculate from that for 1,500 c.c. the normal quantity of uric acid as 0.975 gm.

The Public Service

Medical Department of the Army

Changes for the week ended Nov. 27, 1909:

Stark, Alexander N., major, granted an extension of 15 days to his leave of absence.

Duncan, William A., capt., granted sick leave of absence for 3 months.

Manly, Clarence J., major, granted leave of absence for 7 days.

Roberts, William M., major, promoted from captain November 17, vice Ewing, retired.

Glennan, James D., and Rafferty, Ogden, majors, ordered to report at Washington, December 17, for examination for promotion.

McAndrew, Patrick H., capt., ordered to report at Washington, D. C., for examination for promotion.

Jordan, Edward H., and Davis, Oscar F., 1st lieuts., M. R. C., relieved from duty in Philippines Division; will sail for San Francisco, Cal., February 15.

Browne, Rhodric W., 1st lieut., M. R. C., ordered from Fort Monroe, Va., to Fort Niagara, N. Y., for temporary duty.

Eliot, Henry W., 1st lieut., M. R. C., granted an extension of 1 month to his leave of absence.

Henning, Oswald F., 1st lieut., M. R. C., ordered to active duty; will proceed to San Francisco, and sail January 5, for Philippine service.

Wells, Francis M., 1st lieut., M. R. C., relieved from duty at Fort Robinson, Neb., and ordered to Fort Apache, Ariz., for duty.

Medical Corps of the Navy

Changes for the week ended Nov. 27, 1909:

Brownell, C. D., surgeon, detached from the *Mississippi* and granted sick leave for 6 weeks.

Clifford, A. B., P. A. surgeon, detached from the Naval Hospital, Las Animas, Colo., and ordered to the *Albany*.

Public Health and Marine-Hospital Service

List of Changes for the seven days ended Nov. 24, 1909:

Irwin, Fairfax, surgeon, relieved from duty on U. S. Revenue Cutter *Thetis*, effective Nov. 22, 1909, and granted 1 month's leave of absence.

Parker, Herman B., P. A. surgeon, relieved from duty at Ellis Island, N. Y., and directed to Guayaquil, Ecuador, for duty in the office of the U. S Consul.

Anderson, John F., P. A. surgeon, directed to proceed to Mexico City, on special temporary duty.

White, M. J., P. A. surgeon, directed to proceed to Flint, Mich., on special temporary duty.

Lloyd, Bolivar J., P. A. surgeon, on the arrival of Passed Assistant Surgeon Herman B. Parker, directed to proceed to New York, and report by wire to the bureau for further orders.

Lloyd, Bolivar J., P. A. surgeon, granted 1 month's leave of absence en route to United States.

Spratt, R. D., P. A. surgeon, leave of absence for 20 days from Nov. 17, 1909, amended to read from December 10.

Lyon, R. H., asst.-surgeon, granted 7 days' leave of absence from Nov. 14, 1909, under paragraph 191, Service Regulations.

Duke, B. F., acting asst.-surgeon, granted 25 days' leave of absence from Nov. 18, 1909.

Castro-Guitierrez, J. L., acting asst.-surgeon, granted 7 days' leave of absence from Nov. 18, 1909.

Hallett, E. B., acting asst.-surgeon, granted 3 days' leave of absence from Nov. 24, 1909.

Naulty, C. W., Jr., acting asst.-surgeon, granted 5 days' leave of absence from Nov. 24, 1909.

Schuster, B. L., acting asst.-surgeon, granted 3 days' leave of absence from Nov. 25, 1909.

Sinclair, A. N., acting asst.-surgeon, granted 15 days' leave of absence from Dec. 16, 1909.

Ward, J. LaBruce, acting asst.-surgeon, granted 10 days' leave of absence from Nov. 17, 1909.

Wilson, J. G., acting asst.-surgeon, granted 25 days' leave of absence from Dec. 2, 1909.

BOARD CONVENED

Board of medical officers convened to meet at the Marine Hospital, Baltimore, Nov. 29, 1909, for the purpose of conducting a physical examination of four cadets and three cadet-engineers of the U. S. Revenue Cutter Service. Detail for the board: Surgeon W. P. McIntosh, chairman; Passed Assistant Surgeon M. K. Gwyn, recorder.

Health Reports

The following have been reported to the Public Health Service, during the week ended Nov. 26, 1909:

SMALLPOX—UNITED STATES

Alabama: Montgomery, Nov. 6-13, 15 cases.
California: San Francisco, Oct. 30-Nov. 6, 1 case.
Illinois: Chicago, Nov. 6-13, 1 case.
Indiana: Muncie, Nov. 6-13, 2 cases.
Kansas: Kansas City, Nov. 6-13, 1 case.
Louisiana: New Orleans, Nov. 6-13, 2 cases, imported.
New York: Buffalo, Nov. 6-13, 1 case.
West Virginia: Wheeling, Oct. 30-Nov. 6, 1 case.

SMALLPOX—FOREIGN

China: Shanghai, Sept. 25-Oct. 2, 1 case, 1 death.
Ecuador: Guayaquil, Oct. 1-15, 1 case.
India: Bombay, Oct. 5-12, 1 death.
Italy: Naples, Oct. 23-30, 3 cases, 1 death.
Mexico: Monterey, Oct. 24-31, 1 death; Veracruz, Oct. 23-30, 2 deaths.
Russia: Odessa, Oct. 10-17, 4 deaths; Warsaw, Sept. 11-18, 6 deaths.
Spain: Barcelona, Oct. 18-25, 1 death.
Turkey: Constantinople, Oct. 17-24, 1 death.

YELLOW FEVER

Ecuador: Guayaquil, Oct. 1-15, 13 cases, 4 deaths.
Mexico: Merida, Oct. 30-Nov. 6, 1 case, 1 death.

CHOLERA

Germany: Allenstein district, Oct. 23-30, 1 case; Andreischken, 6 cases; Heydekrug district, 6 cases; Labiau, 3 cases; Skirwietell, 5 cases; Skopen, 3 cases.
India: Calcutta, Oct. 2-9, 11 deaths.
Siberia: Vladivostok, Oct. 4-16, 20 cases, 1 death.

PLAGUE

Ecuador: Guayaquil, Oct. 1-15, 56 cases, 16 deaths.
India, general, Oct. 2-9, 5,209 cases, 4,123 deaths; Calcutta, 5 deaths.
Venezuela: Caracas, Nov. 11, 2 cases, 2 deaths.
Zanzibar, Nov. 8, 1 case, 1 death.

Association News

HOTELS FOR ST. LOUIS SESSION

First Announcement Concerning Hotels—Wisdom of Securing Accommodations Early

The Subcommittee on Hotels, of the Committee on Arrangements for the next annual session of the American Medical Association, to be held in St. Louis, June 7-10, 1910, announces arrangements for hotels.

The Southern Hotel, selected as General Headquarters, is in the down-town district, in the center of the hotel district, and about fifteen minutes' car ride from the various section meeting places. Other hotels of the same rank in the down-town district are the Planters, the American, the Maryland, the Jefferson, and the Marquette. Other excellent hostelries down town are the St. James, the Laclede, the Madison, the Terminal, the Moser, the Strattford, and the Bozier, all of which have splendid accommodations.

In the other direction, and in the so-called residence area are a number of first-class hotels. The Buckingham, the Buckingham Annex, the Washington, and the Hamilton are from ten to fifteen minutes' ride distant, while the Beers and the West End are in the immediate locality of the section meeting halls. All the hotels mentioned have from 200 to 400 rooms.

Mr. Lyman Hay, president of the Hotel Managers' Association has notified the committee that the regular rates will prevail, and has expressed the earnest desire of the hotel men to have all well satisfied.

The Coliseum, at which will be the Registration Bureau, the Scientific Exhibit, and the Commercial Exhibit, is half way from the down-town district to the group of Section meeting places.

As the crowds which attend a session of the American Medical Association usually tax the hotel capacity of the city in which the session is held, the committee is preparing a list of other and smaller hotels, as well as a splendid list of boarding houses and private homes, in order to care for the overflow.

Many reservations are already made and the hotels are prepared for all applications. The Committee on Hotels requests early application to these hotels from any who are particular about their accommodations. For example, a group from one community may desire adjoining reservations; two or more persons may desire rooms *en suite*, with bath adjoining, one may have a preference for some particular hotel. These and other arrangements are possible now, but may be difficult or impossible to obtain later, when all the best rooms and even all available accommodations in some hotels will be engaged.

Applications should be sent direct to the hotel and the hotel management will make the arrangements desired, but the Committee on Hotels will gladly render aid at any time to have all satisfactorily located. Dr. Louis H. Behrens, Chairman of the Committee on Hotels, may be addressed at Times Bldg., St. Louis.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Newspapers Interested in Public Instruction

One of the most gratifying indications of awakening interest in the enlightenment of the public on medical and sanitary questions is the interest shown by some of our leading newspapers on this subject. Reference has previously bee made in these columns to the New Orleans *Item* (The Jour

NAL. July 31, 1909, liii. 399). In its issue of November 10, the *Item* says editorially, in part, in discussing the duty of the doctor as a public teacher:

"The medical man either takes it for granted that the world knows that he knows or he fears that a little knowledge placed in the hands of the multitude will prove a dangerous thing. He overlooks the great agencies for the spread of correct information among the people; he operates as an individual or in his local society or hospital and forgets that he is forgotten in turn by the world at large until he is called to attend a case of sickness. In many cases he is called when t is already too late to effect a cure. Every physician who is earnest and capable and who cherishes the ideals of the splendid profession which he practices, knows that medicine is still n its infancy. . . . He feels that the day will come when society will employ the scientific physician as it now employs ts public school-teachers, its governors and mayors, its legisators, its judges, and its police force. He knows that just as science has improved on the breeding of apples and oranges, of wheat and corn and sugar-cane, of horses and cattle and other animals, it will improve on the breeding and education of human beings. . . . We need an institute which will send out ecturers to spread a knowledge of hygiene among the children n the schools and among residents in the villages and country districts . . . that will collect and utilize every agency for the pread of a correct knowledge of preventable diseases. . . . The physician no more belongs to himself or to his class than does he preacher of the gospel, the teacher in the school, the publisher of a newspaper, the judge in the courts, or the advocate at the bar. As a professional man, it is his duty to serve humanity, to ask or demand the cooperation of other workers for the eliminations of wrong and the advancement of right in he service of humanity."

Equally gratifying is an editorial in the St. Louis *Republic* or November 17, called forth by letters to the editor from sevral antivaccinationists who advanced the stock arguments and ime-worn statistics which have so often done duty on this ubject. The *Republic* prints these letters in its correspondence columns and comments as follows editorially: "To defend vaccination gives a modern newspaper a queer sort of feeling. It is like defending the theory of the circulation of the blood or rguing with Rip Van Winkle, but it is still necessary, as two letters printed elsewhere on this page attest." The *Republic* hen discussed the letters in question in a way that cannot ail to be enlightening and convincing to its readers.

The value of such comments lies in the fact that, coming rom a layman and not a medical man, there can be in them no suspicion of personal interest such as is often injected into uch discussions. When a newspaper like the St. Louis *Republic*, of its own initiative, defends and champions the cause of scientific medicine so convincingly and satisfactorily, it is certainly safe to assume that general public opinion is equally ready to support and to further sanitary reforms whenever the people are properly instructed.

Hogs Versus Children

The *Bulletin of the Iowa State Board of Health* recently ontained the following item which graphically sets forth the pparent relative importance of children and hogs if one is to judge from the government appropriations made for their afety:

"Congress has been asked this year for an appropriation of 3,000 for the employment of an expert in the welfare of hildren. It was hoped by those who made the request that his modest beginning would lead to an efficient bureau of the epartment of the Interior which would eventually deal with wide range of questions affecting school children.

"In support of this request a Nebraska woman wrote that her husband was engaged in raising hogs while she was trying o raise a boy. Her husband, she said, had no difficulty in etting efficient and expensive aid from the government in his og-raising pursuits, but she had to struggle along in her own ay with the boy question. With a pardonable mother's prejuce, she argued that the welfare of her boy seemed almost as mportant as the health and happiness of her husband's hogs."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fourth Month—Second Weekly Meeting

Chronic Endocervicitis

Pathology: 1. Erosion of cervical epithelium, (a) simple, (b) papillary or granular erosion. 2. Glandular enlargement, (a) polypoid (mucous polypi), (b) cystic (follicular) glandular enlargement.

Diagnosis and Prognosis.

Treatment: Indications for local treatment, for repair of laceration, for amputation of cervix.

Chronic Endometritis

Classification: A. Histological: 1. Glandular, (a), hypertrophic, (b) hyperplastic. 2. Interstitial. 3. Glandular and interstitial. Cystic and polypoid endometritis. B. Clinical: 1. Post-abortum. 2. Exfoliative. 3. Senile. 4. Bacterial (tubercular, gonorrheal, typhoid, etc.). 5. Decidual.

Symptoms: Menstrual disturbances, hemorrhages, discharge, abortions or sterility, pain, vesical and rectal disturbances, systemic and reflex disorders.

Treatment: Systemic, local, surgical.

Chronic Metritis

Pathology: Chronic changes in endometrium; in peritoneum; in muscularis, 1. hypertrophic, (a) puerperal (subinvolution), (b) nonpuerperal (elongation of cervix); 2. interstitial, cirrhotic, metritis (puerperal and non-puerperal atrophy).

Symptoms and Diagnosis.

Pelvic Inflammation

Includes metritis, lymphangitis, phlebitis, cellulitis, salpingitis, ovaritis and pelvic peritonitis.

Routes of Infection: Extension by (a) continuity of uterine and tubal mucosa, (b) through lymph and blood vessels, (c) extension from extrapelvic organs, appendicitis, tubercular peritonitis, etc.

Etiology: Secondary to endometritis, traumatisms of parturition and surgery, vaginal, vesical, intestinal and peritoneal infections, acute infectious diseases. Micro-organisms present, relation of different organisms to extent and character of pathology.

Society Proceedings

COMING MEETINGS

American Physiological Society, Washington, D. C., December 28-30.
Medical Society of State of New York, Albany, January 25.
Southern Surg. & Gynecological Assn., Hot Springs, Va., Dec. 20-21.
Western Surgical and Gynecological Assn., Omaha, December 20-21.

CITY OF WASHINGTON BRANCH OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

Meeting held November 3, 1909

Dr. H. W. Wiley, Chief of the Bureau of Chemistry, in the Chair

Patent and Trade-Mark Laws

The audience included pharmacists, physicians, manufacturers and representatives of at least several government services, including the Patent Office and the Bureau of Chemistry.

Dr. Murray Galt Motter, Washington, discussed the report of the Committee on Patents and Trade-Marks of the American Medical Association (The Journal A. M. A., June 19, 1909, p. 2063), and pointed out that this report presented the several questions in a clear and concise manner.

Dr. F. E. Stewart, Philadelphia, a member of the Committee on Patents and Trade-Marks of the American Pharmaceutical Association, discussed the report of his committee.

Mr. Samuel L. Hilton, Chairman of the Committee on National and State Legislation of the American Pharmaceutical Association, reported on the hearings on the Mann bill and outlined the history of that bill. He pointed out the shortcomings of that particular measure and the possibility of overcoming them by modifications.

Mr. Willard S. Richardson, Chairman of the Committee on National Legislation of the N. A. R. D. reported on the hearings that have been held on the Currier bill. He said in part: The purpose of this bill was to bring about a more equitable exchange of patent rights between this country and foreign countries. At present, a citizen of a foreign country receives more protection by a patent in this country than is given in a foreign country to an American citizen. This humiliating condition is generally unknown to the majority of American citizens. The only objection that has ever been urged against the reciprocal principle of the Currier bill is that the adoption of this principle would be in opposition to Article 2 of the International Agreement of 1883. Since that agreement, a number of foreign countries have introduced serious and unjust restrictions, to the detriment of American citizens. At the Brussels Conference, in 1887, our delegates endeavored to secure a modification of Article 2. While we lost in our contention no criticism was ever attempted on the stand taken by us. President Roosevelt, in his message in 1903, said: In granting patents to foreigners, the proper course for this country to follow is to give the same advantages to foreigners that the country in which these foreigners live extends in return to our citizens. Even the attorneys who have been opposing any change in the present patent laws have not denied the justice of the principle embodied in the Currier bill, and all their efforts have been centered on delaying action of any kind by prolonging the hearings and begging for delay on the ground that the matter should not be gone over hastily.

Dr. Worth Hale, of the Public Health and Marine-Hospital Service, pointed out that, in speaking of the misuse of drugs as fostered by our patent and trade-mark laws, one should disregard personal and financial considerations, since the whole question rests ultimately on such factors as will bring the greatest degree of health to those who suffer from disease. The patient's right and his protection are first to be considered; the interest of manufacturers, of physicians and of pharmacists are but secondary and are to be considered only after the welfare of the general public has been safeguarded. In whatever degree patent and trade-mark laws have lessened this protection they are to be criticized adversely.

Because of laws giving to manufacturers exclusive rights to names and products, the pharmacies of every city and village in the United States are filled with inferior, useless and harmful medicinal substances, and pharmacies frequently have in stock, because of special nomenclature, five, ten, possibly twenty, duplications of the same chemical substance or pharmaceutical mixture. A well-known instance of this abuse is evidenced by hexamethylenamin, the duplication of which has become a necessity in order to meet the demand of the physician who orders it under a trade name, because he is ignorant of its true composition.

We must remember, however, that the abuses which exist have not developed because of the existence of patent and trade-mark laws, but because of the advantages taken of the privileges accorded by them. It must be admitted that patent and trade-mark laws permit of the establishment of monopolies, a monopoly fosters unusual profits, unusual profit permits of extensive advertising, extensive advertising increases the sale, and consequently the use or abuse, thus making the financial returns from the protected product both certain and large. It is unfortunate, indeed, that in no other field are extravagant misleading and unverified claims so difficult to correct or control as in connection with medicinal products, whether advertised to the medical profession or to the laity; whether the remedy be peruna or purgen, dysmenorrhets or desiccated castor oil, its successful sale depends far more on the advertising claims made for it than on absolute or comparative value over older preparations. The advertising pages of even the better class of medical journals are filled with statements that are designed to mislead, are always exaggerated, and not infrequently positively untrue. Just a few instances taken at random:

"Syrup Roborans, as a nerve stimulant and restorative in wasting and debilitating diseases, as a constructive agent in insomnia, pneumonia, tuberculosis, bronchial asthma, marasmus, strumous diseases and general debility this compound has no equal."

"Tongaline, successfully prescribed for twenty-five years. Rheumatism, neuralgia, sciatica, lumbago, malaria, grippe, colds, gout, excess of uric acid. Relieves pain, allays fever, eliminates poison, stimulates recuperation."

"Verily it hath become too easy to live."

The shame of it is that such statements are believed and that they are believed is evidenced by the fact that they must bring returns or they would not be made. No arraignment of modern advertising methods and of the physician who has been influenced by them can be too severe, for the commercial spirit thus generated has robbed medicine of its best heritage, a materia medica based on scientific principles, and has left in its place, at least with the physicians affected, a materia medica of monopolized preparations prescribed by "Docs" educated by detail men and the "patent-medicine" literature of the manufacturer.

Prof. John Uri Lloyd, Cincinnati, pointed out that he necessarily differed from many of his friends on some of the questions that had been under discussion, and asserted that we must individually live up to what we consider to be right and just. He discussed the application and the possible uses of copyrights, trade-marks and patents and expressed himself as being opposed to the granting of product patents because this practice tends to prevent the development of science and is therefore unfair and unjust. He controverted some of the arguments that had been used in connection with the opposition to the Mann bill, and expressed himself as being hopeful of the enactment of more equitable patent laws in the near future. He also expressed himself as having an abiding faith in the pharmacy of the future and in the development of the sciences of pharmacognosy and pharmacology. He also has hope in the materia medica of the future, and expects to witness the elimination of heroic drugs from which so many people at the present time do not escape.

Dr. H. W. Wiley pointed out some of the abuses that had been exposed by the work of the Council on Pharmacy and Chemistry of the American Medical Association, and asserted that the duplication of names for the same, or practically the same, substance constitutes an abuse of far-reaching influence. He pointed out that medical men are gradually recognizing the fallacy of expecting to secure what might be termed mass effect by the use of complex mixtures, and that the trend at the present time is to prescribe simple medicaments for the purpose of securing definite effects.

Mr. M. I. Wilbert pointed out that the reference made by Professor Lloyd to the use of "heroic drugs from which so many of our people do not escape," was particularly applicable to the widespread use, or more correctly, abuse of the so-called synthetic preparations. He expressed himself as fearful that when the history of the tar barrel was finally written, as it eventually will be, the harm done by these remedies, the lives that have been materially shortened and the constitutions that have been undermined, will far outweigh any real good that has been evidenced up to the present time.

Mr. Wymond H. Bradbury called attention to some of the petty frauds that have been developed in connection with patents on medicinal products and referred at some length to the practice of the American agents for some of the products on which patents have expired, who, as is well known, are asking a much higher price for phenacetin, sulphonal and trional, as such, than for the corresponding substances sold by them under the official titles, though there is no detectable difference in the quality of the article, and there is every reason to believe that the agents themselves import these substances under their official titles and pay the minimum import duty.

The continued proprietorship in the name of a patented article, after the expiration of the patent, was further discussed by Dr. Stewart, Dr. Seaman and Mr. Hilton, the latter expressing the belief that the quibble over the property right in the name of a patented medicinal article had never arisen until in connection with phenacetin, sulphonal and trional.

Book Notices

Naval Hygiene. By James Duncan Gatewood, M.D., Instructor n Naval Hygiene, United States Naval Medical School, Washington. loth. Pp. 779, with 113 illustrations. 8 colored. Price, $6 net. hiladelphia: P. Blakiston's Son & Co., 1909.

Surgeon Gatewood, from his long experience in the navy nd in this especial line, is well fitted to prepare a text-book n naval hygiene. He first takes up naval vital statistics, hich he considers the basis of the navy's hygiene, and the ir within and without the ship, and in these includes the iseases of seafaring people, which are largely due to lack of roper adjustment between the spaces in the ship and the air nd water. The author then considers the matter of light ithout and within the ship, including illumination, absorpion, and reflection of light, the color of clothing in the ropics, etc.; the ship's water and drainage; the hardness of ater and its reduction; lavatory arrangements on ships; he storage of water; water distillation, analysis of water; urification of water; camps and camp sites. The chapter on he food of the navy is especially well illustrated with olored plates, showing the natural appearance of healthy beef. number of illustrations of various edible fish, which take p considerable space, are inserted for some incomprehensible eason. In this chapter is taken up the matter of the proper alance of ration, its determination or analysis, the ideal diet the tropics, and the care of foods. The navy's clothing, he question of clothing in relation to the body temperature next discussed; education of the skin, chemical regulation f temperature; conductivity of clothing materials; the espective benefits of wool, linen and cotton; the value of dry lothing; night clothes, uniforms, the care of clothing, etc. isinfection of the ship is naturally a very important quesion, and is well and fully considered. The vital causes of isease are detailed; disinfection, isolation to prevent lines f travel; value of disinfectants, and the various comunicable diseases expected to be met with on shipboard. Dr. atewood also discusses insecticides and the various disinectants. An entire chapter is devoted to naval recruiting. his deals with the method of making examinations of ecruits; the requirements for success in selecting recruits; he object of medical examination in recruitment, and the tandardization of the recruit and of the examiner.

Myeloische Metaplasie und fötale Blutbildung und deren istogenese. Von Dr. med. Heinrich Fischer, Sanatorium "Untere aid" bei St. Gallen (Schweiz). Paper. Pp. 140. Price, 4 marks. erlin: Verlag von Julius Springer, 1909.

The facilities which German investigators have for putting ut their more extensive publications in the form of monoraphs is a source of envy to their American colleagues. echnical and medical journals can not afford to turn over e necessary amount of space for this sort of article, while attempt to publish independently would be almost inevably ruinous. In Germany, however, it seems to be possible float almost any publication, however technical, provided it s merit. Fischer's monograph of 140 pages is one of this ass.

In certain conditions we find that organs among whose funcons we do not ordinarily consider formation of leucocytes nd erythrocytes have taken on this function in circumribed cellular areas which spring up in various places. This myeloid metaplasia" we associate especially with leukemia, e finding of so-called lymphoid nodules in the liver and elsehere being a familiar observation. As Fischer shows, hower, this peculiar sort of atavism of tissues, whereby they vert to their fetal character of blood-forming organs, is obrved to greater or less degree in sundry conditions besides e typical blood diseases. This myeloid metaplasia was cribed by Neumann and Ehrlich to a metastasis of cells om the bone-marrow, since this was recognized as the only ace in which such blood-forming cells were normally present, view which has long remained prevalent because of the thority of Ehrlich. Other investigators have, however, ought forward evidence that the myeloid cells were not ecessarily metastatic but might be present in many tissues as e result of metaplasia of the fixed tissue cells, and M. B. Schmidt in particular demonstrated that the endothelial cells of the liver may manufacture both white and red corpuscles.

Fischer reviews systematically and effectively the facts and theories that bear on both the normal and pathologic formation of blood cells, and then recounts his own observations. These lead him to the conclusion that the view that foci of hematogenic activity in the tissues do not arise through metastasis of marrow cells, but by metaplasia of connective tissue cells especially, and possibly also from endothelial cells. Many interesting observations are recorded concerning other than this main problem, and the pamphlet is of considerable value to hematologists and pathologists.

Walsh's Physicians' Combined Call-Book and Tablet. Flexible leather, with flap and pocket. Price, $1.50. Washington, D. C.: Ralph Walsh, M.D., 1804 H Street, N. W.

The usual physicians' visiting list has been modified by Walsh so that it may also be used as a ledger. It contains much useful information; a very concise clinical table of the eruptive fevers, a table showing the changes in strength of important tinctures made official by the last U. S. Pharmacopeia; a complete dose-table for adults; poisons and their antidotes; diet list; the use of the thermometer; facts about infants, etc. The book is of the usual size and is arranged for a monthly record. Pages for memorandum, addresses, obstetric records, and a cash account, are included.

A Text-Book of Physiologic Chemistry. By John H. Long, M.S., Sc.D., Professor of Chemistry in Northwestern University Medical School, Chicago. Second Edition. Cloth. Pp. 396, with 42 illustrations. Price, $2.50 net. Philadelphia: P. Blakiston's Son and Co., 1909.

The second edition of this text-book presents some important changes, including the new protein classification adopted by the American societies and a much fuller discussion of the subject of the urine with a new chapter on the methods of urine analysis. The book gives a very clear statement of the chemical facts which should be required in medical schools, while omitting the details which are of interest only to specialists. Long appreciates the danger of presenting more to the student than the student has time to master properly, and a careful examination of the work shows that this danger has been successfully avoided. This new edition will be welcomed both by teachers and students.

The Blood in Health and Disease. By R. J. M. Buchanan, M.D., F.R.C.P., Professor of Forensic Medicine in the University of Liverpool. Cloth. Pp. 318, with illustrations. Price, $4.50. New York: Oxford University Press, 1909.

This book is evidently prepared to meet the requirements of medical students, but it is, like so many other text-books, not flattering to the ideals of this class of humanity. It is a perfectly good synopsis of the subject of hematology, but there is nothing about it to interest or stimulate the average student, and it will not satisfy the better type of student who wishes to know something of the evidence before he accepts conclusions. Such a book—and there are many not so good as this one—may have a certain field of usefulness and satisfy the demands and desires of many students, but instructors with progressive ideas as to medical education do not exult at their publication. This particular hematology is at its best in the discussion of the changes in the blood in the diseases studied most commonly by the routine methods of the clinical laboratory; with other conditions Dr. Buchanan seems less familiar, and much of recent progress in medical science is disregarded and superseded views are quoted as if established facts. For example, the occurrence of the pneumococcus in the blood in pneumonia is referred to as if occasional, and of grave prognostic import; although it has been abundantly shown, especially by Rosenow, that pneumococcemia is practically constant in pneumonia. J. H. Wright's observations on the origin of the blood platelets are not mentioned, and many similar omissions might be recorded. The book is embellished with many excellent reproductions of careful colored drawings of blood preparations made by Dr. Buchanan, and in general, the publisher's part of the work is exceptionally well done.

Neurasthenia. By Gilbert Ballet, Professor *agrégé* at the College of Medicine of Paris. Translated from the Third French Edition by P. Campbell Smith, M.D. Cloth. Pp. 408, with 7 Illustrations. Price, $2 net. New York: Paul B. Hoeber, 1909.

Precisely at this time, while the epidemic of psychotherapeutic "afflictions" is still raging in and out of the profession, Professor Ballet's book on neurasthenia is opportune. Primarily designed as a monograph on treatment, the present (third) edition, of which this is an excellent translation, has expanded so as to include etiology and symptomatology. To those who received their first psychotherapeutic repast out of Dubois' milk-bottle, this book may seem more difficult of digestion, but in the end it will be found more invigorating and real food for men. The volume is replete with good advice and will be profitable alike to specialist and general practitioner.

Though the bulk of the book is devoted to treatment, yet the preliminary short chapters on etiology, symptomatology and classification deserve commendation, as they are clear and conform to the accepted views of neurologists both here and abroad. Unlike Dubois' book, which is a combination of metaphysics, pseudopsychology and psychotherapy, it gives facts and does not confuse the reader by placing hysteria, neurasthenia, psychasthenia, hypochondriasis and every other classified and unclassified nervous trifle under the all-comprehensive head of neurosis and treating them all as one disease. Ballet distinguishes two great types of neurasthenia, (1) the so-called neurasthenia minor, found in childhood and manifesting itself by congenital tendencies to physical weakness and mental insufficiencies, and (2) the fully developed neurasthenia of adults, characterized by exhaustion and irritability, which variety he calls neurasthenia major. This classification is similar to that of Dercum, who calls the form which correspond to Ballet's "neurasthenia minor," "neurasthenoid," that is a condition like neurasthenia, but really belonging to various other psychoses or degenerative neuroses, while Ballet's "neurasthenia major" he considers true neurasthenia and treats it very much as Ballet does—as a physical, not a mental affection.

The chapters on treatment are good. Due credit is given to psychotherapy, but the greatest emphasis is put on the treatment of physical conditions, which we believe proper. In a similar sense Oppenheim has recently answered Dubois in a German publication. Neurasthenia is treated not only by suggestion and persuasion for any existing psychic symptoms which may have developed on the physical disorder, but also by means of electricity, massage, hydrotherapy, the rest-cure, dietetic and climatic treatment, and, last of all, by means of drugs to combat certain visceral symptoms. Ballet is no fanatic and does not offer a panacea for all forms of neurasthenia. Among the many excellent chapters the one on diet, which treats of the various digestive disturbances of neurasthenics, is one of the best and well worth careful study. The book is written in an easy style and adapted to the practitioner's needs.

Diseases of the Bones and Joints. By Joel E. Goldthwait, M.D., Charles F. Painter, M.D., Robert B. Osgood, M.D. Cloth. Pp. 685, with illustrations. Price, $6. Boston: D. C. Heath & Co., 1909.

The authors of this book have not attempted to write on orthopedic surgery, but have developed and amplified a number of papers previously published into this very considerable volume of clinical studies. It seemed best to them to include only those diseases which are most common, and to endeavor to give a concise statement of such matters pertaining to etiology, diagnosis and treatment as they have found helpful and satisfying to the patient and suggestive to the physician.

The book is divided into three sections. The first, entitled "Tuberculosis of the Bones and Joints," really comprises only tuberculosis of the joints and so much of the bone ends as are practically always involved in joint tuberculosis and pass ordinarily under the name of joint tuberculosis.

The second section, "Non-Tuberculous Diseases of the Joints," will be found to be the most interesting part of the book. It comprises infectious arthritis, atrophic arthritis, hypertrophic arthritis, lipomata, neoplasms and their relation to joint surgery, hysteric and functional joints, and the operative technic and mechanical treatment of chronic non-tuberculous joint disease. No one in this country has had such abundant material or has given the subject such thorough and conscientious a study as have the authors. Each year we are all seeing more and more of these cases, and learning to differentiate them from tuberculosis, with which not long ago they were generally confounded. No longer are we justified in passing these cases from one to another as hopeless cases for which nothing useful can be done. We know now that it is our duty to look earnestly for the cause, and finding it to remove it. If we do this the progress of the disease is stayed, and local treatment will be of use and some improvement may be confidently expected. This second section alone is sufficient warrant for the purchase of the volume by any general practitioner.

The third section comprises the other subjects in which the authors have been specially interested, from syphilitic bones and joints, osteomyelitis and rachitis on the one hand to flatfoot, aneurism, round shoulders and the use of plaster of Paris on the other hand, not by any means omitting the pelvic articulations and flexed scapulæ. As a treatise on diseases of the bones and joints the book is disappointing; as a series of clinical studies by earnest students and careful observers in the field of orthopedic surgery, it is most valuable and satisfying.

Walsh's Physicians' Handy Ledger. A Companion to Walsh's Physicians' Combined Call-Book and Tablet. Half Leather. Pp. 600. Price, $3.50. Washington, D. C.: Ralph Walsh, 1804 H Street, N. W.

This book is intended as a companion to Walsh's Physicians' Combined Call-Book and Tablet. It is of a very convenient size, 7 by 10, containing 600 pages, 1 page for each patient. This record would appear to be particularly useful by reason of the fact that it not only contains in a very small space, the amount due the doctor, but shows when service was rendered, and how. The book is well bound, opening up easily at any page, and also contains an index.

Protozoology. By Gary N. Calkins, Ph.D., Professor of Protozoology in Columbia University, New York. Cloth. Pp., 341, with 129 illustrations, 4 colored. Price, $3.25 net. Philadelphia: Lea and Febiger, 1909.

This book gives a comprehensive and authoritative presentation of modern protozoology. While protozoa are considered primarily from the biologic point of view, physicians can be fully assured that the pathogenic protozoa are not at all neglected. Professor Calkins has wisely chosen to base the book on broad biologic principles, knowledge of which is essential for the successful application of protozoologic facts to medical problems. The general organization and the physiology of protozoa; the protoplasmic age of protozoa; conjugation, maturation and fertilization of protozoa, are clearly and adequately discussed in the first part of the book, after which come chapters on parasitism (including a discussion of protozoa and the cancer problem, in which no radical views are championed), on the pathogenic flagellates, on the pathogenic hemosporidia, and on the pathogenic rhisopoda. There is a good bibliography, an author's and general index. The need that has existed for a book of this kind is well satisfied by Professor Calkins' work, which admirably fulfils all reasonable demands from the medical point of view.

The Physician's Visiting List for 1910. Flexible Leather, with Pocket and Flap. Price, $1.00 net. Philadelphia: P. Blakiston's Son & Co.

A welcome annual visitor—one of the best of its kind. Neat, handy and compact.

A Manual of Laboratory Methods. By E. M. Perdue, A.M., M.D., Professor of Histology, Bacteriology and Clinical Diagnosis in Hahnemann Medical College, Kansas City, Mo. Cloth. Pp. 188, with illustrations. Price, $1.50. Kansas City: Burton Pub. Co., 1909.

This little book is intended for use by students as a laboratory guide and is in no sense a text-book. It gives in semitabular form directions for embedding and staining tissues, for making cultures of and for staining bacteria, for examination of gastric contents and other body fluids and se-rections, for examination of water, etc. An appendix contains tables of weights and measures, lists of Gram-positive and Gram-negative bacteria, stains and reagents, normal and decinormal solutions, etc.

Practical Dietetics, with Special Reference to Diet in Diseases. By W. Gilman Thompson, M.D., Professor in the Cornell University Medical College. Fourth Edition. Cloth. Pp. 928, with illustrations. Price, $5. New York: D. Appleton and Company, 1909.

The wide relations of dietetics impose an enormous task on the author who attempts to present the subject in all its relations in an up-to-date manner. The rapid advance of knowledge in all directions renders frequent revision of such a work necessary. Dr. Thompson's work aims to present a practical exposition of the dietetic treatment of all diseases which can be specially influenced by food. To do this and to meet the needs of the general practitioner growing out of the advance of dietetic science, the entire work has been rewritten and considerable additions made. That the result is an eminently practical and useful work is evident. The great value of the scientific data is admitted, but these facts need to be supplemented and interpreted by clinical experience. Calorimetric calculations and metabolism experiments are very interesting, but their application to the individual, and especially to the patient, is not always easy. Thompson is not inclined to accept the lower standard for proteins recommended by Chittenden and Fisher, or to sanction entirely the adoption of Fletcherism. He does not always commit himself on disputed questions.

The diagnosis of diseases of the stomach by laboratory methods is touched on, but in a rather unsatisfactory way. It is hard to see how this matter is properly included within the scope of the book, which does not give other diagnostic methods, but if such subjects are to be discussed it seems hardly worth while to give space to utterly unreliable methods like salol test for motor power and the potassium iodid test for absorptive power. In many other places it is evident that the newer researches on the stomach and intestines have not been fully utilized in revising the work.

In spite of the few defects which may be found on critical study, we have to thank Dr. Thompson for a volume that will in general prove a valuable guide to the physician in a field in which instruction is greatly needed.

A Selection of Cases on Malpractice of Physicians, Surgeons and Dentists. By Martin J. Wade, Professor of Medical Jurisprudence in the College of Medicine, and Lecturer in the College of Law, State University of Iowa. Cloth. Pp. 896. Price, $4.75. St. Louis: Medico-Legal Publishing Co., 1909.

The great value of this volume and the amount of work expended in compiling it may be surmised from the statement made in the preface that "this volume contains practically every (malpractice) case of any importance which has been decided in the courts of last resort in this country and also the leading cases in England."

The cases are arranged in chronological order. the first one occurring in 1767, the last one in July, 1908. The decisions are all given in full so that all the points in connection with any case are clearly set forth. As a rule, to which there are few exceptions, physicians know far too little of the obligations placed on them in the care of the sick. The question whether all of these obligations are just or not is not to be discussed here; but that they exist is very forcibly shown by the discussions handed down by the learned judges in the cases detailed in this volume. It therefore behooves every physician for his own protection to familiarize himself with the facts as they exist, for in no other vocation is one so liable, at a time least expected and under circumstances least deserved, to be mulcted out of the savings of years of hard work, as in that of the practice of medicine. This work, therefore, should be carefully read by every physician, be he surgeon, internist or specialist, until he is thoroughly informed of the legal duties and obligations assumed in the care and treatment of the sick.

The Medical Record Visiting List or Physicians' Diary for 1910. Flexible Leather, with flap and pocket. Price, $1.50. New York: William Wood & Co.

Compact and concise as ever, the annual edition of this memorandum book will be welcomed by many who have come to depend on it for the pocket keeping of accounts. The data in the front part have been changed somewhat.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

California: Los Angeles, December 7. Sec., Dr. Charles L. Tisdale, Butler Bldg., San Francisco.

Delaware: Regular, Dover, December 14; Homeopathic, Wilmington, December 14. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

Iowa: State House, Des Moines, Dec. 7-9. Sec., Dr. L. A. Thomas.

Kentucky: The Armory, Louisville, December 14. Sec., Dr. J. N. McCormack, Bowling Green.

Maryland: 1211 Cathedral St., Baltimore, December 14-17. Sec., Dr. J. M. Scott, Hagerstown.

Pennsylvania: Regular and Homeopathic, Philadelphia, December 14-17; Eclectic, Harrisburg, December 14-17. Secretary of the Medical Council, Nathan C. Schaeffer, Harrisburg.

Virginia: Lynchburg, Dec. 14.17. Sec., Dr. R. S. Martin, Stuart.

Florida May Report

Dr. J. D. Fernandez, secretary of the Regular Board of Medical Examiners of the State of Florida, reports the written examination held at Tallahassee, May 19-20, 1909. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 45, of whom 40 passed and 5 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
University of Alabama....(1908) 82, 83;	(1909)	91
Atlanta Coll. of Phys. and Surg.....(1907) 82;	(1909)	87
Medical College of Georgia.........(1907) 77;	(1908)	86
Atlanta School of Med...(1908) 80, 83, 87, 96;	(1909)	82, 83, 84, 88, 89, 90.
Hospital College of Medicine, Louisville	(1904)	75
Tulane University of Louisiana	(1908)	89
College of Physicians and Surgeons, Baltimore	(1887)	84
Barnes Medical College	(1895)	83
Marion Sims College of Medicine, St. Louis	(1892)	79
Mississippi Medical College	(1909)	78
Lincoln Medical College	(1897)	76
New York University Medical College	(1896)	91
Leonard Medical School............(1908) 80;	(1909)	76, 94
North Carolina Medical College..(1908) 92;	(1909)	82, 84, 87
Medical College of Ohio ....(1895) 84;	(1904)	82
Starling Medical College	(1888)	94
Medical College of the State of South Carolina	(1909)	84
University of Nashville	(1905)	91
Meharry Medical College	(1899)	75
Gate City Medical College	(1908)	82
University of Havana, Cuba	(1909)	77
FAILED		
Barnes Medical College	(1872)	60
Meharry Medical College	(1908)	62, 66
Gate City Medical College	(1908)	62

The college and year of graduation of one candidate who failed was not recorded.

Missouri September Report

Dr. J. A. B. Adcock, secretary of the Missouri State Board of Health, reports the written examination held at Kansas City, September 20-22, 1909. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 57, of whom 37 passed and 20 failed. The following colleges were represented:

College	Year Grad.	Total No. Examined.
PASSED		
Howard University, Washington, D. C.	(1907)	1
Rush Medical College	(1909)	1
University of Kansas	(1907)	1
University of Louisville	(1909)	5
University of Michigan, College of Medicine	(1909)	1
University Medical College, Kansas City	(1909)	6
Ensworth Medical College, St. Joseph	(1909)	1
Barnes University	(1909)	4
Homeopathic Medical College of Missouri	(1909)	1
St. Louis University	(2, 1908) (2, 1909)	4
Washington University, St. Louis	(1909)	2
St. Louis Coll. of Phys. and Surg.	(1908) (3, 1909)	4
Columbia University, College of Phys. and Surg.	(1907)	1
University of Pennsylvania	(1900)	1
Memphis Hospital Medical College	(1909)	1
Meharry Medical College	(1908) (2, 1909)	3
FAILED		
University of Kansas	(1896) (1907)	2
University Medical College, Kansas City	(1909)	3
Barnes University	(1907) (7, 1909)	8
St. Louis Coll. of Phys. and Surg.	(1908) (2, 1909)	3
Kansas City Hahnemann Medical College	(1909)	1
Ensworth Medical College	(1909)	2
Meharry Medical College	(1907)	1

Michigan October Report

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examination held at Lansing, October 12-14, 1909. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates who took the final license examination was 10, all of whom passed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Southern California	(1909)	91
College of Physicians and Surgeons, Chicago	(1909)	84 1
Northwestern University Medical School	(1909)	81.4
Detroit College of Medicine	(1909)	80.5
University of Michigan, Coll. of Med.	(1908) 78.7, 82.2,	92.1
Univ. of Michigan, Homeo. Dept.	(1894) 77.1; (1909)	85.2
Long Island College Hospital	(1892)	82.5

Minnesota October Report

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the examination held at St. Paul, October 5-7, 1909. Aside from the written examination, practical tests were given in pathology, bacteriology, histology and urinalysis. The number of subjects examined in was 10; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 20, of whom 13 passed and 7 failed. Twenty-two candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Los Angeles	(1908)	78.9
Northwestern Univ. Med. School	(1908) 76.8; (1909) 79,	83.4
Fort Wayne College of Medicine	(1898)	76.6
University of Maryland	(1905)	77.8
Boston University	(1909)	78.2
University of Minnesota, Coll. of Med.	(1909) 77.4, 77.7, 80,	80
University of Minnesota, Homeopathic Dept.	(1907)	75.4
Hamline University	(1908)	79.3

FAILED

College	Year Grad.	Per Cent.
Northwestern University Medical School	(1909)	67.9
College of Physicians and Surgeons, Chicago	(1909)	69.9
Hamline University	(1907) 54.6; (1909) 72,	72
St. Louis University	(1908)	59.9
McGill University, Montreal	(1909)	72.5

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with.
Rush Medical College. (1895) Wisconsin; (1906)	(1908)	Illinois
College of Physicians and Surgeons, Chicago. . (1905) Wisconsin; (2, 1908)	(1909)	Illinois
Chicago College of Medicine and Surgery	(1909)	Illinois
Northwestern University Medical School	(2, 1908)	Illinois
Indiana Medical College	(1906)	Illinois
College of Physicians and Surgeons, Keokuk	(1888)	Iowa
University of Iowa, College of Medicine	(1905)	Iowa
Baltimore Medical College	(1904)	Iowa
Detroit College of Medicine	(1895) (1907)	Michigan
University of Michigan College of Medicine	(1908)	Michigan
Hamline University	(1908)	N. Dakota
Ensworth Central Medical College	(1906)	Kansas
Ohio Medical University	(1906)	Ohio
Trinity Medical College, Ontario	(1897)	N. Dakota
University of Berlin, Germany	(1868)	Iowa

Mississippi October Report

Dr. S. H. McLean, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, Oct. 12-13, 1909. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 80, of whom 21 passed, including 5 non-graduates, and 59 failed, including 25 non-graduates. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
Birmingham Medical College	(1909)	1
Chicago College of Medicine and Surgery	(1909)	1
University of Louisville	(1909)	1
Tulane University of Louisiana	(1906)	1
Mississippi Medical College	(1909)	3
Jefferson Medical College	(1909)	1
University of Tennessee	(1909)	1
Memphis Hospital Medical College	(1909)	4
Chattanooga Medical College	(1909)	1
University of Nashville	(1903)	1
University of Virginia	(1908)	1

FAILED

College	Year Grad.	Total No. Examined.
Georgia College of Eclectic Medicine and Surg.	(1908)	1
Atlanta College of Physicians and Surgeons	(1903)	1
Southern Medical College, Atlanta	(1882)	1
Flint Medical College	(1909)	2
Louisville Medical College	(1892) (1904)	2
Mississippi Medical College	(1907) (2, 1909)	3
St. Louis College of Physicians and Surgeons	(1908)	1
Leonard School of Medicine	(1909)	1
Hahnemann Medical College and Hospital, Phila.	(1908)	1
University of Nashville	(1905)	1
Memphis Hosp. Med. Coll.	(1903) (2, 1908) (3, 1909)	6
University of Tennessee	(1909)	1
Meharry Med. Coll.	(1905) (1907) (4, 1908) (5, 1909)	11
Knoxville Medical College	(1909)	1
College of Physicians and Surgeons, Memphis	(1908)	1

Medicolegal

Health Powers Versus Private Rights

The Supreme Court of Vermont says, in the case of State Board of Health vs. Village of St. Johnsbury and others (73 Atl. R. 581), that a statute of that state gave the board the general oversight and care of all waters used by any cities, towns, villages, or public institutions, or by any water or ice companies in the state as sources of water supply, and authorized the board to prohibit any town, city, village, public institution, individual, or water or ice company from using water or ice from any given source whenever in its opinion the same was so contaminated, unwholesome, or impure that the use thereof endangered the public health. This statute cannot be said to be palpably in conflict with the constitution, state or federal; nor can it be confidently asserted that the means prescribed by it have no just relation to the protection of the public health and the public safety. It must be held, therefore, that the board has authority, if properly exercised, to restrain the defendants, as it did, from the furnishing and the use of the village water for domestic purposes until, in the opinion of the board, the danger to the public health ceases.

It was contended that no order could lawfully be made by the board in restraint of the personal liberty of the citizen, for, if water was furnished by the village in its mains and taken into the houses, the board had no authority to punish those who used it for domestic purposes; that the owners of the houses had the right to drink it, and their tenants had the same right, even though forbidden, etc. But the right of the people of the state by their legal representatives of governing and regulating the internal police of the state embraces such reasonable rules and regulations, established directly by legislative enactment, as will protect the public health and the public safety. And the state may invest local or state boards created for administrative purposes with authority in some proper way to safeguard the public health and the public safety. The way in which these results are to be accomplished is within the discretion of the state, provided the powers and functions of the general government are not thereby infringed, nor any constitutional provision of the state or the United States.

If the mode adopted by the state for the protection of the public health and safety of its local communities proves to be objectionable, inconvenient, or even distressing to some, if nothing more can reasonably be affirmed against the statute, the answer is that it is the duty of the constituted authorities primarily to keep in view the welfare and safety of the many, and not to permit their interests to be subordinated to the wishes or the convenience of the few.

Questionable and Inadmissible Evidence in Malpractice Case

The Supreme Court of Michigan says that the plaintiff in the malpractice case of Farrell vs. Haze (122 N. W. R. 197) sustained, on a Tuesday, an injury to his right foot, ankle and leg—a "Potts fracture." The defendant was employed, and put the injured member in a plaster of paris cast. As things went, if he cut—opened—the cast on Wednesday, he was admittedly without fault. If he did not cut it until Sunday, and if the foot and leg were then in the condition described by plaintiff and his witnesses, he did not exercise ordinary professional skill and judgment, and for the resulting injury he was liable. The defendant testified that he cut the cast on Wednesday, the next day after the injury. He kept books and employed a bookkeeper. It was his practice to make a memorandum of visits to patients on prescription blanks and to hand the memoranda to his bookkeeper for entry by her into a daybook. She also kept a ledger. The slips, daybook and ledger were produced in court, and were offered and received in evidence over the objection that they were all immaterial, incompetent and self-serving. The purpose in offering them was not to show the state of an account with the plaintiff, but to corroborate the defendant's testimony concerning the date of cutting the cast by a memorandum made by him at the time. The court avoids deciding whether the memoranda were really admissible in evidence for the purpose stated or not. It merely says that, assuming, but not deciding, that the memoranda were evidence to the jury of the facts contained in them, it was within the discretion of the court to allow them to be taken to the jury room, and it was not an abuse of that discretion to refuse to allow them to be taken there.

It was one of the undisputed facts in the case that the bones in the foot and ankle became diseased, and that this condition rendered amputation necessary. What caused the bones to become diseased? The plaintiff's contention was that most probably the cause was the treatment received from the defendant. But the opinions of the experts did not support this contention. It is not enough to show a state of facts equally consistent with unskillfulness and negligence and with skillfulness and due care. Therefore the jury should have been instructed by the judge, as requested, that: "The question whether the loss of the plaintiff's foot was attributable to anything that the plaintiff claims the defendant did or omitted to do is a scientific question, which the jury cannot determine for itself, and can be answered only by an expert; and inasmuch as no expert or medical man or surgeon has stated that the loss of the foot in his opinion came from anything the defendant did or omitted to do, therefore I charge that you cannot take the loss of the foot into consideration in this case or hold the defendant liable therefor."

The plaintiff produced in court, but under covering, what were stated to be the bones of the amputated limb, and proposed to exhibit them. The court is of opinion that they should not have been produced or offered in evidence. It is conceivable that if they were in the same condition they were after the injury, and while the defendant was treating the limb, the extent and nature of the various fractures produced by the injury being in question, their examination and perhaps their production in court would have been of value. But the plaintiff has proved that various portions of the bones were removed before the amputation took place. He had proved that their condition before and at the time the limb was amputated indicated a gradual and continuing disintegration of the bones from some cause which was active long after the defendant ceased to treat the injury. It could not be apprehended that the jury would be enlightened or instructed by an examination of the remains by themselves or by witnesses in their presence.

Again, the court holds that one who is not possessed of the requisite qualifications of a physician and surgeon cannot be exempted from liability on the ground that his mistake was caused by an error of judgment. But want of requisite qualifications is not shown by proving that he was discharged by a patient and another physician hired who changed the treatment.

A physician, who testified that the defendant possessed the skill of the average surgeon, was asked, on cross-examination, if he knew of the defendant's treating certain cases, and particularly one where he was discharged and the treatment entirely changed. The court says that it could perceive no purpose in asking these questions, except the one of producing by incompetent means and without tendering the necessary issue the impression that the defendant was lacking in professional skill because he had failed in other cases to satisfy his patients and the physician who succeeded him.

The judgment obtained by the plaintiff is reversed and a new trial granted.

Sufficient Evidence as to Practicing Without a License

The Supreme Court of Washington says, in the case of State vs. Dodson (102 Pac. R. 872), where it affirms a conviction of practicing medicine without a license, that it was contended that under the provision of the statute the state did not make out a prima facie case against the defendant, because it did not show that he had not been a practicing physician prior to the enactment of the statute under which he was convicted. But it is held sufficient that the state showed by the clerk that the defendant had not filed a license in his office, and that none had been filed. The statute makes the records of the clerk's office prima facie evidence of the existence or nonexistence of a license.

Again, the court says that the statute provides that "any person shall be deemed as practicing medicine within the meaning of this act who shall have and maintain an office or place of business with his or her name and the words physician or surgeon, "Doctor," "M. D.," or "M. B." in public view, or shall assume or advertise the title of doctor or any title which shall show or shall tend to show that the person assuming or advertising the same is a lawful practitioner of any of the branches of medicine or surgery in such a manner as to convey the impression that he or she is a practitioner of medicine or surgery under the laws of this state." Evidence to prove that the defendant had done the things prescribed by the statute was offered, and it was for the jury to determine the weight of such evidence.

Current Medical Literature

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

November 20

1 Aspects of Rocky Mountain Spotted Fever as Shown by Recent Investigations. H. T. Ricketts, Chicago.
2 *Creosote Treatment of Pulmonary Tuberculosis. B. Robinson, New York.
3 Plea for a Reform in Medical Education. E. Souchon, New Orleans.
4 Idiopathic Hydropneumothorax with Complete Recovery. A. P. Francine, and H. R. M. Landis, Philadelphia.
5 A Fragmented Filiform Bougie Removed from the Male Urethra Without Operation. V. C. Pedersen, New York.
6 *A Statistical Analysis of over 68,000 Cases of Typhoid. A. K. Sallom, Philadelphia.
7 Acute Gangrenous Cholecystitis; Gall-Stone in the Cystic Duct; Perforation of the Gall-Bladder. E. Williams, Patterson, La.

2. **Creosote Treatment of Pulmonary Tuberculosis.**—Robinson repeats that by the combined, persistent, intelligent use of beech-wood creosote internally and by inhalation, many patients may be saved who otherwise would die. In nearly all cases, no matter what the stage of the disease, much relief to symptoms may be obtained. This treatment is simple and inexpensive, and interferes with no other rational doing. It greatly supplements that doing. Creosote treatment is of great value as a preventive treatment, when pulmonary tuberculosis is a menace to the individual, either by reason of constitutional tendency, exposure to infection, or both. To judicious rest, when required, fresh air, and proper food, add creosote treatment, with or without lime salts, and there is at present little or nothing in the way of further treatment to insist on.

6. **Typhoid.**—This report represents a study of the cases of typhoid fever which have occurred in Philadelphia during a period of eleven and one-half years. From January, 1898, to June, 1909, there occurred 68,943 cases. Of this number 8,102 patients died, giving a mortality of slightly over 11.75 per cent. The greatest number of cases occurred in February, there being an average of 759 cases. January is a close second, averaging 694 cases. The average number of cases for each month then gradually falls, reaching its lowest ebb during July. It again rapidly rises, reaching a second maximum during September. During October and November it falls, to rise again in December. From the data at hand Sallom believes that the filtered water has been instrumental in the reduction of the number of cases of typhoid, for it appears that while the number of cases was greatly reduced in the district receiving filtered water, typhoid fever was still prevalent in the district not receiving filtered water, and in this manner increasing the general number for the entire city.

Boston Medical and Surgical Journal

November 18

8 Recent Experimental Work on Hemorrhagic Conditions. W. P. Lucas, Boston.
9 *Treatment of Summer Diarrhea as Influenced by Etiology. C. H. Dunn, Boston.
10 Hodgkin's Disease in a Child. H. De Wolf, Providence, R. I.
11 *Cure of Club-Foot in Infancy without Operation. A. Ehrenfried, Boston.

9. **The Treatment of Summer Diarrhea.**—The treatment of the diarrheal diseases prevalent in the summer should, Dunn believes, be based on the known facts as to the etiology of the disease. This may, for the four types, be briefly summarized as follows: 1. Acute nervous diarrhea: Castor oil or calomel, temporary dilution of food, paregoric in persistent cases. 2. Acute intestinal indigestion, type of deficient secretion, irritative diarrhea: Castor oil or calomel, boiled water for twenty-four hours, barley water or other carbohydrate solution for a second twenty-four hours, followed by dilute milk modifications, with low fat and casein and high sugar and whey proteid; irrigation of the colon in long-standing cases. 3. Acute intestinal indigestion, fermentation type, fermental diarrhea: Castor oil or calomel, boiled water for twenty-four hours, barley water for the second twenty-four hours; avoid proteid foods, such as albumin water or whey. It is safest not to begin milk-feeding till the third day, and then very cautiously, with modifications low in fat, whey proteid and casein. Living lactic acid bacilli are a specific against this disease and are given in ripened fat-free milk or in buttermilk, which is best begun after forty-eight hours; subsequent feeding according to the type of indigestion also present; irrigation of the colon twice daily; antidysenteric serum in resistant cases.

11. **Club-Foot in Infancy.**—The treatment which Ehrenfried has practiced consists in manipulations and retention. The manipulation is performed after this fashion: The ankle is held firmly by the fingers of the left hand. The right hand gently but firmly grasps the forefoot, which, the heel being fixed, should be gradually abducted as far as possible. If the manipulations cause pain the infant will become rebellious and spasm of the muscles will be set up, which will interfere with the desired object. This abduction should be repeated several times, each time carrying the foot out as far as possible and holding it a few seconds, allowing it to return gradually. Then the same procedure, supplemented by eversion of the foot, should be repeated for a minute or two. The entire foot should be gradually everted until the sole looks outward. Then, with the foot abducted and everted, dorsiflexion at the ankle should be practiced. Finally, the entire foot may be circumducted about the ankle. After the foot has been rendered as flexible as may be by this procedure, it is fixed in the position of greatest correction or overcorrection allowable, by some retentive apparatus. The purpose of this retention is to maintain the stretch on the structure already noted and at the same time to allow the lax opposing structures to contract and to prevent and correct the maldevelopment of the bones of the ankle. Fixation may be had best by means of plaster of Paris. The plaster is applied from thigh to tips of toes, with the knee flexed, so as to prevent the cast from twisting on the leg, and allowing a return of the varus deformity. If the plaster is applied to the best advantage three two-inch rolls are ample in a young infant. Of the first roll, half is used in making a collar about the forefoot. This is applied—the foot hanging relaxed—in such a way, with circulars and reverses, as to lie snugly against the foot. It should extend to the tips of the toes, but should not cramp them or hide their extremities. It should fit closely against the inner border of the great toe, to its very tip, so as to give efficient leverage in abduction. The remainder of the roll is applied in circular turns about the thigh, carried as high up as possible. When the collar has become solid the second roll is applied, in the form of circular turns over the thigh and under the ball of the foot. This roller should always be applied in such direction that the turns, when drawn tight, will naturally assist in elevating the outer border of the foot, and maintaining eversion. The third roller is put on immediately and is used to cover in the knee and heel. The plaster here need not be thick, as it is not essential in maintaining the position; and for the sake of lightness it had best be applied in recurrent turns. Plasters are reapplied every two weeks, each time after thorough manipulation.

Ehrenfried has found it an advantage in some cases to make use of a splint after the plasters have been discontinued. This is made of tin with an upright of heavy iron wire which can be bent so as to give any degree of dorsiflexion or eversion. It is applied to the leg, over sheet bandage. In convalescence it may be worn only at night and the foot manipulated by the mother or nurse in the morning after it is removed and at night before it is applied.

New York Medical Journal

November 20

12 Development of the Medical Profession. S. W. Mitchell, Philadelphia.
13 *Differential Points in the Skin Lesions of Pellagra. I. Dyer, New Orleans.
14 *Antigen in Pellagra. C. C. Bass, New Orleans.
15 *Treatment of Gastric Ulcer. M. Einhorn, New York.
16 *An Outline for a Coordinated Attack on Tuberculosis. L. Brown, Saranac Lake, N. Y.
17 Certain Contagious Diseases of the Skin. F. C. Curtis, Albany, N. Y.
18 Use of Mercury Succinimid in Superficial Tuberculous Lesions. R. Hertzberg, Stamford, Conn.
19 Tonsil Removal. E. V. Hubbard, New York.

13, 14. Abstracted in The Journal, Nov. 13, 1909, pp. 1663, 1665.

15. **Gastric Ulcer.**—The indications for any surgical treatment of gastric ulcer, according to Einhorn, are as follows:

1. In large, recurrent gastric hemorrhages threatening life, the ulcer ought to be excised in the interval of a gastroenterostomy established, to prevent renewed hemorrhage.

2. Small losses of blood that cannot be checked and endanger life through their persistence require similar treatment.

3. Perforation of the ulcer demands always immediate operation (excision or invagination of the defect and suture) as soon as the diagnosis has been made.

4. An ulcer situated at the pylorus and attended with peristaltic restlessness of the stomach and continuous hypersecretion.

5. Advanced stenosis of the pylorus requires gastroenterostomy.

6. Duodenal ulcers accompanied by pylorospasm and beginning peristaltic restlessness of the stomach.

7. Gastric ulcers with formation of a tumor, no matter where the seat (pylorus, small curvature, etc.), always demand gastroenterostomy, usually with excision of the tumor. If this tumor is situated in the lesser curvature and cannot be resected, it is still curable in case it is caused by simple connective tissue proliferation (callous ulcer formation).

16. **Coordinated Attack on Tuberculosis.**—Results at the Adirondack Cottage Sanitarium show that up to November, 1908, when the records covering twenty-two years are roughly scanned, 52 per cent. of the patients in an incipient stage, 25 per cent. of the moderately advanced, and less than 2 per cent. of those in far-advanced stages are alive. In other words, a patient in the incipient stage has at least twenty-six times as good a chance of permanent recovery as one in the far-advanced stage. In view of the fact that tuberculosis is now said to be so curable that all a patient needs is fresh air (some would deny any tempering of the cold to the shorn lambs), a chair, and some milk and eggs, in view of this, these figures are of importance. Not every patient with tuberculosis will recover, no matter how early his case is diagnosticated, and no matter how soon put under the most approved treatment. But in an early case the patient has twenty-six times better chances for permanent recovery than in a late one.

Medical Fortnightly, St. Louis

November 10

20 *Operation for the Restoration of the Female Pelvic Outlet Based on the Anatomic Structure and Physiologic Functions of the Parts. W. L. Crosthwait, Holland, Tex.
21 Mastoiditis and Other Complications of Acute and Chronic Suppurative Otitis Media. E. E. Clark, Danville, Ill.
22 Local Versus General Anesthesia. B. M. Ricketts, Cincinnati.

20. **Restoration of Female Pelvic Outlet.**—Crosthwait describes a technic for the average case in which the perineal body has been broken up by laceration of component part or parts with rectocele and pouting vagina resulting. The operation is the open flap-splitting one, giving free exposure of the external sphincter and levator ani and superficial transverse perinei with their fascia. A U-shaped incision is made from just below the orifice of the glands of Bartholin along the mucocutaneous margin. By blunt dissection, the posterior wall of the vagina is separated from the rectum up to the highest point of the rectocele and laterally as far as the scar tissue extends and far enough to give free exposure of the margins of the levator ani muscles and their fascia. This point is important, for the fascia has more to do in restoring strength to the injured parts than the muscle tissue itself.

The second step is to suture the levator ani and fascia. From two to four sutures are required and the suture material should be fifteen-day chromic catgut. It is important that these sutures be placed far enough out to include the fascia. They should be placed so as to lap the edges of the muscles. The next step is to bring up the severed ends of the bulbocavernosus and external sphincter ani and unite them in the perineal center. Then the fibers of the transverse perinei are caught up and inserted in their normal place. This, however, cannot always be done, as those muscles when parted from their insertion often retract so far that they cannot be found. The last step is to suture the flap vertically with buried twenty-day catgut.

The advantages of this operation are said to be: 1. There is exact anatomic approximation of the parts. 2. It gives a permanent cure with full restoration of lost function. 3. It is far less painful during the process of healing, with no sutures to remove. 4. It can be done in far less time than any other method.

New Orleans Medical and Surgical Journal

November

23 Ophthalmic Surgery. H. D. Bruns, New Orleans.
24 Abdominal Pain. J. T. Halsey, New Orleans.
25 Abdominal Pain from a Surgical Standpoint. J. A. Danna, New Orleans.
26 *The Hyperacid Stomach. S. K. Simon, New Orleans.
27 The Diagnositic Value of Blood Examination. C. C. Bass, New Orleans.
28 *Treatment of Syphilis by Mercurial Inhalations in a Proper Hot Room. S. Schiro, New Orleans.

26, 28. Abstracted in THE JOURNAL, May 29, 1909, p. 1782.

Archives of Diagnosis, New York

October

29 *Diagnosis of Angina Pectoris. G. R. Butler, Brooklyn.
30 Prognosis in Pneumonia. D. Rochester, Buffalo.
31 Sense of Weight in the Lung in Diagnosis of Lobar Pneumonia. T. F. Reilly, New York.
32 *Present Status of Still's Disease. G. R. Pisek, New York.
33 Significance of Low Blood-Pressure in Arteriosclerosis. L. F. Bishop, New York.
34 The Surgeon's Tentative Diagnosis of Eye-Strain. R. T. Morris, New York.
35 Recognition of Obscure Types of Gastric Ulcer. A. Bassler, New York.
36 Sigmoid Diverticulitis. D. N. Eisendrath, Chicago.
37 Thrombosis and Embolism of the Mesenteric Vessels. H. Fischer, New York.
38 Technic in Gynecologic Diagnosis. J. V. Young, New York.
39 Prognosis. S. Salinger, Chicago.
40 The Diagnosis of Painful Conditions of the Feet. S. Epstein, New York.

29. **Angina Pectoris.**—That the diagnosis of angina pectoris, at least in its milder forms, cannot be made from the history alone, is contended by Butler. The other forms of cardiac pain, of toxic or neurotic origin, the latter especially in women, may exactly simulate a true angina pectoris. After allowing due weight to the age, sex, and detailed history of the patient, it is necessary to ascertain the presence or absence of signs of organic disease at the root of the aorta. On this hangs an enormously important decision. When plain signs of general arterial or aortic disease co-exist with a history of precordial pain, there need be no hesitation in making a positive diagnosis of true angina pectoris. But it is otherwise in patients with cardiac pain in whom, as may happen, the accessible arteries are soft, and who do not present signs of gross aortic or pericardial lesions.

In the election between true and false, organic or functional, there is one physical sign which Butler believes casts the controlling vote. It is so slight, and apparently so insignificant, that one almost hesitates to mention it. It is simply a slight clicking sound, of a harsh or rough quality, accompanying, or following at a barely perceptible interval, the sound of aortic closure. It is not an accentuation of the closure sound of the valve, such as the loud, clean, "cork and bottle" aortic second sound, which is signficant of high arterial tension. Nor is it to be confused with a reduplication of the second sound. The slight harsh click, to which Butler refers, is said to suggest to the ear a definite roughening or thickening of the edges of the aortic cusps. When autopsies have been obtained the findings have justified such an interpretation of this auscultatory sign. If, then, the aortic cusps are roughened, it is certainly a fair inference that the root of the aorta shares in the diseased process. Butler recalls but two cases of true angina in which this sound has not been heard.

32. **Still's Disease.**—Pisek holds that the polyarthritis described by Still seems to be the result of a chronic sepsis, which while not sufficiently potent to completely overpower the young organism, has destroyed resistance by enfeebling the phagocytic power of the blood, and lowering the activity of the lymphatics. This special form of chronic arthritis, he considers, is worthy of consideration by the general practitioner, as the prognosis is not necessarily hopeless.

Journal of the Oklahoma State Medical Association, Muskogee

November

41 Organization of the Medical Profession. B. J. Vance, Oklahoma City.
42 *Treatment of Pulmonary Tuberculosis. W. G. Little, Okmulgee.
43 Gynecologic Conditions. O. R. Jeter, Reed.
44 Placenta Prævia. M. M. De Arman, Mangum.
45 Treatment of Acute Articular Rheumatism. L. F. Watson, Oklahoma City.

Cleveland Medical Journal

November

46 Ten Years' Progress in Protein Metabolism. O. Folin, Boston.
47 Gastric Ulcer. C. F. Hoover, Cleveland.
48 *Precision in the Treatment of Whooping Cough. E. F. Cushing, Cleveland.
49 Clinical and Experimental Observations in Prolonged Infantile Tetany. H. J. Gerstenberger, Cleveland.
50 Achondroplasia; Report of Case with Pathologic Report. H. Hempstead, Cleveland.
51 Acute Anterior Poliomyelitis with Report of Two Cases. H. B. Ormsby, Cleveland.
52 Diagnosis of Tuberculous Hip-Joint Disease. W. G. Stern, Cleveland.
53 Foreign Body in the Right Bronchus. S. H. Large, Cleveland.

48. **Treatment of Whooping Cough.**—At the onset of treatment Cushing has found it well to require that for a week or so the patient be kept in bed. Even when the patient is first seen in the paroxysmal stage of the disease, the brief stay in bed is eminently useful, for the control thus secured enables the physician to initiate his measures of isolation and treatment under the most favorable auspices. In the presence of complications of any sort, or when the disease itself is of a severe type, the paroxysms frequent, and vomiting troublesome, confinement to bed is, of course, indispensable at any period of the illness. At night every window in the child's bedroom should be kept wide open. The cold fresh air of a winter night is far the most efficient nocturnal sedative for the cough of pertussis. That the paroxysms of whooping-cough usually occur more often at night than during the day, as described in the books, is entirely due to vitiated air in the sleeping-room. It is an artificial and not an essential feature of the malady. During the daytime the patient should be indoors as much as possible. Running, or romping, or too vigorous play of any sort, loud laughter or screaming, should be avoided as likely to provoke paroxysms.

The child's meals, even when it is about, and the attack is mild, should not be taken at the family table, but eaten in the nursery to secure quiet, slowness of eating, and an easy control of quantity, for overeating almost invariably provokes a convulsion of cough which brings up all the food taken. For quite another reason, too, the child should be kept from the table and from all other unnecessary contact with the adults of the household, and that is, the risk of contagion to the latter if brought in close range of the cough explosions.

Of drugs, belladonna and antipyrin, and for a sedative, heroin or opium, in the form of paregoric or Dover's powder, have served Cushing best. He commences treatment with a belladonna dose after each meal and heroin at bedtime. The belladonna is given in the way Jacobi has so often advised, that is, beginning with a drop, or even a half-drop of the tincture, to anticipate a possible idiosyncrasy on the part of the patient; the dose is increased one drop each day until a point is reached where within an hour from the time the medicine is taken a distinct flushing of the cheeks occurs. In the child this erythema develops, as a rule, before an uncomfortable dilatation of the pupils results; and when the dose is found which occasions it, a distinct lessening in the intensity and number of the paroxysms is ordinarily apparent. Short of this effect, belladonna seems without influence on the disease, but when the flushed cheeks show themselves, betterment is the rule. Six or eight drops of the tincture of belladonna are usually sufficient to produce the desired effect in a child from 6 to 8 years old, and this dose should then be continued for a long period. If, on the other hand, no effect on the frequency of the coughing fits is apparent, the belladonna is omitted, and antipyrin administered in its stead, in a dose of 1 grain for each year of the child's age, in solution, and given 3 times a day after meals. At bedtime an appropriate dose of heroin or paregoric or Dover's powder needs ordinarily to be administered.

Denver Medical Times and Utah Medical Journal

November

54 What is the Citizen's Duty Toward the Teaching of Social Health? A. S. Taussig, Denver.
55 The Care of Chronics and Incurables. J. K. Miller, Greeley, Colo.
56 Colds (Acute Coryza). Z. V. Dworzak, Denver.
57 A Singer's Sore Throat. J. E. Free, Billings, Mont.
58 Quarantine Laws in Relation to Tuberculosis—Their Necessity. W. T. Hasler, Lebi, Utah.
59 Syphilis and Gonorrhea. J. McGregor, Parowan, Utah.
60 Bryonin. R. J. Smith, Collinston, Utah.

American Journal of Obstetrics and Diseases of Women and Children, New York

November

61 *Treatment of Retrodisplacements of Uterus. W. H. Humiston, Cleveland, Ohio.
62 *Combined Intraperitoneal and Extraperitoneal Ureterolithotomy for Removal of Stones from the Lower Ureter. E. Jonas, St. Louis.
63 *Surgical Treatment of Tumors of the Bladder. J. W. Keefe, Providence, R. I.
64 *Operative Enlargement of the Pelvis of the Nonpregnant Woman. J. N. Bell, Detroit.
65 *Chylous Cyst of the Iliac Mesentery. C. E. Congdon, Buffalo.
66 *Embryo Abdominal Surgeons with Inadequate Preparation and Knowledge. J. H. Carstens, Detroit.
67 *When Shall we Operate for Ruptured Ectopic Gestation. R. R. Huggins, Pittsburg.
68 *Artificial Anus Following Operation for Intussusception: Three Years' Complete Occlusion of Large Bowel: Method of Restoring Continuity. J. Y. Brown, St. Louis.
69 Personal Experiences in Gall-Bladder Surgery. H. E. Hayd, Buffalo.
70 *How Can we Best Educate Women to Seek Relief Early from Carcinoma of the Uterus? C. C. Frederick, Buffalo.
71 *Calcareous Degeneration of the Fibroid Uterus: Presentation of Specimen. W. B. Dorsett, St. Louis.
72 Nephrocoloptosis. H. W. Longyear, Detroit.
73 *Rupture of the Uterus During Labor. R. W. Lobenstine, New York.
74 Ovarian Pregnancy at Term: Recovery of Mother and Child. W. C. G. Kirchner, St. Louis.
75 *Study of 440 Operations on Appendix. E. J. Ill, Newark, N. J.
76 *Diagnosis Between Appendicitis and Tubal Diseases. R. T. Morris, New York.
77 *Phlegmasia Alba Dolens in Connection with Ovarian Tumor. W. A. B. Sellman, Baltimore.
78 Phases of Puerperal Sepsis. H. O. Pantzer, Indianapolis.
79 Recent Studies of Diarrheal Diseases. W. L. Carr, New York.

61. **Retrodisplacements of Uterus.**—Humiston divides the cases of retrodisplaced uterus into two classes: a smaller one in which active major surgical measures are not required to obtain a cure, and a larger one in which active surgical procedures are necessary. In the first group are all those cases of retroversion of not long standing, and in which there has been no infection or inflammation of the appendages. In most cases of this group miscarriage or labor recently occurred. The prominent symptoms presented are backache, occipital headache, bearing down feeling while in the upright position, frequent but not painful micturition, constipation, disturbed digestion, and an increasing nervousness. Menstruation is increased in amount and frequency, but is not, as a rule, painful. Some leucorrhea is always present. Digestive disturbances are usually prominent. Bimanual examination, as a rule, reveals injury to the pelvic floor and perineum, cervix lacerated, swollen and in axis of vagina. Cervix easily reached with finger, and a continuous resisting body from posterior wall of cervix as far as finger can reach, which is movable. Ovaries can be palpated and are movable and but little increased in size. Fundus of uterus is absent in front. These patients can be cured by curettage, trachelorrhaphy, replacement of uterus, adjustment of well-fitting pessary, and repair of the pelvic floor and perineum by a method that will insure a muscular restoration of the parts.

Unfortunately, he says, 90 per cent. of these cases are complicated when specialists see them, and in these cases, in addition to the above operations, the abdominal cavity is opened and the diseased conditions found dealt with. The results Humiston has obtained with the Gilliam method in 103 cases in three years are highly satisfactory. He has had no deaths in the series, nor have there been complications at delivery in those patients who subsequently became pregnant. All were delivered without artificial aid, except in one case, where low forceps were used. No connection could be traced between the Gilliam operation and the procedure.

62. Abstracted in The Journal, Oct. 2, 1909, p. 1121.

63, 65, 66, 67, 71, 73. Abstracted in The Journal, Oct. 9, 1909, pp. 1217, 1218, 1219.

64. **Operative Enlargement of Pelvis.**—Bell suggests that in order to obviate the dangers of pubiotomy the pelvis might be enlarged by operating in the non-pregnant state, and thus prepare the woman for future delivery. The indications for the operation are, according to Bell: A history of two or more difficult deliveries with child born dead, further attempts to secure a living child by premature delivery, a true conjugate diameter of from 7.5 to 8.5 cm., a dread of Cesarean section, and a strong desire on the part of the patient to give birth to a living child. It is granted that only a comparatively small increase in the pelvic diameters can be secured when operating in the non-pregnant state, yet, in a properly selected case the increase is just sufficient to convert an otherwise dangerously contracted pelvis into a comparatively normal one for future childbearing.

In doing the operation in one case, he followed the method of Döderlein in his operation of pubiotomy at term, and spread the severed ends of the bone 1.5 cm., holding them apart with a small steel retractor which was left *in situ* for ten days. There was very little hemorrhage. Healing was slow; but the patient recovered and walked without any discomfort. The pelvic measurements show an increase in the transverse diameters. This proves conclusively that a distinct enlargement of the pelvis can be obtained by operating in the non-pregnant state and preparing the woman for future childbirth. The question of the advisability of this procedure remains to be determined.

68. **Artificial Anus.**—As the result of an appendicitis operation improperly performed, the patient, a boy, had an artificial anus in the median line, through which all fecal matter had passed for three years and a half, there being complete exclusion of the entire large bowel for that length of time. The patient had not had a natural bowel movement during all this time. Brown believes that the boy undoubtedly did not have appendicitis, but that the original condition was intussusception. One of the most interesting features of this was the condition of the ileum from an obstructed band of the ileocecal valve. As stated, the entire large bowel was out of commission for three and one-half years. The most remarkable condition was an ileitis obliterans, the ileum having contracted and swollen to such an extent that it was almost impossible to get a small grooved director through it. The appendix was free, but showed that it had participated in the peritonitis brought about by the intussusception and the fecal leakage, but to all appearances this was a secondary and not a primary incident. By means of an ileocolic lateral anastomosis the fecal current was turned back into the large bowel.

70, 75, 76, 77. Abstracted in The Journal, Oct. 16, 1909, pp. 1323, 1324.

Journal South Carolina Medical Association, Florence

October

80 Strychnin in Treatment of Cerebral Hemorrhage. M. J. D. Dantzler, Elloree.
81 Similar Symptomatology in Chronic Appendicitis and Chronic Gall-Bladder Lesions. E. A. Baker, Charleston.
82 Uncinariasis, Miner's Anemia, Egyptian Chlorosis, Hookworm Disease. T. H. Symmes, Fort Mott.
83 Influence of Diseased Teeth and Mouth on General Health. W. E. McCord, Conway.
84 *A Talk to Doctors. J. N. McCormack, Bowling Green, Ky.
85 Tuberculosis Among Children. S. A. Visanska, Atlanta, Ga.
86 Diabetes Mellitus. J. R. Hughey, Greenwood.
87 Spina-Bifida: Report of a Rare Form. J. H. Taylor, Columbia.
88 Methods of Tying Surgical Knots. R. B. Steedly, Spartanburg.
89 The State Board of Health—Its Relation to its Executive Committee. C. F. Williams, Columbus.

84. Published in *Northwestern Lancet*, Oct. 1, 1909.

West Virginia Medical Journal, Wheeling

November

90 Duties of the Medical Profession. V. T. Churchman. Charleston.
91 Surgery of the Heart. G. Ackerman, Wheeling.
92 Production of Certified Milk. W. H. McLain, Wheeling.
93 Hydrophobia. K. M. Jarrell, Clear Creek.

Monthly Cyclopedia and Medical Bulletin. Philadelphia

October

94 Constitutional Conditions Affecting Nasal Catarrh. C. W. Richardson, Washington, D. C.
95 Prognosis of Febrile Cases of Pulmonary Tuberculosis. H. L. Barnes, Wallum Lake, R. I.
96 *Three-day Treatment of Drug and Alcohol Habitúes with Hyoscin. H. V. Riewel, Cleveland, Ohio.
97 Neuroma of the Orbit. H. F. Hansell, Philadelphia.
98 The Adrenals in Sudden Death. C. E. de M. Sajous, Philadelphia.
99 Epithelioma. J. V. Shoemaker, Philadelphia.
100 *Contemporary Workman's Compensation. W. H. Allport, Chicago.

96. **Treatment of Drug and Alcohol Habitués with Hyoscin.**—Riewel summarizes his views as follows: 1. The hyoscin treatment will eliminate the desire of drug and alcohol habitués for these drugs, thus eliminating the element which prevents the patient abstaining by force of will power. 2. Having lost the desire they do very well without intoxicants or the drugs as shown by the increase in appetite, gain in flesh and their general improvement. 3. The question of relapse lies entirely in the sincerity and environment of the patient. 4. The favorable alcoholic addicts are those who earnestly desire to discontinue the use of intoxicants and are willing to change their mode of living and environment, but who cannot until relieved of the craving for liquor. 5. Relapse in both drug and liquor cases is not due to a desire nor suffering after the treatment, but to their curiosity to test the necessity of total abstinence, or to the temptations of social life. 6. A single dose of the drug or drink of liquor, even after one year of total abstinence, is very apt to start the craving, resulting in a condition which is no better than before treatment. 7. This method may prove a valuable treatment in apparently hopeless cases of opium poisoning. Interesting experiments along this line might be carried out. 8. The one contraindication for this treatment is the presence of Bright's disease. 9. No patient should be treated unless put to bed and watched by competent nurses day and night during the first week.

100. Published in *Chicago Medical Recorder* and the *Illinois Medical Journal*, October, 1909.

Maryland Medical Journal, Baltimore

November

101 Surgery of the Thyroid (continued). R. Winslow, Braddock Heights.
102 Astereognosis Caused by Tumor of the Posterior Superior Portion of the Right Parietal Lobe. I. J. Spear, Baltimore.
103 Surgery of the Kidney. A. McGlannan, Baltimore.
104 The Almshouse Care of the Insane. N. M. Owensby, Baltimore.
105 Harvey (1578-1657 A.D.). H. M. Cohen, Baltimore.

Long Island Medical Journal, Brooklyn

November

106 Faucial Tonsils—Hypertrophied and Otherwise. C. E. Scofield, Brooklyn.
107 *Appendicitis in Children. A. H. Bogart, Brooklyn.
108 *Acute Anterior Poliomyelitis. Le G. Kerr, New York.
109 Blastomycosis. R. H. Fowler, New York.

107. **Appendicitis in Children.**—Bogart says that appendicitis in children is a comparatively frequent disease, insidious in its onset and rapid in its development, with a decided tendency toward the development of general peritonitis, with a fatal termination if neglected; and that whatever holds good with regard to immediate operation in the adult is doubly true in children, and that in the light of present knowledge no patient should be permitted to go for three days without operation. Bogart emphasizes the fact that the removal of the appendix in a child by a competent surgeon is comparatively without danger and recommends that it be done in every case as soon as a diagnosis has been made, provided that a competent surgeon and the proper facilities can be had to do it. In this and in no other way can the present mortality be reduced.

108. **Acute Anterior Poliomyelitis.**—In one epidemic, between Aug. 7 and Sept. 4, 1909, Kerr observed 53 cases of the disease, and the symptoms of the onset were as follows: Fever, accompanied with diarrhea, 10; fever, cough and diarrhea, 4; fever, vomiting, cough and diarrhea, 12; fever alone, 4; fever and constipation, 7; fever and vomiting, 3; fever and cough, 1; fever, cough, vomiting and constipation, 3; and no symptoms noted, 3. In the remaining 6 cases, the symptoms of the onset were those of a definite disease, associated with the other symptoms, and were diagnosed as follows: four suffered from tonsillitis, 1 from lobar pneumonia and 1 from acute gastroenteritis. From this it is seen that the more suggestive symptoms are the fever, diarrhea, cough and vomiting. With such symptoms present, and nothing else to guide us in the making of a definite diagnosis, we must take the position of withholding the expression of an opinion as to the disease present.

As soon as a child was suspected of having the disease, as indicated by the prodromal symptoms which are suspicious in the presence of a known epidemic, it was immediately placed in a hot blanket pack. The wet blanket was wrung out after being placed in water of the usual temperature, 160 F., and in this the child was wrapped with hot water bottles placed at the feet. The application was sufficiently prolonged to induce a free perspiration. This procedure was followed even in the presence of considerable rise in temperature, but was never repeated. The rather copious drinking of hot water was encouraged. In many instances the vomiting was almost immediately relieved and the free perspiration which was brought about by the hot blanket pack was continued or augmented. But even if the vomiting persisted or seemed to be increased by the ingestion of the hot water, its use was continued, although the amounts given were decreased. The administration of the water was continued for twelve hours.

The bowel was thoroughly emptied by a hot enema and in most of the cases this enema contained 1 ounce of magnesium sulphate and 2 ounces of glycerin to the quart of water. Immediately following the hot enema, the child was given a single large dose of castor oil, and was then placed in bed in a quiet and darkened room and allowed but one attendant. So far as possible the child was prevented from lying on the back. Cold applications were immediately made over the spine and particularly in the lumbar region. This was the procedure during the first twelve hours and no food was allowed during this period. At the end of the first twelve hours the hot enema was repeated and the ingestion of the hot water stopped. For two days the diet was restricted to fluids and if any further action of the bowel was needed calomel in broken doses was used. During this stage only two drugs were used, belladonna and ergot. Both were administered in full doses. Of the number so treated, in no instance was the child afflicted by any paralysis nor was there the further development of symptoms which would lead to the recognition of a definite disease.

Kansas City Medical Index-Lancet

November

110 *Hereditary Spastic Paraplegia: Report of Seven Cases in Two Families. J. Punton, Kansas City.
111 Renal Tuberculosis. W. T. Reynolds, Kansas City.
112 *Treatment of Asiatic Cholera During the Recent Epidemic. H. J. Nichols and V. L. Andrews, Manila, P. I.
113 Office Treatment of Hemorrhoids and Fissure. C. J. McGee, Leavenworth, Kan.

110. Abstracted in THE JOURNAL, July 31, 1909, p. 406.

112. Published in *Philippine Journal of Science*, April, 1909.

Surgery, Gynecology and Obstetrics, Chicago

November

114 *Technic of Resection of the Male Bladder. W. C. Lusk, New York.
115 *Postoperative Psychoses. H. A. Kelly, Baltimore.
116 Use of the Senses by the Surgeon. W. Van Hook, Chicago.
117 *Malignant Leiomyoma of the Uterus. M. W. Myer, St. Louis.
118 *Tuberculous Infections of the Peritoneum. W. H. Allport, Chicago.
119 *Spontaneous Rupture of Pyosalpinx into the General Peritoneal Cavity, Producing Acute Diffuse Peritonitis. C. W. Bonney, Philadelphia.
120 Ovarian Cyst with Twisted Pedicle Complicating Pregnancy—Operation. S. Rushmore, Boston.
121 Pitfalls in Urinary Diagnosis. B. Lewis, St. Louis.
122 Multiple Myxo-Cholesto-Lipoma. F. Proescher and E. W. Meredith, Pittsburg.
123 *Treatment of Diffuse Septic Peritonitis from Appendicitis in

124 Apparatus for Proctoclysis. P. Wroth, Hagerstown, Md.
125 Complete Division of Common Duct at Junction with Hepatic and Cystic Ducts, Suture and Complete Repair of Injury. I. S. Stone, Washington, D. C.

114. **Resection of the Male Rectum.**—The technic employed by Lusk includes the use of the combined routes—Rotter's technic of sectioning the descended bowel through the posterior wound after first liberating it through the abdominal approach, and Kraske's position of vertical elevation of the hips with the patient in the dorsal decubitus for suture of the bowel ends, as well as the method Kraske employs in sacral resection of dividing the proximal segment of bowel above the tumor with interrupted cuttings as the stitches are placed.

115. **Postoperative Psychoses.**—Kelly maintains that postoperative psychoses seen often in childhood and the aged, occur also in women in the prime of life, most frequently between the ages of 35 and 45. Anesthesia, physical shock, the kind or severity of the operation are not effective causative agents. Infection, autointoxication, drug intoxication are important factors, but there are many psychoses entirely independent of them. Mild aberrations of a transitory nature are very common. An unstable nervous system, and especially undue anxiety and worry about the operation are the most potent factors in bringing about profound nervous sequelæ. Prognosis is favorable. Prophylaxis consists in quieting and reassuring the patient. In this connection the nurse is most important. Care should be taken to avoid any legal or forensic complications by frankly dealing with the family from the onset of the trouble.

117. **Malignant Leiomyoma of the Uterus.**—Myer records a case which seems to fulfill all essential requirements from both the clinical and pathologic standpoint.

118. **Tuberculosis of the Peritoneum.**—The apparent difference in the incidence of peritoneal tuberculosis in the male and female, Allport believes is apparent rather than real, and such difference as exists is due altogether to the inclusion of the female organs within the peritoneal cavity. The apparent differences in the form of peritoneal tuberculosis are due: (1) to differences in the location and structure of the organs involved; (2) to a recognition of the disease at various stages in its development. Pathologically, the disease has but one form, which unfolds itself along the same morphologic lines as in other parts of the body. Peritoneal tuberculosis is never primary. The most common avenue of entrance is the bowel; next, the lymph glands; next the female genitals. Bowel infection may be secondary to that of the peritoneum, and the female genitals may receive infection in the same retrograde manner. Gravity plays an important part in the spread of intraperitoneal tuberculosis. The same is true of diffusion by contact and continuity.

Temperature of a markedly febrile character is an indication of mixed infection; especially true is this of remittent fever. High leucocytosis and temperature following operative interference are favorable conditions, and indicate good resistance of the individual to the farther progress of the disease. In abdominal operations followed by prolonged fever and delayed convalescence, the possibility of existence of hitherto unsuspected tuberculosis should be borne in mind by the operator. All specimens removed at abdominal operations should be thoroughly inspected for tuberculosis. The theory that ascitic fluid has a protective, curative, opsonic, or otherwise salutary function is incapable of proof. In all cases in which recovery takes place, healing occurs after the resorption of the fluid and through the agency of active hyperemia and adhesions; the adhesion is the force which, here as elsewhere, delimits and excludes the morbid process from becoming a farther power for evil. Statistics, approved by the best modern opinions, show that simple incision with thorough evacuation of the fluid without drainage, increases by a very appreciable percentage the uncertainty and rapidity with which climate, hygiene and diet can effect a permanent cure.

Radical operations, such as curettage, erasion, resection, continued drainage—beneficial in joint surgery—should have no place, except as emergency measures, in dealing with the intraperitoneal lesions of tuberculosis. Drainage, he says, is serious and often fatal fecal fistula in the dry forms of tuberculous peritonitis. Statistics show conclusively, he asserts, that its practice leads to evils which are worse than the original disease.

119. **Rupture of Pyosalpinx.**—Bonney reports one personal case and reviews 44 cases recorded in the literature.

123. **Treatment of Diffuse Septic Peritonitis.**—Of the series of 167 cases of diffuse septic peritonitis from appendicitis operated on by Fowler at varying intervals following perforation, up to January, 1909, there have been but fifteen patients operated on within twenty-four hours of the onset. This series does not include any patient operated on for perforation of the appendix within a few hours of the perforation, in which event one finds an appendix congested to a variable degree, free or slightly adherent, a perforation usually in the distal half, with or without the escape of an enterolith, seropurulent fluid, malodorous or not, according to the germ present, moderate in amount and not under tension, a peritoneum which only in the neighborhood of the appendix showed slight change, perhaps hardly any injection of the peritoneal surface. Of such cases Fowler has operated on over 100 patients with no deaths.

Of the 15 patients with diffuse septic peritonitis, 9 were males, 6 were females; 4 were between the ages of 10 to 15; 6 were 15 to 20; 1, 20 to 25; 1, 25 to 30; 2, 30 to 35; 1, 35 to 40; 11 had had no previous attacks; 3, one previous attack; 1, three previous attacks; 15 were twenty-four hours in present attack when operated on; 15 were operated on by an oblique incision; 15 showed free pus under tension when the peritoneum was incised; in 13 the appendix was free, gangrenous and perforated; in 2, it was slightly adherent gangrenous and perforated; in 14, the appendix was removed in the typical manner, and the stump inverted; in 1, the base was ligated; in 7, the peritoneal cavity was flushed with saline, in 3, with peroxid followed by saline; in 5, no irrigation was used; in 15 cases laparotomy sponges were used to keep back the intestines while removing the appendix; in every case these sponges, when removed were saturated with a purulent material and fibrinous exudate; in 7 cases a glass tube into the pelvis was used for drainage; in 1 case a rubber tube; in 3 cases wicking or gauze to the site of the appendix; in 2, vaginal drainage; in 2, no drainage; the average duration of operation was twelve minutes; in 15 cases the elevated head and trunk posture was employed; 13 patients were given fluids immediately on recovering from anesthesia; 2 were given nothing by mouth for twenty-four hours; 8 received saline enemata every four hours for four doses; 6 nothing by rectum; 1, Murphy irrigation. Average stay in the hospital twenty-eight days. All cases recovered.

Fowler concludes that patients with diffuse septic peritonitis from appendicitis operated on within twenty-four hours of the onset of the disease, i. e., before the peritoneum is infiltrated, recover, providing the primary focus is removed quickly without damaging the absorbing power of the peritoneum, irrespective of feeding or enemas, providing the absorbing power of the peritoneum is properly made use ot.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

November 6

1 *Darwinism and Medicine. J. A. Lindsay.
2 Identity of British Ulcerative Colitis and Tropical Bacillary Dysentery. H. P. Hawkins.
3 The Alleged Heterogenesis in Ankylostoma Duodenale. R. T. Leiper.
4 Oriental Sore. R. M. Carter.
5 *Tuberculosis in Bombay. R. Row.
6 *Tuberculin Reactions in Skin and Eye. C. McNeil.
7 Disseminated Tuberculosis Treated with Marmorek's Serum. H. Hemsted.
8 Bacteriology and Vaccine Treatment of Common Colds. C. H. Benham.

1. **Darwinism and Medicine.**—That a general survey of the relation of Darwinism to the science and art of medicine is likely, in many ways to be salutary, is the belief of Lindsay. He says that it will certainly tend to breadth of view, to

to deal, to a recognition of the great underlying laws and secular processes which are related to our art. It may, perhaps, act as a damper on enthusiasm when it is realized that evolutionary change is slow and only partially under control; but, if this be the truth, it is better to know and recognize it. Medicine will gain in stability and in influence, as well as in dignity, by being in close relation with the higher thought of the day. In some not unimportant particulars it may react on that thought. Disease becomes something more than a disagreeable and embarrassing fact when we realize how closely it is related to evolutionary processes, how vivid is the light it is capable of throwing on evolutionary law. It takes its place—temporary we may hope—in the eternal order.

5. **Tubercle in Bombay.**—From a number of observations of cases of phthisis under his own care for the last ten years, Row claims that when a patient shows any improvement, side by side with his clinical progress, one finds in his sputum characteristic changes in the tubercle bacilli, especially in the grouping, and making allowances for all the fallacies connected with the technic of preparing the specimens under exactly identical conditions, one cannot resist being struck with the constancy of these changes, which, stated in brief, are:

1. Characteristic grouping of the tubercle bacillus—instead of being diffuse and scattered, or at best in twos and threes, they group in masses of eight, ten, twelve or more bacilli, scattered here and there in the specimen coming under focus as the search is proceeded with—in addition to the singles, twos and threes, which appear to be fewer. 2. A gradual diminution of the number of the bacilli found in the sputum. 3. A morphologic change of the individual bacilli—the individual rods, which were at first solid, show more beading, erosion of edges, and thinning—an appearance of distinct degenerative change in the bacilli. 4. A very great diminution of even these degenerate bacilli, so that one observes a few granules here and there indicative of some bacilli or their products. 5. Loss of their virulence, as no result is obtained by inoculation experiments. Thus it appears that in the course of infection there is always a certain phase when agglutinins make their appearance, and these agglutinins are manifested by the groupings above referred to, and, *a priori*, Row was led to suspect the possible presence of these bodies or allied bodies in the tuberculous sputum, in the spleen, and the liver, where the partial caseating necrotic masses were so preminently noticed in guinea-pigs. The splenic and hepatic lesions above referred to appear to be formed as though by selection, the whole defensive machinery of the guinea-pigs being brought into activity mainly in these organs, where the poison and its reaction products, so to say, become concentrated during the course of infection. These considerations have led Row to attempt to isolate from these foci a material which, when acted on by blood serum of undoubtedly tuberculous patients, would in all probability demonstrate the presence of agglutinins. With this object in view, extracts were obtained (1) from tuberculous sputum, (2) caseating glands, (3) necrotic and partially caseous livers, and (4) caseating spleens of guinea-pigs; and from the large number of chemicals tried alcohol has been selected as being the best reagent for the purpose. After a series of trials, the extracts of the first three classes were rejected as being unsuited for the purpose in view, because a large admixture of substance other than the active body in question are taken up by the spirit, and these other bodies, especially fats, extractives, and possibly traces of albumose interfere with the reaction; caseating spleens afford the best extract, especially those spleens which show a maximum of caseating material and a minimum of true splenic structure. Although the general result of the serum reaction in cases of tubercle is positive, yet when using the splenic extract, Row has tested the value of the reaction by its giving negative results with malaria, enteric infection, dysentery, meningitis, bronchitis, and a few other septic conditions. Fuller details and the important bearings of these actions in the study of allied diseases are reserved for a further communication.

6. **Tuberculin Reactions in Skin and Eye.**—A series of 153 cases were tested by McNeil as to the skin reaction in the group of diseases of bone, lymphatic glands and joints. The reactions were very clear, either emphatically positive or negative. A large proportion of the cases of enlarged or suppurating neck glands gave positive reactions. The test was of great value in obscure joint conditions where the clinical diagnosis was doubtful, and especially in cases of slight but persistent joint disablement after injury. Perhaps the most significant group is that of the simple pleural effusions. Thirteen out of 14 cases gave a positive reaction. Of the cases of tuberculous peritonitis, three failed to react. They were all severe cases with great general prostration, and two of them have already proved fatal. The groups of tuberculous meningitis and general tuberculosis illustrate well how in very severe or general infections the test, like the ocular reaction, breaks down. Of the skin conditions, two were clinically tuberculous—lupus and tuberculous ulceration—and gave positive reactions. The remaining negative results were in cases of eczema. Numerous control cases taken from cases of lobar pneumonia, empyema, chorea, and other miscellaneous conditions, were all negative, with one exception.

In 78 cases the Calmette and v. Pirquet reactions were tried in the same patient. The v. Pirquet test was positive in 31 cases, it was negative in 47. In these 47 negatives the Calmette reaction was also negative in every case. It was positive in 21 of the cases in which the v. Pirquet was positive, but it failed to react in the remaining 10 cases in which v. Pirquet was positive. That is to say, out of a total of 78 cases, the Calmette test either coincided with the v. Pirquet, or contradicted it negatively. It did not contradict positively in a single case—that is, it never gave a positive reaction where the v. Pirquet was negative.

Lancet, London

November 6

9 *Darwinism and Medicine. J. A. Lindsay.
10 *Oxaluria and the Treatment of Calcium Oxalate Deposit from the Urine. R. Maguire.
11 Late Traumatic Subdural Hemorrhage: Traumatic Late Apoplexy. A. H. Miller.
12 *Starch Indigestion in Babies. E. Cautley.
13 *Lung Puncture. T. J. Horder.
14 *The Dyspepsia of Old Age. W. S. Fenwick.
15 Sinusitis Occurring as a Concomitant Complication of Influenza. R. N. Manwaring-White.
16 Tertiary Syphilis Terminating in Sudden Death from Abductor Paralysis of Vocal Cords. R. H. J. Browne.
17 Rapid Recovery in a Case of Trophoneurotic Anemia by Intramuscular Injection of Sodium Para-Aminophenylarsonate. T. W. Parry.

9. See Abstract No. 1.

10. **Oxaluria.**—Maguire is convinced that he succeeded in dissolving an oxalate calculus while existent in the higher urinary passages of a patient, and with removal of all the consequent symptoms. The patient, aged 44, passed through a period of great overwork, anxiety, and sleeplessness, and in consequence suffered from what he called "nervous dyspepsia." A year later, he placed himself under the care of a physician, who treated his dyspepsia, and later discovered a pronounced oxaluria—then, it is said, in the form of a dumbbell deposit. Subsequent hematuria and severe pain in the right flank, extending to the right testicle, made it probable that a calculus had formed in the upper urinary passages of the right side, but several *x*-ray examinations failed to demonstrate this. The patient was advised to take alkaline waters and a diet mostly composed of vegetables. Toward the end of three weeks he passed a small stone which proved to be composed of oxalate of calcium, but his local symptoms were in no way relieved, his dyspepsia persisted and his general weakness, ill-health and loss of weight had increased.

It was then that Maguire saw the man. He made a diagnosis of (a) oxaluria from excessive production of calcium oxalate, this in turn being the result of disordered metabolism caused by the dyspepsia; and (b) an oxalate of calcium calculus, lodged in the right ureter. He prescribed absolute rest, as nearly as possible in the open air, with a liberal diet of white meat, two or three times a week, a little champagne, and a medicinal course of dilute nitric acid and strychnin with digestive ferments at the beginning of each meal. An aloes and nux vomica pill each night and a dose of Carlsbad salts once a week were ordered to regulate the bowels. The symptoms, apart from those of calculus, very soon lessened in severity. The symptoms of stone, however, were as severe as before. It therefore seemed to Maguire feasible that if one could increase the acid phosphate of sodium in the urine by giving large quantities of the salt by the mouth, one might possibly at least dissolve off some of the spikes of the oxalate calculus and so facilitate its passage. Maguire then ordered, at first, half an ounce, then one ounce, and very soon two ounces of acid phosphate of soda, to be dissolved in 100 ounces of distilled water and the solution drunk at frequent intervals during the twenty-four hours, but, so far as possible, remote from meal times. For half an hour or so after each dose there was considerable uneasiness in the abdomen, mostly from flatulence and a feeling of distention, but a little essence of ginger added to the solution relieved this to some extent, and it was never unbearable considering the end in view. The acidity of the urine increased about half an hour after taking each dose and the small amount of calcium oxalate still being deposited seemed always to be diminished in the urine passed at this time. The oxalate deposit disappeared entirely in about ten days. The blood in the urine gradually diminished and disappeared in about three weeks. The pain lessened gradually, but in six weeks there was no sign or symptom of stone; the patient could walk from ten to twelve miles and take severe gymnastic exercise without the slightest discomfort, nothing abnormal could be detected by the rectum, and the man felt well and in his usual spirits.

12. **Starch Digestion in Babies.**—A diastasic ferment is secreted by the salivary glands and pancreas of new-born infants and even before birth. Its amount and activity are slight in the first few weeks of life and after that rapidly increase. The glands, notably the pancreas, can be trained by means of a starch diet to the secretion of an increased amount of the amylolytic ferment. There is no inherent reason why this training should not be begun shortly after birth in the case of the bottle-fed infants instead of waiting until the child has attained the age of six months, as so commonly advised on purely theoretical grounds. Practical experience has shown that the usual barley water contains about 2 per cent. of starch. If mixed with an equal quantity of milk there will be only 1 per cent. of starch in the mixture. Such an amount is non-injurious and almost certainly is beneficial, as it encourages the growth of lactic acid. These organisms are of undoubted advantage in the prevention of the growth of proteolytic bacteria.

If a starchy food is used in the first two weeks of life it is advisable to begin with a milk mixture which will not contain more than 0.5 per cent. of starch and to gradually increase the amount as the child grows older. Indeed, at any age when a starchy food is first given it should be in very weak solution and slowly strengthened up to as much as 3 to 5 per cent. If the stools become very acid or if they give a distinct starch reaction, the percentage of starch in the diet must be reduced. Special care must be paid to these considerations in the first two months of life because of the deficiency of salivary secretion. Further investigations may possibly show that this is a point of little importance as the pancreatic secretion may be sufficient in quantity and activity. The evil effects of starch in early life are due to (a) excess; (b) its administration in the form of a more or less insoluble emulsion instead of a soluble food; and (c) the substitution of starch for the necessary protein, fats and salts. In other words, the mischief results from deficiency of necessary proximate principles of diet rather than from the presence of starch.

13. **Lung Puncture.**—In actual practice, a diagnostic puncture of the lung, according to Horder, may be made under two conditions: (1) if a pleural effusion is suspected and the result of the puncture negatives this; or (2) if no fluid is suspected in the pleural sac, but the lung is deliberately punctured for the express purpose of discovering the nature of a disease process within the lung itself. The material obtained is no less valuable in the first than in the second of these two conditions. The indications for lung puncture will vary somewhat with the desire of the physician for accurate knowledge with regard to the condition of the patient. In brief, it may be said that the puncture is indicated: 1. In any case yielding signs of consolidation of the lung, in which careful examination of the sputum fails to reveal the nature of the disease. It is, perhaps, pushing the value of "ocular demonstration" rather far to say that the lung puncture is indicated in a straightforward case of lobar pneumonia, even when there is no sputum for examination. But it should certainly be undertaken in any such case if the desired clinical course is departed from in any way to the prejudice of the patient. The puncture will frequently reveal the existence of a mixed infection (e. g., *B. influenzæ* and pneumococcus) when this is not suspected. 2. In abscess it is useful to obtain a specimen of pus from the actual seat of suppuration, for thereby a knowledge of the causal microbe is gained, often a matter of great difficulty or impossibility when dealing with the sputum. 3. In bronchiectases the same comments holds. The mode of performing the puncture follows exactly that of exploration of the pleura. Horder has punctured the lung for diagnostic purposes in some 14 cases. He suggests that it may possibly be found of service in suspected cases of acute pulmonary tuberculosis, in which condition sputum is so commonly absent.

14. **Dyspepsia of Old Age.**—Fenwick's investigations seem to indicate that out of every 100 cases of chronic dyspepsia in persons over 65 years of age, 66 are secondary to organic diseases of some important organ of the body, while the remaining 34 owe their symptoms to a progressive degeneration of the secretory structures of the stomach and intestines. In the former class the disorder of digestion usually takes the form of a chronic gastritis due to disease of the kidneys, prostate, heart, lungs, liver, pancreas, chronic gout or inefficient mastication, while in about 7 of the 66 cases, or in 10.6 per cent. of the entire number, long-continued hypersecretion, due to chronic ulcer in the vicinity of the pylorus, gall-stones, or diseased appendix is the cause of the constant indigestion.

Medical Press and Circular, London

September 29

18 *Intestinal Obstruction. J. R. Morison.
19 Recurrent Hemoptysis in the Non-Tuberculous. J. Hay.
20 Natural History of the Common Flea. G. Millian.
21 Quacks, False Remedies, and the Public Health (continued). D. Walsh.

October 27

22 Hypertrophy of the Prostate and its Treatment. Professor Fauchet.
23 Six Consecutive Cases of Appendicitis Operated On. S. J. Ross.
24 Need for Legislation in Regard to Anesthetics, and the Lines on Which It Should Take Place. F. W. Hewitt.
25 Quacks, False Remedies, and the Public Health (continued). D. Walsh.

18. **Intestinal Obstruction.**—The first case reported by Morison was one of intestinal obstruction due to a malignant stricture in the splenic flexure of the colon with hypertrophy and distention of the cecum and colon, proximal to the stricture, the contents being actively virulent in consequence of colitis and retention above it. No material benefit followed medical treatment. Following a preliminary cecostomy, half of the transverse and descending colon with a corresponding portion of mesentery was excised with the growth, the ends of the bowel were closed by sutures, and a large lateral anastomosis was established by sutures between the remains of the transverse and descending colon. Fourteen days later, after free irrigation of the colon, the cecostomy opening was closed and twelve days later the patient left the infirmary with his wounds healing and feeling well. The second case was one of acute intestinal obstruction from blocking of the small intestine, with strangulation of a considerable area of the gut. The obstruction was caused by something fixing acutely and kinking the ileum on the outer side of the cecum and ascending colon, and on separating this adhesion pus escaped. After cleaning away the pus, a gangrenous perforated appendix was turned out of the abscess cavity and excised. Recovery was subsequently uninterrupted.

Clinical Journal, London

October 27

26 Lymphadenoma of Mediastinum. W. P. Herringham.
27 Functional Disorders of the Stomach and Intestines: Their Diagnosis from Organic Disease, and Treatment (concluded). S. Martin.
28 Use of and Indications for Electrotherapy in Gynecologic Affections. J. C. Webb

Indian Medical Gazette, Calcutta

October

29 Recent Cholera Outbreak Among the Nurses of the Presidency General Hospital, Calcutta. R. Macrae.
30 Smallpox. J. C. S. Vaughan.
31 Increased Intraocular Tension Encountered in Cases of Epidemic Dropsy. F. P. Maynard.
32 An Indian Screw-worm. R. L. Patterson.

Bulletin de l'Académie de Médecine, Paris

October 19, LXXIII, No. 33, pp. 193-203

33 *Phototherapy of Laryngeal Tuberculosis. A. Nepveu and H. Hallopeau.
34 Two Cases of Congenital Fissure of the Face. (Coloboma facial.) E. Kirmisson.

33. **Phototherapy of Laryngeal Tuberculosis.**—Nepveu utilizes for the purpose an electric arc light with quartz reflectors and a quartz water-cooling device. He precedes the sitting by spraying the region with a solution of cocain and adrenalin, which diminishes the reflexes and congestion and thus enhances the action of the chemical rays on the tissues.

Presse Médicale, Paris

October 23, XVII, No. 85, pp. 745-752

35 *Tuberculosis of Tendon Sheaths. (La forme hypertrophique pseudonéoplasique de la tuberculose des gaines tendineuses.) E. Forgue and G. Massabuau.
36 *Operative Treatment of Hypophysis Tumor in Case of Acromegaly. P. Lecène.
37 Anatomy of the Wrist. (La région cubitale du poignet.) L. Bruandet.

35. **Tuberculous Process in Tendon Sheath.**—A domestic in a family in which there was a consumptive cut her thumb with a table knife and a process developed in the wrist with specific tuberculous lesions accompanying the connective-tissue reaction of an apparent myeloma. Recent research has demonstrated that a number of connective-tissue reactions, whose structure simulates that of certain tumors, are in reality tuberculous lesions. Gougerot has recently demonstrated this for a lymphadenoma, a lymphosarcoid, a fibroma and a spindle-celled sarcoma, although the bacteriologic proof is still lacking in some.

36. **Hypophysis Tumor.**—Lecène's patient was a man of 38, presenting the clinical picture of typical acromegaly, with epileptiform manifestations and impaired vision. A tumor was found in the hypophysis and was apparently successfully removed, but sudden fatal collapse occurred on the thirty-sixth day after the transsphenoidal operation.

Semaine Médicale, Paris

October 27, XXIX, No. 43, pp. 505-516

38 *Diagnostic Importance of Albuminuria in Meningeal Hemorrhage. G. Guillain and C. Vincent.

November 3, No. 44, pp. 517-528

39 The Leucocytes in Disease. (Vitalité, résistance et activité des globules blancs dans les maladies.) C. Achard.

38. **Albuminuria as Symptom of Meningeal Hemorrhage.**—In the case described, a woman of 54 experienced sudden malaise with general chilliness and severe headache, but no loss of consciousness, merely some torpor. In the liter and a half of urine voided during the twenty-four hours, 20 gm. of albumin per liter were found, but there was no tendency to edema or *bruit de galop*, although there was slight fever. Lumbar puncture revealed a typical and abundant meningeal hemorrhage; all the symptoms gradually subsided and by the ninth day there was no trace of albuminuria. In none of the similar cases on record was the amount of albumin over half this proportion. The discovery of large amounts of albumin in the urine without other signs of nephritis may aid in the differentiation of meningeal hemorrhage. In a second case Guillain based the diagnosis on this sign alone, the autopsy confirming it.

Archiv für Verdauungs-Krankheiten, Berlin

October, XV, No. 5, pp. 557-670

40 Influence of New Cholagogs on Secretion of Bile. (Experimentelle Studien über die Beeinflussung der Gallensekretion durch neuere Cholagoga.) F. Eichler and B. Latz.
41 *Deficiency of Hydrochloric Acid in the Stomach. (Statistisches über Salzsäuremangel im Magen.) G. Kelling.
42 Gastric Mucosa Cyst in the Esophagus. (Eine mit Magenschleimhaut versehene Cyste des Oesophagus.) A. Stachelin-Burckhardt.
43 Two Cases of Severe Chronic Enterospasm. R. Rinne.
44 *Vegetarian Diet of Japanese Monks. (Ueber die absolut vegetarische Ernährung japanischer Bonzen.) G. Yukawa.

41. **Prevalence of Hypochlorhydria.**—Kelling expatiates on the necessity for collecting statistics in regard to the prevalence of conditions in the stomach connected with the absence of free and combined hydrochloric acid, and presents the findings in this respect in 4,937 cases of various stomach affections as his contribution to the subject. The list includes 192 men and 189 women with unquestioned ulcer, and 3,147 with stomach disturbances on a basis of neurasthenia or anemia: 1,729 men with hydrochloric acid and 395 without, and 900 women with and 216 without. Out of the 3,147 in the second group, 16.5 per cent. had no free hydrochloric acid in the stomach after the Ewald-Boas test breakfast—every seventh man and every fifth woman. In the 622 cases of gastric carcinoma, no hydrochloric acid was found in 462, while one in each four had free acid. These findings in regard to the acidity did not seem to be in any way proportional to the size of the cancer. He has encountered only two instances of chronic gastritis with ultimate gastric cancer, and thinks that chronic atrophic gastritis can be said almost to exclude cancer, while a peptic ulcer invites it. In 8 cases of pernicious anemia, none of the patients had free acid, but one had a small gastric carcinoma. These findings have confirmed him in the view that pernicious anemia, like leucemia, belongs in the group of tumor diseases, the essential trouble being a proliferation of erythroblast-forming cells. In 254 cases of gall-stone trouble, 30 per cent. of the patients had no free acid. This frequent lack of acid with gall-stones throws light on the cases in which lactic acid is found but no cancer. The lack of hydrochloric acid and the stagnation of stomach content favor the production of lactic acid as the duodenum is compressed by inflammatory processes around the gall-bladder. In 36 cases of gout and kidney stones, no free acid was detected in 33 per cent., and none in 38 per cent. of 21 diabetics, in 40 per cent. of 195 cases of tuberculosis and in 22 per cent. of 119 cases of typical migraine. Hydrochloric acid was found in all but 3 of 21 cases of mild chronic nephritis, and in all but 12 of 60 cases of old syphilitic infection. No special influence from helminths was discernible except with tenia, the figures showing a slightly larger proportion of hypochlorhydria among those who had had a tenia; it is possible, he suggests, that subacidity predisposes to lodgment of a tenia. The above data seem to indicate that in certain infectious diseases, such as tuberculosis, in cancer and in metabolic affections, certain toxins circulating in the blood have an injurious action on the glands of the stomach, which also seems to be the case with gall-stone disturbances. In regard to neurasthenic hypochlorhydria, he is inclined to accept the nervous weakness as responsible for the stomach disturbances by the resulting disturbances in molecular change and the consequent abnormal metabolic products. It is noteworthy that many of these patients suffer most from their stomach when they are especially fatigued. It is possible that the fatigue products circulating in the blood irritate the glands of the stomach. The irritation stimulates a healthy gland to increased functioning and hypertrophy, but it injures and finally destroys a congenitally weak gland. Hyperacidity and hypoacidity may thus proceed from the same cause, and the former may blend into the latter as the glands become exhausted. Many of these patients with hypoacidity are benefited by sodium, probably from suggestion, as they remember former days when sodium bicarbonate did relieve. These cases confirm the saying that gastric achylia cannot be diagnosed from the patient's complaints; the stomach contents must be directly examined. He was unable to discover any characteristic nervous symptoms for congenital weakness of the glands of the stomach. Collection of regional statistics in regard to hypochlorhydria may throw more light on the subject. He remarks that the only contraindications to the use of the stomach tube are aneurism of the aorta, extensive gastric hemorrhage less than three weeks before, and varices in the esophagus such as frequently accompany cirrhosis of the liver. These varices bleed readily, and consequently he never introduces the stomach tube without previously carefully investigating the heart and liver.

44. **Vegetarian Diet of Japanese Monks.**—Yukawa gives sixty-five tables of the various metabolic findings in a num-

ber of Japanese vegetarians, especially 12 monks who abstain from a flesh diet in any form. Over 46 per cent. of 200 elderly persons examined were found to have subsisted for decades and were apparently thriving on an exclusively vegetable diet, mainly rice. The average Japanese diet in the groups of farmers examined represented 2,877 calories or 55.6 calories per kilogram. The 12 priests, the subjects of the special metabolic research, had been living a cloistered life for from 15 to 55 years. Their diet represented merely 1,766 calories or 36.92 calories per kilogram. All were healthy and strong.

Berliner klinische Wochenschrift

October 18, XLVI, No. 42, pp. 1877-1920

45 Negative or Unfavorable Results of Antiferment Treatment of Acute Suppurations in Infants. (Antifermentbehandlung eitriger Prozesse beim Säugling.) M. Klotz.
46 Proteolytic Ferments in Infants' Stools. (Proteolytische Fermente in den Säuglingsfäces.) F. Czekkel.
47 Regeneration of the Suprarenals. (Regeneration der Nebenniere.) A. Carraro and E. Kuznitsky.
48 Nature of Serum Antitrypsin. K. Meyer.
49 *Transillumination of Fundus of Eye by Way of the Throat, etc. (Zum Einblick in das Innere des Auges bei getrübten brechenden Medien.) C. Hertzell.
50 *Painful Cystitis. (Cystitis Dolorosa.) C. Posner.

October 25, No. 43, pp. 1921-1964

51 *Emotional Injury from Horror as Industrial Accident. (Furcht und Grauen als Unfallursache.) L. Lewin.
52 Tuberculosis in Children and Immunity. (Kindheits-Tuberkulose und Immunität.) Ritter and Vehling.
53 *Adrenalin as Antidote to Strychnin. W. Falta and L. Jvcovic.
54 Alleged Perfect Sterilization of Skin with Iodid without Preliminary Washing. (Neue Sterilisierungsmethode der Haut bei chirurgischen Operationen.) A. Grossich.
55 Diagnosis and Treatment of Incipient Tuberculosis. A. v. Sokolowski. Commenced in No. 42.

49. **Transillumination of Eye by Way of the Throat.**—Hertzell says that when there is any tendency to opacity in the lens it is difficult to inspect the fundus of the eye from without, but, with the light at the back, a clear oversight is obtained. The difference is as great as between trying to look from the street through a lace curtain into a room during the day and at night after the room is lighted up.

50. **Painful Cystitis.**—Posner declares that there is generally ulceration in every case of painful cystitis, the conditions in many cases being remarkably like those of round gastric ulcer. The pain in the majority of cases is due to ulcer, tuberculosis or tumor, and treatment varies for each. In the tuberculous form, a primary kidney process is probably the source of the bladder trouble, but whether this is the case or not, general measures should be instituted, including prudent general tuberculin treatment. There is no form of local treatment of a tuberculous bladder process that does not aggravate the disturbances. In the painful variety, the bladder will not tolerate even the ordinary technic of copious irrigation. The organ is actually a contracted bladder by this time, and has a capacity of only a few cubic centimeters. A cystitis which becomes aggravated under treatment with silver nitrate, instead of showing a change for the better, is strongly suggestive of tuberculosis. Corrosive sublimate may have a favorable action and use of small amounts of a 6 per cent. solution of carbolic acid have been recommended by Rovsing and is justifiable as a last resource. A mere incision into the bladder may have a favorable influence in some cases. The conditions for treatment are a little better with non-tuberculous ulceration; silver nitrate instillations may induce a complete cure if applied directly to the lesion with the aid of the cystoscope. Radical removal of the ulceration may be considered unless the lesion has progressed to an actual contracted kidney. In case of inoperable tumor, relief may be obtained sometimes from injection into the bladder of warm olive oil. If mineral waters are permitted they should be restricted to small amounts. Physical and dietetic measures are of the utmost importance, especially local application of heat, long sitz baths and avoidance of condiments. Milk is the best beverage; it may be evaporated to half its volume to prevent too much diuretic action. Although bed rest is favorable, its advantages are usually counterbalanced by those of out-door freedom, eventually with the use of a urinal, and Posner pleads for technical improvement of the urinals in vogue as they have too many drawbacks at present.

51. **Horror as Cause of Industrial Accident.**—A miner was ordered to disinfect with lysol the putrefying corpse of a mate who had been crushed in the mine a few days before. The miner developed thereafter a condition of mental depression incapacitating him for work.

53. **Adrenalin an Antidote to Strychnin.**—In this communication from von Noorden's clinic at Vienna, Falta reports experimental research on guinea-pigs and rabbits in which injection of adrenalin seemed to neutralize completely several times the fatal dose of strychnin. This occurs whether the adrenalin and strychnin are mixed and injected together or injected at different points of the body, only in the latter case the adrenalin should be injected a minute before the other. The experiments on frogs demonstrated that the action of adrenalin as an antidote is not due to delay in absorption, but seems to be a biologic process of different nature. Experiments are now under way to determine whether it possesses the same powerful action as an antidote in respect to diphtheria and other toxins.

Correspondenz-Blatt für Schweizer Aerzte, Basle

October 15, XLIX, No. 20, pp. 689-720

56 *End-Results of Nephrectomy in 100 Cases. (Ergebnisse einer Serie von 100 Nephrektomien.) H. Wildbolz.
57 Antiferment Treatment of Acute Suppurations. (Antifermentbehandlung akut eitriger Prozesse.) S. Stocker.

56. **Experiences with Nephrectomy.**—The kidney was removed on account of tuberculosis in 90 of the 100 nephrectomies reported by Widbolz. Once convinced of the integrity of the other kidney, he did not hesitate to remove the tuberculous organ even when the general condition was extremely bad, and the results were favorable. His mortality was 4 per cent., but only two of the chachectic patients succumbed, one to advanced myocarditis and the other to uremia, as the other kidney was involved in the tuberculous process; the contracted condition of the bladder had rendered functional tests impossible. Another patient succumbed to pulmonary embolism ten days after the nephrectomy, and a thrombus was found in the renal artery. The only other fatality was in a patient with paralytic ileus a week after nephrectomy for hypernephroma. The paralysis of the bowel may have been due to local trauma of the adjacent colon or to injury of the bowel from the pressure of the hard cushion pushed under the patient to raise the field of operation. He noticed that postoperative meteorism was more frequent when the patients had been purged with a single large dose of castor oil than when smaller amounts of some milder purgative had been given for three days before. He uses ether anesthesia. The ordinary iodoform application after an operation on the tuberculous knee in two patients with a simultaneous tuberculous process in one or both kidneys caused such disturbances that the patients rapidly succumbed to iodoform intoxication, although only a comparatively small amount of iodoform had been used. He has never had a mishap from trusting too implicitly to devices for intravesical segregation of the urine, but states that he knows of a neighboring surgeon who had four mishaps in one year from this cause. In two of the cases the mistake was not discovered until after the sound kidney instead of the diseased one had been removed. In the two other cases the kidney was incised before the contemplated removal, showing the mistake, and the other kidney was then removed with no further damage except the entirely useless incision in the sound organ. In one of Wildbolz' cases intravesical segregation had never given decisive information as to whether the evident renal tuberculosis was unilateral or bilateral. After eight years of the trouble, catheterization of the ureters showed that the process was confined to one kidney and nephrectomy was followed by complete recovery. As a rule the tuberculous process in the kidney causes no disturbance until the bladder becomes involved, but occasionally the kidney process may simulate colic from renal calculi. In two cases in his experience a tuberculous process in one kidney was associated with calculi in the other, the patients recovering after nephrectomy and pyelotomy of the remaining kidney. The tuberculous kidney process may also attract attention by symptoms suggesting appendicitis when the right kidney is involved. One of his cases is peculiarly instructive: For ten years the patient had suffered from frequent colic in the right kidney region; then catheterization of the ureters disclosed pyonephrosis of the left kidney, the right being

apparently normal. No tubercle bacilli were found. After removal of the diseased left kidney, found totally degenerated and with two stones in the pelvis, all disturbances ceased, including the right colics and the gastrointestinal disturbances which had persisted for years. In another case a kidney was found totally destroyed by a tuberculous process which had caused no disturbances whatever, the tumefied kidney being a casual discovery when the patient consulted a physician on account of sterility.

Deutsche medizinische Wochenschrift, Berlin

October 28, XXXV, No. 43, pp. 1865-1904

58 Allowing Patients to Get Up Early. (Weitere Erfahrungen über frühzeitiges Aufstehen Laparotomierter zur Sicherung und Abkürzung des Heilverfahrens.) H. Kümmell.
59 Importance of Antitrypsin in Human Blood Serum for Diagnosis and Prognosis. (Bedeutung des Antitrypsingehaltes im menschlichen Blutserum.) G. Jochmann.
60 Serology of Little Help for Infant Feeding. (Serologische Untersuchungen zur Theorie der Säuglingsernährung.) C. T. Noeggerath.
61 Comparison of Blood-Pressure Findings with Palpation and Auscultation. (Vergleichende Blutdruckmessungen mittels der palpatorischen und auskultatorischen Methode.) P. Sterzing.
62 Detachment of Rectum in Fracture of Pelvis. (Ausreissung des Mastdarms bei Beckenringfrakturen.) P. Harrass.
63 Incarcerated Epigastric Hernia without Protrusion. (Zur Lehre von der Hernia lineae albae incarcerata.) M. Sebba.
64 *Facilitation of Childbirth by Non-Operative Measures. (Ueber Erleichterung der Geburt durch nicht operative Verfahren.) M. Samuel.
65 Double Vagina and Uterus. (Verdoppelung des Uterovaginalkanales mit Atresie und Pyokolpos der rechten Scheide.) Durlacher.

64. Non-Operative Measures to Facilitate Childbirth.—Samuel expatiates on the importance of various measures which may permit delivery without the necessity for operative intervention, otherwise apparently imperative. Besides the Walcher posture, which often proves effectual in enlarging the pelvic inlet, he advocates a position which enlarges the outlet and thus frequently renders operative delivery unnecessary. The woman squats, but the squatting is not symmetrical; the two thighs do not press equally on the abdomen. The woman sits almost on one heel, the foot resting on its toes, while the other foot is flat on the floor, both thighs being flexed and both knees. The hands clasp the knees, permitting a firm support to aid in straining. This position, he says, was recommended by A. F. A. King to correct transverse presentation by the thigh pressure on the abdomen. The thigh of the posterior foot presses low down on the head, forcing it from the iliac fossa into the pelvic brim, while the other thigh presses high up on the breech end of the fetus. (See The Journal, May 25, 1908, page 1809.) Samuel has found that this squatting posture has further a most effectual influence in enlarging the outlet of the pelvis while it contracts the inlet, and is thus a valuable aid to delivery when the head or breech is low in the pelvis. It not only enlarges the outlet but renders it possible for the woman to take better advantage of the labor contractions, while it has the additional effect of greatly reducing the pains of labor. When the head is low down the Kristeller manipulation may also prove useful; that is, pushing the head along over the floor of the pelvis during a labor contraction, with both hands on the fundus. Not until these measures have failed should operative intervention be considered. King states that if the woman is unable to squat, the thigh pressure on the abdomen can be obtained by manipulating the legs, artificially flexing the thighs in the position as if the patient were squatting.

Medizinische Klinik, Berlin

October 17, V, No. 42, pp. 1579-1616

66 Pathogenesis and Treatment of Eclampsia. P. Baumm.
67 Operative Treatment of Xerosis of the Corneal Conjunctiva. Libansky.
68 Blue Arc Light in Surgery. (Therapeutische Verwendung des blauen Bogenlichtes, bes. in der Chirurgie.) E. Moser.
69 Autolytic Processes in Tumors. F. Blumenthal, E. Jacoby and C. Neuberg.

October 24, No. 43, pp. 1617-1652

70 *Laryngeal Catarrh. (Der sogenannte und der wirkliche Rachenkatarrh.) J. Fein.
71 Importance of Penile Papillæ. (Bedeutung der "Papillen" der Corona glandis.) A. Buschke.
72 Functional Treatment of the Injured in Industrial Accidents. (Zur "funktionellen" Therapie Unfallverletzter.) A. Bum.
73 *Carcinoma and Gastric Achylia. W. Jungerich.

70. Treatment of Laryngeal Catarrh.—Fein remarks that there is scarcely any other medical term which is so persistently misused as "laryngeal catarrh." Every sensation, hoarseness, increased secretion, etc., in the throat and an abnormal condition anywhere in the neck is called laryngeal catarrh and treated as such or borne with resignation as "catarrh" is popularly supposed to be incurable. It is often forgotten that the throat is the passageway for the secretions from the lungs, bronchi and trachea, and for the secretions from the nose, as also for the gases and fluids from the stomach. He reviews the different conditions from these various causes which are accepted as manifestations of laryngeal catarrh when in reality the source is remote. When the affection is demonstrated to be actually an acute catarrhal condition in the rear wall of the throat, if the symptoms are annoying scraps of ice may be placed on the back of the tongue, not swallowed. Hard and highly seasoned food should be avoided and the patient may sip occasionally a little tepid mucilaginous fluid. The throat may be sprayed with an emulsion of liquid petrolatum and acacia, to which a few drops of turpentine, eucalyptus or peppermint oil may be added with a little cocain or cherry laurel water in case there is much pain. As patients have so much confidence in gargles, he orders a 1 per cent. solution of potassium chlorate, with a wet compress around the neck at night, but for acute conditions denounces mechanical measures of any kind, especially the use of the camel's hair brush. In chronic catarrh the differentiation must be left to the specialist, but, once differentiated, the general practitioner can, as a rule, continue the treatment ordered.

73. Gastric Achylia and Cancer.—Jungerich presents evidence to show that there does not seem to be any connection between gastric achylia and cancer; the fear that the former prepares the soil for the latter is unfounded according to present testimony. In his own experience he has had thirty-two patients over the age of 40 with gastric achylia since 1899, some of them with a history of achylia for from twelve to thirty years, and yet cancer is not known except in two patients who succumbed to a cancer in the pancreas or sigmoid flexure. The other patients are still in comparatively good health and weight, the appetite good when the dietetic regulations are observed. He has also investigated the previous history in 50 cancer cases, all in private practice, and was unable to find any evidence speaking for the existence of gastric achylia before the first signs of the cancer became apparent. The malignant disease proved fatal in one or at most in two years. He presents in tabulated form the details of his group of 32 achylia patients who have been in his care at any time since 1899.

Münchener medizinische Wochenschrift

October 19, LVI, No. 42, pp. 2146-2200

74 *Viscosity, Hemoglobin and Albumin Content of Child's Blood. (Viskosität, Hämoglobin- und Eiweissgehalt des kindlichen Blutes.) J. Trumpp.
75 Radium Treatment of Cancer. (Radiumbehandlung der bösartigen Geschwülste.) A. Caan.
76 *Tendency to Thrombosis: "Thrombophilia," and Allowing Patients to Get Up Early after Childbirth and Laparotomies. (Ueber "Thrombophilie" und das Frühaufstehen Wöchnerinnen und Laparotomierten.) F. Mendel.
77 Influence on Heart Action of Four-cell Electric Baths. (Einfluss der sinusoidalen Vierzellenbäder auf die Herzarbeit.) E. Veiel.
78 *General Anesthesia with Dammed Circulation. (Erfahrungen mit Narkosen bei künstlich verkleinertem Kreislauf.) K. Hörmann
79 Special Muscular Connection Between Superior Vena Cava and Bundle of His. C Thorel.
80 *Nephritis. (Aus dem Gebiete der Nephritis.) L. Casper.
81 Graphic Methods of Recording Heart Sounds. (Uebersicht über die graphischen Methoden zur Registrierung der Herztöne.) M. Seddig.
82 *Case of Pregnancy Blindness. (Amaurose in der Schwangerschaft.) K. Himmelheber.
83 Aneurism and Murmurs in Pulmonary Artery. F. Reiche.

74. The Viscosity of the Blood.—Trumpp has been making a special study of the viscosity and proportion of hemoglobin and albumin in the blood of children. He examined the blood of 152 children and 7 parturients and of numerous animals in the slaughter-house. His article is a contribution to the infant science of "viscosimetry," which he thinks is destined to prove an important aid for diagnosis and prognosis and possibly a guide to treatment in certain affections. It is evidently an important factor in the solution of many scientific questions. The blood showed most viscosity in a new-born infant in blue asphyxia, 12; the lowest figures, 2.1, in a child with splenic anemia. The unusually high viscosity in the acute stage of alimentary intoxication attracted attention, the figures representing the viscosity growing smaller as the trouble was corrected. These findings confirm the concentration of the blood in alimentary intoxication which Reiss determined by the refractometer. The average viscosity of the blood in children is about 3.65; in infants from 3.2 to 3.6, and in healthy children between 7 and 13, the average is between 3.5 and 4.1. The average in adults, according to Hess, is 4.5. There did not seem to be any connection between the viscosity and the proportion of hemoglobin, but carbon dioxid increased the viscosity.

76. **Prevention of Postoperative Thrombosis.**—Mendel applies the term "thrombophilia" to a predisposition to formation of thrombi which some patients seem to display—the exact reverse of hemophilia. In one such case in his experience a previously healthy woman had phlebitis during the puerperium and since then has developed thrombophlebitis with every intercurrent infection since, once during influenza and once with simple tonsillitis. A tendency to eczema seems to accompany this thrombophilia. In another case thrombosis developed after a trauma of the foot and recurred during attacks of influenza and also in the inferior mesenteric vein during a catarrhal affection of the large intestine. After subsidence of the colics the stool contained traces of blood for weeks, but there were no objective findings otherwise except tenderness of the entire colon. The patient recovered gradually, but only 6 of the 60 similar cases on record terminated in recovery. The integrity of the heart and large vessels confirmed the non-existence of an embolus; the favorable outcome was probably due to the fact that the inferior instead of the superior mesenteric vein had been involved. These and other cases in his experience confirm the assumption of an infectious process in the wall as an indispensable factor in thrombosis. The thrombosis in these cases has generally been accepted as a casual complication of traumatic inflammation, but Mendel regards it as a sign of abnormal constitution of the blood which reacts to any local or general infection with the formation of thrombi. Interference with the circulation does not seem to be much of a factor in the thrombosis, but at the same time the limb should be raised to prevent extension of the process. Allowing patients to get up early after laparotomy or delivery will not prevent the development of thrombi in a predisposed venous system. No proof has been offered to date that thrombosis and embolism are less frequent when the patients are allowed to get up early. On the other hand, it must predispose to embolism especially when there is a tendency to abnormally rapid coagulation in the blood.

78. **General Anesthesia with Part of the Circulation Shut Off.**—Hörmann reports experiences with Klapp's method of damming the circulation described in The Journal, Oct. 19, 1907, p. 1408. Hörmann has applied this method in 50 cases. Much less of the anesthetic is required, he asserts; the patient rouses rapidly, while the blood that has been shut off, when released, serves as a fresh supply which stimulates the nerve centers, warding off asphyxia by this autotransfusion in case of impending paralysis of the respiratory center. The only contraindications are varicose veins and arteriosclerosis. No by-effects were observed and the technic is the simplest possible, the aim is to shut off from the general circulation the blood already in the limbs. This is done by applying an Esmarch bandage just before the anesthesia is given. Only the amount of blood normally in the limb is thus dammed, without congestion or expulsion of any of it. The bandage must shut off the circulation completely. (The Journal mentioned experimental research confirming the theoretic and clinical data on which the method is based: Nov. 21, 1908, p. 1826, and Jan. 2, 1909, p. 84.) Hörmann compares in three tables the consumption of chloroform and ether in several series of operations showing that with the circulation thus sequestrated only about half as much of the chloroform was required as without it. He always makes a subcutaneous injection of 0.01 gm. morphin one hour before the operation. The chief advantage of the method, however, is that in case of threatening mishap from the anesthesia, by removing the bandage the fresh blood streams back and averts all danger of further trouble. As a rule, only 15 gm. of chloroform were needed, given rapidly at first and then followed with ether, an average of 55 gm. ether being required for major operations.

80. **Nephritis.**—Casper calls attention principally to two special forms of nephritis, a chronic hematuric variety without albumin, tube-casts, edema or other signs of disturbances in the circulation. Hemorrhage in one or the other kidney alternately seems to be the only trouble, the urine in the intervals, which may be months or years, being apparently normal. In the other variety the pathologic changes are so minute sometimes that they escape discovery at autopsy, but a circumscribed nephrosis is responsible for the hemorrhages. This condition is called by the French "*néphrite parcellaire*," but, Casper asserts, it is certainly not a nephritis. In these cases the hemorrhage occurs always from the same kidney. It is generally more profuse and persistent than the above hematuric nephritis; clots collect in the bladder and may clog the outlet, the kidneys are not palpable or tender and the urine in the intervals is absolutely normal. The apparent similarity between these two affections with their single symptom, hemorrhage, is due only to the fact that the tests for examining the urine in hematuric nephritis have not been sufficiently delicate. More sensitive tests will reveal minute amounts of blood and tube-casts. The prognosis for both affections is good as a rule; it is extremely rare that the hemorrhage is so intense as to require an operation. Pain in the kidney due to nephritis is generally a dull ache, more pronounced after physical exertion and subsiding during rest. But nephritis may at times induce a typical colic though the urine is free from pathologic content. With stone colic red corpuscles are always to be found in it. After the attack has subsided, examination of the urine with sensitive tests (20 per cent. sulpho-salicylic acid), will reveal traces of nephritic albumin and tube-casts. This colic nephritis may be associated with the hematuric nephritis; the colic is the result of sudden edema of the kidney. In conclusion he expatiates on the good prognosis of chronic nephritis in many cases; the kidneys may become contracted in time but not until after several decades, during which the patient feels well. The vascular system, heart and blood-pressure behave as in normal conditions; the albuminuria is often a casual discovery. All this applies especially to the arteriosclerotic kidney; the patients may reach the age that their other vital organs allow. The atrophic process in the kidney corresponds merely to the normal changes with age in the other organs.

82. **Pregnancy Blindness.**—In Himmelheber's case a woman of 34, with chronic nephritis, in the fifth month of her seventh pregnancy developed amaurosis with headache and detachment of the retina on both sides. Abortion was induced and was followed by retrogression of the detachment of the retina, but the atrophy of the optic nerve proved irreparable. The trephining to relieve the pressure on the brain evidently came too late; the pupil reaction was abolished by the second day after the woman had entered the hospital. The case teaches the importance of emptying the uterus and of prompt measures to reduce the intracranial pressure if vision is not promptly restored.

Virchow's Archiv, Berlin

October, CXCVIII, No. 1, pp. 1-192

84 Melanosarcomatosis of Gray and White Horses. (Die Melanosarkomatose der Schimmelpferde.) A. Jaeger.

85 Origin of Melanin Pigment (Entstehung des Melaninfarbstoffs.) Id.

86 *Changes in Chromaffin System in Postoperative Fatalities of Unexplained Origin. (Veränderungen im Chromaffinsystem bei unaufgeklärten postoperativen Todesfällen.) J. Hornowski.

87 Hyalin in Stomach and Intestines; Its Appearance, Significance and Source. (Hyalin im Magen und Darm.) Munter.

88 Anatomic Conditions in Intestine in True Megacolon in Contrast to Pseudomegacolon. H. Zoepffel.

89 Chronic Gaseous Emphysema. (Pneumatosis cystoides.) W. Nowicki.

86. To be reviewed editorially.

Wiener klinische Wochenschrift, Vienna

October 14, XXII, No. 41, pp. 1395-1430

90 Serotherapy of Typhoid. (Zur Frage der ätiologischen Serumtherapie des Typhus abdominalis.) R. Kraus and R. v. Stenitzer.
91 *Treatment of Cholera with R. Kraus' Antitoxic Serum. G. Albanus, W. Kernig and Others.
92 Improved Tuning-Fork Test. (Neue Methoden der Stimmgabelprüfung und deren praktische Bedeutung.) R. Barany.
93 Chemistry of Intestines During Ingestion of Alien Colon Bacilli Strains. (Der Darmchemismus bei Verfütterung wirtfremder Kolistämme.) A. F. Hecht.
94 Fat Acids in Stomach Content. (Die Fettsäuren im Mageninhalt.) Id.
95 *Foreign Bodies in Upper Air Passages and Esophagus. (Fremdkörper in den oberen Luft- und Speisewegen mit besonderer Berücksichtigung der Oesophagotomie.) H. Marschik and R. Vogel.
96 Diagnosis, Localization and Treatment of Echinococcus Disease. (Die Echinokokkuskrankheit.) F. Colombani.

91. **Serotherapy of Cholera.**—This communication reports the experiences at St. Petersburg with Kraus' antitoxic cholera serum. It was administered in 54 cases and 55.5 per cent. of the patients died, but in all but 4 of the cases the disease was in its severest form. The mortality without the serum in a corresponding series of 224 equally severe cases was 84.3 per cent. Kernig mentions that intravenous saline infusion proved a valuable adjuvant and may have been partly responsible for the better results in the serum-treated patients, as it was only rarely applied in the other series.

95. **Foreign Bodies in Upper Air Passages and Esophagus.**—In this report from von Eiselsberg's clinic the advantages of prompt tracheotomy are extolled as liable to give better results, in the hands of the general practitioner, than tedious attempts at extraction by the natural route with the inevitable injury from them and the bleeding. Some instructive skiagraphs are given and the point emphasized that a foreign body in the esophagus generally entails the same dangers as an incarcerated hernia. If extraction is not promptly successful, an operation should follow without delay. In 11 cases reported in detail, the outcome was favorable in 9, recovery taking place in from two to seven weeks. One child who had swallowed a coin succumbed to pneumonia a week after the esophagotomy. The other fatality was in the case of a man of 41 who had swallowed two false teeth set on a plate. After attempts at extraction with fingers and induced vomiting had failed, a physician tried to push the set down into the stomach and apparently succeeded as a sponge held in a coin catcher was passed through into the stomach and the patient was able to eat bread and potatoes, the stomach tube could be introduced without effort and Roentgen screen examination was constantly negative, but the patient complained of pain in the chest and a hard sound introduced encountered an obstacle, although the soft stomach sound passed readily into the stomach. Esophagotomy over a week after the teeth had been swallowed finally resulted in their removal, but in loosening the impacted teeth the wall of the esophagus was perforated, and septic pleurisy followed, which was soon fatal. The practice at the clinic is to introduce a sound and examine with the esophagoscope and try to remove the foreign body if known to be round and not firmly fixed. But if the case is old and the foreign body has pointed edges or is firmly impacted, esophagotomy is done at once for fear of digging a groove in the wall of the organ as the article is drawn out. The food after the operation is given through a bougie and nothing but milk and tea by the tablespoonful is allowed for the first two days. The third day the bougie is removed and the tampon in the second week, and healing is usually complete by the end of the third week.

Zentralblatt für Chirurgie, Leipsic

October 30, XXXVI, No. 44, pp. 1497-1528

97 *Proper Moment to Commence the Operation Under the First Whiffs of Ether. (Erkennung des richtigen Momentes im Aetherrausche.) J. Landström.

97. **Operating Under First Whiffs of Ether.**—Landström keeps the operating room perfectly quiet and watches the patient's throat as the ether is given. As soon as the patient feels the fumes of ether salivation is induced and he swallows at brief, regular intervals. When the anesthesia is deep enough to suspend the swallowing reaction to the salivation, this is the right moment for the operation to begin. So Landström waits until the patient ceases to make the swallowing movements or the intervals become much longer, and then commences the operation without further tests of the patient's sensibility.

Zentralblatt für Gynäkologie, Leipsic

October 9, XXXIII, No. 41, pp. 1417-1448

98 Advantages of Momburg Belt Tourniquet in Obstetrics. (Zur Anwendung der Blutleere der unteren Körperhälfte nach Momburg in der Geburtshilfe.) F. Weber.
99 Extraperitoneal Cesarean Section. (Zum extraperitonealen Kaiserschnitt.) M. Stolz.
100 Operative Treatment by Vaginal Route of Rupture of the Uterus. E. Falk.

October 16, No. 42, pp. 1449-1488

101 Application of Over-Pressure Apparatus to Revive Asphyxiated New-Born Infants. (Widerbelebung asphyktischer Neugeborener mit Ueberdruckapparat.) C. Hoerder.

October 23, No. 43, pp. 1489-1520

102 Cesarean Section. (Zur Kaiserschnittfrage.) R. Olshausen.
103 Disinfection of Parturients. (Zur Frage der Desinfektion Kreissender.) M. Hofmeier.
104 Toxic Action of Human Placenta Extract in the Rabbit. (Ueber Besonderheiten der Giftwirkung des menschlichen Placentasaftes beim Kaninchen.) F. Schenk.
105 Hematoma of the Vulva. G. Neumann.

Gazzetta degli Ospedali e delle Cliniche, Milan

October 24, XXX, No. 127, pp. 1337-1352

106 *Influence on Metabolism of Chlorids, Phosphates and Water of Intrarectal or Subcutaneous Injection of Oxygen. (Il ricambio dell'acqua e dei sali, clorurl e fosfati, nei trasmodatori di bevande alcooliche, in rapporto alla sovraossigeuazione extrapolmonare.) T. Salvetti.

106. **Influence on Metabolism of Rectal or Subcutaneous Injection of Oxygen.**—Bernabei's method of what he calls extrapulmonary superoxygenization was described in THE JOURNAL, May 23, 1903, p. 1474. Salvetti here describes the influence of this treatment on the elimination of water, of chlorids and of phosphates, especially in persons habitually taking alcohol. His findings confirm anew the notable stimulating action of the oxygen on the torpid cells, rousing them from the torpor resulting from alimentary intoxication, especially alcoholic intoxication.

Riforma Medica, Naples

October 25, XXV, No. 43, pp. 1177-1204

107 *Septicemic Fevers. (Febbri e febbricole setticemiche polimorfe. XII.) G. Rummo.
108 Tumors of Male Breast. (Contributo allo studio dei tumori della mammella maschile.) G. Zoni.
109 *Latent Pneumonia. (Caso di polmonite latente.) G. Gentiti.
110 Two Cases of Multiple Insular Sclerosis. (Due casi di sclerosi a placche.) F. Fornaro.

107. **Septicemic Fevers.**—This is the concluding article in the series in which Rummo has been discussing typhoid, paratyphoid, Malta fever, cryptogenic fever, colon bacillus infection, etc., which he groups together as polymorphous septicemic fevers and febrile conditions. They are the result not only of the action of the specific germs, but of their combinations or possibly their association with germs of different species. He denounces the conception of fever from autointoxication, saying that the importance of autoinfection and of the colon bacillus as the single factor in fevers has been much overestimated. The agglutinating reactions can be relied on in this septicemic group of fevers.

109. **Latent Pneumonia.**—Gentiti calls attention to latent pneumonia as the most dangerous form of this disease. The absence of râles, bronchial souffle, cough and expectoration, indicate a lack of resisting power against the diplococcus. In a case of this kind described, the patient was a man of 46, with a family history of tuberculosis and a long preceding tuberculous affection of the testicle requiring operative measures. The chill, pain in the right intercostal space, intense headache and high fever were not accompanied by any local signs of pneumonia for several days, but then slight expectoration followed and the pneumococcus was found in the sputum.

Hospitalstidende, Copenhagen

September 22, LII, No. 38, pp. 1169-1208

111 Multiple Edema Accompanied with Hemorrhages. (Et Tilfælde af multiple Øedemer ledsaget af Hæmorrhagier.) Kjelgaard.

September 29, No. 39, pp. 1209-1248

112 *Life Expectancy of Extra Hazardous Risks in Life Insurance. (Nogle Bemærkninger om Livsforsikringens "mindre gode Liv.") E. Salomonsen. Commenced in No. 38.

112. **Ultimate Fate of Extra Hazardous Risks Among the Insured.**—Salomonsen declares that the medical aspect of life-insurance is gradually working into a science, as the examiners are learning to estimate the "statistical prognosis" with as much accuracy as physicians now are able to estimate the clinical prognosis in a given case. Until recently the physician's interest in a case ceased when the patient had completely recovered. The surgeons introduced a revolution in this respect, as they found that they had to keep track of their patients to justify the expediency of their operative measures, proving in black and white that the life expectancy had been increased by their intervention. Physicians are now seeking to follow them in this line, trying to determine the influence on the life expectancy thereafter of the disease through which they have carried the patient and the influence the disease will have on the general resisting powers in later life. As a contribution to this subject he has been investigating the after-history of the candidates accepted with an extra rate by the Danmark, a Danish life-insurance company. He has thus sifted out 2,100 cases of extra-hazardous risks in going over the records of 30,000 insured between 1873 and 1906. His surprise was great when he found that the mortality among them was only 106 while the estimated mortality of a corresponding number of normal risks is 101.84. Another surprise was the discovery that the deaths were seldom due to the affection for which the insured had been rated as an extra risk. This has been shown in regard to hernia in the statistics from the German Gotha insurance company. Out of 3,104 persons with hernia insured, the hernia was responsible for the death in only 0.38 per cent. On the other hand, fatal incarcerated hernia caused the death of 0.2 per cent. who had no signs of hernia at the time of the medical examination. The mortality from syphilis is increasing among the syphilitics insured in the Scandinavian and other countries of Europe as it is now accepted as responsible for general paralysis. The statement by a medical examiner that the candidate has had syphilis but that it was mild and brief and consequently may be disregarded, is not endorsed by the companies now, as time has shown that general paralysis is most liable to develop in these mild cases owing to the lack of intensive treatment. In regard to tuberculosis, also, the general practitioner is liable to be more optimistic than is justified by the facts to date. The statistics from the sanatoriums, etc., include too few cases and extend over too few years to justify at present a favorable prognosis in regard to complete recovery after the disease has once been installed in one or both lungs. Some companies regard chronic otitis media as demanding an extra rate, but the mortality from this cause in the Danmark has been very low and in the Gotha company it was only 0.12 per cent. of 46,480 insured. The Danmark experiences with appendicitis confirm the assumption that the first attack is the dangerous one. None of the insured regarded as extra risks on account of preceding appendicitis died of appendicitis later; the deaths from it were all in persons free from a history of appendicitis. The Italian and Swiss companies have not suffered from losses with syphilitics so much as the Scandinavian, and he is inclined to accept the theory that this infection has become attenuated in these other countries where it is more prevalent, the population having become acclimated to it, as it were. He warns that in studying life-insurance statistics it must not be forgotten that the persons who drop out after keeping up their policies for a longer or shorter period are liable to prove misleading in drawing conclusions from the figures recorded. The Danmark statistics do not indicate that heredity has much influence on the development of cancer, but accurate knowledge on this point can be obtained only by study of the comparatively few who have been on the books for long series of years. He cites 15 cases of these extra-hazardous risks in which the dubious prognosis was confirmed by the death within a few years. In 6 in this group, a previous bronchitis or pneumonia had been followed by very protracted convalescence, several months elapsing before the men were able to resume work, but the physical findings were normal at the time of the medical examination for the company. In another case a man of 35 six years before had had a contusion of the chest followed by expectoration of a couple of teaspoonfuls of blood, but he soon recovered and had no trace of hemorrhage afterward. The breath sounds were a trifle diminished in intensity in the supraclavicular but not in the supraspinous fossa; otherwise the findings were normal. The examiner declared the man sound, but he died of consumption six years later. On the other hand, the records show numbers of insured apparently far more seriously handicapped who are still in good health. Salomonsen urges in conclusion that scientific study of the life expectancy after certain affections is liable to throw light on many other branches of medicine.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

THE MEDICAL COMPLICATIONS, ACCIDENTS AND SEQUELS OF TYPHOID FEVER AND THE OTHER EXANTHEMATA. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia, and E. J. G. Beardsley, M.D., L.R.C.P., Assistant Physician to the Out-Patient Department of the Jefferson Medical College Hospital. With a Special Chapter on the Mental Disturbances Following Typhoid Fever. By F. X. Dercum, M.D., Professor of Mental and Nervous Diseases in the Jefferson Medical College. Cloth. Pp. 391, with 26 illustrations. Price $3.25 net. Philadelphia: Lea & Febiger.

HANDBUCH DER GESAMTEN MEDIZINISCHEN ANWENDUNGEN DER ELEKTRIZITÄT einschliesslich der Röntgenlehre. Herausgegeben von Prof. Dr. med. H. Boruttau, Privatdozent für Physiologie an der Universität Berlin, und Prof. Dr. med. L. Mann, Privatdozent für Nervenheilkunde an der Universität Breslau. Band I. Paper. Pp. 599, with illustrations. Leipzig: Dr. Werner Klinkhardt, 1909.

SURGERY OF THE BRAIN AND SPINAL CORD. By Prof. Fedor Krause, M.D., Geh. Medizinalrat Dirigierender Arzt am Augusta Hospital zu Berlin. Translated by Prof. Herman A. Haubold, M.D., Clinical Professor in Surgery, Bellevue Hospital and New York University Medical College. Vol. I. Pp. 282, with illustrations. Price, $6.00. New York: Rebman Co.

DIAGNOSTIC METHODS, Chemical, Bacteriologic and Microscopic. By Ralph W. Webster, M.D., Ph.D., Assistant Professor of Pharmacologic Therapeutics and Instructor in Medicine in Rush Medical College, University of Chicago. Cloth. Pp. 611, with 211 illustrations. Price, $6.00 net. Philadelphia: P. Blakiston's Son & Co., 1909.

A SYSTEM OF SYPHILIS. Edited by D'Arcy Power, M.B., F.R.C.S., and J. Keogh Murphy, M.D., M.C., F.R.C.S. In Six Volumes. Vol. III. With an Introduction by Sir Jonathan Hutchinson, F.R.S. Cloth. Pp. 267, with illustrations. Price, $13.50. New York: Oxford University Press, 1909.

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Original Articles

POPULAR EDUCATION AS A STIMULUS IN PUBLIC HEALTH WORK *

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In this paper I have made no effort to treat the subject of public health administration exhaustively, nor have I referred extensively to methods in use by other hygienists of the present or the past. I have simply stated some conclusions, together with the data on which they are founded, and in a way this paper is like a case report, dealing with my own work.

I have long been of the opinion that there are two distinct aspects of state medicine. One of these is knowing the remedy to be applied, and the other is knowing how to get the people to apply the remedy. The first consideration I take for granted as a requisite possessed by every good sanitarian. The second consideration—how to get the people to apply the remedy—is the main theme of this paper.

There are men, and intelligent men, who believe that the sanitarian, having decided on what he believes is the wisest course, has nothing left to do but to sail that course, regardless of public opinion. The sanitarian is a specialist in his line. He knows better than the public what health measures are needed. It is a sacred obligation with him to act in accordance with what he knows to be right, let the people believe what they will. This view is the correct one whenever the sanitarian has authority and means necessary to carry his plans into execution. But there are many reforms needed in our country which are at present outside the authority of the health officers. To secure the authority and means to enact the needed reforms is the task of the sanitarian.

This brings us face to face with the question how the people can be induced to yield the authority and money for the purpose of combating the diseases which menace the public health. To meet this issue successfully the sanitarian must possess a certain degree of tact, political ability, or statesmanship—call it what you may. He must be able to divert a part of the sum total of political power invested in the people and guide it into certain channels.

In doing this the sanitarian does not deal with the populace directly, but with representatives of the people, public officers. These officers draw their powers from the rank and file of the citizens. While to a certain extent they are leaders, yet they are to a great extent followers of public opinion. Personally they are willing to do anything to help the cause of sanitation, but before "going on record" as favoring the establishment of an improved water-works system, for instance, they usually delay action until popular clamor makes itself heard in favor of the proposed reform.

Vox populi is *vox dei.* The sovereign people are the fountainhead of all authority in a free republic, and to get the authority, or the money, which is the sinews of war against disease, it is necessary to go to that fountainhead. If you stop short of the fountainhead, there is always some one else upstream from you who is diverting the current.

I have found that one most excellent method of reaching the people is through the newspapers. In the administration of almost any health officer, there occur events of great value as "news." In giving these news items to the press, it is well to sandwich in a miniature lecture on sanitation with each news item. Of course, if the tidbit of news is ballasted too heavily with scientific "dope," it will find the waste-basket. But in many cases, an interview from the health officer, telling "how it happened" is warmly welcomed by the press, even though the interview read like a primer on sanitation.

Next to his ubiquitousness the most characteristic thing about the average newspaper reporter is his skill in getting things wrong. This makes it necessary to prepare certain important interviews and hand them in already written to the newspapers. It is easy to overstep the line here and overlook the newspapers.

In newspaper work, as in every other branch of hygienic education, cooperation by different health officers and physicians is very important. Public meetings participated in by the lay and professional public are an excellent means of stimulating sanitation. The physician has by dint of hard labor become master of a certain amount of that divine attribute called knowledge. The public is hungry for this knowledge; people never fail to avail themselves of an opportunity to stand by and pick up the crumbs from a medical conversation. The public meeting offers the health officer an opportunity to dole out to them such store of his knowledge as they can digest and assimilate. To get best results it is absolutely necessary that no physicians should stand aloof and criticize. Therefore, careful organization is a prerequisite.

Closely related to these public meetings are the so-called traveling institutes of hygiene, as elaborated by my friend, Dr. Mayer, of Louisiana. The "tuberculosis exhibits" are all special phases of his original idea, which was promulgated years before the awakening on the subject of phthisis. The traveling exhibit, consisting of pictures, models, charts, figures, and other accessories are valuable because they stimulate interest and also because they make the subject-matter easier to grasp. Concrete facts are learned easily, and the eye aids the brain in learning the scientific data presented in one of these traveling institutes of hygiene. I am of the opinion that the typhoid fly should be included in these exhibits as well as the tuberculous cow. I think the vaccination problem should be explained and pictures bearing on it exhibited. In certain of the southern states the malarial mosquito should be explained. In short, I think that traveling exhibits are needed to teach the whole of sanitation and preventive medicine, as well as tuberculosis.

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

In this connection it occurs to me that the state boards of health are in a position to aid the counties or cities by sending on request a lecturer and demonstrator with an exhibit. The peculiar quality of mind which leads the people to heed the advice of a stranger, where they ignore the words of their lifelong friends, is proverbial. For this reason the health officer of County A can go to County B and lecture with splendid results. Later, the health officer from County B, looked on as a commonplace man in his own county, can come into County A and preach sanitation with results as brilliant.

In a similar way, the U. S. Public Health and Marine-Hospital Service can materially assist each individual state in the battle for better public health. The surgeon who is an officer in this distinguished service enjoys a prestige and renown commensurate with the great corps to which he belongs. The public looks up to him. His words are heeded. Furthermore, his official position is a guarantee that he will be free from any local prejudice. The public does not suspect his motive. He is probably not even a resident of the state in which he may lecture, and may expect to leave that state immediately, possibly never to return. Under these circumstances his words have an unusual burden of meaning which make them productive of much good. I then would call your attention to the fact that cooperation between county and state, and between state and nation, is essential to the best interests of public health.

In conclusion, I desire to refer to one phase of public health administration which frequently causes embarrassment, especially in the southern and western states. I refer to the fact that many of our public health officers are engaged in the private practice of medicine. This is at present a widespread condition, and one that is as natural as for water to run down hill. But it very seriously hampers the cause of public health. The health officer may be entirely conscientious and I take it for granted that he is, and that he does his work thoroughly. The fact remains, however, that his competing fellow practitioners of medicine look askance at any public utterances which he may make. The "publicity side" offends them. They want him to keep himself in the background. Now, no health officer can do his duty without appearing in the lime-light from time to time. Hence he is driven to do one of two things—either offend his fellow practitioners by coming out in the open, or compromise his conscience by lying low and letting things drift. He has no choice between the two. The only logical result will be in the end that health officers will be paid to do their work, so they will not have to do practice on the side to gain a livelihood. We should work toward that end, remembering that for the present we must do the best we can with the means at our disposal.

ABSTRACT OF DISCUSSION

Dr. William Porter, St. Louis: The education of the people underlies all activity and organization in this work. People must know. Once having knowledge they will support that which touches their lives and homes and happiness. It is well, it is necessary, to have men fitted to give this instruction, and these men or others should be ready to direct the growth and movement which will surely come in the wake of public instruction. In the masses, even in the most ignorant parts of our cities, where crowded, congested living is most pitiable, is a latent force which once aroused is potent for good, and for progress. In St. Louis is a man whose home and early life was in the worst ward of the city. His associations were bad; he grew up thoughtless and careless; his name was synonym for leadership among the worst classes. Slowly but surely the desire came to him to do something for his associates. In so doing he lifted himself. He saw a great light—to-day he is an honored state senator, one of the best helpers we have in all that pertains to the uplift of the needy and the limitation of disease. It is such influences as these, resulting from years of educational work in the field, that has given to Missouri its present beautiful sanatorium for incipient tuberculosis with its half a million appropriation; has given it the Commission on Tuberculosis with its $125,000 for five years' further educational work, and has entered the penitentiary with an investigating committee and aids in the segregation of convicts.

We of Missouri are often asked why our people are so liberal to these causes. It is simply the harvest of the seed that has been patiently sown. We are fortunate in that our governor and the mayor of St. Louis are with us, but back of these are the masses—the people on whom we can depend. I urge the use of the newspaper under proper surveillance, the public lecture, and the instruction of the school children by illustration and text-book. The former is an important but delicate matter; the latter is best of all for future results. Every child should have access to lectures and exhibits and carry into the home a well-prepared leaflet with simple notations. Five hundred thousand of these have been carried into St. Louis homes by the children of public and parochial schools.

Dr. Juan Guiteras, Havana, Cuba: There does not appear to be any sustained effort made throughout the South to impress on the people the lessons of experience in the matter of antimosquito campaigns for the prevention of yellow fever and malaria. The cities of the South, I am sorry to say, are still trusting solely to methods of quarantine that have been proved in the past, on many occasions, to be inadequate. Unfortunately, the great object lesson offered by Cuba has not been brought clearly before the people; on the contrary, in some quarters an effort has been made to obscure it. The success of Cuba in keeping down and within reasonable limitations the recent visitation of yellow fever in that country, has not been appreciated in the proper spirit by our neighbors of the southern states. During three years of our recent visitation (1905-1908) we had nowhere the widespread epidemic manifestations that characterized the days of the Spanish domination there, or of the recent outbreaks of Laredo, New Orleans and Pensacola. The reasons for this difference are two: First, we have never hesitated a moment in announcing the first appearance of the disease, and in taking frankly and openly the necessary step towards preventing its propagation. The press, throughout the South, did not, as a rule, endeavor to show the advantages of such a procedure. On the contrary, the impression was created, with a degree of unfairness which was very unpleasant at times, that the cases were being discovered and made public by state and United States medical representatives in Cuba. The people of the South were usually informed by cable in words to this effect: "The representative of the State Board of Louisiana in Cuba reports three cases of yellow fever to-day in Havana;" or another officer would cable: "I found a case of yellow fever to-day at Las Animas Hospital," and so forth. Now, as a matter of fact, the cases were invariably discovered, shown, and reported by the Cuban sanitary authorities, who were most anxious to demonstrate what they considered an essential part of their successful method of controlling the disease. To report the facts otherwise was unfair to Cuba, and it was most unfair to the people of the South who lost thereby the educational advantages that they should have derived from the contemplation of a successful campaign on the basis of a prompt declaration. The second reason of the difference in the results obtained is the maintenance of a persistent and continued fight against the stegomyia. I am afraid that little or nothing is being done in this direction throughout the South.

MEDICAL SUPERVISION OF ATHLETICS AMONG BOYS AT BOARDING SCHOOL *

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Several years ago a boy of 15 was brought to one of us with a markedly dilated heart. For some weeks he had been running a mile nearly every afternoon at one of the best-known boarding schools in New England. Since then, among others, a boy with pulmonary tuberculosis, another with so-called physiologic albuminuria, another with leukemia, a fourth with pronounced cardiac insufficiency and much overgrown, from four different and all excellent boarding schools, have been brought to the attention of one of us, and in none of them had their condition been recognized or properly studied. The observation of these cases stimulated this preliminary study of selected boys before and after exercise at a number of boarding-schools.

We first examined 38 boys, 36 of them from five boarding schools, two in Connecticut, two in New York and one in New Jersey; and 2 of the boys from a day school in New York City. After examination each boy ran a mile at his own pace, was re-examined immediately on finishing the run, and in most instances a third time, from one-half to three-quarters of an hour later. The accompanying table shows the results of our examinations.

The method followed in each case was, first, to count the pulse and to estimate the systolic blood-pressure in the vertical posture; then to determine in the horizontal posture whether there existed any increase of cardiac dulness, the relations of the pulmonic and aortic second sounds, the presence of apical or basal murmurs and the existence of a thrill; and, while the boy was still in the recumbent posture, to count the pulse again and to estimate the systolic blood-pressure. The first specimen of urine was passed by each boy just before the run and, with the exception of the nine boys at School A, the second specimen was passed during the time of the third examination, one-half to three-quarters of an hour after the exercise. In School A a period of about two hours elapsed after the exercise before the second specimens were voided. These specimens were all examined as freshly as possible by Dr. Wilson G. Wood, to whom our thanks are due. He, of course, knew no details of our physical examination.

Selection of Boys.—At each school an effort was made to select half the number from boys especially vigorous, athletic, muscular and well developed, and the other half from boys who had grown considerably especially in height during the past two years. This effort was only partially successful.

Selection of Exercise.—It was found impossible to examine boys before and after a contest. One of us made this attempt at a dual meet between two schools but failed. The interest was centered elsewhere and the noise and confusion rendered examination impracticable. We chose a mile run as being a good test of strength and endurance for boys of this age, able to participate in football, hockey, basket-ball, track athletics, rowing and baseball. Each boy was told to take his own time and not to overexert himself, but to finish his run reasonably strong. There was no competition, although the boys were interested and some of them surprised at the time they made. Generally speaking, the most athletic of the boys made the best time and usually showed the least effect of the exertion.

We wish to call especial attention to some of the features of the examination in the following:

School A.—Nine boys training for the crew were selected. After examination each boy ran a mile at his own speed. No. 4, aged 18, one of the best oarsmen and said to be the hardest worker, exhibited a reverse blood-pressure,[1] an enlarged heart both to the right and left, a loud systolic murmur at the apex and base, an accentuated pulmonic second sound, and a slight thrill at the apex. His urine, voided after exercise, showed a marked trace of albumin, and casts were detected in both specimens. The boy stated that he tasted blood during the run, and that this was a usual occurrence with him during or after hard exercise. Two other boys exhibited casts in both specimens. Three other boys exhibited albumin in both specimens.

School B.—Nine boys were selected as well as possible according to the plan specified above. No. 17, aged 19, the best runner in the school, who recently broke the school record for a mile, ran his mile easily and in good time. He exhibited an enlarged heart both to the right and the left, a heaving apex-beat, a systolic murmur at the apex and base, and an accentuated pulmonic second sound. His urine, voided after the run, showed a marked trace of albumin.

No. 11, aged 19, a large, muscular, strong boy, was said to have injured his heart playing football two years before. He showed a reverse blood-pressure, a slight emphysema, a slight increase of cardiac dulness to the left, a systolic murmur at the apex and an accentuated pulmonic second sound. His urine, voided after exercise, exhibited a faint trace of albumin.

No. 10, aged 17, a tall, slight boy, who had grown four inches in the past year, had been compelled during the winter to enter a lower form. He has had digestive disturbances, some circulatory weakness and several attacks of furunculosis during the past two years. He exhibited a reverse blood-pressure; his pulse before exercise was 118 in the vertical posture and 96 in the horizontal; after exercise, 152 and 124. His cardiac dulness was diminished, and he was exhausted after the exercise. Albumin and casts were found in both specimens of urine.

School C.—Eight boys were selected at random. No. 20, aged 17½, was a large, well-developed boy, had ruptured a vessel in the sclera of one eye a few days before while wrestling. He exhibited a high blood-pressure, vertical 175 mm., horizontal 150 mm., before exercise. His heart was enlarged, there was a loud systolic murmur at apex and base, and an accentuated pulmonic second sound. Both albumin and casts were present in the urine voided after the run.

School D.—Seven boys were selected from those who were training for track athletics; all of them showed albumin, and three of them casts, in the specimens of urine passed after the exercise.

No. 30, aged 15, a tall boy with remarkably well-developed legs and thighs, had grown decidedly during the past year. His pulse was 180 after the run. His blood-pressure was rather high before and rather low after the exercise. His urine contained albumin and casts in both specimens, and in the one voided after the run the albumin was a heavy trace and the casts were in great abundance.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] This method of testing the blood pressure was suggested to us by Dr. George L. Meylan, Adjunct Professor of Physical Education, Columbia University. The existence of what we have termed a "reverse blood-pressure," i. e., a higher blood-pressure in the horizontal than the vertical posture, he tells us, has often suggested some circulatory weakness which seems wise to supervise by repeated examination before a student is allowed to compete for a position on some college team.

In addition to these thirty-eight boys, six boys at School G in Massachusetts were examined before and after a quarter-mile run, the results of which are summarized in Table 2.

One of these boys, at the age of 13, exercised unduly the first year he passed at this school and was found to have a dilated heart when he returned home on a vacation. Our examination, made at the age of 19, showed slight thickening of the arteries, slight cyanotic color, an enlarged heart, a loud systolic murmur at the base, and an accentuated pulmonic second sound.

Eight boys were examined at School H in Massachusetts, before a one and a half mile practice row, and four of them after the row. Two exhibited a reverse blood-pressure. Albumin was found in all four specimens of urine voided after exercise; the sediments were not examined because the urine had decomposed. One of these four boys showed after the row, in addition to the reverse blood-pressure, a moderate cardiac dilatatio and slight evidence of exhaustion.

Six of the Columbia freshman crew, ages 16 to 22 average 18½, were examined before and after a ligh practice row. The blood-pressure was reversed in thre

AGES, 15 TO 19 YEARS; AVERAGE, 17 YEARS. TIME OF RUN, 61 TO 72 SECONDS

	No.	%
Pulse		
Irregular pulse	3	50
80 or above, before	2	33⅓
Horizontal > Vertical	0	0
150 or more, after	0	0
112 or more, half hour after	0	0
Blood-Pressure		
H > V, before	3	50
H > V, half hour after	1	16⅔
150 M.m. or above, before	0	0
Heart		
Dulness + to Right	2	33⅓
Dulness + to Left	1	16⅔
Dulness + above	0	0
Pulse 2°+	2	33⅓
Aortic+	2	33⅓
Apical murmur	2	33⅓
Basal murmur	3	50
Thrill	2	33⅓
Urine		
No mkd. + indican; no acetone	.	..
Albumin, before	2	33⅓
Casts, before	0	0
Albumin, after	2	33⅓
Casts, after	1	16⅔
Red blood cells	1	16⅔

TABLE 1.—EFFECTS OF EXERCISE

Form of exercise	A.—One Mile Run (plus).									B.—One Mile run.								
Athletic No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Time in minutes	8	9½	6¾	8	5+	7½	7	7	7	8	6¾	5⅔	7½	6	8¼	5⅞	5⅞	7⅓
Exercise habit	Mod.	Sl.	Sl.	++	++	Mod.	+	+	++	Sl.	++	++	m.	+	Sl.	+	++	++
Boy's age	19	17	17	18	19	19	18	17+	19	17	19	19	19	16	19	18	19	21
During past 2 years; marked increase in height	+	+	0	+	0	0	0	+	0	++	0	+	0	+	0	0	0	0
During past 2 years; marked increase in weight	+	+	0	+	+	+	0	0	+	+	+	+	+	+	+	0	0	0
		Tired.		Tasted blood.				Had a cold.		Exhausted.	Emphysema.	Pale.	Dusky.		Exhausted.		Dusky.	Tired; played baseball.
Pulse: Irregularity	+	0	0	0	+	0	0	+	+	+	0	0	+	0	0	0	0	0
Before exercise, Vertical	81	94	74	50	76	80	70	64	60	118	86	80	72	76	92	74	70	76
Before exercise, Horizontal	66	74	62	48	54	60	66	52	54	96	70	78	80	64	96	68	64	72
After exercise, Vertical	134	142	120	112	108	140	130	122	108	152	120	156	126	124	176	144	120	162
After exercise, Horizontal	118	132	96	96	104	112	112	120	96	124	96	116	108	100	110	116	104	104
⅓ to ¾ hrs. after exercise, Vertical	104	114	102	76	84	106	100	90	80	124	88	104	112	88	100	100	84	104
⅓ to ¾ hrs. after exercise, Horizontal	72	90	80	68	74	94	76	66	64	100	72	96	94	76	96	86	84	100
Blood pressure: Before exercise, Vertical	138	128	135	120	130	128	140	118	150	112	126	160	128	128	134	146	145	150
Before exercise, Horizontal	134	118	120	128	130	128	130	128	140	132	138	155	135	112	132	135	130	135
After exercise, Vertical	140	175	170	178	158	170	165	138	150	115	180	200	185	180	182	180	200	150
After exercise, Horizontal	132	108	115	140	148	141	135	138	120	120	160	193	160	160	160	188	160	152
½ to ⅔ hrs. after exercise, Vertical	105	115	100	105	108	115	112	112	132	100	128	135	115	120	135	135	134	130
½ to ⅔ hrs. after exercise, Horizontal	118	120	120	130	120	130	118	130	130	120	128	135	140	118	135	150	130	125
Heart: Cardiac dulness, + to right	+	0	0	+	Sl.	Sl.	Sl.	0	0	0	0	0	0	+	0	0	+	0
Cardiac dulness, + to left	0	Sl.	0	++	+	0	Sl.	0	0	0	0	Sl.	0	+	+	0	++	Sl.
Cardiac dulness, + above	0	0	Sl.	0	0	Sl.	0	0	0	0	0	0	0	0	0	0	0	0
Pulmonic 2d, +	0	+	0	+	+	Sl.	0	Sl.	0	Sl.	+	+	0	+	Sl.	0	+	Sl.
Aortic 2d, +	0	0	Sl.	0	0	0	Sl.	0	Sl.	0	0	0	0	0	0	0	+	0
Murmur, apex	+	Ft.	+	++	......	+	+	0	Ft.	0	Ft.	+	+	0	+	Ft.	++	0
Murmur, base	+	+	+	++	+	+	0	0	Ft.	0	Ft.	+	+	0	+	Ft.	++	0
Thrill	+	0	0	++	0	0	0	0	0	0	0	+	0	0	0	0	0	0
						Art. + F. R.									Gallop.		Heaving.	
Urine: Albumin, before	0	+	+++	0	+	0	0	0	0	+	0	+	0	0	0	0	0	0
Casts, before	+	0	0	+	0	0	0	0	0	+	0	0	+	0	0	0	0	0
Albumin, after	++	++	++	++	+	+	+	+	0	+++	+	++	+	+	+	+	++	0
Casts after	+++	+	+	+	0	0	+	0	+	+	0	?	+	0	0	0	0	0
Albumin, next morning	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Casts, next morning	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......

Indican: No marked excess was found in any specimen. Acetone: No acetone found in any specimen.

50 per cent. One of these three, who had been under Dr. Meylan's observation on account of a rapid pulse persisting after an attack of influenza in February, showed in the examination of urine after the row a heavy cloud of albumin and many casts. Another, aged 19, had grown markedly in the past year. The examination of the urine, both before and after, showed a trace of albumin and many casts in the specimen after the exercise. Another of these, aged 18, was the only one who showed any evidence of fatigue after the light row. He exhibited some emphysema. He had played water polo hard during the winter. There was a cloud of albumin and casts in the specimen taken after the exercise.

Ten Marathon runners were examined after the race, and all except one exhibited a low blood-pressure; 90 to 100 mm. The exception, the winner, showed 160 after and 120 before. Three were examined before and after another race. In the examination afterward all showed a blood-pressure below 105, while in that made before all showed a blood-pressure above 140.

These examinations show that some of the boys should not be allowed to take part in strenuous exercises or competitive sports unless carefully supervised by a competent physician. Permanent physical injury has resulted in the past which might have been prevented by careful watching; and the same harm will occur in the future. In most of the schools we visited an earnest effort has already been made to watch the boys more carefully; but, in our judgment, it was more in the direction of copying the college athletic training, in the effort to turn out winners, than with the idea of individualization and careful medical supervision. Even a competent supervisor is hardly capable of discriminating in some of the border-line cases cited above as to whether to permit exercise, to increase or to diminish it. The school physician examines each boy in the fall and again whenever called on to do so; but we found no definite, purposeful method of physical or urinary examination before or after such a functional test as we applied; nor any plan for an examination by the school physician before and after hard-matched games, although the frequency of the latter in some of the schools was quite as striking as at colleges. One of these physicians told us that some of the boys grew so rapidly that the fall examination was of little or no value in the spring.

It is not the province of this paper to discuss the significance of albumin and casts in the urinary analysis

ON THIRTY-EIGHT SCHOOLBOYS

C – One Mile Run.								D.—Equivalent of 1 Mile +.							E.—One Mile Indoors.			F.—One mile.	
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
10	......	8⅓	6¼	5⅓	......	......	8½	......	......	......	......	......	......	......	5⅔	6½	6	6	5⅔
Sl.	+	+	+	++	+	+	Mod.	+	+	Mod.	Mod.	Sl.	Sl.	Mod.	++	Mod	Mod.	+	+
18	17½	16	18	19	15½	17	15¾	19	18¾	14¾	15	17¾	18	17	17	18	18	20	19
0	0	+	0	0	+	0	+	0	0	0	++	0	0	0	0	+	0	0	0
0	0	Sl.	0	+	Sl.	0	+	0	0	+	+	0	0	+	+	+	0	0	+
Vegetarian.	Ruptured bl. vs. sclera.		Tired; played baseball.				Dusky.	Pale.		Did not finish.		Exhausted.	Did not finish.				Pale.	Exhausted.	
0	0	0	+	+	0	0	+	0	+	0	0	0	0	0	0	0	0	++	0
84	96	102	84	86	90	96	104	82	74	90	78	74	80	88	84	64	84	96	81
72	100	98	68	72	88	80	102	82	60	72	56	62	76	80	75	60	84	84	64
130	180	160	134	112	160	146	171	144	·126	98	180	132	120	152	150	144	150	116	156
106	120	128	124	96	112	112	116	120	92	88	120	100	112	108	132	114	120	108	116
......	120	118	116	100	96	92	104	108	92	90	116	104	116	112					
......	100	112	106	72	78	80	92	88	80	86	74	88	100	84					
132	175	138	140	135	140	Irreg. 150	132	115	140	105	150	130	132	150	138	134	136		
122	150	128	120	130	120	130	130	120	148	125	150	140	138	150	140	126	124		
120	165	135	150	170	165	160	120	170	130	115	132	105	135	128	154	131	166		
135	165	150	165	130	160	178	140	180	150	140	170	140	150	140	166	124	144		
......	148	116	100	122	128	120	110	100	112	100	100	110	120	140					
......	138	120	112	130	138	118	135	105	120	120	110	130	128	140					
0	++	0	0	Sl.	0	0	0	0	0	0	0	0	0	+	0	0	Sl.+	0	0
Sl.	Sl.	0	Sl.	Sl.	0	0	0	Sl.	0	0	0	Sl.	0	+	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	+	Sl.	0	0	Sl.	0	0	0	0	Sl.	0	+	0	+	0	Sl.	Sl.	0	Sl.
0	0	0	0	+	0	+	0	+	0	0	0	0	0	0	0	0	0	0	0
0	++	0	+	0	+	0	0	0	0	0	0	+	0	0	0	0	0	0	0
Ft.	++	Ft.	+	0	+	0	+	0	0	0	0	+	0	+	0	0	0	0	0
0	0	0	0	0	0	0	0	+	0	0	0	0	0	0	0	0	0	0	0
		Fetal.				Art. +					Red. 1st.								
0	0	+	0	0	0	+	0	+	0	0	+++	0	0	......	0	0	......	0	0
0	0	0	0	0	0	0	0	+	+	0	+	0	0	......	0	0	0	0	0
+	+	++	+	0	0	+	+	++	+	+	+++	+	++	0	++	++	+	0	0
0	+	+	0	0	0	+	0	++	0	0	+++	0	+	0	+	0	++	0	0
......	......	......	......	......	......	......	......	0	0	0	Sick.	0	0	0					
......	......	......	......	......	......	......	......	0	0	0	Sick.	0	0	+					

before and after exercise. Darling and others have shown that albumin and casts appear very often in the urine of young healthy adults after severe exercise. But some of our specimens showed albumin and casts before exercise and others showed a considerable amount of albumin and a great many casts after exercise. Such cases are evidently on the border-line between health and disease, if not beyond it, and merit careful supervision and individualization. Nor do we propose to dilate on the type of physical examination or functional test. A mile run is obviously too severe a strain for some boys, but, if so, these boys should not be allowed to compete in hard contests. From the results of the tests we made it is evident that many of the boys require as much careful supervision over their athletics as they do over their lessons.

It is an important question to determine the advisability of so much devotion to athletics among school boys; but it is within the range of this paper only to urge proper medical supervision over a part of the schoolboy's life, which in his eyes at least is quite as important as his studies. Colleges foster the spirit of competitive games; newspapers dilate on them; the age demands athletic development in the youth; but a growing boy, crowded hard at his lessons so as to pass his college examinations, may not be able to withstand repeated and continued athletic training.

48 West Fifty-first Street.

ABSTRACT OF DISCUSSION

Dr. De Lancey Rochester, Buffalo, N. Y.: I was much interested in Dr. Potter's paper, because of the occurrence of three cases of serious heart trouble which developed in boys under my observation who were engaged in school athletics. A point not brought out in the paper was the evil occasionally resulting from jumping. I have seen one case of flatfoot from this. I think one of the most serious things in athletic contests is the fact that they are contests. Games in schools are very good for the children: but I think that competition, which enters so largely into these contests, makes the boys overdo it to a great extent. Moreover, athletics are now appearing in the lower grades of schools, and I have now under observation two boys, 8 years of age, who have been injured by these athletic contests in school. These children are encouraged by their masters, and I believe there is great danger of the masters encouraging the boys too much, urging them on in these athletic contests to the physical injury of the boys.

Dr. Richard C. Cabot, Boston: Dr. Potter's paper backs up the conclusions reached by Dr. Darling of Cambridge in his observations on certain athletes, such as football players. An interesting point which Dr. Darling emphasized is that in fatigue we get conditions, not exactly healthy or exactly diseased, according to ordinary conceptions. He found in fatigue states not only a marked leucocytosis, but abnormal forms of leucocytes, such as are not to be discovered at all in health. Yet all these things apparently work no permanent harm to the individual. In one of Dr. Darling's cases (after a boat race) anyone would have said that the urine showed an acute nephritis; there was present a large amount of albumin, blood and many casts. Yet within a few days the urine was normal again. To me an interesting point is that from mere fatigue such changes can be produced in the heart, the blood and the kidneys. I should like to ask Dr. Potter the reason for this "reversed blood pressure." Why was it greater in the horizontal than in the upright position?

Dr. Stanley P. Black, Pasadena, Cal.: I should like to know how many of these athletes develop endocarditis, a severe endocarditis. I am afraid that we are developing heart troubles in the children. A child of 8 years is now taught to run one mile. I have seen young children run until they fall from exhaustion, unconscious on the track. I think it is an outrage that such is allowed, and the medical profession should enter a protest against the manner athletics is often carried on.

Dr. Nathaniel Bowditch Potter, New York: We attempted to estimate the blood pressure in the horizontal and in the upright position, because Dr. Meylan, in examining students at Columbia University, found that students whose vertical pressure was lower than the horizontal pressure needed careful watching. In our observations we hoped to find something definite from the test, but I can not say that we did. Many of the boys showed rather excessive fatigue after the race, presented a greater amount of albumin and a larger number of casts, or showed an abnormal heart's action, and some of these boys exhibited a reverse pressure which most of the others did not. In one of the schools where I examined six boys before and after a quarter-mile run, one boy exhibited a marked cardiac enlargement and a reverse blood pressure. Six years before, while at home on his vacation, Dr. Favill of Chicago asked Dr. Billings to examine the boy's heart. The boy had a dilated heart.

THE USES AND LIMITATIONS OF EXAMINATIONS OF THE STOMACH CONTENTS *

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The stomach-tube should not be too small; for an adult it should be from 30 to 35 French scale. It should not be too flexible; it should support its own weight held in the upright position for the length of twelve inches without bending. It should have the largest caliber possible without making it liable to bend sharply at an angle when pressed on. A good deal depends on the quality of the rubber; much depends on the character of the tube. It should have no pumping apparatus connected with it and it should be about 54 inches long.

On the introduction of the tube it is occasionally grasped by the esophagus about 8 or 10 inches from the teeth. If this delay is temporary, it depends on spasm, and one may expect to find either cardiospasmus or stricture at the cardia.

Finding portions of the test meal returned when the tube has passed about 14 inches, the food being unmixed with gastric juice, is evidence of obstruction of some kind at the cardia, the retention of food in the esophagus and probably dilatation of the latter.

If in pressing the tube onward it stops at the cardia or, engaging in a spasmodic contraction, is held fast, we may infer the existence of stricture or spasm at the end of the esophagus.

On passing the tube into the stomach we usually obtain the best reflow at a distance of from 21 to 22 inches from the teeth, provided the patient is an adult of ordinary stature, having the stomach in position and of normal size.

Where the stomach is high this result may be obtained at 18 inches. In a very tall person the tube may have to be passed 24 inches or beyond, even when the stomach is in a normal position.

When the tube is passed 20 to 22 inches we may find stomach contents; and on aspirating this, the tube being pressed further on, after a little resistance, it apparently gets into a second cavity from which stomach contents of different character is removed. This indicates an hour-glass stomach or a spasmodic contraction of the stomach between the second and the last third of the organ; in other words, at the antrum pylori.

When, after passing the tube the usual distance, we find present an unusually large amount of the test meal at the proper time, it indicates moderate motor insufficiency of the stomach which may depend on atony or on some opposition at the pylorus.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

If we find a large quantity of the test meal present undergoing fermentation, having a "musty" odor, showing a large quantity of bacteria and sarcinæ and full secretion of hydrochloric acid, with few lactic acid bacilli, it is indicative of benign obstruction at the pylorus.

If we find stagnating food of foul odor, either with or without free hydrochloric acid, with lactic acid present, together with the Oppler-Boas bacilli and unchanged or occult blood, it suggests malignancy and obstruction.

The presence of too little of the test meal at the usual time with, however, the presence of gastric juice, suggests overmotor activity.

When we find the stomach empty or find present too little of the test meal and no gastric juice, it indicates excessive motor activity, probably associated with achylia gastrica (frequently present in pernicious anemia).

A conclusion should not be reached by a single examination. On one day there may be found the absence of gastric secretion and on the next an excess of it. On one day the food may be retained beyond the usual time and on another it may have passed onward too quickly. From this we conclude that the patient is the subject of nervous disturbance, perhaps excited by the very practice of lavage.

When we find habitually an acidity above 60, depending on hydrochloric acid, free or combined, the presence of hyperchlorhydria is suggested.

Hyperchlorhydria, however, is not to be determined by a given standard. The secretions of the stomach are seldom stable and should not be fixed by positive laws. A secretion normal with one person is excessive with another. In other words, some patients suffer from the symptoms of hyperchlorhydria when the secretion is decidedly below the standard. Such patients may be victims of gastric hyperesthesia.

There are cases of practical suspension of the gastric secretory function with symptoms similar to those of hyperchlorhydria; these are probably instances of chronic glandular gastritis with exacerbations accompanied by symptoms of irritation.

Overacidity, with delay in digestion of starch, is indicative of hyperchlorhydria.

A high total acidity, depending mostly on free hydrochloric acid, suggests a defect in secretion of enzymes.

A high total acidity, depending largely on combined chlorids, suggests an active secretion of the enzymes.

The presence of mucus in excess should always attract attention. Large quantities of glairy, ropy mucus, unmixed with the test meal, indicates esophageal mucus which has entered the stomach through the irritation occasioned by the passing of the tube. It often occurs when the tube has been introduced in a clumsy manner. It is not indicative of gastritis.

Finding a mass of nummular sputa, often accompanied by pus and by epithelium from the respiratory tract, indicates that the mucus has been swallowed and is not of stomach origin.

When mucus is found thoroughly intermixed with the test meal, usually not glairy or ropy, it probably comes from the gastric mucosa, and is indicative of catarrhal gastritis.

The presence of occult blood, or blood cells having undergone change by digestion, is evidence that hemorrhage has taken place in the stomach with active secretion such as occurs in ulcer.

If the blood cells are found intact it speaks for recent hemorrhage or lack of digestive power, or both.

The presence of blood with mucus and pus cells, apparently not coming from the respiratory passages, with fragments of tissue, suggests ulceration or degeneration of the gastric mucosa and probably malignancy.

A slow return of the gastric contents through the tube, showing little pressure from below, is indicative of atony and probably of dilatation.

Finding food remaining after washing for a considerable time is evidence of atony and probably dilatation.

Finding that the stomach holds, without inconvenience, a large quantity of fluid is indicative of dilatation; however, testing the capacity of the organ in this manner is a practice not recommended.

On the other hand, if the stomach contents return through the tube with some force, it indicates a strong motor activity or a stomach greatly overdistended with contents—certainly a high pressure. (Under such circumstances we should attempt to rule out the elements of strong contraction of the abdominal muscles.)

A forcible return may occur in dilatation provided there is hypertrophy of the muscle walls as a result of pyloric stenosis.

Violent or spasmodic spurts, coming from the stomach-tube, result from sudden contraction of the abdominal muscles and a suddenly increased intra-abdominal pressure.

When bile is found in the stomach contents it probably depends on relaxation of the pylorus with upward pressure of the duodenal contents through contraction of the abdominal muscles, or reverse peristalsis.

When the proximal end of the tube is held beneath water and bubbles of gas escape through it, it is indicative of an excess of gas in the stomach.

When no gas escapes from the stomach, even though the patient complains of continuous eructations, it may be argued that the gas is not formed in the stomach by fermentation, but that we are dealing with a hysterical condition.

The slow change of albumin, especially of meat fibers, shows that the gastric digestion is retarded.

The presence of the odor of fatty acids, of a "musty" or vinous odor, is evidence of fermentation.

Too much importance should not be attributed in stomach examinations to the disturbances in secretion.

The greatest importance should be attributed to evidence of disturbances in motion.

The diagnosis of stomach diseases should not be made solely by examination of the gastric contents, but by the results of this method considered in connection with the symptomatology and with the estimation of all the facts in the case.

Wrong conceptions will arise from basing a diagnosis on stomach examinations alone, or on too infrequent examinations; or on examinations conducted without rules and without thought.

The stomach-tube is of the greatest importance in the matter of diagnosis; in treatment it is often useless and sometimes pernicious. Nevertheless it is at times a therapeutic agent of great efficiency and cannot be replaced by any other measure in poisoning cases, gastrectasis, before operation in obstruction, in some cases of intractable vomiting, in catarrhal gastritis and, in general, for the relief of an irritable gastric mucosa.

It should be much more generally employed than it is as a routine in general examinations, but, as in other physical methods of examination, the results will depend on the expertness and thoughtfulness of the examiner.

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X-RAY EVIDENCE IN GASTRIC CANCER *

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The treatment of cancer of the stomach rests in the hands of the surgeon, but the diagnosis rests in the brain of the physician. He is the first to see the case. If he fails to make an early diagnosis the surgeon can give no hope. And yet early diagnosis is often impossible even with the advantages of experience and the laboratory. For these reasons I hope to interest the internists of this Section in a comparatively new factor in the early diagnosis of cancer of the stomach. This factor is the *x*-ray plate.

The use of the *x*-ray in diseases of the alimentary tube depends on the fact that the inside of the stomach or intestine, when coated with a salt of bismuth, casts its shadow on plate or screen. In such shadows lie the *x*-ray evidence of gastric disease. These skiagraphs are not self-interpreting. A known and constant technic is a condition precedent. In addition to an *x*-ray training we must bring to bear the physical examination of the case, the laboratory findings, the inspection through the incision at operation, and the investigations of the post-mortem. The larger the record of a collective experience of many workers the more exact and comprehensive will be the interpretation of skiagraphs.

This illustrates the fact that we are in the primitive stage of the *x*-ray diagnosis of gastric cancer, and justifies me in assembling the diagnostic factors deducible from the *x*-ray image of the inner wall of the stomach, so as to consider those attributable to cancer.

The diagnostic factors presented are:

1. Size.
2. Form.
3. Position.
4. Clearance.
5. Location of pain-marker.

The size of the stomach must be judged by the size of the patient. The form of the stomach, which is subject to change without notice, may nevertheless clearly be designated as:

1. Normal stomach.
2. Tubular stomach.
3. Globular stomach.
4. Drain-trap stomach.
5. Deformed stomach.
    a. Indentation stomach.
        (1) From spleen or other adjacent organ.
        (2) From tumor in stomach wall.
        (3) From tumor outside stomach.
    b. Adherent stomach.
    c. Contractured stomach.
        (1) Forming pucker in body of stomach.
        (2) Forming hour-glass contraction.
        (3) Forming partial or complete stenosis at pylorus.

The position of the stomach may be normal, or may be displaced as a whole, or may suffer a displacement of certain parts, namely, the fundus, the greater curvature and the pylorus with its antrum.

If the center of pain, or of tenderness on pressure, be marked by a lead letter (P) fastened to the skin by adhesive plaster, we may find the demonstration of this displacement of the stomach or its parts, with reference to the lead letter as depicted on the *x*-ray plate, to be a matter of decisive importance. The stomach or its parts may extend to unexpected places. The lead marker, which we thought lay over the appendix, we may find to coincide with the pylorus; or, again, the lead marker, which we thought lay over the stomach, may lie over the pancreatic area, the stomach having prolapsed out of the way. Incidental to a stomach examination we may demonstrate the lead marker of pain or tenderness to coincide with the duodenum or some other portion of the small intestines, some part of the colon, or the spleen, liver, gall bladder, kidney, ureter or urinary bladder. But the position of the lead marker must not be implicitly relied on to localize the lesion. For example, a circumscribed abdominal pain may be due to a Pott's disease of the spine high up in the dorsal vertebræ, beyond the field of the stomach plate.

Our fourth factor, the clearance of the stomach or its power to empty its contents, depends on:

1. Position of greater curvature.
2. Position of pylorus.
3. Pyloric stenosis.
4. Pyloric insufficiency.
5. Hour-glass constriction.

An analysis of these diagnostic factors presented by stomach skiagraph shows that three out of five major factors may give information concerning gastric cancer. They are:

1. Form.
2. Location of lead marker.
3. Stomach clearance.

In the case of cancer the alterations of form are those of the indentation or contractured type of the deformed stomach. In the case of ulcer the alteration is confined to the contractured type. The indentation stomach is therefore the type distinctive of cancer. A benign growth would have to be excluded on other grounds.

The factor of stomach clearance is observed in the last plate. If bismuth remains an unusual time in the stomach, there may be a pyloric narrowing or an hour-glass contraction due to the scars of old sores or to indentations. Lastly, if the lead marker lies over a certain portion of the stomach and the case history shows the location of pain or tenderness to be constant, then we may add this fact to the other clinical data favoring cancer. By the same reasoning, if the marker lies over the duodenum we may suspect duodenal ulcer.

But the *x*-ray diagnostician must never judge a case from *x*-ray signs alone. He must possess himself of the entire clinical and laboratory records. The *x*-ray amplifies but does not supersede other means of diagnosis, although it often happens that the skiagraph supplies the missing premise of a diagnostic syllogism.

The problem of differential diagnosis may require a careful consideration of all available evidence in the case. When we find a deformed gastric outline we have to discriminate between an indentation from the pressure of other organs or growths; a local contraction of the stomach wall; an invasion of the stomach wall by a growth; and the presence of adhesions due to disease of contiguous organs. Also when we find low clearance and a globular form, and establish the fact of pyloric narrowing, we then have to discriminate between narrowing due to the scar tissue of ulcer; that due to growths in the walls of the antrum or pylorus; that due to pressure of growths or glands outside of the pylorus; and that due to binding of adhesions.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

In order to make these discriminations we must study the stomach under normal conditions so as to be able to recognize a departure from normal outlines. The normal stomach is more vertical than horizontal and lies above the plane of the umbilicus. Laterally, the axis of the stomach is oblique to that of the trunk, the fundus lying to the back and the pylorus to the front, so that when the patient is placed horizontally on his back the stomach contents gravitate to the fundus and, when placed on his abdomen, to the pylorus. The fundus is in contact with the diaphragm above, the left lobe of the liver to the right, and the spleen to the left and back. The main body of the stomach lies posteriorly in contact with the tail of the pancreas, the left kidney and suprarenal. On the left side it lies in contact with the spleen, the splenic flexure of the colon, the transverse colon, and the descending colon. On the right it lies against the vertebral column and the abdominal vessels. The antrum pylori at the back lies against the pancreas, while the whole stomach in front lies agaivst the abdominal wall. The displaced or dilated stomach may lie in contact with any and every organ in the abdominal cavity.

When we consider the contact relations of the stomach we see that a study of the indentations of the stomach walls may in different cases yield information concerning almost every abdominal organ.

Our technic must be adapted to these anatomical conditions. Air or bismuth within the stomach gives certain outlines. In actual practice by the bismuth method we have to do with the combination, since air or gas is always present to some extent. We must consider the following points:

Patient.
  1. Position of body.
  2. Degree of stomach distention
  3. Contents of stomach.
  4. Immobility.
Bismuth.
  1. Kind of salt.
  2. Quality.
  3. How suspended.
  4. How taken.
  5. How distributed.
Time of day for exposure of plates.
  1. Relation to meals.
  2. Time elapsing between ingestion of bismuth and exposure of plate.
  3. Number of plates and time between.

The patient may be in any position, but the best skiagraphs will be obtained by placing the patient horizontally, front down, on the plate.

Only by the horizontal position can we prevent the bismuth by its weight from deforming the true gastric outline. The preservation of the true gastric outline also depends on the degree of stomach distention and the nature of the stomach contents. The stomach should be empty to begin with and the distribution of bismuth should be such as to reveal most surely any indentations, contractures, or adhesions. This part of the technic must be an approximation because we can only approximate the size of the stomach preceding our *x*-ray plate.

Immobility of the patient may be obtained by having the breath held. Practical immobility of the stomach may be obtained by sufficiently rapid exposure, or by morphin. Morphin, however, destroys to a large extent the value of the second and third plates by interfering with the factor of stomach clearance and the intestinal distribution of the bismuth.

Nearly all of my stomach work since 1905, until two months ago, has been done with bismuth subnitrate. With the exposure of the final plate I have always given a full dose of Epsom salts. An average of three cases in a hundred, however, have shown some slight toxic symptoms consisting of faintness, cyanosis, slight pains and stiffness of the legs from ten to twenty-four hours after. With the Epsom salts following, I believe that bismuth subnitrate may be safely used. The subcarbonate, however, first suggested to me by Dr. Pfahler, gives equally good skiagraphs, and is free from the possibility of the decomposition of the nitrate radicle with the formation of poisonous nitrites.

The method of mixing the bismuth with some kind of foodstuff so as to fill the stomach does not meet our diagnostic requirements. The aim is not to fill the stomach, but to coat its walls; not to show a large bolus of food and bismuth, but to define stomach outlines. To this end the bismuth should be introduced into the stomach in the thinnest menstruum that can be swallowed. This is plain water.

The quantity of bismuth needed is, according to the size of the patient, from 40 to 100 gms. in from 250 to 500 c.c. of water. This is immediately distributed over the rough and furrowed mucosa of the stomach by placing the patient in the horizontal position, back down, on a swivel surgical chair or table, which is then tipped into the Trendelenburg position, head lowered, feet up. We may then slowly rotate the chair while the bismuth is settling upon the stomach lining, where it will be retained for a time which is more than ample for skiagraphic purposes. The patient is then directed to turn over via the left side, face down, without rising out of the horizontal, after which the chair is again tipped, head down, and rotated as before. From three to five minutes are sufficient for these maneuvers. The patient, now in the horizontal position, face down, arches the abdomen to allow a plate to be placed beneath. He then lies on the plate, care being taken to bring the arms forward so that the weight of the body is not supported by the elbows. A 14 by 17 plate should be placed so that the forward edge is on a line with the nipples. The tube should then be fixed, not closer than 50 cm. (or about 20 inches), over the center of the plate. The radial axis is then always in the center of the plate and need not be marked by plumb, as in my earlier plates.

If the preparations have been complete, including the previous fixing of a lead U in the umbilicus and a lead P over the center of the area of pain or tenderness, if such exist, then we shall be ready to turn on the *x*-ray in from five to fifteen minutes after giving the bismuth. The patient is directed to take a moderate breath and hold it as long as he can without moving in any way. This allows us from five to thirty seconds, according to the size of the patient, and ensures a serviceable negative in every case. The shorter the time the clearer-cut the negative. But all the time up to thirty seconds may be allowed which the apparatus requires.

The first plate (14 by 17) may be conveniently exposed in the morning after the test breakfast has been withdrawn for analysis. Then, an hour after the first plate, a second plate (10 by 12 or 8 by 10) should be exposed under a compression diaphragm so as to take in any area which the first plate shows as abnormal. If no such abnormality appears, then one should focus over the critical area within which lie the antrum pylori, the pylorus, the duodenum, the head of the pancreas and the common duct. Six hours after the first plate, or the time between two meals, a third plate (14 by 17) should be exposed. This will demonstrate stomach clearance, confirm gastric deformities, and show the intestinal distribution of the bismuth. If the first plate is exposed before dinner the third may be exposed before supper. After the first plate the meals should be eaten as usual.

As to the technic of coil, tube and plate, I would say only that skiagraphy of the alimentary tract by the bismuth method is hard-tissue skiagraphy, the bismuth areas often greatly exceeding the bones in density, as shown by stomach negatives.

The progress of the bismuth is often astonishingly rapid. In five minutes after the bismuth is taken a portion of the duodenum will commonly be coated. In fifteen minutes bismuth may be found in the jejunum, and not infrequently in coils of the ileum. In four hours the stomach may have emptied itself; and in four to six hours, the small intestines, by their vigorous peristalsis, may have passed the bismuth clearly and completely into the colon, where it may be distributed from the cecum to the sigmoid.

These points and each essential condition and factor mentioned in this paper are illustrated by seventy-two plates placed in observation frames in the Scientific Exhibit. Lack of time prevents me from demonstrating them on this platform. These are the best of several hundred plates taken by myself in the course of a private and consultation practice, and have been carefully labeled and described by typewritten sheets posted on the frames. I have been aided in the interpretation of each plate by my relation of physician to the patient, by a necessary familiarity with the clinical and laboratory findings, and by attendance on most of the cases for subsequent periods. When operation or autopsy has followed, such is indicated on the plate. This exhibit is arranged particularly for medical men who are not *x*-ray experts, because so many medical men, even some of national fame, seem strangely unaware of the possibilities of the *x*-ray plate.

I believe that sufficient stomach work has already been done by numerous *x*-ray operators in various parts of the world to demonstrate the incomparable value of the *x*-ray in cancer of the stomach as well as in a wide range of other affections of the alimentary tube. Medical men should study *x*-ray plates of their cases. It is no exaggeration to say that the *x*-ray plate and screen will give often more and better information than an exploratory operation. This is emphatically true in the case of gastric ulcer, but holds true in the main for gastric carcinoma. Where the diagnosis of malignant disease is not in doubt the *x*-ray should still be used, because few medical or surgical diagnoses are so exact and comprehensive that the skiagraph and screen may not extend or revise our knowledge.

In conclusion, I take pleasure in acknowledging my indebtedness to Dr. C. M. Spencer, my clinical assistant, for his very able service in this work.

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Teaching of Dermatology.—T. Caspar Gilchrist, in his presidential address before the American Dermatological Association, states that the teaching of dermatology of to-day and for the future means much harder work than formerly, as the dermatologist must not only convey his knowledge to the student by personal practical teaching, but must also advance the knowledge of our branch of medicine by investigation and experimental work, otherwise his horizon must inevitably grow narrower.—*Journal of Cutaneous Diseases.*

THE DETERMINATION OF TRYPSIN IN THE STOMACH CONTENTS AFTER OIL TEST MEALS *

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The experiments reported in the following paper are based on the work of Boldireff and Volhard. The former in experiments on dogs found that the introduction of oil into the stomach caused regurgitation of duodenal contents, in which the presence of pancreatic ferments could be demonstrated; the latter devised a new method for demonstrating the presence of trypsin and applied Boldireff's discovery to clinical uses.

A. OBJECTS, METHOD AND RESULTS IN GIVING OIL TEST MEALS

My first object was to substantiate the observations of others as to the ease and frequency with which duodenal contents might be obtained after the oil meal.

The second was to decide which of the methods proposed was best suited for detecting trypsin in the specimens secured.

The third was to discover what, if any, clinical value was to be attached to the findings thus obtained.

The oil meal as given, consisted of 100 to 200 c.c. of olive-oil or cottonseed-oil; in most cases this was given through a tube; occasionally the patients preferred to drink the oil. While the tube was in the stomach, before the oil was administered, any contents present were aspirated or washed out. In the case of a large dog, in which repeated attempts to obtain duodenal contents had failed, lavage with sodium bicarbonate solution, as well as the administration of magnesia, was tried without effect. In one-half to one hour, the oil was aspirated. In many cases a few cubic centimeters of whitish mucoid fluid, in addition to a small amount of oil, was all that could be recovered. In other cases a large amount of pale green or dark curdy green fluid, amounting in one case to as much as 250 c.c., was obtained. With this was a supernatant layer of unchanged oil and an intervening zone of soap-like emulsion. The tests were carried out in the separated white or green fluid without previous filtration.

The following is a summary of the oil test meals:

18 oil test meals were obtained from patients.
5 oil test meals were obtained from a large dog.
1 specimen was aspirated from the duodenum of a dog by intubation.
Twenty-four specimens in all were examined.
6 of these were of a light or dark green color.
18 were transparent, milky or in a very few cases brownish.
3 of the green specimens showed the presence of trypsin.
3 of the green specimens showed the absence of trypsin.
4 of the colorless specimens showed the presence of trypsin.
14 of the colorless specimens showed the absence of trypsin.

In addition four Ewald test meals, mostly green in color, were examined; one showed the presence of trypsin.

In practically all cases more or less fluid was obtained; frequently this was nothing more than a small amount of retained or possibly newly secreted gastric juice and mucus. It seemed to me, therefore, that the only criterion as to the character of the juice should be its color, indicating or not indicating the presence of bile, and its response to tests for ferments. A third factor might be the amount obtained. Judged by this standard, only nine out of the above eighteen tests on human beings can be considered successful. This differs widely from the results of a recent writer who was successful in 48 out of 50 cases. This disparity may be accounted for partly by my lack of experience, but more largely, as I shall point out, by his faulty controls. My conclusion, therefore, is that Boldireff's plan is superior to those previously suggested, but is by no means uniformly successful as several writers have intimated.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

* From the William Pepper Laboratory of Clinical Medicine.

B. COMPARATIVE VALUE OF METTE, VOLHARD AND GROSS METHODS OF TESTING FOR TRYPSIN

Of the numerous methods proposed at various times for the estimation of pepsin and trypsin only two or three, which have been used for the purpose under consideration, will be considered. Most of the others are too complicated for clinical use, or else offer no advantages over those here discussed. The Mette method, as I have described it in several previous articles, was employed and needs no minute description, as it is now fully given in the text-books. In using it for trypsin the contents were usually diluted with decinormal sodium carbonate solution, thus affording the most favorable conditions for tryptic digestion. Particles of fibrin were placed in each dish to detect traces of digestion.

The detailed technic of the Volhard method may be omitted, but it is necessary to give an outline to explain the principle on which it is based. A strong casein solution of a definite strength and alkalinity is prepared. To a measured portion of this alkaline fluid a definite amount of neutralized duodenal juice is added, and digestion allowed to proceed at 37 C. for twenty-four hours or other fixed period; then a definite but excessive amount of normal hydrochloric acid is added and the precipitation of the casein brought about by sodium sulphate. The amount of precipitate is found to be in inverse ratio to the amount of ferment, and on filtration the acidity of the filtrate, as tested by titration with decinormal sodium hydrate solution, is found to be increased directly in proportion to the amount of ferment. A control is used in each case, the acidity of the control being subtracted from that of the specimen under examination. The exact directions for the preparation of the solution are appended.

The method of Gross, which is very similar to the one simultaneously devised by Fuld, also utilizes casein as the substratum for digestion. A solution of casein, 0.1 per cent., in 0.1 per cent. sodium carbonate solution is prepared and 10 c.c. decanted into each of several test-tubes. The trypsin solution serially diluted is added and the tubes incubated for twenty-four hours. At the end of that time 1 per cent. acetic acid solution is added to each of the tubes and the dilution noted in which cloudiness is still produced. If the casein is completely digested no cloud appears.

The tests were employed first with artificial trypsin or pancreatin solutions and, secondly, with the contents obtained by Boldireff's method. Previous work with the Mette method had convinced me that it was a good, though not delicate, qualitative test of artificial trypsin solutions. In testing duodenal contents, however, I was unable to obtain any positive results. Particles of fibrin were frequently added to the dishes and almost invariably showed digestion in cases in which Volhard was positive. By the Volhard method eighteen specimens obtained from patients or from dogs after the oil meals, as well as several specimens of feces and ordinary stomach contents, were tested. Numerous experiments were also made with artificial solutions. In almost all cases the minutest traces of trypsin were clearly indicated. In a number of instances in testing duodenal contents a marked disparity was noted between a water control as used by Volhard and others, and a control consisting of the boiled specimen to be tested. These differences, as shown in the accompanying tables, were sufficient to counter-balance the low figures obtained in many of the positive results reported by others. I was also unable to obtain any definite quantitative results; occasionally the titration showed acidities closely corresponding in relative amount to the comparative strength of the trypsin solutions employed, but in the majority of instances in which trypsin solutions of varying strength were simultaneously tested, the stronger solutions gave higher results, but the figures bore no definite relation to the concentration of the ferment. In some cases this correspondence in results may have been due to the fact that the weaker solution gave a maximum effect. My conclusion was that the Volhard test had little value as a quantitative method, but was a delicate and reliable qualitative method.

The Gross test seemed to be a delicate one, but, as its inventor states, it is not suited without modification for use in duodenal contents, as bile salts and other constituents give rise to a similar precipitate which is liable to cause confusion.

TABLE 1.—Oil Test Meals from Patients*

Titrations made with decinormal sodium hydroxid solution. Phenolphthalein used as indicator. Results corrected for acidity of specimens. Temperature of thermostat 37 C.

	1	2	3	4	
1 (p. 82†). Gastrointestinal neurosis.	Control. Water 10 c.c.	Control. 10 c.c. of boiled specimen.	"Juice" 10 c.c.	"Juice" 5 c.c. Water 5 c.c.	Remarks.
Titration	11.2	14.4	16.0	14.4	Green color.
Less 2	....	....	14.4	14.4	Time 18 hours.
Increase in acidity.			1.6	0.0	Pepsin normal and trypsin absent by Mette.
2 (p. 92). Intestinal indigestion.	Same.	Same.	Same.	Same.	Remarks.
Titration	22.6	19.4	20.4	19.7	Green color.
Less 2	....	....	19.4	19.4	Time 24? hours.
Increase in acidity.			1.0	0.3	Pepsin present and trypsin absent by fibrin test.
3 (p. 64). Cancer of pancreas.	Same.	Omitted.	Same.	Same.	Remarks.
Titration	11.2	....	20.6	20.4	Green color.
Less 1	....	....	11.2	11.2	Time 16 hours.
Increase in acidity.			9.4	9.2	Control faulty.
4 (p. 72). Gastric ulcer.	Same.	Same as 1.	Same.	Same.	Remarks.
Titration	8.8	15.2	32.0	32.4	Green color.
Less 2	....	....	15.2	15.2	Time 8 hours.
Increase in acidity.			16.8	17.2	Pepsin normal and trypsin doubtful by Mette.
5 (p. 88). Cancer of stomach.	Same.	Same.	Same.	Same.	Remarks.
Titration	13.8	20.0	52.8	51.8	Green color.
Less 2	....	....	20.0	20.0	Time 24? hours.
Increase in acidity.			32.8	31.8	Temperature of incubator irregular. Pepsin and trypsin absent by Mette test.

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* This table shows a few typical cases. Nos. 1 and 2 may be regarded as negative, No. 3 shows a small amount of trypsin, Nos. 4 and 5 larger amounts. Water is shown not to be a sufficient control

† The page numbers refer to laboratory note-book.

My inclination in the future would be to use the Mette method and a simplified Volhard test in a purely qualitative way to control each other. I would use mensuration in the former and titration in the latter only when the results were doubtful.

The accompanying examples (Tables 1, 2 and 3) from my note-book have been arranged in tabular form to illustrate (1) the details of the dilutions and calculations, as well as (2) the results obtained by different methods and by the use of natural and artificial trypsin solutions.

TABLE 2.—Comparative Tests by Three Methods, Using Commercial Pancreatin (Wyeth's) as Digestant

Solution and dilutions made with 0.1 per cent. sodium carbonate solution.

	1 Sod. carb.	2 Pancreatin.	3 Same	4 Same	5 Same	6 Same
Volhard, 10 c.c. in each.	0.1%	1.0%	0.5%	0.1%	0.05%	0.01%
Titration	18.0	71.2	72.0	63.0	57.0	28.6
Less 1		18.0	18.0	18.0	18.0	18.0
Decrease in acidity.		53.2	54.0	45.0	39.0	10.6
Gross 1 c.c. in 10 c.c. of casein solution. After addition of 1% acetic.	Milky cloud.	No cloud.	No cloud.	No cloud.	No cloud.	Faint cloud: in 0.005 % distinct cloud.
Mette and fibrin. 5 c.c.	Trace	Trace	Faint Trace	Faint Trace	Neg.	Neg.
Mette tubes fibrin flakes.	Dissolved.	Dissolved.	Partially? dissolved.	Neg.	Neg.	Neg.

TABLE 3.—Merck's Trypsin 1 per Cent Tested by Volhard's Method*

	10 c.c. Water.	10 c.c. Solution.	10 c.c. Solution.	5 c.c. S. 5 c.c. W.
Titration	17.6	63.2	66.4	68.0
Less 1	....	17.6	17.6	17.6
Decrease in acid....... Time 3 hours.	....	46.6	48.8	50.4

Let us now pass to the clinical side of the question. My cases are too few in number to be of much value, so that after a brief outline of my results, I shall review the valuable or suggestive findings of others. As stated above, I have excluded from consideration all cases in which neither bile nor trypsin was present. This unfortunately limits the usefulness of the test, but seems to be unavoidable.

In four cases some affection of the pancreas was present or suspected.

Case 1.—In the first patient, the diagnosis of cancer of the pancreas was made at operation. Previous to operation 50 c.c. of green fluid had been obtained after an oil test meal. Volhard's test gave an increase in acidity of 9.4. Unfortunately water only was used as a control. Trypsin was probably diminished in amount or possibly absent.

Case 2.—The second case was one of cancer of the prostate with secondary growths. After an oil test meal, 3 c.c. of white fluid were obtained. The fibrin test for trypsin was positive; the Mette test was negative. At autopsy a secondary growth was found in the pancreas with necrosis of the tail of that organ and subdiaphragmatic abscess.

Case 3.—The third case presented indefinite intestinal symptoms which were said to have been relieved by pancreatin. The case was considered to be a gastrointestinal neurosis. Two oil test meals were examined, one specimen was white and gave a low positive result by Volhard (7.0); the other was green and contained no trypsin. The latter result seemed to be the more trustworthy.

Case 4.—The fourth case was referred to Dr. Edsall as a probable case of pancreatic disease, but he could not confirm this opinion. His diagnosis was intestinal indigestion. After an oil test meal 45 c.c. of greenish fluid was aspirated which proved to be free from trypsin by Volhard's test. In these four cases the method seemed not only to give no assistance in the diagnosis, but even to be more or less inconsistent with the clinical findings.

Cases 5 and 6.—In two cases of cancer of the stomach, strongly positive results were obtained by the Volhard test; in the first 32.8, in the second 29.7. In neither case was there any pyloric obstruction since in one the orifices were not involved, while in the other a partial gastrectomy had been performed. It has been suggested that there is a vicarious digestion in the stomach by means of trypsin in cases of impaired digestion. Strange to say, however, there was no reduction of the gastric activity in either of these cases.

The three remaining cases show nothing of interest and may be given in Table 4.

TABLE 4.—Oil Test Meal and Volhard's Test in Three Cases

Case.	Diag.	Quantity.	Color.	Volhard reading.
7	Chronic gastritis, with anacidity.	Small amt.	White.	4.0 (control water)
8	Hyperacid gastritis.	60 c.c.	Clear green.	0.0
9	Gastric ulcer.	250 c.c.	Green.	16.8

Oil juice was found active by Volhard in 9 out of 11, by Faubel in 23 out of 37, by Lewinski in 19 out of 27, by Molnár in 48 out of 50 cases. Boldireff, in a dog, was able to demonstrate the presence of trypsin before tying, and its absence after tying the pancreatic duct. Hemmeter and Lewinski found trypsin absent in the duodenal contents in cases of obstruction of the bile duct due to stone. Volhard, in a case of pancreatic diabetes, was able to verify the diagnosis of atrophy of the pancreas. He also found trypsin in two cases and was thus able to exclude pancreatic disease, which had been suspected. In 22 cases of achylia he missed trypsin only once. He found the same to be true of subacidity, and believes that this offers a plausible explanation of the good peptonization observed in these cases.

CONCLUSIONS

1. The duodenal contents may frequently be obtained after the oil test meal, though sometimes there is doubt as to the character of the fluid aspirated.

2. On this account it may be possible to exclude atrophy of the pancreas, but only under very unusual conditions can we demonstrate its presence. In a number of diseases the examination has yielded suggestive results.

3. The observation of Boldireff is of more interest from the point of view of pathologic physiology than of diagnosis, for example, in gastric ulcer and in achylia.

4. The casein method of Volhard is a delicate qualitative test for trypsin, but for this purpose needs simplification.

5. The regurgitation of the alkaline intestinal juice induced by oil may explain the therapeutic value of the latter in some cases of hyperacidity.

Finally, I desire to express my thanks to Dr. Robert G. Torrey for aid in performing the tests.

REVIEW OF LITERATURE

Boas: Centralbl. f. klin. Med., 1889, No. 6, x, 97; Ztschr. f. klin Med., 1890, xvii, 155.
Tschlenoff: Cor.-Bl. f. schwerz. Aerzte, 1889, No. 6, xix, 161.

Boas described the first systematic method for obtaining the duodenal contents. His plan was to massage the abdomen in the region of the gall-bladder and left lobe of the liver and afterward to aspirate any fluid that might have been forced into the stomach. In about fifty cases he obtained active intestinal juice in which he was able to demonstrate amylolytic, lipolytic and proteolytic ferments. He states that the tryptic action of the pancreatic secretion in weak acid or alkaline solutions is the only decisive test. He gives a complete description of the duodenal contents, which holds good for the fluid obtained by the oil method.

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* Many similar tests were made which agreed substantially with those given above.

Tschlenoff was able to obtain intestinal juice in five out of seven patients by the Boas method.

Hemmeter: Arch. f. Verdauungskr., ii, 85.
Kuhn: München. med. Wchnschr., 1896, No. 29, p. 674.

Hemmeter asserted that he was the first to introduce a methodical procedure for obtaining the duodenal contents by intubation of the duodenum. Kuhn's instrument is much simpler and better than Hemmeter's but either one requires too much technical skill to admit of its general use in clinical diagnosis.

Einhorn: New York Med. Jour., 1908, No. 25, lxxxvii, 1179

Einhorn has modified his "bucket" for the purpose of obtaining the contents of the duodenum for examination.

Goldschmidt: Deutsch. med. Wchnschr., 1909, No. 12, xxxv, 522.
Gross: Ibid, 1909, No. 16, xxxv, 706.

Goldschmidt and Gross, using the latter's method for detecting trypsin, have recently discovered this ferment in the feces of all normal persons examined. This does not agree with the observations of previous writers, but if confirmed will render the use of oil test meals quite superfluous.

Boldireff: Zentralbl. f. Physiol., 1904, No. 15, xviii, 457; Centralbl. f. Physiol. u. Path. d. Stoffwechs., 1908, No. 6, viii; Arch. f. d. ges. Physiol., 1907, Part 1, cxxi, 13.

The following is a condensation of Boldireff's most important conclusions. After fatty food, in cases of excessive acidity, and after long-continued fasting, a mixture of the pancreatic, intestinal and hepatic secretions pours into the stomach. This fact is utilized to obtain pancreatic juice and bile for examination, and must also be taken into account in tests to determine the acidity, the ferments and the motility of the stomach. Boldireff believes that when fatty food is taken gastric digestion is carried on largely by the ferments of the pancreas. He also states that none of the hypotheses which have been proposed to explain the fact that the stomach does not digest itself take the reflux of pancreatic juice into account. He thus hints at a new theory for the explanation of gastric ulcer. Hyperacidity does not increase the peptic power of pepsin but does favor regurgitation of pancreatic ferments.

Volhard: München. med. Wchnschr., 1907, No. 9, liv, 403.
Faubel: Beitr. z. chem. Physiol. u. Path. (Hoffmeister), 1907, x, 35.
Löhlein: Beitr. z. chem. Physiol. u. Path. (Hoffmeister), 1906, vii, 120.
Molnár: Ztschr. f. klin. Med., 1909, Parts 1-3, lxvii, 188.

Volhard was the first to employ Boldireff's plan for clinical purposes. For testing the "oil juice" he modified his pepsin method. The casein solution required is prepared as follows:

One hundred gm. of finely granular casein are added to 1 liter of distilled water treated with 80 c.c. of normal sodium hydroxid and made up to 2,000 c.c. with chloroform water. The mixture is slowly warmed on the water bath, with frequent shaking, till all the casein is dissolved, and then quickly raised to 85 or 90 C. to destroy bacteria and ferments. After cooling, a layer of toluol is added to prevent access of bacteria.

An individual test is carried out as follows:

One hundred c.c. of casein solution are placed in a flask marked at 300 and 400 c.c.; chloroform water is added to the mark 300 and then an accurately measured amount of trypsin solution (5 or 10 c.c.) previously neutralized. (The acidity may, however, be noted in advance and the necessary corrections made after the final titration.)

Control flasks are prepared in a similar manner, distilled water taking the place of trypsin solution. After incubation for a definite period of time, 11 c.c. of normal hydrochloric acid is added to each flask and then complete precipitation brought about by filling the flasks to the 400 c.c. mark with 20 per cent. sodium sulphate solution. After complete filtration 200 c.c. of the filtrate from each flask is titrated with decinormal sodium hydroxid solution, using phenolphthalein as an indicator. The acidity of the control is subtracted from that of the ferment containing solutions. In my tests the only modification of this method was in the use of a different preparation of casein from that recommended by Volhard (not obtainable in this country) and in the use of half the quantities recommended by him (Merck's Casein [Hammarsten] was used). My results were multiplied by two so as to compare with the results of other writers. Volhard and his followers found that trypsin as tested by this method did not follow the Schütz-Borrisow law.

Gross: Arch. f. exper. Path. u. Pharmakol., 1907, Parts 1-2, lviii, 157.
Lewinski: Deutsch. med. Wchnschr., 1908, No. 37, xxxiv.

Lewinski used the oil method in 27 cases, using the Gross test to detect the presence of trypsin. At first he was unable to obtain trypsin in hyperacidity cases, but afterward by giving half a teaspoonful of magnesia before the oil and again in twenty minutes, he was uniformly successful. He thinks that failure to obtain active juice shows pancreatic insufficiency or mechanical interference with the passage of the pancreatic secretion into the stomach.

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. STOCKTON, CRANE AND FARR

Dr. G. E. Pfahler, Philadelphia: We know so little that is definite in the diagnosis of cancer of the stomach that everything in advance in this line must be welcomed by all. If the members of the section will examine the plates which Dr. Crane has so carefully prepared, and which may be seen in the scientific exhibit, they will be convinced that the *x*-ray is not an illusion, but gives evidences of cancer. I have seen 35 cases of carcinoma of the stomach; some came to autopsy, while in the others the patients came to operation. In the majority there was no palpable tumor present. In the cases in which there was a palpable tumor it had to be differentiated from tumors of some other part of the intestinal tract. Very valuable evidence is given in this line by the *x*-ray. I think that the sooner the medical man gets in mind the actual and true position of the normal stomach, and forgets what has been considered as classical, the sooner will we enter lines of progress. It is hard to convince a man who is not familiar with the *x*-ray of its value in these cases. As a matter of fact, only one-half the evidence is obtained by the *x*-ray plate; the other half is obtained on the flouroscopic screen. Movements, such as the peristaltic movements, are not revealed on the plates, and I think these form the basis of a positive diagnosis, an early diagnosis. A little induration in the stomach walls, especially if occupying the lesser or greater curvature, causes a change in the wave, but this evidence cannot be obtained on the plate. Of course, a study of the plate by an experienced man is important.

I believe that unless we apply the pain-marker over the seat of pain and move the stomach, to determine that the point of pain moves with the stomach, it is of not much value. I think evidence found at autopsy will bear me out in this.

One must examine these patients in at least two positions, both the vertical and the recumbent. If in the vertical position with proper manipulation, moving the patient sideways, working on either side of the spinal column, will bring out all the evidence that is possible. I have been using bismuth subcarbonate and find it entirely satisfactory. In an examination of 365 patients for conditions affecting the gastrointestinal tract, in whom I used from 2 to 3 ounces of bismuth subcarbonate, I found no toxic symptoms, or a single symptom that could be traced to the use of the bismuth. I think this is a perfectly safe method. The only objections I can see are that too much time and patience are required and, also, one is put to a considerable expense. But these objections can be overcome.

Dr. A. W. Crane, Kalamazoo, Mich: One caution occurred to me in drawing conclusions from stomach contents obtained at different levels by the stomach tube. This is illustrated by one x-ray plate in the scientific exhibit on Young's Pier taken with the stomach tube in place in the stomach. It may there be seen that the cardiac orifice is on the side and not on top of the stomach. This orifice passes into the stomach toward the upper part of the great curvature. In many cases the end of the tube stops there, as shown by the skiagraph. If a further introduction of the tube is attempted the tube bends; the point does not descend. This is true in a certain proportion of the cases. In this particular plate it is determined beyond a doubt. In many cases in which the stomach contains but little, the contents can be obtained by placing the patient on his back in nearly a horizontal position; then the stomach contents flow upward to the fundus and can be easily drawn off with the tube. Again, in the so-called hour-glass stomachs, when there is a constriction between the upper and lower sacs, the opening is generally too small to permit the passage of the tube. In these cases the stomach contents are obtained from the upper sac, and would not differ in any respect from the contents of an esophageal diverticulum. I doubt if any man can tell whether the end of the tube is in the upper sac of an hour-glass stomach in which the constriction is high up, or in a diverticulum. The attempted diagnosis of such conditions with a stomach tube is open to serious objections. The x-ray plate is necessary.

Dr. Judson Daland, Philadelphia: During the past three years I have seen a number of cases of gastric tumors studied by x-ray, and it seems to me from the experience gained that so far as gastric carcinoma is concerned the entire work is in its very beginning. At the same time, we must acknowledge that the x-ray does aid us materially and in many directions. Often it makes clear the position of the tumor, whether gastric or not. It seems to me that it is especially important to be able to determine the peristaltic waves, if they can be plainly and distinctly seen. I believe that the fluoroscope has a value of more than one-half that of the skiagram. By the use of the screen one obtains, on the whole, more information than can be obtained by the skiagram. However, both methods must be employed. The use of bismuth in x-ray work is a welcome addition to diagnosis, and all the work that is to be done should be done with as much enthusiasm as has been shown in the past. By paying more attention to the work more definite signs than we now possess will be brought out. We need much more x-ray evidence than we now possess, and we must acknowledge that we have little evidence of carcinoma of the stomach, particularly in the early stages, when a diagnosis is most important. The use of the subnitrate of bismuth in doses of from 2 to 3 ounces for x-ray work I have seen give trouble which was of no particular importance; there would probably be a gastrointestinal irritation for two or three days and then it would pass away. Its occurrence was rather unusual and therefore did not constitute a bar to the further use of the x-ray. I think the subcarbonate is to be preferred to the subnitrate of bismuth.

Dr. Allen A. Jones, Buffalo: It is misleading when one attempts to judge the position and size of the stomach by means of the stomach tube; one cannot say that he is dealing with a normal stomach, a stomach in a normal position and of normal size, when the tube is used for this purpose. The contents may come through the stomach tube anywhere from nineteen inches or lower, even to twenty-six inches in normal cases. The contents may be obtained from the fundus or from the pyloric extremity. I was interested in Dr. Crane's statement in regard to hour-glass contraction of the stomach; he found it was impossible to differentiate between the contents obtained from the fundus and that obtained from a diverticulum of the esophagus, from a dilated esophagus, or from a stenosis from any cause. This emphasizes the extreme importance of the pyloric region of the stomach. Unless there is a proper mixture of gastric juice with the food at the pyloric extremity of the stomach, the stomach content does not assume normal characters. One point that Dr. Stockton mentioned was of considerable interest; this was the condition of the emptying function of the stomach with achylia gastrica. Recently considerable interest and significance has been attached to the chemistry in the duodenum and the pyloric closing and opening. It has been taught that, in normal digestion, when the duodenal contents reach an acid point, that is a certain degree of acidity, a reflex action occurs which results in the closure of the pylorus, and no more contents are allowed to pass on until that which is already present is neutralized and has probably passed down further in the duodenum. If that is true, theoretically the passage of the gastric contents must be much hurried in achylia gastrica. But clinically such is not the case. We frequently find the contents retained in the stomach as long as would obtain in normal digestion. These are the cases in which we are apt to have symptoms of achylia gastrica. Peristalsis is, after all the most effective measure, or means, of emptying the stomach contents into the duodenum, provided there is no pyloric stenosis and regardless of the fact that there is a low gastric acidity. On the contrary, however, it is in achylia gastrica that many marked cases of pyloric insufficiency and hurried emptying are observed.

Dr. John A. Lichty, Pittsburg: At the risk of being considered a psychiatrist, I wish to call attention to the effect of the mind or nervous system on these patients in whom we think it necessary to use a stomach tube. I believe that in the first days that the stomach tube is used the findings are of very little value, especially if the patient is a nervous one. If you tell the patient that you will pass the stomach tube on him next day he will worry all night about it, wondering how the stomach tube is going to feel. It certainly does have some effect on the digestive secretions, so much so in fact that the findings are of little value. I have also proved this in dogs. In our experiments on dogs we found that the dogs became fond of their keepers and the keepers could pass the stomach tube without any difficulty whatever: in these cases the stomach contents were found to be constant and normal. But one day one of the students asked me to let him go down and assist the janitor. All the dogs then had either diarrhea or vomited. This influence of the nervous system is not more so in dogs than it is in human beings. I wish to emphasize a point that Dr. Jones has mentioned in regard to the use of the x-ray, that is, the x-ray findings. Unless the stomach tube is passed up toward the pylorus the secretion withdrawn is not going to give a definite idea of the gastric secretion; one cannot always be sure of it. However, if the patient takes the tube nicely and easily, the physician then can rest assured that normal gastric secretion has been obtained. In spite of all this, I doubt whether the findings are always correct and that we can always make a correct interpretation of the findings. In those cases in which we have a definite clinical history we should disregard the gastric findings if they do not agree with the history. One should study the clinical history as much or more than the gastric findings.

Dr. Henry R. Harrower, Chicago: I believe that there is a possibility of mistake regarding the finding of the Oppler-Boas bacillus which the text-books lead us to believe is pathognomonic of gastric carcinoma. I have been misled in my brief experience by finding them in a number of gastric analyses; they were undoubtedly Oppler-Boas bacilli, but no malignancy was associated with them at all. At least two years have passed in one case, and this patient is not suffering from any gastric disturbance whatever. I have in mind a man who was suffering from some serious stomach disorder which was diagnosed as cancer. He vomited practically everything that passed into the stomach and was dying of starvation. I made a careful examination of the gastric contents and found a large number of what I believe to be Oppler-Boas bacilli. I think these bacilli can be easily recognized after one has seen them a few times. This patient was treated with ordinary digestants and eventually gained seventy pounds; in a year he was perfectly well. The Oppler-Boas bacillus is not pathognomonic of gastric carcinoma and this should be emphasized more, and the statements made in some text-books should be changed.

Dr. John N. Upshur, Richmond, Va.: I do not think that there is a more interesting subject than the study of stomach troubles. I am satisfied that the best men are sometimes in error as a result of their conclusions the result of analysis of gastric contents. If they could find it possible to be at both ends of the tube at the same time, that is, be the patient a well as doctor. I was one of those unfortunate people who had serious stomach trouble. I consulted several stomach specialists, who studied my case carefully. But I found from my own experience that my trouble was a neurasthenic one; it was a dilatation of the stomach of five inches, the result of a deficient motility as the result of a nervous breakdown. Four years later a specialist, who was thoroughly competent, told me that I had no dilatation at all. Now an exceedingly interesting thing to me was the use of the stomach tube. I am sure that I passed the stomach tube on myself at least 2,000 times. For seven years it was impossible for me to have a quiet night and be fit to work on the following day unless I used one gallon of sterilized water before retiring. The interesting feature in my case was that the digestive disturbance always came at the end of the day, when I was tired, mentally and physically. I am satisfied that the benefit, a decided benefit, arose from the use of the tube by causing a stimulation of the stomach with the sterilized water as a massage. The water was used at a temperature that was comfortable. There was an improvement in the motility of the stomach caused by the stimulation of the lavage together with long continued use of strychnin. I have not used the stomach tube for eighteen months and I am now in better physical condition than I have been in ten years and can do as much work as a young man can. What I wish to emphasize is that the best men are apt to make mistakes unless they can put themselves at both ends of the tube at the same time, at one end as the doctor, at the other as the patient; then they can arrive at some definite conclusion.

Dr. C. Urban Smith, Baltimore: I agree with the statement that the presence of the Boas-Oppler bacillus is not positive of carcinoma of the stomach. From what has been expressed here to-day one would infer that its presence was of positive diagnostic value, but we frequently find the bacillus in benign conditions. There is no doubt but that the Gram-positive finding of the bacillus in the feces is a valuable link in establishing a positive chain of evidence. In regard to the withdrawing of the stomach contents, and the statement that all the contents are rarely obtained by the ordinary methods, I wish to say that I find the expression method which is used largely in Germany is probably the best and simplest method to completely empty the stomach when properly performed, but requires a certain amount of practice and experience.

Dr. Frank Smithies, Ann Arbor, Mich.: Dr. Stockton should be praised for the complete résumé that he has given us. It seems to me that a fact not strongly emphasized should be mentioned. In the examination of stomachs the tube is frequently passed without sufficient attention being given to the state of the patient's mouth and teeth. Before the tube is passed it is well to have thorough cleansing of the teeth, mouth and throat. I recently had an experience which strongly mpressed this on me. A specimen supposed to be Oppler-Boas bacillus was sent to me. It turned out to be leptothrix from a dirty mouth. I think that greater stress should be laid on frequent examinations of the gastric secretions and contents. Outide of institutions it is common to have a diagnosis offered a patient, based on but one stomach examination. As Dr. Lichty has pointed out, this amounts to but little unless the findings re positive ones, as, for example, the contents showing typical cells, bacilli, etc., at this examination. With respect o the *x*-ray evidences in the diagnosis of cancer of the stomch, I must frankly admit that "I am from Missouri." From somewhat careful examination of the plates submitted, I must say that I see little that would lead one to differentiate etween early cancer or ulcer. And it must be remembered hat it is in the early cases that we are justified in recommending refinements of diagnosis. A study of the abdomen ith the aid of a fluoroscope frequently tells us important hings respecting gastric and intestinal motility. But I fail o see that the *x*-ray offers any more information or more exact nformation than one can gain from careful examination with he aid of the stomach tube at appropriate sittings. And it hould be emphasized that the stomach tube is always at hand.

Dr. Alexander Lambert, New York: Has Dr. Crane noced in the skiagraphs of cancer of the stomach any relation tween the pain described by the patient and the tenderness s elicited by the examination? As we know, the abdominal viscera refers pain to the abdominal wall. Has he drawn any conclusions; is there any relationship between the place of pain, as described by the patients, and the seat of the lesion as elicited by *x*-ray examination in cases of gastric carcinoma?

Dr. Philip King Brown, San Francisco: It is not an easy matter to differentiate the Boas-Oppler bacilli, and it cannot be done positively by simple staining methods. There are two definite types of organisms closely resembling the Boas-Oppler bacilli, and found commonly in stomach contents and stool. One is not uniformly positive with the Gram stain and has the same morphology as the colon group; Schmidt calls it the pseudocolon type. The other is very difficult to differentiate from the Boas-Oppler bacillus in stained specimens, except that it is slightly larger and thicker, and appears in long chains in the stool. It is also Gram-positive. What Dr. Smith has said is true; but be certain you are getting the Oppler-Boas bacillus before telling the patient that he has cancer.

Dr. Charles G. Stockton, Buffalo: Hour-glass stomachs are not seen frequently; it is not a common condition. A stomach tube could not pass through such a constriction readily, although I have done it in two cases. I feel convinced that the statements I have made will stand, with some exceptions of course. What Dr. Jones has stated in regard to the distance of the tube is perfectly true. Dr. Lichty's statement regarding the mental impression on the gastric secretions is correct and I am glad that he emphasized it as he did. The conclusions drawn regarding the stomach condition from one or two examinations are often misleading and throw the practice into disrepute. As to the Oppler-Boas bacilli, I think what has been said is true, but it has been said more strongly than I would say it. These bacilli are found in conditions not cancerous, but not in such abundance or regularity that I imagine one would believe from hearing what has been said. They are not at all pathognomonic of cancer. But when they are found in abundance they certainly have a diagnostic bearing, especially when taken in connection with other findings. Their presence does not stand alone and by itself in the diagnosis of cancer; this has never been claimed for them.

Dr. A. W. Crane, Kalamazoo, Mich.: If I gave the impression that the *x*-ray was an infallible means of diagnosticating cancer of the stomach, it was a mistake; it is simply one added factor to the other methods we have. To make plates is comparatively easy, but to interpret them requires understanding and training. To recapitulate briefly, the *x*-ray evidence of cancer of the stomach lies in the deformity of the normal outlines of the stomach. Ulcers or the scars of ulcers give contractures, while cancer gives an indentation of the stomach-wall. These distinctions are illustrated by many plates in the scientific exhibit. I should like to ask that the medical men give more attention to what the *x*-ray men in this country have to show them. They will find something in this method of diagnosis applied to the stomach.

The Changes in the Glandular Epithelium of the Uterine Mucosa in the Intermenstrual and Premenstrual Periods.—Material for the investigation was obtained from fifty-seven normal women whose menses were regular and abundant. The specimens were fixed in Zenker, Flemming and alcohol, and stained with safranin, hematoxylin and eosin, van Gieson and mucicarmin. From his histologic observations, R. Schröder (Inaug. Diss., University of Rostock, 1909), draws the following conclusions: The glandular epithelium of the uterine mucous membrane exhibits, eleven days after the beginning of menstruation, peculiar substances in the protoplasm of the cell, which have no affinity for staining reagents. These first make their appearance in the form of very small globules, which then grow larger and ultimately break through the cell wall and escape into the lumen of the gland. Along with these changes another substance makes its appearance in the glandular epithelium. It is characterized by its marked affinity for hematoxylin, and is first seen at the periphery of the cell. Soon the entire cell is filled and the stainable substance is next found in the lumen. It is thought that the glandular epithelium of the uterus is at all times, or at practically all times, capable of secreting mucus. The above changes, in all probability, represent different stages in the secretion of the peculiar uterine mucus.

THORACIC SURGERY *

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While fully appreciating the distinction conferred on me by your call to read a paper before this meeting on the present state of thoracic surgery, I realize that the prescribed time limit demands a concise handling of this subject. My assistant, Dr. Sauerbruch, was enabled to tell you last year at Chicago of his own ingenious studies and experiences, so that I can briefly dismiss the details of the method of operating under positive and negative pressure.

The surgery of the lung and the heart, as well as of the mediastinum, the diaphragm and the esophagus, are entitled to the greatest interest and attention, the outcome being governed by the manner of surgical interference. All these fields accordingly become criteria of eminent rank for the quality of our technic.

Surgical intervention on the affections of the lung may be classified under four different headings:

I. Intrapulmonary interference with diseased foci.

II. Influencing of pulmonary affections by way of the pleura, through compression of the lung.

III. Operative procedures on the thoracic wall, for the mechanical influencing of the pulmonary function, thereby reacting on pathologic processes in the lung.

IV. Operative treatment of the diseases of the thoracic wall itself, in as far as this leads to the exposure of the lung.

I shall say only a few words in regard to the management of pleural empyema later on.

I. INTRAPULMONARY INTERFERENCE WITH DISEASED FOCI

Simple intercostal incision is almost invariably the procedure of election for penetrating into the lung. Under employment of the differential pressure method, it affords complete information concerning the existing condition in the lung, and serves, therefore, as a sort of exploratory incision. With the lung open to inspection, and with control of the pneumothorax, the organ may be very completely palpated in all its parts; moreover, by artificially changing the pulmonary circulation, through variations of the pressure, the differences in color of healthy and diseased tissue may further be accentuated, and in the same way the lung may be put on the stretch or caused to relax. In the pressure-difference chamber operations are readily performed within fluctuations of 3 to 8 mm. mercury without endangering the patient's life or running the risk of pneumothorax. Hence, this procedure at the present day is almost a necessary requisite for exact anatomic planning and judicious conduct of the operation. In the treatment of wounds of the lung, as well as in all aseptic interventions on the organ, for the extirpation of tumors of the lung or of the chest wall, it greatly facilitates the work of the operator.

The dangers of pneumothorax for the circulation and respiration are lessened, it is true, by its gradual development, so that the affected lung segments may be drawn out and operated on, under tamponing of the remaining pleural space. But just as the risk of infection, in subsequent operative interference, is certainly increased by the preliminary application of pneumothorax (Dollinger), through revolutionizing of the lymphatic circulation in the pleura, we likewise add to the dang when we operate in the presence of pneumothorax, when we close wounds before the pneumothorax h been entirely removed. Infection represents the mo serious danger of all endothoracic operations, and wha ever serves to prevent its occurrence becomes a part the indispensable outfit of the operator.

The intercostal incision is sufficient, as a rule, ev for extensive foci of disease or injury, whereas the r moval of a considerable portion of one or two of t neighboring ribs is almost exclusively reserved for cas of gangrene or abscess. In lung injuries we aim at clo ing the wound by direct suture (Garré), if possib perhaps after trimming the margins, where these a ragged or soiled (Fig. 1). The lung is then dropp back into the thoracic cavity, and this is closed wi sutures. I recommend either the inverted suture (Fi 1, a, b, c) or the penetrating suture (Fig. 1, d and for suturing the lung, silk serving as suture m terial. Abscess and gangrene of the lung still requi suturing of the diseased segment to the thoracic wa opening the pathologic focus in the same or in anoth time. Particularly in the case of injuries, the discove of small wounds is greatly facilitated by the differenti pressure method; the artificial production of circulato changes affording reliable guides as to the source of th hemorrhage.

With special reference to tumors of the lung, the su total of our clinical experience is as yet far too sma for the outlining of the general technic. We know, how ever, that large segments of a lobe, or even an enti lobe, may be removed, if necessary, as has been show by animal experimentation and by clinical experien (Heidenhain, Lenhartz, Krause, Garré). The disease segment of lung is clamped off and then excised we into healthy tissue, under successive hemostasis wit the customary measures, partly by direct ligature, part by acupuncture. It is astonishing how easily hemostas in the lung may be obtained. The problem confrontin our technic is rather the closure of the bronchi in given case. Bronchial segments devoid of cartilage ma be freed from their mucosa (see instrument, Fig. 2 and then closed by direct ligature and acupunctur But as soon as the cartilaginous area of the bronchi reached, our technic is still unreliable, and it is not ye decided how often the opening of these bronchi wi necessitate a partially open treatment of the wounde lung area. It is then advisable to reduce as far as poss ble the size of the pulmonary wound by suture, all bu the large bronchial lumen, keeping the bronchus ope at first toward the outside, by fixing the lung to th chest wall. At the German Surgical Congress[1] i 1907 I have shown the point in the bronchi whe any lung amputation must stop, on account of th impossibility of definite bronchial closure, and the grav danger for the pulmonary plexuses of the vagus nerve The limit of operability is reached in this region. Le hartz employed a procedure in two stages: first, firml constricting the lobe at its base with an elastic ligatur following this ten days later by secondary ablation the ligated pulmonary segment.

I take advantage of the opportunity to show pictur of my instruments for operating on the lungs (Figs. to 6) as well as a picture of my operating table for th work (Figs. 7 and 8). At the same time I wish to poi out especially that all prolonged procedures in the cours of operating on the lung must be performed under th

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* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Arch. f. klin. Chir., 1907, lxxxii, 1.

most careful covering and bounding of the entire wound area with tampons and compresses. In this respect I agree absolutely with Krause, Helferich and Küttner.

The enormous significance of x-ray illumination for the diagnosis of operable diseases of the lung is generally known. With its aid alone, tumors have been recognized in cases in which the most painstaking physical examination failed. Detailed reference to certain corresponding observations in sarcoma and carcinoma would lead me too far and must be reserved for another occasion. Opinions are still at variance as to the relative value of operating in one or two stages in abscess and gangrene. In lung tumors also I leave the advisability of operating in two stages, in many of the cases, an open question for the time being. We are engaged at present in the clinics on work of this character, in which one of your countrymen, Dr. Robinson, of Boston, is taking an active part.

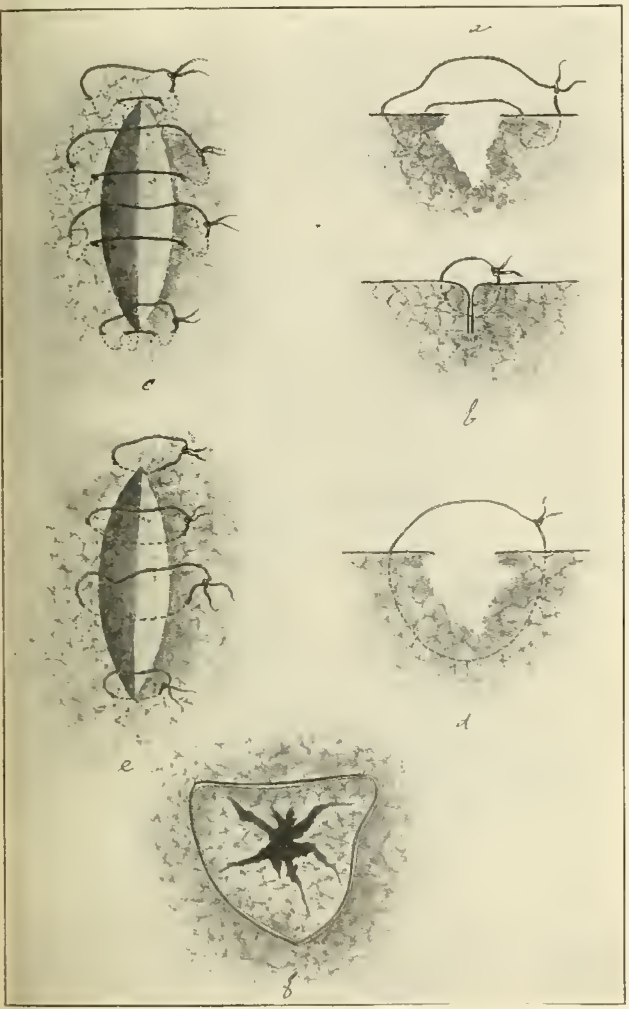

Fig. 1.—Sutures in lung tissue and excision of wound in the lung: a-c, inverted sutures; d and e, penetrating sutures; f, excision of wound of lung.

II. COMPRESSION OF THE LUNG THROUGH THE PLEURA AND THE TREATMENT OF PLEURAL EMPYEMA

The compression of the lung, by way of the pleura, through introduction of air or nitrogen, was recommended in pulmonary tuberculosis by Forlanini, Murphy, Lembke and Schell, Tuffier, Brauer, and in aspirative pneumonia by A. Schmidt. Many among you, I know, are impressed with Murphy's experience. Constricting the volume of the lung, and thereby inducing the shrinkage of the cavernous segments, with the associated influence of the shrinkage on the remaining symptoms, is certainly possible in a series of cases. The scope of usefulness of the method has been much discussed. The technic of nitrogen repletion, after a small pleural incision, is so simple as not to need special discussion. The necessary quickness and the proportionate amount of gas are readily acquired by the operator. The applicability of the procedure is limited, in so far as pleuritic adhesions may represent an insurmountable obstacle. Concerning the actual value and the limits of usefulness of this artificial restriction in volume, it has been found in a large number of cases that the collapse of the lung tissue was followed by subsidence of the sputum and the fever, improvement in the general condition and the physical findings in the lung. The subject has been extensively discussed in the literature of internal medicine.

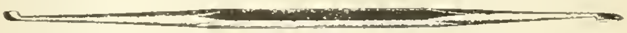

Fig. 2.—Author's bronchial spoon (about one-third actual size).

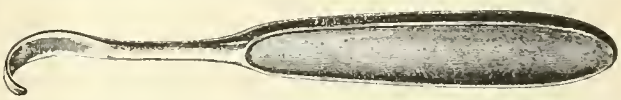

Fig. 3.—Author's double-curved elevator for drawing out the ribs (about two-fifths actual size).

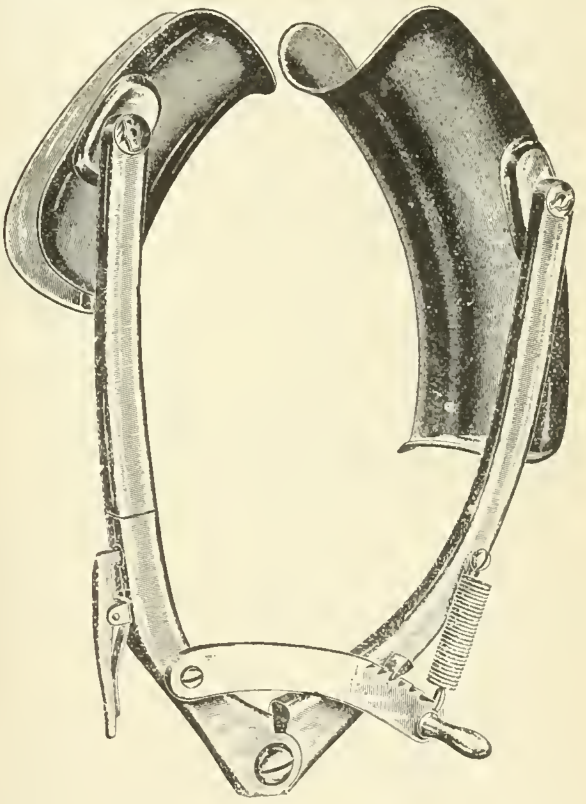

Fig. 4.—Rib-spreader, for use in operations on the lungs; after Mikulicz, modified according to Friedrich (about one-half actual size).

The introduction of the hand, by way of an intercostal incision, in order to enucleate the lung in the presence of adhesions, and to render it compressible, may prove an easy matter, or it may be attended with serious danger, as in one of my cases.[2] In my opinion,

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[2] Quoted in Surg., Gynec. and Obst., December, 1908, p. 632.

this procedure will prove successful in very exceptional cases only, the more so as but little hope is held out even by direct interference with the knife or the actual cautery, on such diseased segments of lung.

The treatment of pleural empyema, which should be referred to in this connection, will be thoroughly discussed to-day by another speaker, so that I shall limit myself to outlining in a few words our own attitude and technic. Every recent empyema is subjected in the first place to puncture with a thick trocar (or a small thoracocentesis incision), followed by immediate institution of drainage according to Thiersch. This is so imperfectly known that a brief description is desirable. A large fenestrated Nélaton catheter is passed through the sheath of the trocar, a rubber membrane with a small orifice is slipped over it and tied fast to the tube where it emerges, thus providing an air-tight closure of the thoracic cavity at the site of the puncture or incision. If the Nélaton catheter is continued into a soft-walled drainage-tube, which acts after the fashion of a vein, permitting the exudate to escape, under increased internal pleural pressure, while it does not allow the entrance of air, because of the coaptation of its walls in inspiration, the result is a reliable mechanism (Fig. 9) which effectively permits the drainage of the exudate and prevents the occurrence of pneumothorax.

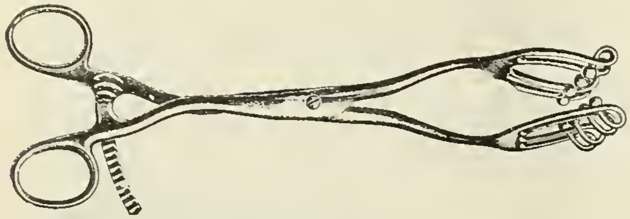

Fig. 5.—Author's lung forceps (about one-third actual size.)

Many empyemas, practically all the metapneumonic cases, are completely healed by means of this apparatus without further surgical assistance. After the pus focus in the pleura has become encapsulated, the resection of one or two ribs may be performed at any time, should the drainage prove insufficient. At any rate this resection has been altogether abandoned by me in recent not circumscribed exudates, because it is here not yet necessarily indicated, requires a longer time, and may be more dangerous through the onset of pneumothorax. Complicated aspiration apparatus is required in rare and exceptional cases only. Thoracoplasty, for long standing empyemas, is sometimes performed only with incisions in the thick pulmonary pleura without decortication of the lung and under partial preservation of the adherent costal picture, as was described by me in the discussion on this subject at the German Surgical Congress of 1898 at Berlin.

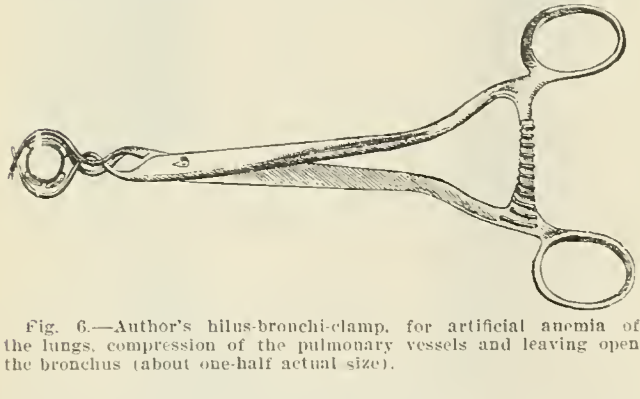

Fig. 6.—Author's hilus-bronchi-clamp, for artificial anemia of the lungs, compression of the pulmonary vessels and leaving open the bronchus (about one-half actual size).

III. OPERATIONS ON THE THORACIC WALL, FOR DISEASE OF THE LUNGS

Among the interventions on the thoracic wall itself in order to react in this way on the affected lung, operative procedures in emphysema and in tuberculosis have recently acquired prominence. The indications and plan of our thoracoplastic pleuropneumolysis in pulmonary tuberculosis have been extensively discussed by me in several publications, including *Surgery, Gynecology and Obstetrics*, and I have given the details of the proceeding and success of this operation a few days ago at the meeting of the American Surgical Association in Philadelphia.

In the first place I continue to maintain the correctness of my former attitude. The observation of my first cases, now dating back over eighteen months, further confirms the statements made by me at the German Surgical Congress of 1908, to the effect that the majority of the patients operated on are essentially improved, as regard their general condition, increase in body weight, subsidence of cough, sputum and fever. In my last cases, detached the apex of the lung itself and endeavored t induce its shrinkage. In my most radical procedure o deossification of the chest wall, the first rib had always been preserved, in consideration of the fact that its removal adds considerably to the length of the operation increases the technical difficulties, and thus heighten the risk run by the patient. In the absence of old periosteal inflammations of the ribs, as a sequel to apicopleuritis, the ablation of the first rib is not, however, attended with special difficulties.

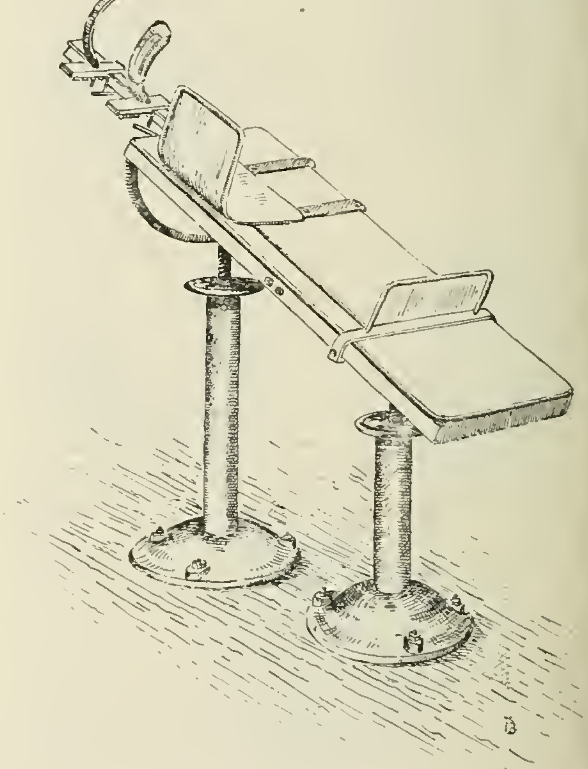

Fig. 7.—Author's lung-operating table.

As has been pointed out in my last publications, the cases should be strictly selected, and only those patient operated on who have unilateral cavernous lesions, with at most passive foci on the opposite side. They must be free from evident recent tuberculous processes in other regions of the body, more particularly the bowel.

Certain recent cases have encouraged me to extend the procedure also to conditions of slowly infiltrating noncavernous phthisis. The arrest of respiration is in itself capable of creating relatively favorable conditions for the cure of this type of phthisis also. In a similar way I have recently endeavored to eliminate an existing tuberculosis of the larynx by means of tracheotomy, and thereby to extend the indications for operating on the lung, but I am as yet unable to express an opinion as to the definite applicability and ultimate outcome under these circumstances. Freund's operation, the division of the first rib for the purpose of counteracting the progress of minute apical lesions, through improved ventilation of the pulmonary apex, I have not ventured on in any instance.

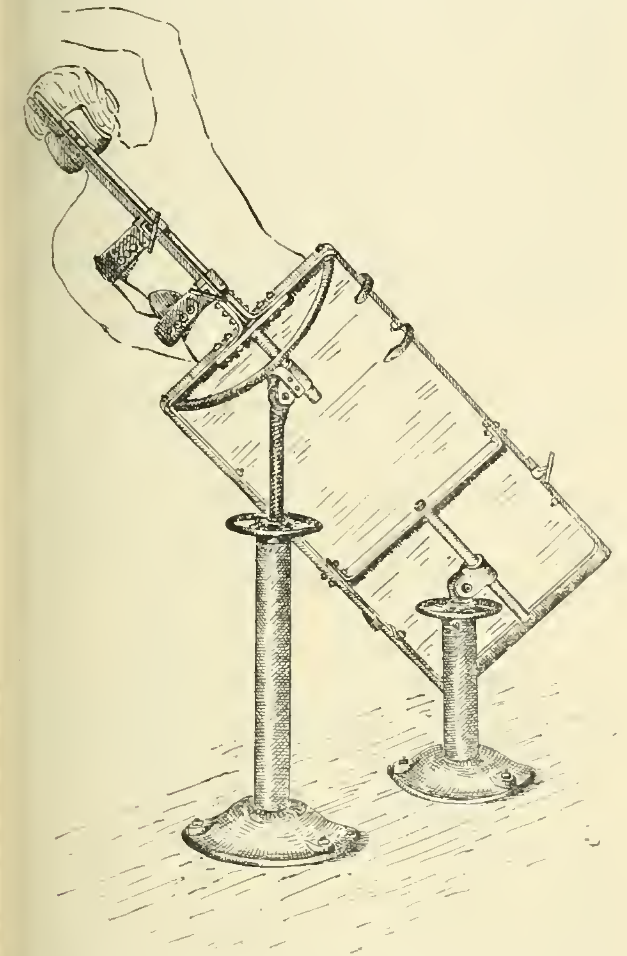

Fig. 8.—Author's lung-operating table, showing position of patient.

Concerning the treatment of pulmonary emphysema, through operative corrections of the rigid thorax by dividing several ribs in their cartilaginous area, I continue to adhere to the modification I have previously referred to, meaning that not only a small segment of cartilage is removed from each rib, as was done by the first operators, in connection with Freund's suggestion, but that pieces of 4.5 to 6 cm. in length are resected at the cartilage-bone boundary of the second to sixth rib, and this procedure followed by careful ablation of the retrocostal periosteum. This procedure has yielded a brilliant operative result in a case of genuine pulmonary emphysema of many years' standing. If the pieces are not long enough, or the removal of the retrocostal periosteum is not sufficiently thorough, a permanent result in the way of improved mobility of the thorax, even purely mechanical in character, can not be guaranteed. I have stated elsewhere that the cases must again be strictly selected for this operation; pure cases of primary alveolar emphysema alone should be operated on, for the time being. In case of all these patients, however, I believe myself fully justified in advocating the operation, which is easy of performance at the hands of an expert surgeon.

IV. OPERATIVE TREATMENT OF DISEASES OF THE THORACIC WALL OF THE HEART AND THE ENTRANCE INTO THE MEDIASTINUM

Tumors of the chest wall may be dealt with at the present day with a certain intrepidity. A number of cases from my clinic have been published, in which a flap of the soft parts was applied directly to the exposed lung, after extensive removal of the chest wall, and healed without reaction. In a case of thoracic sarcoma, in a man 34 years of age, I removed 160 square centimeters of the right diaphragm over the liver, in order to be radical, and the wound healed without interruption. This particular field I am inclined to regard as one in which the differential pressure method will score its first generally conceded triumphs.

The surgery of the heart has likewise been enriched of late by important contributions concerning the indications for operative interference. Especially in injuries of the heart, which in a large percentage of cases are associated with left-sided pneumothorax, I note a very essential advance in the recognition of the cardiac injury, by the rapid control of the pneumothorax through the differential pressure method.

In collaboration in my clinic, Sauerbruch and Häcker showed that the fall of the minimum pressure down to the zero value increases the blood pressure in the body, retards the heart-beat and augments the individual waves. Thus the arbitrary variation of the difference in pressure provides the means for influencing, at will, the sequence of the beats, and the repletion of the heart, in the individual steps of the operation. The pneumothorax will accordingly be maintained during the cardiorrhaphy, and removed for the next following suture of the pleura, in order to have the thoracic cavity filled with inflated lung, and less susceptible to infection. In the experiments, the heart function is invariably retarded as soon as the pericardium is opened, the individual contractions becoming stronger; the heart sometimes bulges out enlarged, the right half being especially voluminous. The hemorrhage is always systolic, becoming diastolic also only in case of large wounds and injuries of the auricles. Bleeding from the left ventricle is as a rule less severe than from the right. I was enabled to demonstrate on the human subject that the employment of the differential pressure method assists in the rendering of the diagnosis and the indications, in so far as the behavior of the pulse did not change with the variation of the pressure differences, the pulse being, therefore, governed exclusively by the heart puncture and the tamponing effect of the blood-filled pericardium on the heart. Furthermore, the hemorrhage from a heart wound is seen to diminish in proportion as the lungs are allowed to collapse. The pneumothorax thus becomes the regulator of the hemorrhage, and is allowed to persist until the suture of the heart has been completed. After the cardiorrhaphy, the pneumothorax is definitely removed, and the pleura and pericardium are sutured. The shaking movements of the heart invariably present during the application of the suture are best controlled by grasping the heart properly, or by means of fixation with a supporting loop.

The intercostal incision alone has been repeatedly advocated of late for the exposure of the heart. At my hands, the ablation of the cartilage of the fifth rib, to an extent of 10 cm., proved very valuable in injury of the right ventricle, after preliminary double ligature of the left mammary artery. One rule will not fit all cases; and the possibility of free inspection should at once be provided, as otherwise much pulling on the heart or bending of the organ may become necessary to render the injury accessible. The ablation of the costal cartilages proved no obstacle for primary wound closing and accurate healing, complete recovery ensuing in a very short time. These experiences with suture of the right ventricle contributed to my adopting a new route for the exposure, especially of the anterior mediastinum: namely, transverse sternothoracotomy. The exposure of the root of the large vessels, as well as entrance into the anterior and posterior mediastinum are enormously facilitated by this mode of incision, with diminution of the dangers, and improved conditions for healing. After bilateral ligature of the mammary artery, the sternum is sawed through from behind with the Gigli saw, and the transverse incision is extended on either side into the intercostal muscle tissue. In this way a sufficiently free access is rapidly obtained (Fig. 10) without sacrificing portions of the sternum or the ribs. In contradistinction, the longitudinal division of the sternum, as practiced in certain isolated cases, not only represents a much more serious and time-consuming intervention, but it has its natural limitations on account of the opposing action of the clavicles and ribs. The removal of a large "Askanazy-glandular tumor" from the anterior mediastinum was successfully accomplished, the case terminating in recovery; also that of a large tumor which grew downward from a pedicle behind the bronchi and the heart, its origin not being properly recognized until the operation. In the second case, both pleura had to be opened at the beginning of the operation, and this proved possible without any disturbance of the heart action during the entire procedure. The patient unfortunately died toward the end of the operation, because of an accidental injury of the wall of the superior vena cava, which was immediately followed by an air-embolism with fatal outcome. These disastrous sequelæ may possibly be avoided in future cases by adopting the suggestion of my assistant, Dr. Schöne, and at once aspirating the air, through a strong pump-syringe (after the manner of Trendelenburg's operation for embolism) from the branches of the pulmonary artery, after temporarily clamping the pulmonary artery or the vena cava close to the heart. Experimentation in my clinic has shown (Sauerbruch and Häcker) that both venæ cavæ may be closed for several minutes, leaving the pulmonary area devoid of a blood supply, without immediately endangering life. On the other hand, personal observation on the human subject has taught me that after complete arrest of the heart action during one to one and one-quarter minutes, the exposed organ will promptly respond again to correct massage, with a rhythmic sequence of beats.

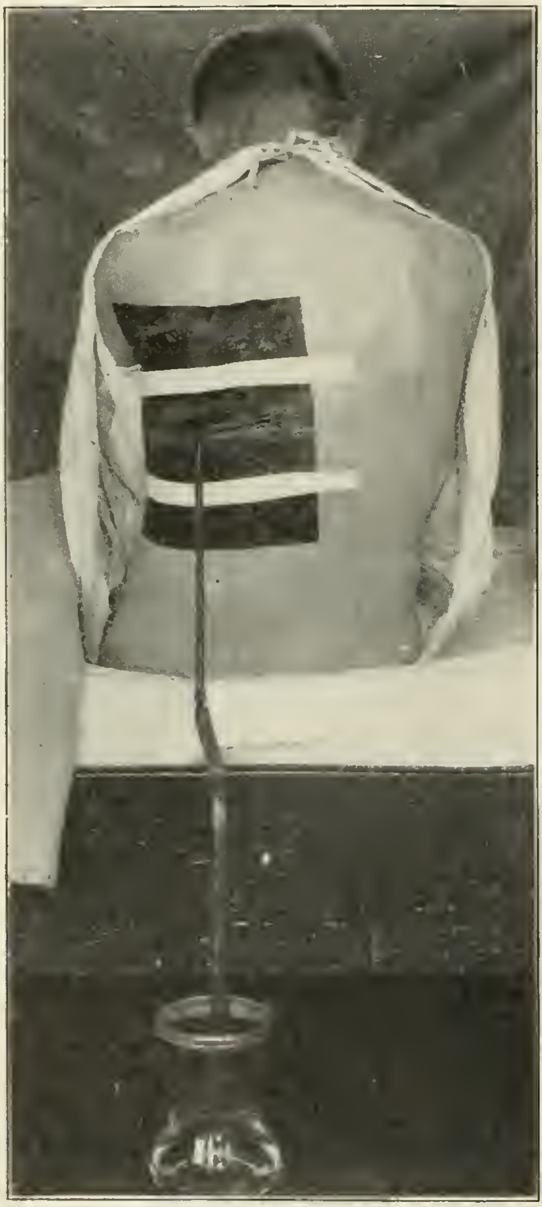

Fig. 9.—Thiersch's drainage.

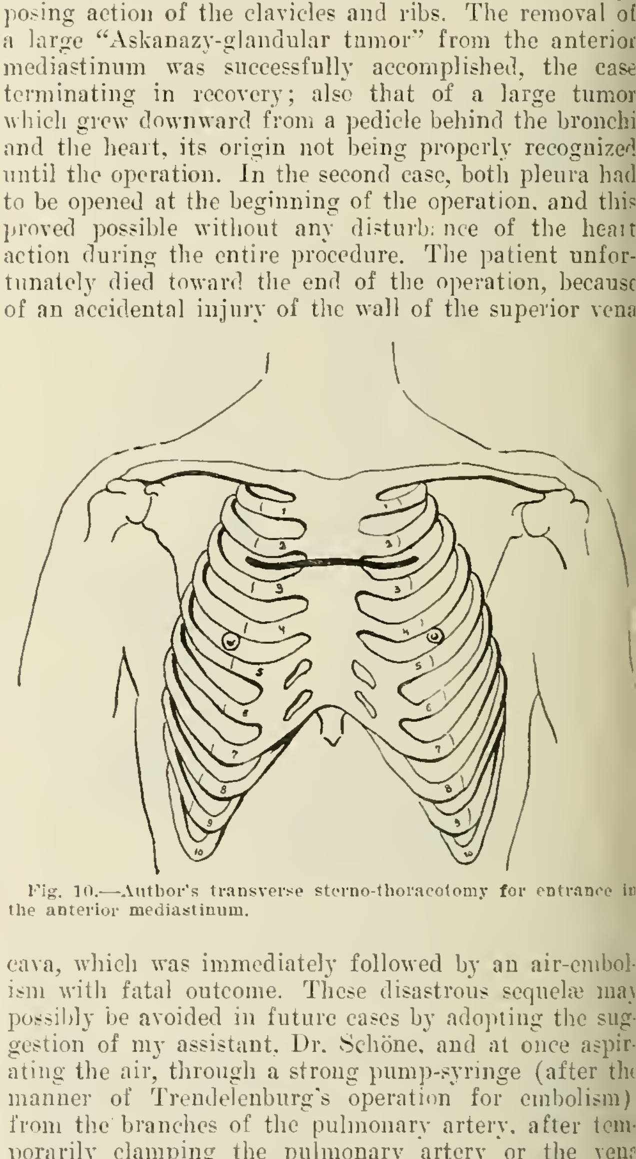

Fig. 10.—Author's transverse sterno-thoracotomy for entrance in the anterior mediastinum.

All the recent experiences of cardiac and mediastinal surgery may be summarized to the effect that by acting promptly, under strict asepsis, after a sharply outlined anatomic plan, we may, with the aid of modern technical devices, anticipate further results which far exceed the limit of what has been accomplished in the past. Successful operative treatment of valvular stenoses of the mitral and aortic valves seems by no means beyond the realm of the attainable.

In conclusion, I wish to add a few words on the resection of the esophagus. Particularly in this connection, the artificial suppression of pneumothorax has induced exaggerated expectations (Mikulicz), but surgical experience is constantly bearing out the views of those who did not consider the prospects in this direction as particularly hopeful. Only the lowermost segment of the esophagus, about 6 or 8 cm. above the cardiac orifice, and the cardiac orifice itself, may still be regarded as legitimate fields for the operation (Sauerbruch, Küttner). Here, again, exploratory thoracotomy can alone afford sufficient information concerning the extent of the disease and the practicability of the operation: and unless the lifting of the stomach through the diaphragm permits the replacement of the lower end of the esophagus we are not justified in speaking of it as a useful operation. The achievement of half-way permanent results, in spite of much earnest endeavor, still remains a desideratum.

I am well aware of the sketchy nature of these remarks, but this mere sketch will serve to show how large a space of time would be required for a fairly complete picture of this special field of surgery.

EXPERIMENTAL INTRATHORACIC ESOPHAGEAL SURGERY *

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During the past year we have limited our work chiefly to intrathoracic esophageal operations. Our aim has been to develop the technic of an operation for each of the following purposes:

1. For circuiting the cardia by the establishment of an anastomosis between the stomach and esophagus.
2. For resection of a portion of both the stomach and esophagus.

We have used two methods of artificial respiration; the one by an inflation of the lungs through an intubation tube; the other by a positive pressure cabinet, similar to that devised by F. T. Murphy and Brauer, in which the head of the dog has been placed.

Each method has had definite advantages. The intubation method has demonstrated two important facts:

1. An artificial apnea is developed which abolishes all muscular effort at respiration during operation.
2. The range of ether-administration is greater and the danger of death from too deep narcosis is less.

The peculiar advantages of the cabinet are the following:

1. The absence of a tube entering the larynx.
2. The smaller quantity of ether required, on account of the pressure of air on the head.

So decided have been the advantages of each method that we have combined the good features of both appliances, and with the cooperation of Prof. Joseph A. Blake, we have had a new apparatus constructed (Fig 1). It consists of an air-tight box, in the front of which is an opening to receive the patient's head. On both sides of it there are glass port-holes which can be opened and through which the etherizer can constantly view the face of the patient. Below and behind these, at convenient distances, are openings for the etherizer's arms. The posterior one of these is fitted with a rubber valve which prevents the escape of air when the arm is introduced. The front one is closed by the rubber glove suggested by F. T. Murphy, of Boston. This has a long gauntlet and permits the anesthetist to remove the arm at will during the operation. Lights are arranged along the posterior wall for the double purpose of affording illumination and warming the air. The exact shape of the box is unimportant.[1]

The particular feature, however, to which attention is directed is a mechanism situated on the top of the cabinet that permits of a rhythmical escape of air from the box. In virtue of this there is a periodical rise in pressure to the desired height, alternating with a rapid fall to normal atmospheric pressure. The rapidity of this rhythm can be varied at will by the rheostat which controls the speed of the motor and pump. The valve accomplishing this is opened and closed by a commutator turned by a gear and pinion attached to the crank-shaft of the pump. The brush making the contact with the commutator is in series with a helix which operates this valve.[2]

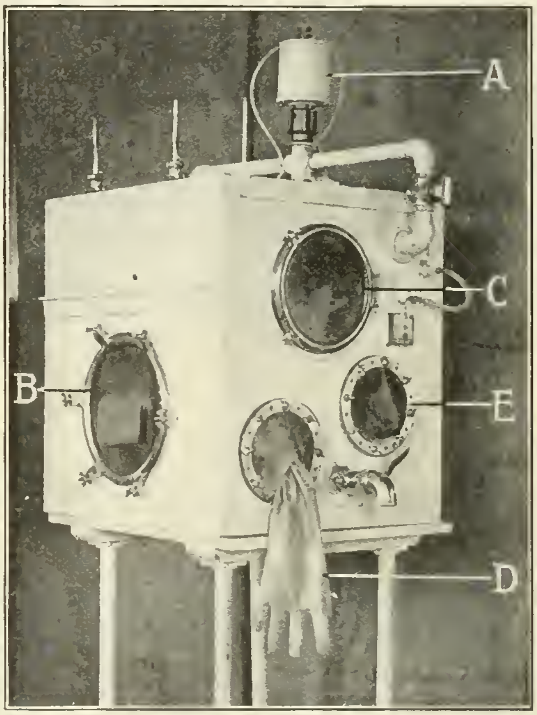

Fig. 1.—Pneumatic positive pressure cabinet. A, automatically working valve for producing rhythmical rise and fall of pressure; B, opening for the head; C, glass port-hole for observing the patient; D, port-hole for the left hand with the glove pulled out; E, opening for the right hand of the anesthetist.

By means of this mechanism practically as complete inflation and deflation of the lungs and the same inhibition of muscular efforts at respiration is obtained as by the intubation method. Professor Blake, for whom this cabinet has been made, has on the human subject demonstrated that such an inhibition occurred. During an

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* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] We are now having another cabinet constructed which is so arranged that the etherizer is seated behind and introduces his hands through holes in the back wall, and views the patient's head through a port-hole situated in a slanting posterior portion of the roof of the box.

[2] We are now devising a more compact pump and motor which can be placed on the shelf between the legs of the table on which the box rests.

operation for empyema in a child, whenever this device was utilized, the diaphragm and intercostal muscles remained at rest. This contrasted strongly with the respiratory efforts which occurred as soon as the valves were turned which permit of a change to the maintenance of a constant positive pressure. We desire to lay special stress on this point, because the absence of muscular movements during operations in the thoracic cavity contributes in an important degree to the speed and ease of the operation.

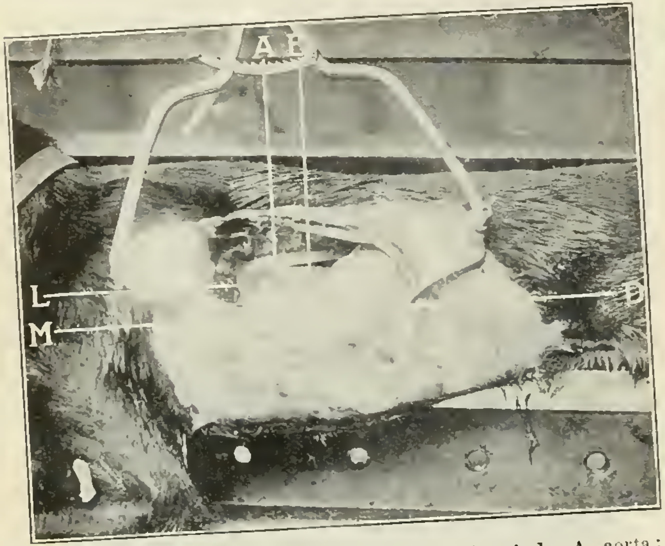

Fig. 2.—Chest opened with the viscera undisturbed. A, aorta; E, esophagus; L, lung held up by retractor; M, mediastinum; D, diaphragm.

TECHNIC OF OPERATIONS

In the past year we have operated on sixty-nine dogs. During the entire time of each operation complete anesthesia by either chloroform or ether was maintained. Our technic has been as follows:

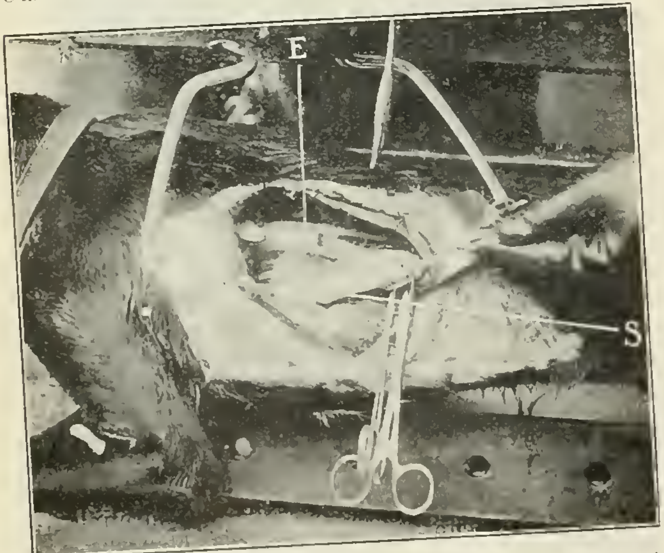

Fig. 4.—Female half of the button introduced into the stomach at S; and a purse-string suture around the opening ready to be drawn up. The male portion of the button lies in the esophagus at E.

1. Gastroesophageal Anastomosis Without Resection.—The eighth rib is first resected subperiosteally. The chest cavity is opened in the periosteal floor of the resected rib (Fig. 2). The peritoneal cavity is opened through the diaphragm, and the anterior wall of the drawn up into the thoracic cavity (Fig. 3). The stomach is opened, the female half of the button is introduced (Fig. 4), and the opening closed by a purse-string suture. The male half, which has been previously passed down the esophagus, is now separated from its carrier and supported for engaging the female half (Fig. 5). This button, which has been designed by us especially for esophageal anastomosis and depends for its union on penetrating needles, is then pressed together. The circle of anastomosis is reinforced by a running suture (Fig. 6). The portion of tissue between the two halves of the button subsequently sloughs out and liberates the button. The opening through the diaphragm is closed by suturing this structure to the wall of the stomach (Fig. 7). Closure of the chest c pletes the operation.

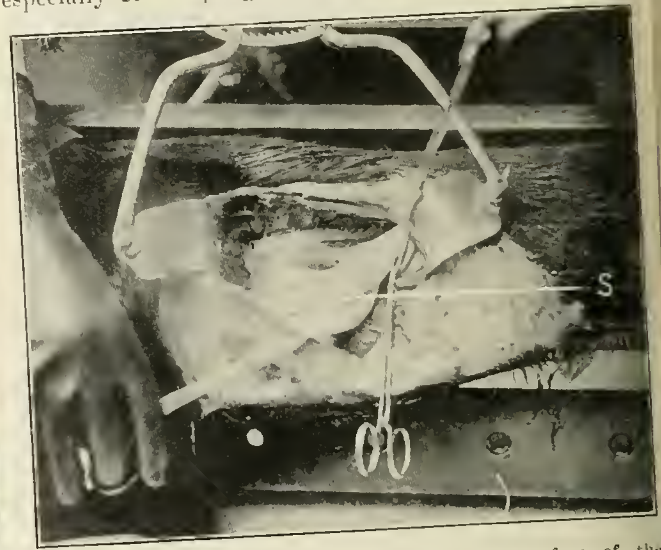

Fig. 3.—Diaphragm opened and the anterior surface of the stomach, S, drawn up through the opening.

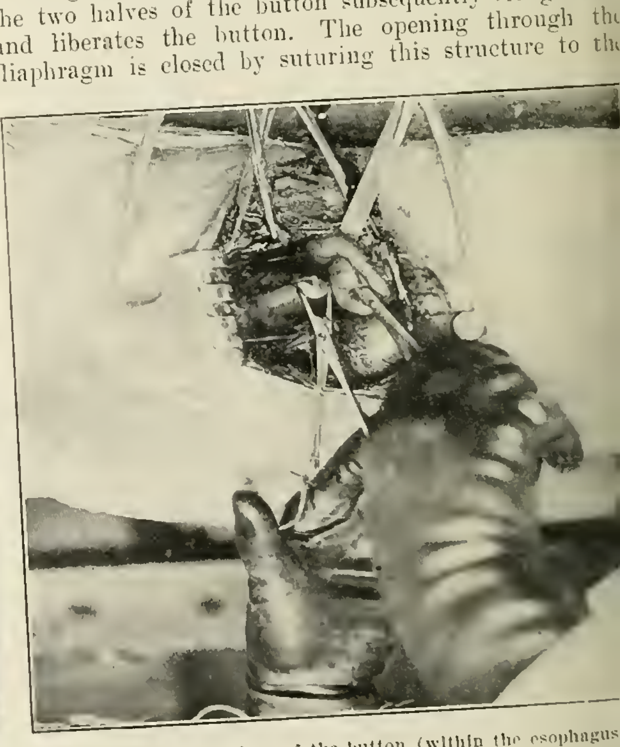

Fig. 5.—The two halves of the button (within the esophagus the stomach) being approximated and ready to be pressed toge

2. Gastroesophageal Anastomosis with Resection Portion of the Esophagus and Stomach.—In this p dure we have found it an advantage to resect both seventh and eighth ribs, but to open the thoracic ca n the periosteal floor of the seventh rib. The peritoneal cavity is opened behind (Fig. 8) and in front of the stomach. The gastrosplenic (Fig. 9) and gastrohepatic ligaments are now divided between double ligatures. This permits of the delivery of a large portion of the stomach into the thoracic cavity. The cardia is divided with the cautery-knife between two clamps (Fig. 10). The esophageal stump is protected by clamping over it a gauze pad. Interrupted Lembert sutures are passed from the posterior wall over the clamp to the anterior wall of the stomach. The clamp is now removed, all bleeding stopped, and the female half of the button dropped into the cavity of the stomach. The interrupted sutures are now tied and closure of the stomach completed by continuous Lembert sutures. The esophagus is then amputated by the cautery between a purse-string suture, and a clamp which is applied to the upper end of the segment to be removed. The free end of the esophagus is pushed into the cavity of the male half of the button (Fig. 11), and the two halves are pushed together. The circle of union is reinforced by a running stitch (Fig. 12). The stomach is then sewed to the opening in the diaphragm, and the chest wall closed.

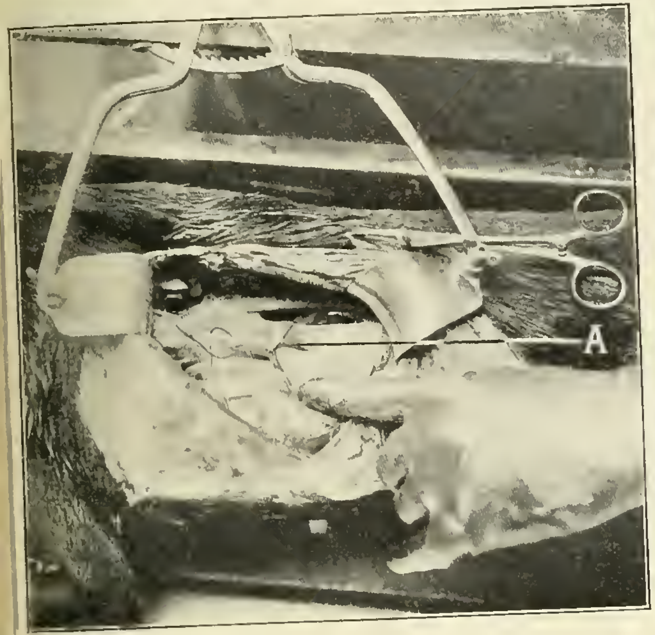

Fig. 6.—Anastomosis made by the button at A. It is being reinforced by a continuous Lembert suture around it.

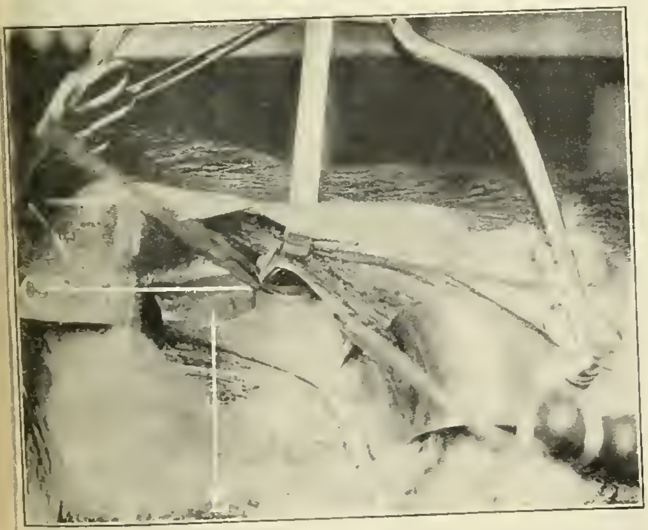

Fig. 8.—Opening behind the stomach into the peritoneal cavity. E, esophagus; artery clamp is holding the crus of the diaphragm C.

Our work has demonstrated that speed, absolute asepsis, and scrupulous care in the minimizing of trauma are essential to success in intrathoracic surgery. Even the exposure of the raw mucous membrane, a procedure which is done with impunity in the abdomen, is not devoid of danger in the thorax. It is, therefore, for the sake of diminishing trauma, and preserving greater asepsis that we have utilized a button in making the anastomosis. Our results have been decidedly better than they were by the suture method. We feel that the principles mentioned above explain why this is so. We have adopted the use of a button with some reluctance, because, for anastomotic purposes elsewhere, a suture method is preferable. We hope, from what Dr. Meyer has told us of his work in this field, that it may be accomplished.

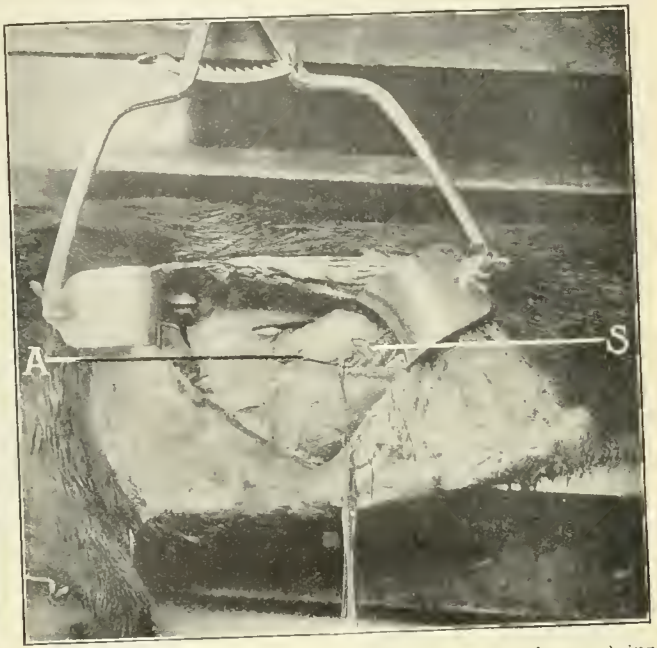

Fig. 7.—Anastomosis completed at A, and diaphragm being stitched to the stomach at S, for the purpose of preventing prolapse of any viscus into the chest.

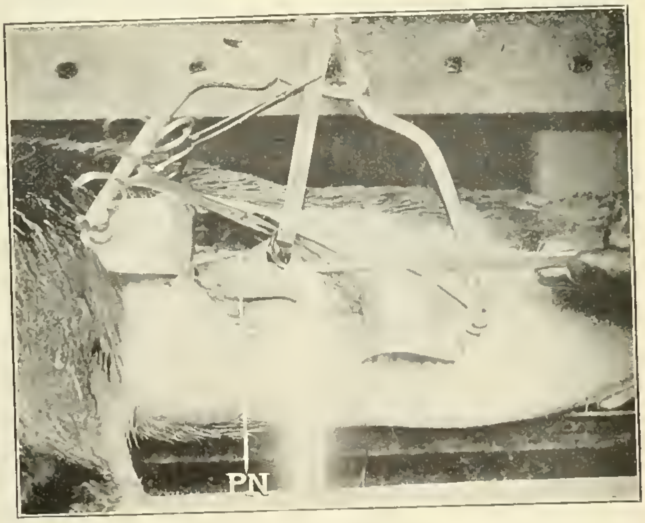

Fig. 9. Passing of a double ligature around the gastrosplenic omentum and the attachment of diaphragm to esophagus. The left pneumogastric nerve with a diagonally communicating branch is shown at Pn.

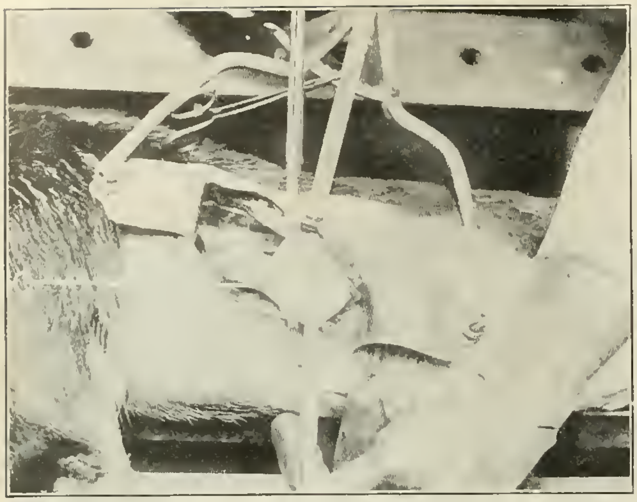

Fig. 10.—The gastro splenic and gastrohepatic omenta have been tied and the cardia has been drawn up into the chest. Two clamps are placed across it at C, preparatory to cutting it through with the cautery knife.

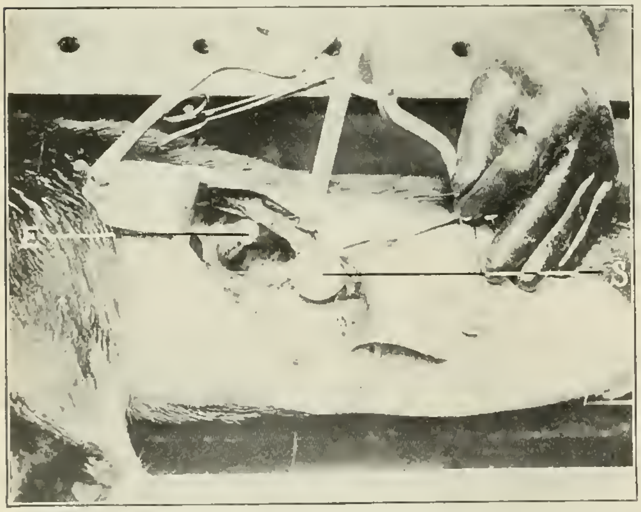

Fig. 11.—Stump of the esophagus, E, and the stomach, S, previously closed by a Lembert suture, and containing the female half of the button Above the stump of the esophagus, and in its lumen, lies the male half of the button. These two portions are ready to press together to form the anastomosis.

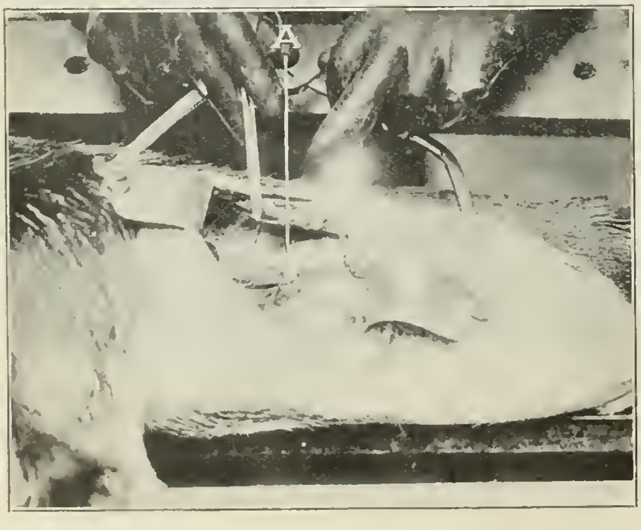

Fig. 12.—Anastomosis at A, made by pressing the two halves of the button together. A continuous silk suture is being passed around the point of anastomosis.

Even with our latest technic the results are far from satisfactory. We have, however, successfully accomplished four resections of the cardia and esophagus, and six lateral anastomoses of the stomach and esophagus without resection. Nevertheless, our work indicates that with a further improvement of technic the operation of the anastomosis with a resection can be accomplished without so great a mortality, and will eventually prove a procedure of promise. On the other hand, the operation of anastomosis of the esophagus with the stomach without a resection, under our present technic, is not accompanied with a high mortality.

PNEUMECTOMY WITH THE AID OF DIFFERENTIAL AIR PRESSURE: AN EXPERIMENTAL STUDY

THE NEW TYPE OF APPARATUS USED *

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1. EXPERIMENTAL WORK IN EXCISING LOBES OF THE LUNG

Next to suturing stab and shot wounds of the lungs and extracting from the bronchi foreign bodies that have been located by the *x*-rays but cannot be removed by means of the bronchoscope, excision of a portion of the lung and amputation of one or more of its lobes (pneumectomy), have been rendered possible by the use of differential air pressure.

Resection of a lobe seems indicated when the greater part of it has become diseased, but its main bronchus cannot be properly reached and isolated. In the human being this condition is frequently encountered.

Extirpation of one or more pulmonary lobes, other more conservative methods having failed, will perhaps become the operation of choice in cases of serious destruction of the lung tissue by chronic inflammatory processes, and, of course, in the presence of new growths.

The success of the operation for total extirpation of the lung depends on the operators' ability to close the divided bronchus air-tight.

Various methods have been employed for this purpose as follows:

1. One mass silk ligature around the bronchus and its vessels; amputation; cauterization of the mucosa of the stumps with pure phenol or the Paquelin cautery.
2. Elastic mass ligature around hilus; removal of lobe at second sitting (Lenhartz).
3. Ligature and division of main bronchus; remnant of lung tissue stitched over stump (Garré).
4. Isolation and temporary clamping of bronchus; curetting of the mucous membrane of the divided bronchus; tight silk ligature; second loose catgut ligature more centrally around bronchus (Friedrich).

A fifth method of extirpating the lung is developed below. It is original with myself as regards the treatment of the stump and was perfected in the course of operations on dogs at the Rockefeller Institute for Medical Research, New York, beginning the middle of November, 1908.

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* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

In this work I had the able assistance of Dr. Martin Rehling, adjunct attending surgeon at the German Hospital of New York, who also took charge of the after-treatment of the dogs operated on, and further of Dr. Edward Adams, instructor in surgery at the New York Post-Graduate Medical School and Hospital, for anesthesia. To both of them my sincere thanks are herewith again expressed.

After a few trials the mode of excision which is now pretty generally practiced in appendectomy was adopted as standard, viz.: isolation of the organ (here the bronchus); clamping and crushing; ligation and amputation; burying the stump; top sutures.

1. Isolating the Bronchus.—The lung is pulled forward with the left hand and its main bronchus palpated; with an anatomic forceps the spaces between accompanying vessels and bronchial wall are penetrated, one after the other, from the front backward; a silk thread is pushed between the blades of the forceps by the assistant and pulled through by the operator (Fig. 1). The vessel is tied close to the heart. Then by pulling on the first ligature, a second silk thread is passed through and tied distally. The vessel is then divided. This manner of securing the vessels in the depth of the thoracic cavity is preferable to using a Deschamps needle with a double thread. Two to four vessels have to be ligated according to anatomic findings, which vary much according to the early or late division of the pulmonary vessels. Now the bronchus is entirely freed; the loose connective tissue is pushed off with a gauze mop proximally and distally in order to have the bronchial stump as long as possible.

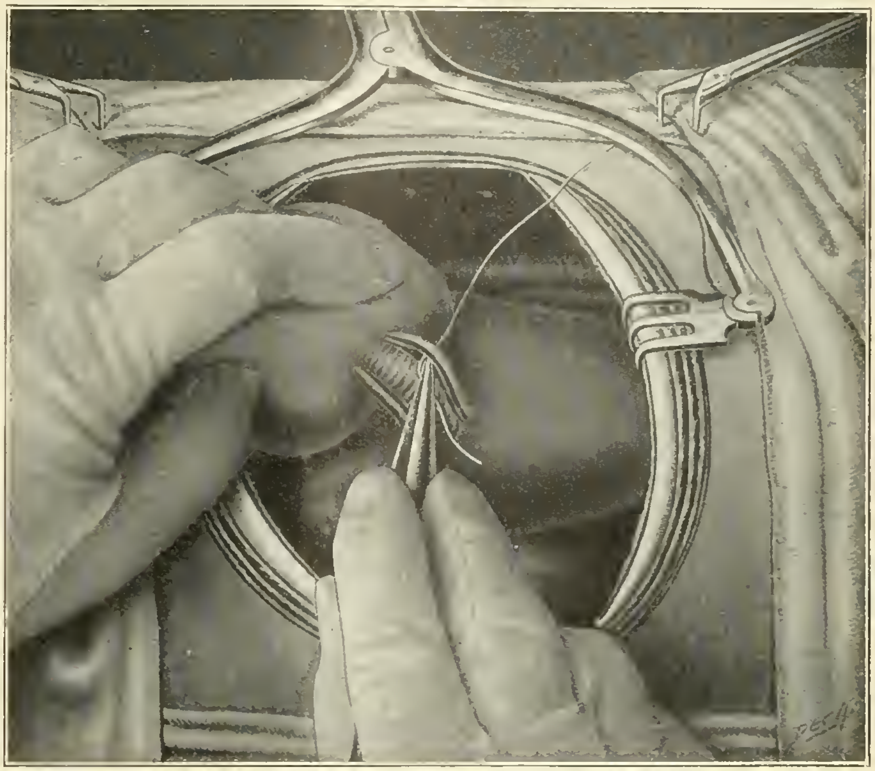

Fig. 1.—Intercostal incision in third or fourth left interspace. Rib-spreader in place. Descending aorta and portion of esophagus in background. Both hands covered with cotton gloves. Left hand pulls lobe of lung upward and palpates bronchus. Right hand pushes anatomic forceps between bronchus and its accompanying blood-vessels and draws silk thread through for ligature. Vessels then doubly ligated and cut through one after another.

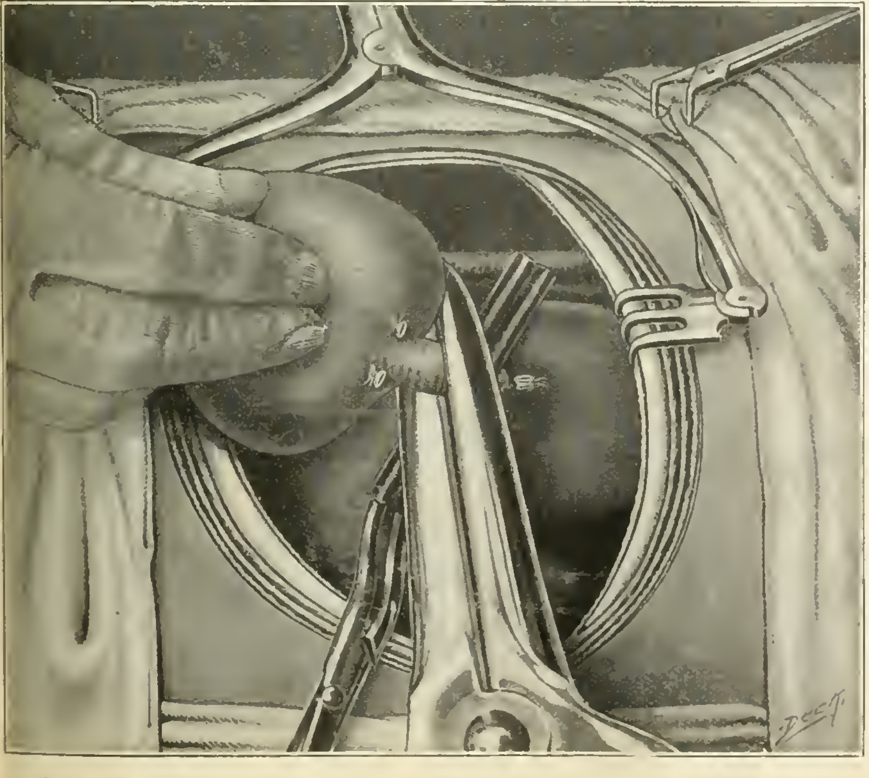

Fig. 2.—Bayonet clamp, rubber-covered, compresses base of bronchus. Doyen's crusher applied to bronchus above clamp. Stumps of ligated blood-vessels shown.

2. Clamping and Crushing.—A bayonet clamp is placed on the bronchus near to its base, its blades being covered with rubber tubing. Above it the bronchus is crushed,[1] usually with Doyen's large intestinal crusher (Fig. 2).

3. Ligation and Amputation.—The remaining fibrous sheath is ligated with silk, a clamp placed distally and the bronchus cut off (Fig. 3).

4. Burying the Stump; Top Sutures.—Before removing the bayonet clamp, or after, according to ease of access, the bronchus is secured on either side with a pointed forceps (Fig. 4). In order to accomplish that safely, a branch of the vagus nerve must

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[1] The crusher should be an instrument the working of which can be fully controlled by the operator; it should always be applied with care, its nose pointing at right angle to the bronchus, catching the cartillages surrounding the bronchial tubes which have to be crushed in a line with their longitudinal axis; otherwise, a hole will be torn in the crushed portion.

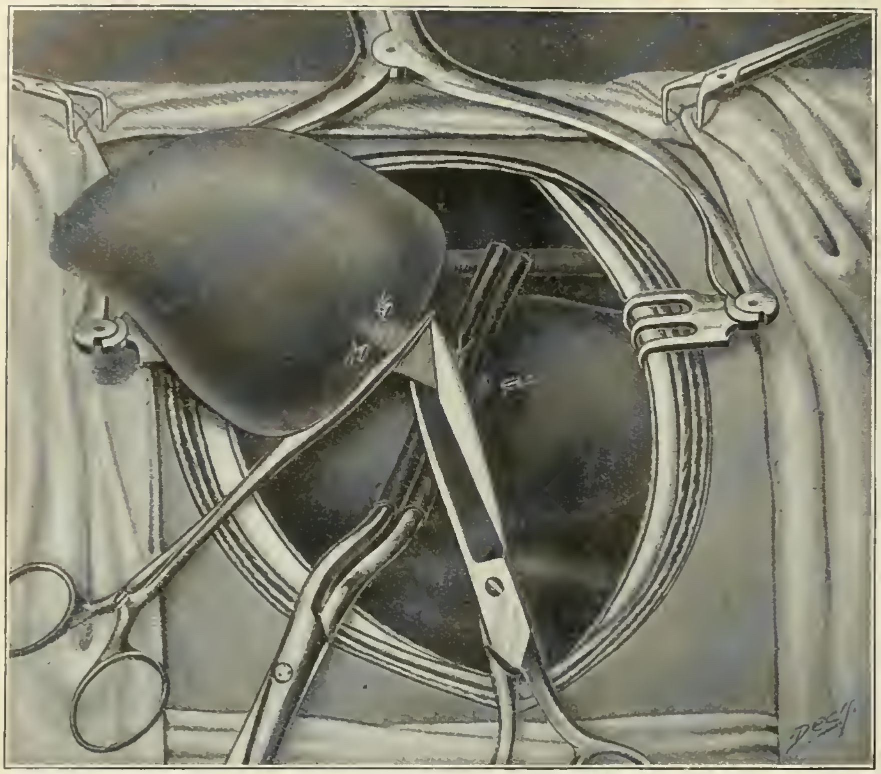

Fig. 3.—Crushed portion of bronchus ligated with silk about three-eighths to one-half inch above bayonet clamp. Strong artery clamp applied distally. Scissors divide crushed portion of bronchus between distal clamp and ligature.

often be pushed aside with a blunt instrument. Care should be exercised to avoid injuring the nerve. The two clamps are pulled on and the crushed part is pushed back into the lumen of the bronchus with anatomic forceps or tucker. Two to three top sutures (silk) draw the uncrushed part of the stump over the buried, crushed portion. The sutures must not include much tissue; they should not penetrate into the lumen of the bronchus. When tied, air-tight occlusion results (Fig. 6). If material is lacking, the pericardium can be hooked by the needle on one side of the bronchial stump and thus used to advantage for closure.

This method of burying the stump sometimes cannot be carried out; for instance, if the bronchus divides early, so that the ligature must close two lumina (Fig. 7, a). In that event an emergency method must be resorted to as follows: A second (mass) ligature is drawn around the stump by the assistant with an anatomic forceps in one hand and the crushed part of the bronchus pushed inward by him with the other hand. The operator then ties it firmly (Fig. 7, b). The ligature will, in most instances, grasp and then securely hold the buried part.

These are the two methods used by me in treating the stump. Both are practical, but the safer and more surgical one is the sewing of the uncrushed portion of the stump over the crushed portion, so as to form an air-tight cover for the same (Fig. 6, a, b, c).

The described method insures a permanently air-tight closure of the bronchial stump. The importance of such air-tight closure will be understood from the fact that leakage produces pneumothorax and, if the thoracic wound had already been closed, would result in a fatal issue. Should the stump be found to leak, such a condition becoming apparent through a rapidly increasing emphysema of the skin, the patient must promptly be put back under differential pressure, the thoracic cavity be reopened and the stump be made air-tight.

The next step in the operation is the closing of the thorax. In my paper[2] on esophagogastrostomy read last week before the American Surgical Association, it has been pointed out that in opening the thoracic cavity it is advisable to avoid resection of the ribs; closure of the wound is thereby simplified. The intercostal arteries are easily injured by the needle in closing the wound, if one or more ribs have been excised, unless a mass

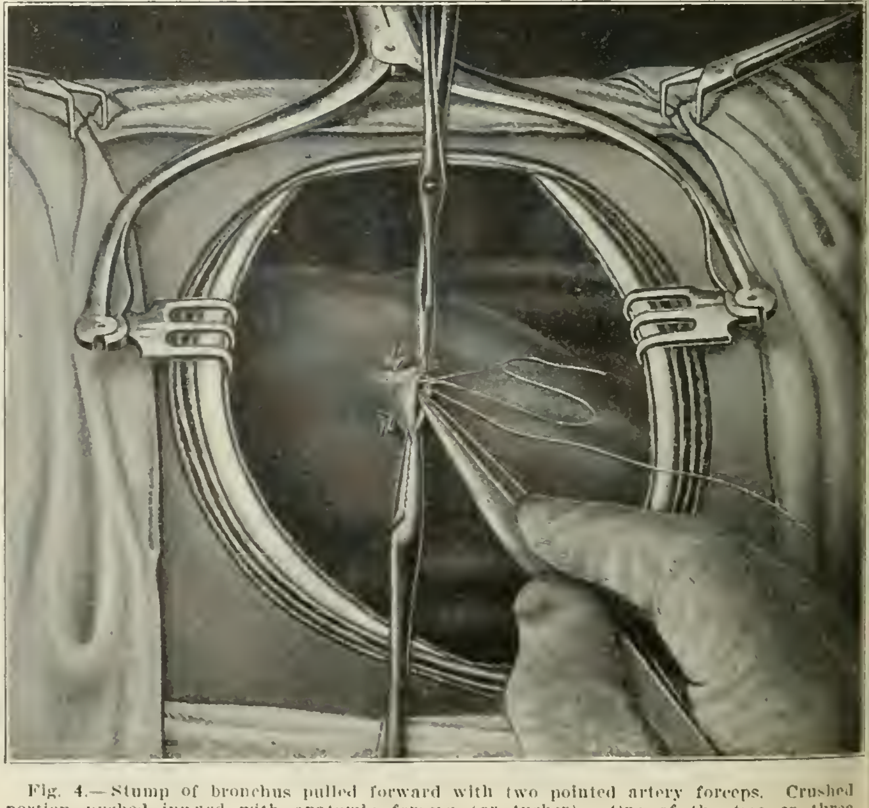

Fig. 4.—Stump of bronchus pulled forward with two pointed artery forceps. Crushed portion pushed inward with anatomic forceps (or tucker). One of the two or three required top sutures (silk) being laid.

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[2] Meyer, W.: Esophagogastrostomy after Intrathoracic Resection of the Esophagus, Ann. Surg., July, 1909, L, 175.

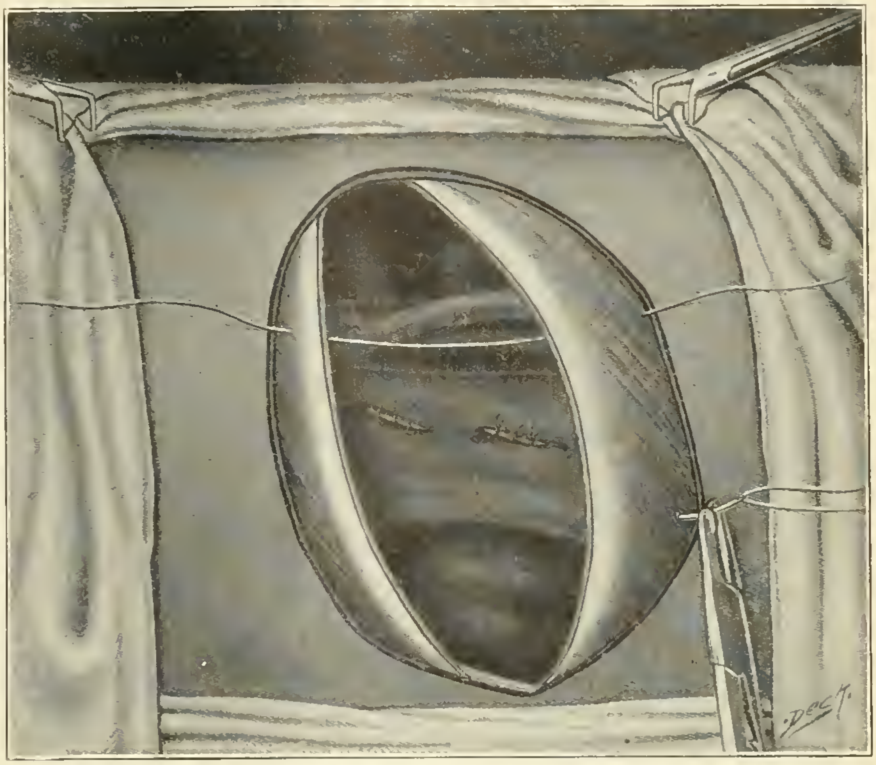

Fig. 5.—Sutured bronchial stumps in depth, shown diagrammatically. Esophagus crossed by aorta in background. One pericostal silk suture *in situ*, the second one being placed.

ligature at the proximal end of the rib is made to surround the vessels. I prefer a long intercostal incision and then separate the ribs by a suitable rib-spreader. In closing the wound, two or three retention sutures with silk or chromicized gut surround the two ribs next to the incision.[3] Below, the needle enters close to the upper border of the rib which is to be surrounded, and above, it is made to hug the upper border of the rib adjacent to the incision (Fig. 5). The thoracic parietes are closed with continuous layer sutures of catgut. A few retention sutures of silk or catgut approximate the skin wound, which then is closed with great care, the needle always piercing the borders close to the wound to avoid overlapping. Aseptic gauze dressing completes the operation.

When the thorax is thus closed, the pleural cavity is, at first, full of air. With advancing cicatrization, this air is absorbed, the heart with the opposite lung is gradually pulled to the other side, the diaphragm rises and the thorax flattens somewhat. The cavity is thus gradually filled in. This process takes several weeks, if not months.

What takes the place of the removed lung in the interval? A logical conclusion would be to assume that a serous effusion sets in as soon as the air left in the empty pleural cavity has been absorbed. But such is not the case, according to Dr. F. C. Wood, of New York, pathologist to the German and St. Luke's hospitals, who kindly assisted in the investigation of this interesting question. His preliminary report, under date of May 26, 1909, on the first four dogs supplied him, is as follows:

PATHOLOGIC REPORT

The animals were bled from the femoral artery and then immediately injected through the same vessel with 4 per cent. formaldehyd. They were then frozen solid and sawn in that condition. The topography of the organs must, therefore, be absolutely normal.

Dog 1 (*Lab. No. 48*).—Terrier, white, fairly well nourished but of light bone; killed ten days after excision of the left lung. The thoracic wound was clean. There was considerable falling in of the lateral wall of the left chest, with restriction of motion of that side. The pleural cavity on the left side contained a small amount of clear serum.

On section, the right lung was found to fill the right side of the chest and to extend in its lower portion beyond the middle line. Anteriorly also it passed over the surface of the heart beyond the median line. The upper lobe curved forward to the left about 3 cm. beyond the middle line. Anteriorly the heart was in contact with the chest. Posteriorly the aorta and esophagus curved forward between the heart and the lateral chest wall so that there was a considerable space in the left pleural cavity still filled with air. There were no adhesions anywhere. The diaphragm on the left side had been pushed up about 2 cm. The stomach, though empty, was placed much higher than was usual, following the liver and diaphragm up toward the left pleural cavity. All the organs appeared normal. The bronchial stump was perfectly healed. The chest scar was clean and showed only as a slight thickening on the inner wall of the thorax.

Dog 2 (*Lab. No. 34*).—Foxhound, small white, rather thin, but with good muscle and bone; weight, 10.5 kilos. Operation, excision of left lung, March 19, 1909; killed April 1, 1909, thirteen days afterward.

No noticeable falling in of chest wall and no interference with respiratory movements.

Section in transverse plane showed right pleura large and filled with emphysematous lung. Heart pushed over about 2 cm. to left. Left pleura filled with air. No fluid in left pleura and no inflammation of walls of cavity beyond a slight reddening along the line of the intercostal incision into left pleura.

Dog 3 (*Lab. No. 33*).—Terrier, brown, in good condition, but thin and light-boned. Left lung excised March 16, 1909; killed April 3, 1909, eighteen days after operation.

When alive the thorax on the side from which the lung was removed showed some falling in and restriction of movement in breathing.

On section, the left pleural cavity was closed, but the leaves of the pleura were not adherent. There was no inflammatory exudate. The right lung had expanded, following the heart to the left. The lower lobe passed completely behind the heart over to the left, and appeared to the left of the ventricle. The site of the bronchial stump can scarcely be seen.

Dog 4.—Terrier, white with black and brown markings, very powerful muscles and bones. Dog in very good condition. Left lung excised March 9, 1909; killed April 8, 1909, thirty days later.

While the animal was alive no falling in of the thorax or restriction of movements was noticed.

On section, the heart was found to be slightly displaced to the left and followed by the right lung. The left pleural cavity was but slightly smaller than normal and was filled with air. There was no fluid in the pleura and no evidence of inflammation. The bronchial stump projected about 2 mm. from the mediastinal wall, and the ligatures were still present.

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[3] This method suffices in animal experimentation. When operating on human beings, Friedrich drills a hole into the lower rib, passes the ligature through the same, and then surrounds the adjacent upper rib. In view of the fact that the thin fascial parts of the thoracic wall, when sutured, tend to necrosis, thus interfering with primary union later on, it seems advisable to use in place of silk, chromicized catgut for these sutures. It does not have to be extracted.

It is astonishing how well dogs stand entire removal of the lung on one side. Often they were on their feet in less than an hour after the operation, as soon as the effect of the hypodermic injection of morphin had worn off, which was administered at the time of putting on the dressing at the close of the operation.

The remarkable ability of the lung to continue performing its function even in the face of a far-reaching, though gradual, destruction of its tissues, as in tuberculosis, is well known. Research by means of differential pressure has now shown that such destruction of lung tissue is equally well borne when it occurs suddenly, i. e., if one or more lobes are removed with the knife.

The method for such sudden removal, described above, is a reasonably safe procedure in dogs and so effective that its trial on human beings appears justified in cases in which excision of the lung is indicated, with this difference, however, that in the human being the first branches of the main bronchus take the place of the main bronchus of the dog (Friedrich).

As proof of the effectiveness of the method the statistics follow below of my results obtained with it at the Rockefeller Institute in the course of the last six months.

Twenty-one total pneumectomies were performed, 18 on the left and 3 on the right side. Of the 18 dogs on which the left-sided operation was performed, 15 recovered and 3 died. The cause of death in one case was a small gauze mop left in the chest, and in the other two cases pneumothorax, which was due in one instance to a leaky stump and in the other to the reopening of the inner angle of the sutured wound. Of the 3 dogs on which right-sided pneumectomies were performed, 2 recovered and 1 died, death being due to distemper.

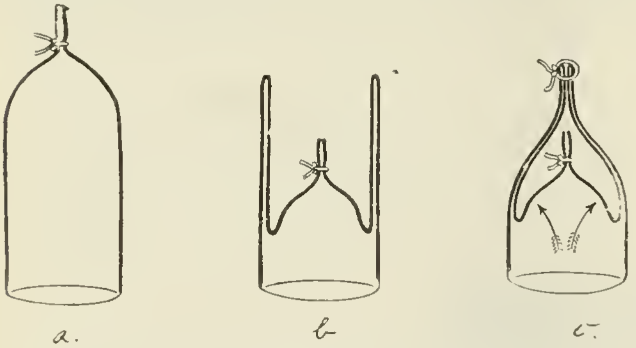

Fig. 6.—Diagram: stump and crushed portion of bronchus (a) tied; (b) pushed inward; (c) sutured. Arrows indicate direction of intrabronchial air-pressure, which makes bronchus air-tight against itself. Safety of occlusion increases with increasing air-pressure.

Thus of 21 total excisions of one side of the lung we had 17 (81 per cent.) recoveries and 4 deaths.

Removal of one or more lobes of one lung was done 6 times. Of these dogs 5 (100 per cent.) recovered and 1 died, death occurring in the course of the operation from the anesthetic.

Summing up, I had in my work, as far as the finished excision of the lung is concerned, in 26 cases, 22 recoveries (84.6 per cent.). At one time an uninterrupted series of 12 dogs recovered without a single death. Usually the wound healed under one dressing.

These satisfactory results I attribute to the rigid asepsis and the method of operation employed, also to the safe and reliable working of the new "differential pressure apparatus," by means of which all the operations were performed.

It is described in the second part of this paper.

II. THE NEW AMERICAN-BUILT APPARATUS FOR THORACIC SURGERY

We owe it to the work of Sauerbruch and Brauer that the thoracic cavity has been definitely opened to surgery. There now remains no nook, no corner of the human body to which the knife cannot be applied with safety.

Operations on the organs within the thoracic cavity, principally the lungs, esophagus and heart, have been done prior to the research work of those investigators. Especially the heart has had an exceptional position, inasmuch as an osteoplastic operation on the thoracic wall permits the surgeon to reach it and its pericardial sac without injury to the pleural cavity. Still, such injury could not always be avoided, nor was a safe operative attack on the lungs and esophagus, without the presence of adhesions between costal and pulmonary pleura, possible before 1904.

The physiologists, it is true, had solved the problem long ago in their laboratory work on animals. With a cannula tied in the incised trachea, or later with an intubation tube, air was rhythmically forced into the lungs by bellows and artificial respiration thus kept up as long as needed (Fell-O'Dwyer and others).

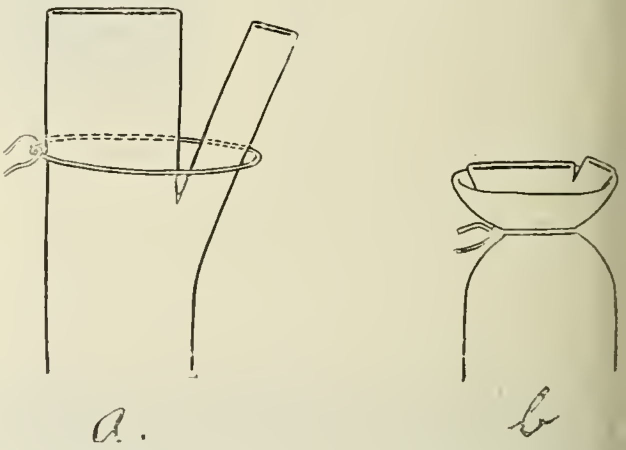

Fig. 7.—Diagram: bronchus short and dividing early; (a) ligature of crushed main bronchus and branch; (b) crushed portion being thicker than lumen of bronchus, the complete pushing in is not feasible. Mass ligature around stump and crushed part.

But with such devices the surgeon could not be satisfied for regular operative work on sick human beings. His requirements differ from those of the physiologists. He must be enabled to do operations within the thorax as safely as in other parts of the body, at least so far as general anesthesia with its possible sequelæ and accidents is concerned. He should not be obliged to put a cannula into the trachea, either through the mouth or directly through a tracheal incision to produce anesthesia. The head and mouth of the patient must be as unincumbered and within as easy reach of the narcotizer in thoracic surgery as in other operative work, while an acute pneumothorax must be avoided, that stumbling-block which, up to the beginning of this century, practically excluded the lungs and intrathoracic portion of the esophagus from the domain of operative surgery. The requirements of the surgeon are filled by differential air pressure apparatus.

I have been interested in differential pressure surgical work from its inception, having been brought in close touch with it, while in Europe in 1904, and seeing at that time an operation performed in the just completed first differential pressure chamber ever built.[4]

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[4] Ann. Surg., 1905, xli, 667.

But there remained in that chamber as well as in all those built later on the same general lines considerable scope for improvement.

The European negative pressure chambers being constructed entirely of metal, are reverberating and through their pipes connecting with the pump cylinder all the noises occurring from valves and otherwise in the pump are directly transmitted to the chamber. Surgeon and anesthetizer are separated by a solid wall and cannot hear each other speak; for communication a telephone is provided, but the noise in the chamber makes it almost useless. Again, the anesthetizer can look into the chamber; but the surgeon cannot see the face of the patient, which is hidden from his view by a metal casing. Neither surgeon nor the assistants have sufficient elbow-room, and there is no space for an assistant to the left of the surgeon. No provision has been made against break-down of power. As placed, the large European differential pressure chambers can be used for negative pressure only.

All the other types of European apparatus are constructed for positive pressure only. They are distinctly inferior to the above-mentioned negative apparatus, inasmuch as with all of them occasions arise which necessitate the interruption of the differential pressure during anesthesia, the Engelken type of apparatus perhaps excepted; but the latter has not only all the before-mentioned disadvantages of the negative pressure chamber, but also the additional fault that the anesthetizer is not permitted to concentrate his attention exclusively on the patient, he having to take care also of the pressure-regulating valve and of the telephone.

In the Brauer as well as in the Engelken type of apparatus the anesthetizer's position during the operation is rather uncomfortable, and in the Brauer type especially the proper handling of the patient under anesthesia is a difficult matter.

Apparatus combining intubation and masks appears so manifestly inadequate and dangerous for every-day surgery that it cannot deserve preference over apparatus leaving the mouth of the patient unincumbered. Yet this kind of apparatus, too, and the ingenious devices of Tiegel, Brat-Schmieden, Karewski, also Seidel's apparatus for after-treatment, will find their place.

In the spring of 1908, when I wished to acquire apparatus for intrathoracic operations, only that invented and manufactured in Europe was publicly known. A careful canvass of the whole field showed that the then existing apparatus was of two general types: one working from atmospheric pressure downward (negative pressure), the other one from atmospheric pressure upward (positive pressure).

But there was none working both ways, and it was just such apparatus that I wanted. I decided to build it myself and, moreover, to build it in this country. I got in touch with my brother, Julius Meyer, an engineer by profession, and succeeded in interesting him in the subject. Together we constructed a chamber for positive and negative differential pressure. It comprises an outer negative pressure chamber, the operating room (Fig. 8), and within the same a positive pressure chamber, the anesthetizer's room (Fig. 9), by means of which combination it is possible to operate either under negative differential pressure or under positive differential pressure, under a combination of the two or under a change from one to the other in the same operation.

The advantage of combining two chambers to form one apparatus becomes apparent also in the feature that the operating table remains in the same location under whatever pressure the operation is performed, and that the moving about of the operating-table from inside to outside, necessary with the large European chambers, if their pressure were changed from negative to positive, or *vice versa*, is here entirely avoided. Further, there is in the new chamber ample elbow-room for the surgeon and his assistant and for an assistant to the left of the surgeon, obtained by means of a projecting head-box. The opening in the latter is closed by a rubber collar, which can be adapted to the size of the neck, and the bulging of the collar is prevented by guillotine shutters. The operator can see the face of the patient and the anesthetizer can see the body of the patient. For the latter purpose a mirror is provided, but the anesthetizer cannot see directly the field of operation proper, so that his attention is not distracted from the anesthesia, but must be given entirely and exclusively to it. The anesthetizer has the face of the patient before him, as is customary in ordinary operations, because he and his assistant are enclosed, together with the head of the patient, in the positive differential pressure chamber. The head of the patient is adjustably suspended. The anesthetizing chamber is so large that there is ample space for oxygen apparatus; it has an air-lock providing access or egress while the pressure is on and without interruption thereof.

No air-lock is needed for the operating-chamber. The pressure in the latter can at any time be raised from negative to atmospheric pressure while the differential pressure required for the operation is being maintained without interruption, so that the door of the operating-chamber leading to outside can then be opened.

The plant is so constructed that a triple reserve is provided in case of break-down. There are two independently driven sets of pumps, one for pressure and one for vacuum, so that in case of any mishap to one unit an immediate change can be made from one kind of differential pressure to the other; in case of accidents to both units a hand-pump is provided, by means of which to maintain the positive differential pressure in the anesthetizing chamber. The motors run at constant speed. The variation of the air-pressure in the chambers is effected by the manipulation of two air-valves, which are set by hand to the desired gauge readings, a matter so simple that mistakes are excluded. The valve is not of the water-column type, but simply a cock. The chamber is of knock-down construction and transportable. The structure in its entirety is very simple and there is nothing in it to get out of order.

The constructive feature distinguishing these chambers from others is the use of two different materials, metal and a fabric, for the obtaining of its two requirements, strength and tightness. Iron can offer the needed resistance to air-pressure; balloon material is air-tight. By the combination of the two into one air-tight structure, the ironwork profits to the extent that it can be treated as a light open framework, easily put together and just as readily taken apart, and that the shops building it will find in the specifications no requirement foreign to every-day structural iron routine; on the other hand, the balloon material profits to the extent that it does not have to sustain the air-pressure, that its distortion into a bulging ball is prevented, and that by the iron frame it is kept to the desired shape. In the positive pressure chamber (Fig. 10) the fabric is arranged inside of the metal frame and in the negative pressure chamber outside of it (Figs. 8 and 9).

As stated above, all the heretofore constructed apparatus can be divided into two groups, one working from atmospheric pressure downward, and one working from atmospheric pressure upward. The new chamber belongs to neither group. It is *sui generis.* In constructing it the aim has been to overcome and remove the limitation of differential pressure chambers to atmospheric pressure as the fixed basis at one end of the difference in pressure, and to enable the establishing of the basis anywhere above or below or at atmospheric pressure at will. This was accomplished by combining two differential chambers to form one apparatus.

In combining two rooms to form one apparatus the following modifications are possible:

1. The rooms may be separate.
2. The rooms may have one corner in common.
3. The rooms may have one wall in common.

In all of these cases the two rooms can be either outside of each other or one inside of the other one.

4. Two rooms may be one partly outside and partly inside of the other one.

For the purpose in hand the combination of two separate rooms, one inside of the other one, was selected. But several of the other modifications will have their use on occasion.

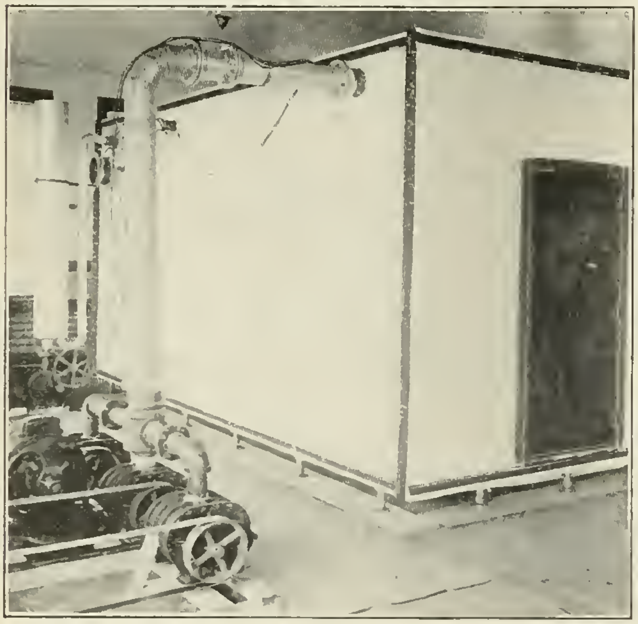


Fig. 8.—Outside view of universal differential pressure chamber (first experiment).

As regards the air-pressure in these rooms the following combinations can be made.

1. The pressures in both chambers deviate in the same direction from open air:
   - A. Inner positive chamber combined with outer positive chamber.
   - B. Inner negative chamber combined with outer negative chamber.
2. The pressure in both chambers deviate in opposite directions from open air:
   - C. Inner positive chamber combined with outer negative chamber.
   - D. Inner negative chamber combined with outer positive chamber.

Positive chamber in negative chamber (2-C) is the combination which I have built and which I have in use at the Rockefeller Institute in New York. It was selected for construction, first, because it enables the nearest approach to operating in open air by building up the differential pressure of half positive and half negative pressure; second, because the anesthetizing-room can be used independently as a positive pressure chamber, and, third, because the chamber can readily be transformed into negative chamber in negative chamber (1-B) by simply reversing the motor of the pump that ventilates the anesthetizing room, whereby the pump is converted from a blower into a suction pump. If the valves are now set to produce a higher rarefication of the air in the operating-chamber than in the anesthetizing room, the latter remains, relatively speaking, a pressure chamber, and, by maintaining the proper differential, the thorax can safely be opened with negative pressure over the mouth as well as over the open thorax. On May 15, 1909, an operation was performed under such conditions with a local barometric pressure of 760 mm. Hg. and 744 mm. over the open thorax and 750 mm. over the mouth of the patient—which is equivalent to doing the operation at a higher altitude.

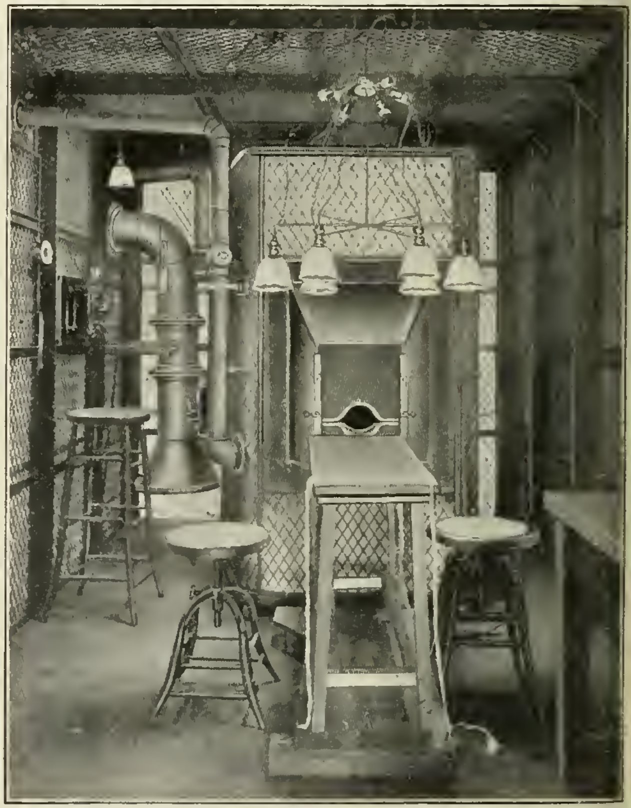


Fig. 9.—Inside view of universal differential pressure chamber (first experiment).

This kind of work may become of importance in operating on patients afflicted with pulmonary tuberculosis. Consumptives are sent to higher altitudes for treatment; there may, therefore, be something in lifting a patient during the operation to an altitude many hundred feet above the one where the operation actually takes place and in lifting him frequently back to that altitude in the after-treatment. It may be that internists, too will find such chambers useful in the treatment of pulmonary diseases.

By merely ventilating the outer room at atmospheric pressure and putting the inner room under increased pressure the two combined chambers become simply a positive differential pressure apparatus.

Thus in this particular combination of rooms an operation can be performed under all of the following conditions:

1. Under positive differential pressure.
2. Under negative differential pressure.
3. Under part positive, part negative differential pressure.
4. Under a gradual change from positive to negative differential pressure, and *vice versa*.
5. Under a repeated change from positive to negative differential pressure, and *vice versa*.
6. Under negative differential pressure at an altitude above sea level higher than that of the place where the operation is performed.
7. Under negative differential pressure same as 6, but at gradually or repeatedly changing altitudes.

The foregoing enumeration comprises all the various conditions under which differential pressure operations can occur, and this apparatus is, therefore, named a "universal differential pressure chamber." In contradistinction to it the narcotizing-room, when independently used, is named a "positive differential pressure chamber," because it must always and under all conditions have a higher pressure inside than outside of it.

The combination, inner positive chamber in outer positive chamber (1-A), is not likely to be used. Its effect would be equivalent to lowering the open thorax of the patient into a shaft below the surface of the ground and depressing the mouth of the patient still further.

On the other hand, the remaining combination, negaive chamber in positive chamber (2-D) is again of mportance, though not in thoracic surgery, because negative pressure at the mouth and positive pressure at he open thorax would accentuate the pneumothorax. But in brain surgery this combination of chambers will ind its place. By means of it the blood can be drawn away from the head and by varying the pressure we can control the quantity of blood thus temporarily withdrawn from circulating through the heart. In this combination the patient's body is put into the inner room.

The positive differential pressure chamber described n this paper (Fig. 10) was built to withstand hard usage. It has been put up and knocked down many imes. It was first erected in the iron works, then knocked down, transported to another factory for completion and assembling with parts constructed elsewhere. t was there erected and tested, then knocked down and transported to the Rockefeller Institute; there erected, used in operations on dogs, knocked down and transported to the German Hospital in New York; here erected, used in operations on patients, knocked down and transported to Philadelphia; there erected n the Jefferson Medical College Hospital for demontration before the American Surgical Association, knocked down and transported back to the German Hospital in New York, and on arrival there went together with as little trouble as it did when first completed.

A structure has to be strong and solid in all its parts o endure such treatment without becoming dented and wisted and thereby troublesome and expensive by needed epairs. A chamber built to remain at one place may be built lighter. But the rough handling that this German Hospital positive differential pressure chamber in ts many migrations was subjected to by truckmen and n the railroad without suffering damage thereby proves ts fitness for use in war, and it was partly with he object of testing it for military requirements and nder something like war conditions that this chamber was so many times knocked down, carted from place to place and re-erected. On an average it took one man and a helper about one hour to knock it down and the same number of men about four hours to erect it again ready for use. The time can probably be reduced should the work be done by military men of the sanitary corps, specially drilled for the purpose.

Mention should not be omitted of the fact that with the positive differential chamber artificial respiration was produced in a case of collapse by rhythmic movements of the valve handle, increasing the pressure quickly to 12 mm. Hg. and lowering it again to atmospheric pressure.

The chambers are cleaned by using the suction pumps as a vacuum cleaner, by means of which such dust as may be there is removed from the wire frames of walls and ceiling. The floor of the negative chamber is solid and so constructed that it can be scrubbed. In the final construction of the chamber its walls and ceiling will be similarly arranged.

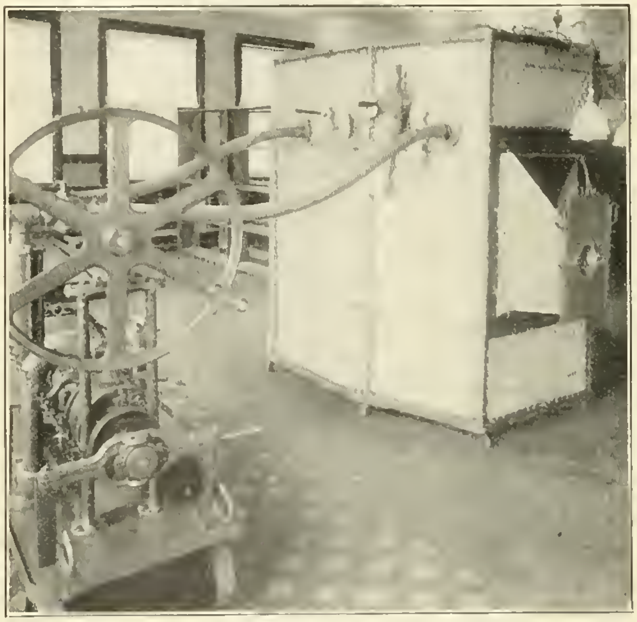


Fig. 10. Positive differential pressure chamber (first experiment).

Formalin vapors are used for disinfection, which are then ventilated off by the pumps.

When I began to use the chambers, the question arose in my mind: How far can we go in exposing ourselves to such positive and negative pressures? Where is the danger-line? Inquiry developed the fact that even should the negative chamber be exhausted to a differential pressure of 50 mm. Hg., thus being strained to the limit of its capacity, we would, in exposing ourselves to that differential, still be within the limits of our possible every-day experience, as barometric fluctuations of 50 mm. Hg. are nothing unusual in our climate.

On this subject a letter was received under date of Jan. 7, 1909, from the central office of the U. S. Weather Bureau at Washington, D. C., which reads in part:

> The height corresponding to a change of pressure from 760 mm. to 710 mm. varies with different temperatures of the air column. The change of 50 mm. pressure at sea level with a mean temperature of 0 C. would correspond to an elevation of 1,786 feet, at 15 C. to 1,881 feet, and at 30 C. to 1,978 feet. The range of the barometer at New York is more than 50 mm.

The differential pressures used in thoracic surgery seldom exceed 7 or 8 mm. Hg., corresponding to a difference in altitude between 250 and 300 feet; that is to say, the patient's mouth is lowered about 300 feet below his opened thorax. The anesthetizer, however, as well as the surgeon and his staff are not under differential pressure at all: their entire bodies are under one pressure only. Eight mm. Hg. is equivalent to a pressure of about one-sixth of a pound per square inch. In caisson foundations for bridges and tall buildings workingmen are required sometimes to work for hours at a time under air pressures of thirty and more pounds to the square inch, without detriment to their constitutions, which indicates that we are far removed from danger when working in our chamber under positive pressure. As to vacuum I have no such records to offer. We ourselves have been frequently under 16 mm. Hg. negative pressure, drawing the pressure down rapidly, without any perceptible detriment, though feeling a slight pressure on the ear-drums, which, however, disappeared after swallowing once or twice. Hints in this direction can probably be obtained by looking up, for instance, the practice with pneumatic chambers used in bathing institutions; but time has been lacking to do that for this paper.

Again, if the differential pressure in the universal chamber is composed of part vacuum and part pressure, only the patient is exposed to the full differential, while all others are exposed only to the component fractions thereof, the anesthetizer to the positive fraction and the surgeon and those with him to the negative fraction, which still more reduces any possibility of detrimental effects on the users of the chamber.

It was to be supposed that a differential pressure composed of part positive and part negative pressure would act the same as one of equal magnitude but entirely positive or entirely negative. After several operations performed under such conditions, it can now be stated that it does act the same, at least as far as keeping the lungs inflated is concerned. But there seems to be this difference, that abdominal and thoracic breathing come more or less into play according to the variation of the components. Observations along this line are still in progress. Further, there seems to be a difference in the effect of the narcotic under positive and negative pressure. With increasing vacuum component the anesthesia apparently becomes deeper and it becomes less deep when the positive pressure component is increased, which is equivalent to stating that a smaller amount of the narcotic is required under negative pressure to produce a satisfactory anesthesia.

In conclusion, a word about the history of the new apparatus. The studying up, designing and constructing of these chambers has occupied my brother and myself since May of last year, my brother devoting himself entirely to the matter. The work of construction was begun in November of last year. A start was made with the smaller and less expensive apparatus on which to make our mistakes and such blunders as are liable to happen when plodding into the unknown. Therefore, the building of a positive differential chamber was first attacked. It was tested on December 23, was found to work all right and was first used in an operation at the Rockefeller Institute on January 8 of this year. It came up to requirements in every way, so much so that the building of a large universal differential chamber was immediately taken in hand.

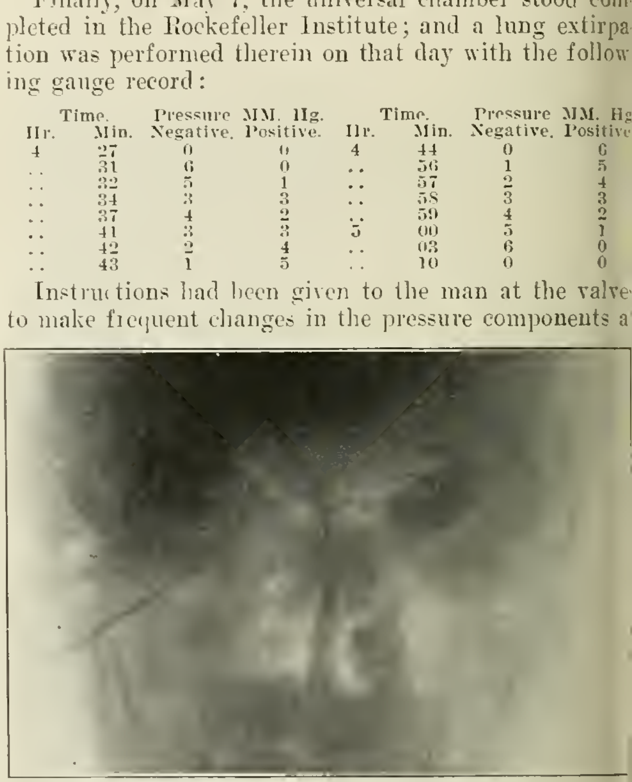
It was not carried to completion as expeditiously as the first one, for several reasons. The vital question of dimensions was an open one for a long time, because the finding of the best adapted rooms in the German Hospital, where the chamber was to be placed, offered considerable difficulty. Then, of course, the thing ha first to be invented; the many roads leading to Rom had to be gone over, all the many details had to b worked out and tried out and everything had to b boiled down from the complicated to a condition o extreme simplicity in order to make it trouble-proof Further delays occurred in manufacturing the apparatus. There is practically nothing in the chambe that is standard; almost everything is special and ha to be made to order. Difficulty was encountered t find manufacturers at all willing to let such specia work interfere with their routine business.

Finally, on May 7, the universal chamber stood completed in the Rockefeller Institute; and a lung extirpation was performed therein on that day with the following gauge record:

Time.		Pressure MM. Hg.		Time.		Pressure MM. Hg	
Hr.	Min.	Negative.	Positive.	Hr.	Min.	Negative.	Positive
4	27	0	0	4	44	0	6
..	31	6	0	..	56	1	5
..	32	5	1	..	57	2	4
..	34	3	3	..	58	3	3
..	37	4	2	..	59	4	2
..	41	3	3	5	00	5	1
..	42	2	4	..	03	6	0
..	43	1	5	..	10	0	0

Instructions had been given to the man at the valve to make frequent changes in the pressure components a short intervals, so that the effect of the changes might b observed. At 4 hours 44 minutes, when atmospheri pressure prevailed in the operating-chamber, the door t outside was opened and one of the guests left, the operation meanwhile going on without interruption. It wi be remembered that the negative chamber has no ai lock. During the next following operation the hous telephone suddenly rang outside the chamber, whil the gauge recorded 6 mm. Hg. vacuum inside. Th vacuum was raised to atmospheric pressure, the do opened, the telephone attended to, the door closed an the vacuum of 6 mm. restored, all without interruptio of the operation or disturbance of the differential pre sure.

As stated above, this is no longer a Sauerbruch chamber or a Brauer apparatus. It goes beyond what th conceived. Neither of them can build up the differenti of part positive and part negative pressure or go fro positive to negative pressure, or *vice versa*, in the cours of the same operation. Even in physiologic work, investigators have heretofore never put a dog on which th experimented, first under positive and then under neg



Needle in position for injection of middle branch. Case 46.

Illustrating Article by Dr. Patrick

tive differential pressure in the same apparatus. It was always one dog under positive and another under negative differential pressure. An element of uncertainty is thereby carried into their conclusions regarding the relative merit of the two kinds of pressure.

This American-built apparatus enables us for the first time to study the behavior of one and the same animal during one and the same operation, under both kinds of differential pressure, under a change from one to the other, and also under a change of the altitude above sea level. What is more important, it enables us also to study pathologic conditions of man in the same thorough manner, excluding all guesswork, and to find the indications for the pressures best adapted to and safest to use in the many varying degrees of related diseases of human kind.

700 Madison Avenue.

[Editor's Note: The three preceding articles are part of a Symposium on Thoracic Surgery which will be concluded next week by the articles of Drs. Powers and Beck and the discussion.]

SEVENTY-FIVE CASES OF TRIFACIAL NEURALGIA TREATED BY DEEP INJECTIONS OF ALCOHOL *

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Two years ago I reported sixteen cases of trifacial neuralgia treated by deep injections of alcohol[1] and four months later I briefly reported seven additional cases.[2] The method was new, scarcely known in this country; and, further than the fact that injections into the nerve instantly stopped the pain, not many definite statements could be made either for or against it, although it promised well. Even now it is so unfamiliar to the medical public that, having employed it for nearly three years, I feel that my results should be reported.

Needless to say, by trifacial neuralgia I mean neuralgia of one or more branches of the fifth or trifacial nerve; not migraine, which often is called neuralgic headache; not sinus disease; not anything but classical tic douloureux. That the patients with this malady suffer horribly is known to all. That a treatment simple, effective and devoid of danger is a great desideratum needs no emphasis. While the deep injection method is by no means ideal, it is relatively simple, it certainly is effective in relieving the pain, and it is practically free from serious danger. As a radical cure it can not compare with complete removal of the Gasserian ganglion, but, except in a very few and peculiarly skilled hands, the latter operation is difficult and dangerous—very dangerous, indeed, for the majority of operators. To mention treatment by drugs, electricity, heat, etc., is to note the ultimate futility of these measures in the vast preponderance of cases. The various peripheral operations on the several branches of the nerve, including the Abbé operation of dividing them peripheral to the ganglion, have all met a measure of success, but all require an anesthetic, and those which are neither difficult nor dangerous generally give relief for only a brief period. Concerning the deep injections of alcohol I have no thesis to maintain. I wish simply to state my results and to add a few hints, the fruit of experience.

To redescribe the technic[3] seems unnecessary, but I may state that the injections are made with a straight needle about 10 cm. long, 1.5 mm. thick and fitted with a stylet or obturator, the blunt end of which is flush with the needle-point. The sharp point is used to puncture the skin, after which the stylet is pushed home, making a blunt instrument for the remainder of the penetration. Both Brissaud and Sicard, and Lévy and Baudouin have discarded the stylet, using a more slender and sharp needle. I have tried the latter, but prefer the former. The needle is introduced at the lower border of the zygoma, the object being to reach the inferior maxillary division of the nerve at its emergence from the foramen ovale (about 4 cm. deep) and the superior maxillary as it leaves the foramen rotundum (about 5 cm. deep). Deep injections for the supraorbital branch I have abandoned as being too hazardous. When an injection of this branch is needed, which is not very often, I use a "peripheral" injection at the supraorbital notch. In a few cases I have also used a "peripheral" injection at the infraorbital foramen.

The solution used is about 85 per cent. alcohol (not absolute) with four grains of cocain to the ounce. Of this, about 2 c.c. are introduced each time. Morphin and chloroform, formerly used in the solution, I have abandoned, and I also have stopped using 75 per cent. alcohol for the first injection.

As before intimated, this paper is simply a record of results, but tabular statements and summaries sometimes conceal almost as much as they reveal, and so I prefer to make a report of each case, very brief but accurate, so that the reader may come to his own conclusions. An attempt has been made to follow the course of all cases, and when not otherwise stated this has been done up to May 1, 1909, two years and nine months after my first injection. For obvious reasons the first twenty-three cases, already reported elsewhere, are included here.

Perhaps it may not be amiss to add that the cases were all unmistakable ones of tic douloureux; that some of them were frightfully severe; that most of the patients were quite disabled by the disease; that all had tried other forms of treatment; that a considerable number had undergone cutting operations; that some were very old and feeble, and that in no instance have I declined to administer the treatment on account of the severity of the case or of organic complications.

Case 1.—Aug. 2, 1906. Woman, aged 43; neuralgia of eight or nine years' standing. One injection each for middle and inferior branches. No return in two years and nine months.

Case 2.—Sept. 21, 1906. Woman, aged 49; neuralgia for sixteen years, middle and inferior branches; bad case. Five injections; complete relief for four months; slight return in lower branch; three injections; relief. Five months later a few slight pains in middle branch; 2 injections; immediate relief. Seven months after this or a year after the recurrence in the lower branch, this division again showed signs of returning pain. Two injections were made and, although apparently both missed, there has been no further pain in this branch. The last week in June, 1908, a year after the last injections for the middle branch, the patient had a few slight pains in this branch and June 30 received an injection. She has had no more pain; that is, with reinjections, relief for two years and seven months.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] The Journal A. M. A., Nov. 9, 1907, xlix, 1567.

[2] Cincinnati Lancet-Clinic, Dec. 28, 1907.

[3] See papers in The Journal A. M. A., Nov. 9, 1907.

Case 3.—Dec. 17, 1906. Man, aged 51; neuralgia nine years, two branches; six injections; complete relief. Several months later he was still free from pain. No recent report obtainable.

Case 4.—Oct. 10, 1906. Man, aged 62; neuralgia for over three years, middle and inferior branches; had been operated on twice; had double antrum and frontal sinus disease. Six injections, complete relief; no recurrence in two years, six and a half months.

Case 5.—Jan. 1, 1907. Woman, aged 62; neuralgia for four years. Five injections for two branches, no pain after first injection. Of late some return of pain. Patient very nervous and has numerous complaints. Difficult to say whether or no there is return of the neuralgia, but I think there is, as sometimes eating and talking cause pain. Still, she is practically well so far as the neuralgia is concerned, two years and four months after treatment.

Case 6.—Jan. 19, 1907. Woman, aged 44; neuralgia about six and a half years. Had had two operations. Eight injections for two branches. Complete relief until June 1, then two slight pains; one injection for lower branch; no more pain until Oct. 17, 1908; then again two slight pains in same area. A single injection; no more pain. With reinjections, relief for two years, three and a half months.

Case 7.—Mar. 13, 1907. Woman, aged 50; neuralgia two years, two branches; bad case; three injections; instant relief. Patient remained well for eight months; then she developed an alveolar abscess in the area of the previous pain. After the tooth was extracted the pain continued and three injections failed to do more than mitigate her suffering. An *x*-ray picture then showed that the root cavity communicated with the dental canal; that is, the inflammation involved the nerve. Treatment of the cavity was undertaken by Dr. Gilmer and the pain subsided. In May, 1908, pain began again, apparently starting from a filled molar. The tooth was extracted with relief for some days. Then pain returned, when treating the alveolar cavity again gave relief. Through the summer patient was almost free from pain, but about November 1 it returned and she received three injections, none causing sufficient analgesia to be satisfactory to me. No pain until about March 1, 1909. Injections March 15 and 17, no more pain. With reinjections, relief (not quite complete) for two years, one and a half months.

Case 8.—Mar. 15, 1907. Woman, aged 23. Injections four times for inferior branch, without reaching the nerve. No relief. Patient left and later was operated on by Dr. Harris.

Case 9.—Mar. 19, 1907. Man, aged 60; neuralgia for five years. Five deep and one peripheral injection. Complete relief. Seven months later patient still free from pain. Unable to get more recent report.

Case 10.—April 19, 1907. Woman, aged 75, very feeble, bedfast, neuralgia thirteen years. Seen but once. Single injection; relief at once. There have been two recurrences. Each time patient's own physician has repeated the injections with prompt relief and she is now well, with "no indication of return." With reinjections relief for over two years.

Case 11.—April 23, 1907. Woman, aged 38; neuralgia ten months. Seen but once; single injection; immediate relief. Six months later patient had an occasional slight dart of pain. No recent report.

Case 12.—April 28, 1907. Woman, aged 54; neuralgia two years. Two injections. She has had an occasional slight twitch of pain but considers herself too well for further treatment, two years since injections.

Case 13.—May 5, 1907. Woman, aged 69; neuralgia for one year, first in middle, then in lower branch. One injection stopped the pain and patient declined further treatment until its return a year later, when her own physician repeated the injections (three), since which time she has had no recurrence. Period of relief with reinjections, two years.

Case 14.—May 16, 1907. Man, aged 60; confirmed neuropath; neuralgia for fifteen years; three branches; patient had had three operations. Received a deep and a superficial injection with notable relief. His physician continued the injections and he was completely relieved for a time and practically relieved until Dec. 27, 1908 (one year and seven months), when pains began to be severe. Feb. 3, 1909, I gave him an injection; three days later his physician repeated it and he is again free from pain (May 19, 1909).

Case 15.—May 17, 1907. Man, aged 62; neuralgia for five years, a very severe case. Received three injections for inferior and one for middle branch. Suffering relieved but still occasional twinges. Patient was compelled to leave city; Dec. 9, 1907, returned, having had some pain for three months, but not nearly so severe as before treatment; was given two injections with immediate relief. Two months later pain recurred. Patient given six injections. Relief was complete, but by October there were signs of recurrence and he received two injections. No more pain. Period of relief with reinjections, one year, eleven and a half months.

Case 16.—May 30, 1907. Man, aged 42; neuralgia for three months. Pain limited to supraorbital area but started by touches, etc., in area of infraorbital distribution. Patient received a deep orbital injection with some relief. Not caring to repeat this deep injection, I gave him a peripheral injection for the supraorbital and four or five deep injections for the middle branch. The latter was hard to reach, but finally he was completely relieved and has remained well. Just lately he has had an occasional slight sensation which seems to presage a return of the trouble.

Case 17.—June 12, 1907. Woman, aged 82. Neuralgia began in right inferior branch nineteen months before above date; for last year had also involved middle branch. As patient was feeble the depressing effect of the pain and the inability to eat had exhausted her to a marked degree. She received one injection for the inferior and one for the middle branch, which at once relieved her. I advised further injections but she declined and with the exception of a few slight twinges at rare intervals she has remained well, one year and eleven months.

Case 18.—June 25, 1907. Woman, aged 46. Neuralgia began ten years before above date in middle branch, radiating into supraorbital. Operation five years ago with no relief. I made two injections but failed to reach the nerve and the patient passed from observation.

Case 19.—July 1, 1907. Woman, aged 68; neuralgia of left lower branch for three years. I made two injections but missed the nerve both times and she returned to her home with practically no benefit.

Case 20.—July 3, 1907. Woman, aged 46; neuralgia for five years, principally in left lower branch. In this case I also failed to strike the nerve in two trials and the patient left.

Case 21.—Sept. 11, 1907. Woman, aged 54; neuralgia in right lower branch began ten years before above date but until the last five weeks had not been very severe. An injection was given with immediate though only partial relief, and as I could not guarantee a cure with one more injection the patient decided to take no more.

Case 22.—Sept. 13, 1907. Man, aged 77; advanced atheroma, senile heart; word-blind since an attack, evidently cerebral thrombosis, four months before above date. Neuralgia of left lower branch began twenty years before and had remained confined to this branch; from the beginning very severe. As talking immediately started the pain he was obliged to give up his profession (that of clergyman) and had been an invalid for the last twenty years. On account of the frightful pain caused by eating he often became weak and emaciated for want of nourishment. For several months he waited for a sufficient lull in his suffering to enable him to make the trip to Chicago. He was given three treatments and has not had a single pain since the first injection, one year and seven and a half months ago. In spite of his age and cardiovascular condition he has gained in strength and weight, and enjoys life.

Case 23.—Sept 28, 1907. Woman, aged 65; supraorbital neuralgia began two years before above date. At times very severe. After a peripheral injection of the supraorbital nerve it was found that pain could be started by touches or rubbing the skin in the infraorbital area, so patient was given one deep and one peripheral injection for the middle branch. This stopped all pain and she has had none since, one year and seven months.

Case 24.—Oct. 23, 1907. Man, aged 66. Pain began about twelve years ago in right middle branch, for the last six onths shooting into supraorbital region. Patient took about ne-half grain of morphin daily. I gave him an injection for he middle branch with instant relief. He slept all night withut morphin and ate breakfast the next morning without pain r the first time in two years. I repeated the deep injection nd also gave him a peripheral one for the supraorbital. I dvised further treatment, as the analgesia was not marked, ut he left for home. In about two weeks the pain returned nd he suffered for a month. After that he was more comortable for some time but is now having pain again and is king morphin.

Case 25.—Oct. 30, 1907. Man, aged 73; neuralgia began fteen years before above date in right upper lip but for a ng time the lower branch had been involved as well. A bad se. I found the nerves very hard to reach. Patient received ve injections for the middle branch and four for the lower, ost of them misses. When he left for home he was having ractically no spontaneous pain, although it could still be tarted by vigorously rubbing the face; but he said that he ad not rubbed his face like that for ten years. Five months ter he reported that he had had no pain in the middle branch rea but was having considerable in the lower jaw, though not early so severe as before treatment. May 1, 1909, he reports at he has been suffering severely for a month.

Case 26.—Nov. 4, 1907. Woman, aged 62; began to have euralgia eleven years before above date. Pain in middle and wer branches; numerous remissions. She received three inections for the middle and one for the lower branch with imediate relief and has had practically no pain since; that is, eighteen months.

Case 27.—Nov. 6, 1907. Woman, aged 56; neuralgia for st six years and no free intervals. Infraorbital and inferior axillary branches involved. Two injections for middle and ne for inferior branch. None of these injections was entirely atisfactory from my point of view, but the pain was stopped, e patient felt "fine and dandy" and insisted on returning to er home. She gained six pounds in the next two weeks. Jan. 8, 1908, she returned, having had some pain for several eeks, though not nearly so severe as before the treatment. I ave her two injections for lower and three for middle branch ith complete relief for seven months. She has had no further reatment. One of the injections for the middle branch caused slight vertical diplopia which disappeared in two or three ours.

Case 28.—Nov. 12, 1907. Woman, aged 66; nervous, poor eneral health. Neuralgia of twelve years' standing, with inermissions, of left middle branch. Four years ago antrum pened, no relief. Patient received a single injection with imediate relief and has had no pain since.

Case 29.—Dec. 5, 1907. Woman, aged 58; neuralgia began hree, possibly five, years before above date, right middle ranch. Patient has arteriosclerosis, mitral regurgitation, ardiac hypertrophy and albumen in the urine. She received our injections, none of which was entirely satisfactory to me, ut there was no return of pain for more than a year (Jan. , 1909). Her physician then gave her two injections. The econd one relieved the facial neuralgia but the patient deeloped pain "all over the body" and her general health has ailed. More definite details not obtainable.

Case 30.—Dec. 27, 1907. Man, aged 72. Pain began five nd a half years before above date in left lower branch. About hree weeks before coming to me his physician had given him hree deep alcoholic injections with no benefit. I gave him three njections (the first of which missed) with complete relief. He emained free from pain until about July 1, 1908 (six onths), when it began to return, and in November, 1908, his hysician gave him two injections with considerable but not omplete relief. In April, 1909, his physician again injected ith some benefit.

Case 31.—Dec. 28, 1907. Woman, aged 62. This proved to e my most disastrous case up to this time. Pain began in ight middle branch in the spring of 1905. For a year it was ot very bad, then gradually grew worse, and for the last two r three months had been very severe. Six or eight weeks efore date of treatment pus was discovered in the antrum but reatment of this by an expert afforded no relief. I injected he middle branch, but very imperfectly, and caused not only a deep hematoma but also a marked paresis of the external rectus, causing diplopia. Three days later the sixth nerve palsy was better, I repeated the injection and again failed properly to reach the nerve. Three days after this, under gas anesthesia, I did a third injection, this time with more success, as the analgesia was marked, and there has been no neuralgia since. But this injection rather increased the palsy of the sixth nerve so that the eye could not be turned outward beyond the middle line. The analgesia, too, involved the eyeball and caused a peculiar and uncomfortable feeling. The diplopia disappeared in about two months and in about two months more a careful examination by Dr. Burch of St. Paul, to whom I am indebted for the subsequent history, showed no trace of heterophoria. But, probably owing to anesthesia of the cornea, there remained a persistent tendency to irritation of the eye and to keratitis, requiring careful attention. In June, 1908, Dr. Burch informed me that the eye was doing well. Later in the summer the patient developed a corneal ulcer which healed but left an opacity. "Sensation in the cornea is still much diminished and there is some interference with normal lachrymation in this eye, with a catarrhal conjunctivitis which she keeps clean. There is no return of the tic douloureux." (Dr. Burch, May 16, 1909).

Case 32.—Dec. 30, 1907. Man, aged 52; neuralgia of two years' standing, mostly in left lower branch, though middle one is involved. Patient received two injections for the former with complete relief. I meant to treat the middle branch as well, but the patient suddenly left the city. For ten and a half months he was entirely free from pain. On Jan. 12, 1909, I injected the left lower branch with partial success. Immediately after this treatment the patient disappeared (I believe an alcoholic flight) only to return on January 24 for further treatment. Owing to his inebriated condition this injection was difficult and unsatisfactory. I declined to treat him further until he sobered up and he left.

Case 33.—Jan. 13, 1908. Man, aged 59. Neuralgia of left middle branch of ten years' standing and severe. Injected middle branch with immediate relief but the analgesia was slight and transient so I repeated the injection the next day but again failed to reach the nerve properly. The patient had to leave town. He was free from pain about six weeks; then it began to return. Over a year later, having received no treatment, he was suffering less than before the injections.

Case 34.—Jan. 18, 1908. Woman, aged 69. Severe neuralgia right inferior branch of about eight years' standing. Between May, 1905, and Nov. 28, 1907, five peripheral operations had been performed. The last time the operator had gouged open nearly the entire dental canal and scraped it. This gave no relief; rather made patient worse. I made an injection but the patient would not or could not hold still and I missed the nerve. Three and six days later I repeated the operation under gas with good results and she has had no pain since, one year and three months.

Case 35.—Jan. 22, 1908. Man, aged 74; chronic nephritis, arteriosclerosis, enlarged heart. Typical neuralgia, lower branch, of ten months' standing. Two injections. No pain whatever until the following October, nine months, when there appeared some slight pains in the middle branch which had not been injected. These pains never became troublesome and the patient died, March 14, 1909, of uremia.

Case 36.—Jan. 30, 1908. Man, aged 53. Pain began ten years before date of treatment in the right middle branch. Eight years before above date he had a very thorough peripheral operation which relieved him for four years. Then the nerve was cut off at its emergence from the skull at the foramen rotundum. This again gave relief for four years. Pain returned about eight weeks before I treated the patient and was as severe as ever. I was not at all sanguine as to results in this case because the nerve had been cut just where I would want to inject it and there must have been cicatricial tissue at this point. Furthermore, the zygoma had been cut across and its relations were changed. In addition, the patient had a large head and a very large, fat face (interzygomatic measurement quite six inches). I was fortunate, however, in reaching the nerve the first time and patient had instant relief. I repeated the injection five days later and he has remained entirely free from pain, one year and three months.

Case 37.—Feb. 18, 1908. Man, aged 34. Apparently his neuralgia began when he was 7 years old. For the first four years it troubled him for only one or two weeks each year and was confined to the right lower branch. Gradually the trouble became worse and finally invaded the middle branch. From March, 1898, to some time in 1905 he was operated on eleven times, but two of these operations were for a salivary fistula caused by previous operation. A marked facial paralysis was the result of one or more of the operations. At one time the patient took as high as 15 grains of morphin daily. When he came to me he said he was taking only about ¾ to 1 grain daily. From February 18 to April 1 he received three injections each for middle and inferior branches. The first injection for the middle branch failed, but after the second he had no pain and there was no return until April, 1909. The patient said that he had "just lived in Paradise this last year"—the first year he could remember during which he had been free from pain. Injections were made April 27 and May 11, 1909, since which there has been no pain, but the analgesia is not sufficiently marked.

Case 38.—Feb. 26, 1908. Man, aged 60. Neuralgia, right lower branch, of nearly three years' standing. In August, 1907, lower jaw was trephined and nerve resected, which relieved patient for five months. An injection at once relieved him except for an occasional "prick." Two more treatments were given and several months later he was said to have no return of pain. No recent report.

Case 39.—March 3, 1908. Woman, aged 73. Pain began thirteen years before above date in right lower branch; eight years before same date extended to middle branch and now involved all three branches. I injected the middle branch with instant relief but evidently did not get the nerve well, as the pain returned the next day. No further injections have been made.

Case 40.—March 18, 1908. Man, aged 51. A very severe case of ten years' standing. About four months after the onset the antrum was operated on and the infraorbital nerve is said to have been pulled out. Six weeks' relief. In July, 1907, peripheral operations were done on middle and inferior branches by a distinguished surgeon, which afforded considerable relief, but for two months only. The pains were so easily started and so severe that patient could not endure the lightest palpation of the bony landmarks, and washing the face was not to be thought of. Even the ordinary involuntary winking started the pains. He was given gas and the middle branch injected. Immediately after the injection the middle branch area could be rubbed without pain and patient drank a glass of ice water in comfort, feelingly remarking that that was the first glass or cup that had touched his lips for months. He received another deep injection for this branch and three peripheral injections for the supraorbital. Relief was complete until Jan. 25, 1909 (ten months), when slight pains began. Injections were made February 2 and 5 and the patient has remained well.

Case 41.—March 24, 1908. Man, aged 70. Typical neuralgia began in right middle branch twenty years before above date. At times lower branch had been involved. In this case I had trouble in reaching the nerve. After the first injection he was notably better, but after three treatments in five days he was not entirely free from pain and the analgesia was very slight. As the patient was compelled to return to his distant home I gave him two peripheral injections which entirely relieved him. A year later he was having some pain and had had for some time but not nearly so severe as before treatment.

Case 42.—March 25, 1908. Man, aged 45; neuralgia began three years before above date. Pain probably limited to lower branch but can be started from middle area. Not a very bad case and patient was given the castor-oil treatment with no effect. On April 6 the middle branch was injected and on April 8 and 11 the inferior one. He was at once relieved and remained well until early in March, 1909 (eleven months), when he began to feel slight "jerks" of pain. Injection given March 10 and patient has been well since.

Case 43.—April 18, 1908. Woman, aged 41; neuralgia in left middle branch began two years before the date of treatment, extending to supraorbital three months before this date. This patient received five deep injections for the middle branc and a peripheral injection of superior branch with complet relief, but analgesia in the middle area was not complete an four months later pain began to return. At present (May 1909) patient is having pain in middle and inferior area though not so severe as before the treatment.

Case 44.—April 30, 1908. Woman, aged 59; neuralgia fo eight years, involving middle and supraorbital branches. Sh received a deep injection of infraorbital and peripheral c supraorbital which at once stopped all pain. Contrary to m wishes, she returned to her home, but has had no recurrenc as yet, one year.

Case 45.—April 28, 1908. Man, aged 54. Six years befor above date pain began in right lower branch and soon sprea to middle as well. Within two weeks patient received fou injections for the inferior branch and, although the analgesi was unsatisfactory, he was relieved and has remained well ex cept for occasional slight "reminders," one year.

Case 46.—May 9, 1908. Colored man, aged 48. Five year before above date neuralgia began in right infraorbital are Three years later antrum opened, no result. The middl branch was injected with instant, almost complete relief, bu patient received three more injections with complete relie After the second and fourth injections there was paresis of th abducens which disappeared in a few days. Four months late pain began to return; two injections, relief for six months then patient was given four injections, which again relieve him. This was a difficult case. The x-ray picture (page 1986 shows needle in position for injecting middle branch.

Case 47.—May 14, 1908. Woman, aged 53. A severe ca of ten years' standing, middle and superior branches involve For the last five months there had not been an hour's respit day or night. Deep injection of middle branch and periphera of upper branch at one sitting. The pain ceased at once bu in the next two weeks patient was given two additional inje tions for the middle branch. About the end of August she b gan to be annoyed by pruritus in the supraorbital area and o September 26 I injected this nerve, hoping to stop the itchin There was not instant relief but gradual improvement. A parently this injection caused alopecia in a small wedge-shape area at the hair margin, but the hair soon grew again. Abou November 1 patient began to have pain, this time apparent starting from lower branch, which never had been treated. was not bad and nothing was done until Jan. 24, 1909, wh I injected inferior and middle branches with instant relief a the patient has remained practically well, though she has so discomfort of some sort. From her letter it is impossible say whether she has any neuralgia or not.

Case 48.—May 17, 1908. Man, aged 36; neuralgia, midd branch, began four years before date of treatment; during la three years also occasionally in inferior branch and for la eighteen months pain sometimes started by touches, etc., area of supraorbital. The middle branch in this case was ve hard to reach. Patient received five injections at intervals three to five days, and while there was some relief from th earlier ones the last injection was the only one which got th nerve properly. He received one peripheral injection for th supraorbital. The second deep one caused a very slight pares of the sixth nerve which disappeared in a day or two. He ha remained well.

Case 49.—June 2, 1908. Woman, aged 57; neuralgia f last ten years, middle and inferior branches, sometimes radia ing into supraorbital. She received three injections, one f the middle (not a very good one), two for the inferior branc After the first injection she slept all night; the first time many years. Relief was complete until late in December, wh pain returned in lower branch. Injections of this branch ma Jan. 7 and 10, 1909, relieved her and she has remained well.

Case 50.—June 3, 1908. Man, aged 76; physically senil enlarged prostate, marked atheroma and a bad heart. Ne ralgia of right middle branch for last fifteen years. Inject June 4 and 6. Although the pain ceased entirely the analges was not sufficient to satisfy me. Contrary to my wish the p tient returned to his home. Within two weeks he was aga having some pain. On June 26 I again injected and caused free deep hemorrhage. Swelling below and above the zygon was marked and patient complained of headache, evident caused by the pressure. This pain over right side of head lasted about thirty-six hours and the patient felt weak and "knocked out." The pulse was irregular and none too strong and it was five days before patient felt able to make the trip to his home, some six hours distant. He has had no return of pain and "has good health for one of his advanced years." But apparently the pressure of the hematoma was too much for his diseased vessels and poor heart, as the injection was followed by some necrosis of the hard and soft palate and I infer from his physician's letter that a molar tooth was also lost. These lesions healed, leaving no bad effects except slight stiffness of the jaw joint.

CASE 51.—June 4, 1908. A very nervous and delicate woman of 73; apparently had something like neuralgia fifty, forty and thirty years ago; each time for several weeks. Present trouble began three or four years before above date; now limited to right lower branch. Injections June 5 and 7 with some relief, but far from complete. Patient decided to return to her home. Aug. 6, 1908, her physician reported: "Her face is much better, she is fleshier and her general appearance is 50 per cent. improved." She remained "very much better," though not entirely free from pain, until about April 1, 1909, when she again began to suffer severely.

CASE 52.—June 14, 1908. Man, aged 75; neuralgia for twenty-five years: for the last ten years very severe and for the last five years nearly continuous. Middle and inferior branches involved, with pain radiating into superior. This proved a hard case to treat. Patient received four injections for the middle branch and four for the inferior, besides one peripheral injection of the middle one, but finally was entirely relieved and has remained well.

CASE 53.—June 22, 1908. Man, aged 77; atheromatous arteries; neuralgia of right middle branch off and on for last two years; occasionally radiated to upper or lower branch. As this was not a severe case and patient when seen was not suffering I made two peripheral injections on successive days and advised him to wait. He was entirely relieved and remained free from pain until his death five months later, probably from angina pectoris.

CASE 54.—June 26, 1908. Woman, aged 60; neuralgia of lower branch last eight months. I saw this patient in transit and made one injection which did not get the nerve well and from which she received no benefit. On the contrary, she writes me that for three weeks afterward the pain was worse than ever. Subsequently she improved, evidently a period of spontaneous amelioration and not due to the injection.

CASE 55.—June 26, 1908. Physician, aged 49. His neuralgia began in October, 1904. In April, 1906, an eminent surgeon did the Abbé operation, which relieved him entirely for nearly a year and practically for nearly fourteen months. When seen the pain was as bad as ever and, as before, limited to inferior branch. This branch was injected June 26 and 30 with instant and complete relief, but six months later pain began to return and invaded middle area. In January, 1909, he received three injections for lower and one for middle branch. I thought latter should be treated again but patient was entirely free from pain, went home, and has remained well.

CASE 56.—June 28, 1908. Woman, aged 72, with enlarged heart and irregular pulse. Forty-three years ago the lower jaw was injured in the extraction of a tooth. This was followed by severe paroxysmal pain. Soon after, a surgeon in attempting to remove dead bone and cut the nerve, fractured the jaw. After this there was no pain for a year, when it returned. Since then the patient has undergone eighteen peripheral operations, each one relieving her for a longer or shorter period. Paroxysms exceedingly severe. Injection made at once. Relief was immediate but not complete, as she had an occasional pain during the next few days. Four days later treatment was repeated, after which she had only an occasional pain, never severe. Evidently she needed further treatment but was satisfid with the result and prepared to wait. The slight pains disappeared and there was no sign of neuralgia for six months. On Feb. 15, 1909, she received an injection and has been perfectly free from pain since.

CASE 57.—June 27, 1908. Physician, aged 40; neuralgia of right middle branch began over five years before above date. In spring of 1905 it extended to superior branch. In 1906 antrum opened and in August, 1907, infraorbital nerve resected, which gave him not complete but practically complete relief until a few days ago, ten months. Paroxysms now frequent and rather severe. Middle branch was injected June 27 and July 1, and peripheral injection of supraorbital made June 28. Relief was complete and patient has had no pain, although through the winter he was much exposed to wind and weather.

CASE 58.—July 1, 1908. Man, aged 42; neuralgia began twenty years before above date in supraorbital division; a year later changed to infraorbital division and two or three years before above date again began to invade supraorbital. Injection of infraorbital July 1 and on same day peripheral injection of supraorbital. Pain was relieved but the deep injection caused transient paresis of abducens. Patient has remained well.

CASE 59.—Sept. 10, 1908. Man, aged 45; tuberculous hip with sinus since age of 8. Rectal fistula for five years, neuralgia right middle branch for last six years, of inferior branch last seven months, and for two or three months radiating into supraorbital. Numerous paroxysms every day. Patient received five injections for the middle and three for the lower branch; complete relief and no recurrence.

CASE 60.—Sept. 18, 1908. Woman, aged 66; neuralgia of left middle branch for ten years; for last six months so severe that patient's strength had suffered from lack of food. She received eight injections in all, though there was practically no pain after the third one. There was great difficulty in reaching the nerve. April 22, 1909, considerable pain. Patient now better but doubtless will need treatment before long.

CASE 61.—Sept. 25, 1908. Small, delicate, nervous woman, aged 58; neuralgia for four years. In January, 1908, a deep injection was given by another physician with immediate relief. After two weeks there was a little pain and in February injection was repeated with relief for five months. In August she had received three injections with no benefit. I gave her three injections, the first two missing, the third getting the nerve well, since which time she has been entirely well as far as the neuralgia is concerned.

CASE 62.—Oct. 3, 1908. Woman, aged 37; neuralgia of superior maxillary division for six years. Resection of nerve July, 1905, relief for fifteen months. May, 1907, nerve was again resected, the foramen injected with osmic acid and then plugged with a silver screw. Relief for nine or ten months. Supraorbital nerve said to have been divided three weeks before my treatment, but there was no analgesia. I made deep injection of middle branch and peripheral of upper; immediate relief. Patient left the city the same day. Five months later slight return of pain, but patient is still relatively comfortable.

CASE 63.—Oct. 10, 1908. Man, aged 64; neuralgia for ten years; for first five in right lower branch only, for last five in middle as well. In the last four years not a single day free from pain; generally about 150 paroxysms daily. Three injections; complete relief, no recurrence.

CASE 64.—Oct. 17, 1908. Woman, aged 60; neuralgia of right middle branch began three and a half years before above date. Three months before my treatment another physician gave patient several peripheral injections of alcohol with great relief. I made one deep injection with but slight effect and the patient decided to try Eddyism.

CASE 65.—Oct. 30, 1908. Man, aged 58; neuralgia for three years, lower and middle branches, radiating into upper; a bad case. Four months before date of my treatment a well-known surgeon injected osmic acid without result. This patient received two injections for the inferior and five for the middle branch. The latter was exceedingly difficult to get. I tried going in in front of the coronoid process, behind it (below the zygoma) and above the zygoma. The patient was completely relieved, but about the middle of February, 1909, began to feel signs of recurrence. Between February 22 and March 5 he received two injections for inferior maxillary and two for superior. As I could not reach the latter, owing, I think, to the bony conformation, I injected the alcohol at the infraorbital foramen. Patient was relieved and there has been no recurrence.

CASE 66.—Oct. 31, 1908. Woman, aged 63; neuralgia of right lower branch began six years before above date. Two years later evulsion of nerve: relief for a year or more. For last six months pain worse than ever before. Three months before I treated patient a surgeon again operated and gave four injections of alcohol. No relief from operation; some from the injections. I gave her two injections, the first missing. Complete relief and no recurrence.

Case 67.—Dec. 11, 1908. Woman, aged 60; neuralgia for five years, first and second branches involved. Arteriosclerosis and hypertrophy of heart. She received three deep injections for middle branch and one peripheral one for the superior branch. Complete relief. Recently slight signs of return.

Case 68.—Dec. 15, 1908. Man, aged 48; neuralgia began eighteen months before above date in right upper jaw. For last three months lower also affected. Poor general health, dilated heart, and in last three months four attacks of unconsciousness. He received one injection for middle branch and three for the lower. Entire relief and no recurrence. Patient has had no more fits.

Case 69.—Dec. 23, 1908. Man, aged 65; senile; arteriosclerosis, intermittent heart, feet cyanotic. Neuralgia of middle and inferior branches for about one year. Patient received four injections for inferior branch, one deep and one peripheral for the middle branch. He was relieved of pain but this is the most unfortunate case I have had. Immediately following the deep injection of the middle branch the patient showed paresis of the abducens and some analgesia of the supraorbital area and the next day a keratitis which finally eventuated in a superficial ulcer. He had the care of a skilled oculist but left the city and I have been unable to get a later report.

Case 70.—Dec. 29, 1908. Man, aged 74; atheromatous arteries, mitral and aortic murmurs. Severe neuralgia of left lower branch for one year. The first injection missed the nerve. The next day patient had what apparently was a slight cerebral thrombosis and operations were deferred until Jan. 11, 1909. An injection on this date missed, but two days later I struck the nerve at a depth of 5.5 cm., since which time the patient has been entirely free from pain.

Case 71.—Jan. 6, 1909. Man, aged 61; neuralgia for fifteen years, all branches involved. Mitral disease, albumin and casts in urine. Excision of nerves performed seven years ago: partial relief for a year. Patient received three deep injections for middle branch, one for lower and a peripheral injection for supraorbital. Complete relief and no recurrence.

Case 72.—Jan. 14, 1909. Man, aged 47; very nervous; enteroptosis; general health poor. Neuralgia for nearly two years, middle and inferior branches. Three injections, not entirely satisfactory as regards analgesia but relief complete. Patient went home and has had no return of pain.

Case 73.—Jan. 23, 1909. Woman, aged 45; neuralgia began twelve years ago and from beginning involved all branches. This patient had a remarkably large face for a woman, with prominent cheek bones and most unusual thickness of the lower jaw. Apparently the deeper bones were also thick, for I had great difficulty in reaching the nerves. Patient received three deep injections each for middle and inferior branches and one peripheral injection for the first division. Complete relief and no return of pain.

Case 74.—Mar. 9, 1909. Man, aged 46; neuralgia for fifteen years. Pain in middle branch but started by touches in supraorbital and inferior maxillary areas. Four years before above date resection of superior maxillary: relief for one year. Six months before same date four deep injections of alcohol; relief for three months. Three more injections; no relief. I gave patient three injections for lower branch, one deep and one peripheral for middle branch, and he has had no more pain on that side. About Mar. 18, 1909, he began to have typical neuralgia pains in *left* lower area and April 5 and 8 I injected this branch, since which time patient has been well.

Case 75.—Mar. 12, 1909. Man, aged 62; arteriosclerosis, hypertrophied heart. Neuralgia began ten or twelve years ago in right middle branch; a year later extended to supraorbital. Many remissions, once for a year. Now very severe. Four or five years ago wedge-shaped piece excised from upper lip; no relief. I gave patient a deep injection of superior maxillary and peripheral one of supraorbital. Instant relief, no return of pain.

I think that there can be no doubt whatsoever that when the injection reaches the nerve the pain is stopped at once. In this sense I have had not a single failure. The greatest drawback to the method is the uncertainty of reaching the nerve on any given trial. But if the patient is willing to persevere he is practically certain of relief. Of course, in many cases one succeeds the first time.

The danger of the operation is as nearly *nil* as can well be. I know of no fatality and think none has ever been recorded. Nor have I heard of a single case of infection. I have had none in over 300 injections. Disagreeable complications are exceedingly infrequent, my worst, indeed practically all, having been in Cases 31, 50 and 69. In a few cases injection of the middle branch has caused a small hematoma which did no harm and occasionally I have produced transient paresis of the sixth nerve. In this connection it is worthy of note that in the 75 consecutive cases covered by this report 36 patients were between 60 and 70 years old, 13 between 70 and 80 and one over 80.

The procedure is not excessively painful; at least patients do not often complain of it. An anesthetic is very rarely necessary. In four cases I have given gas, but in only one of these (Case 40) was it absolutely required. There is no shock. Most of my injections have been done in the office, and in a few minutes the patients are ready to walk out, though I prefer to have them lie down for twenty or thirty minutes. Queer as it may seem, the alcohol itself causes no pain after a few seconds.

There is no reason to believe that these injections effect a radical cure, though I suppose that occasionally this might be the result. The period of relief to be attained is hard to estimate. A good injection, as shown by marked analgesia, may be expected to relieve for from one to three years, possibly more. One trouble I have had is to get patients to have more treatments after the pain has been stopped. The sufferer is satisfied as soon as relieved.

Reinjections after recurrence and injection in cases in which patients have already undergone peripheral operations seem to be just as successful as primary injections. I have never had occasion to give an injection to a patient who had been subjected to the ganglion operation.

While I do not at all wish to be understood as making a special plea for this treatment, recognizing, as I do, its many weak points, it is only fair to the reader that I should state my opinion that in the majority of cases it is the simplest, least hazardous and best. Should it finally fail, the Abbé or the Gasserian operation is still open to the patient. It will occur to every one that by this means old, feeble and infirm sufferers may be made comfortable at minimum risk until length of years or intercurrent disease leads to the final *exitus*.

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ABSTRACT OF DISCUSSION

Dr. D'Orsay Hecht, Chicago: The conclusions that I have come to concerning the deep alcohol injections are based on an experience with 38 cases to date, in which I may have totaled 150 injections. I can share Dr. Patrick's sense of disappointment in missing the nerve, and, on the other hand, have experienced the agreeable feeling of having produced immediate analgesia in the related area by getting the solution into the nerve, than which there can be no more pleasant sensation for patient and operator alike. My youngest patient was 25 and the oldest 90. In both I had good results. I had one experience in injecting the ophthalmic branch which leads me to the conviction that I shall not do it again. The amount of ecchymosis and edema of the conjunctiva and eye was such that I had to resort to cold applications and scarification. No permanent damage was done, but the condition caused me to feel uncomfortable for several days. In another patient, a bleeder, I was unfortunate enough to encounter hemorrhage, resulting in the formation of a rather large hematoma in the cheek, which was slowly resorbed. The patient was a woman from a neighboring state, who had typical trifacial pain. The diagnosis of the underlying pathology was very difficult. Sinus disease was known to have been present, brain tumor was suspected, and all this in a highly neurotic individual. After the first injection she had relief for about two months. She returned to her home and the recurrence of pain led to surgical intervention in the form of placing a screw in the infraorbital foramen. This was done without relief and the patient in three months returned for further injections, which were likewise without benefit to her.

I should like to call attention to a class of cases thought by some to be trifacial neuralgias, but which are merely minor facial neuralgias. They require to be differentiated, and unless they conform to the well-known clinical description of trifacial disease, I should say that they were unsuited for the alcoholic treatment. When these patients with vague continuous pain are subjected to *x*-ray examination, some underlying pathology referable to the teeth, jaws or sinuses is always revealed. I might add that a small, flexible film placed in the mouth along the borders of the teeth supposedly giving rise to the pain will disclose the dental condition better than an outside exposure. In every case of trifacial pain, whether typical or atypical, I seek to ascertain the underlying pathology with every adjunct to diagnosis at my disposal.

On the whole, my results have been good, although I reiterate what Dr. Patrick has said, that at times I have felt discouraged with the method. I shall, however, continue to do the trifacial injections with alcohol, feeling about them as I did two years ago, that they afford in a large proportion of the cases the best kind of palliation known to me and borne out by my experience of free intervals from pain from the shortest period of four weeks to the longest of two and a half years.

Dr. B. R. Tucker, Richmond, Va.: I recently reported in a local journal thirteen cases of trifacial neuralgia treated by medical means. After trying all medical treatment in one case and it having failed, the injections were tried and proved successful for three months. The patient, a woman of 72 years in very wretched health, came back and the operation was repeated and proved successful again.

Dr. C. L. Dana, New York: In the class of cases that Dr. Patrick refers to as trifacial neuralgia, does this term mean *tic douloureux?* This seems to me a specific kind of neuralgia occurring with peculiar symptoms almost always after the fortieth year in the degenerative period of life. The facial neuralgias which occur in early life are usually sympathetic, but these sometimes take on themselves the typical aspect of a *tic douloureux*. I should like to know whether his successes are not with older patients.

So far as my experience goes in the ordinary *tic douloureux* of the degenerative period of life, when the disease has not been very long standing, the operation seems to work satisfactorily. But in the very prolonged cases a sort of psychosis is added to the neurosis, and the operation does not seem to be of so much benefit.

Dr. Hugh T. Patrick, Chicago: As accurately as I could make the diagnosis these were all perfectly typical cases of *tic douloureux*. Most of these patients had passed the fortieth year. The age question is rather interesting; and those in the thirties (and there were very few of them) were not to be distinguished, by me, at least, from the perfectly typical cases in older persons; that is, the intermittent, short, violent, exceedingly severe pains with intervals of remission of various length. The pains would be started by a slight sensory stimulus on the face, such as washing it, touching it, eating, talking, etc. Really typical trifacial neuralgia is something apart and different from anything else and the diagnosis is not difficult. As regards the operation, I would say the older the people the easier the job; the tissues are soft, they are not fat, the distance to go is not so great. The tissues being soft, one can handle the needle better after it is in and can feel out the way more easily in the old people than in the younger, more vigorous and more muscular patients, in whom the fasciæ are tough and hard and in whom there is considerable muscular mass. Those are the cases which have been difficult as a rule; although occasionally in an old person I find bony trouble.

Another thing that I am generally asked is whether I give an anesthetic, and whether the injection itself is very painful. I do not give an anesthetic as a rule. In most of these cases the operation, if you may call it such, is done in the office, although I can not say that I advocate that particularly, only it has been convenient to do it so. In a few cases I have had gas given, once in the case of a woman who had a good many injections, the disease being of seventeen years' standing, always with success, and who at present is perfectly free from pain. She objected to the discomfort of the injection and had gas a number of times. One patient was such a bad case, also of long standing, that I could not even palpate the face, let alone scrub and clean it, without causing this terrible pain. When I put my finger on the malar bone to feel the process the man could not keep still—the exceedingly lancinating pains were too much for him. I gave him gas and then the injection and when he woke up he was free from pain. I rubbed his face with ice water and handed him a glass to drink; he was afraid to try it—he said he didn't want to—but he finally drank it and said: "That is the first vessel that has touched my lips for four months." His wife had fed him with extreme care from the other side of the mouth with a teaspoon so as not to touch the side of the face where the pain was.

One old woman who had had something like nine operations and was exceedingly nervous and hypersensitive could not or would not keep still and I missed the nerve entirely. She then went into a hospital and I gave her two injections under gas. That is about a year and eight months ago, and she has remained entirely free from pain since. The injections after other operations are interesting. I have given injections after all operations except the Gasserian operation. I never have had a case in which the Gasserian ganglion had been removed; but I have had one after an intracranial section of the nerves; also one case in which a screw had been inserted into the infraorbital foramen, and those injections were as successful as the others.

CERTAIN HITHERTO UNPUBLISHED DATA CONCERNING THE INSANE

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One of the most natural and most common of questions concerning the insane, as they are found massed in a hospital, is: "What becomes of them all?" Oddly enough, this question has never been fully answered. At first glance the question seems easy to answer, but a search among the common tables shows that it has not been found easy.

Seeing this, I was led last year to attempt a tabulation (Table 1) which should show what became of them, so far as hospital records answer that question. That is, of a given consecutive or average number of admissions of patients having the average of characteristics I would like to show how many die in the hospital, how many leave "recovered," how many leave "improved," how many leave as "unimproved," and how long it takes to secure each of these results. While this table is closely exact as to the shorter durations, it is yet, of course, and as a whole, a "close approximation," and is derived from a study of the cases in the Rochester State Hospital. It also disregards a study of what may become of patients after six months of probation and discharge.

Table 1 assumes 1,000 consecutive admissions of insane patients, and then, keeping to the same individual cases, and disregarding all subsequent admissions, follows these 1,000 persons till all are disposed of under one of four headings: (1) "died," (2) "discharged as recovered," (3) "discharged as improved," (4) "discharged as unimproved."

TABLE SHOWING TERMINATION OF CASES OF 1,000 NEWLY ADMITTED INSANE PERSONS

Years of Stay in Hospital.	Died.	Discharged, recovered	Discharged, improved.	Discharged, unimproved.	Remaining.
During 1st year......	150	160	150	5	535
During 2d year.........	50	27	69	5	384
During 3d year.........	40	5	25	4	310
During 4th year........	30	3	13	4	260
During 5th year........	20	2	5	3	230
During 6th year........	15	2	3	3	207
During 7th year........	15	1	2	2	187
During 8th year........	14	...	1	1	171
During 9th year........	13	...	1	1	156
During 10th year........	13	...	1	1	141
During 11th year........	13	...	...	1	127
During 12th year........	12	...	...	...	115
During 13th year........	11	...	...	...	104
During 14th year........	11	...	...	...	93
During 15th year........	10	...	...	...	83
During 16th year........	10	...	...	...	73
During 17th year........	10	...	...	...	63
During 18th year........	9	...	...	...	54
During 19th year........	8	...	...	...	46
During 20th year.......	7	...	...	...	39
During 21st year........	6	...	...	...	33
During 22d year.........	6	...	...	...	27
During 23d year.........	5	...	...	...	22
During 24th year........	5	...	...	...	17
During 25th year........	4	...	...	...	13
During 25th to 30th year..	8	...	...	...	5
During 30th to 35th year..	4	...	...	...	1
During 35th to 40th year..	1	...	...	...	...
Totals	500	200	270	30	

I think that most people, even those acquainted with the insane, will be surprised at some of the items. I will call attention to some of them.

1. Nearly one-half the cases (465 out of the 1,000) are terminated before they have been one year in the hospital.

2. About one-fifteenth of the patients (150 out of the 1,000) have died before one year of their residence is over. This is partly due to the admissions of "seniles" and "paretics," but partly to the little-noted indirectly fatal character of the acute stages of insanity.

3. A very large number of patients stay out in the world as "improved." I do not make allowance in this table for "relapses," but, as hardly ever more than one patient out of ten relapses, even if these be allowed for, yet rather more patients go out and stay out as "improved" than go out and stay out as "recovered."

4. It takes approximately forty years to terminate all the cases. The older patients live about as long as they would if not insane.

THE LIABILITY OF DIFFERING AGES TOWARD INSANITY

It is commonly said, and all hospitals have tables which show, that the most common age to become insane is about the ages 30 to 35. This is true as to the occurrence of the greater number of cases. It is instantly assumed, however, and is commonly stated that the greatest liability to become insane is at such ages. This is not true.

The reason that it is not true lies in the fact that the number of people living is less at each succeeding age. Indeed, the age of nearly one-half the population living is less than 20 years, and yet very few cases of insanity come from that period.

To illustrate this, suppose there are in a community 1,000 people of the age of 55 and 3,000 people of the age of 25. Now, if 10 people from the 1,000 of the age of 55 go insane, and if 30 people of the 3,000 of the age of 25 go insane, then there will be the same percentage liability at each age. Yet the actual numbers are as 3 to 1.

Clear as this seems, I find no table incorporating this fact or in any way recognizing it as a vital and important practical truth. Table 2, computed by comparing the total population of Minnesota with its total insane committed, is formed to show the actual liability per million, and also the actual percentage liability as between the different age decades.

COMPARATIVE LIABILITY TO INSANITY IN EACH DECADE

Age by decades.	No. living in each age in Minn. (census, 1900).	No. insane admitted in Minn. in 1901-1902.	No. insane of each age decade admitted in Minn. per million people living at that age in Minn.	Proportionate chance of becoming insane at each age decade, as compared with other decades, in percentages.
				Per cent
Under age 20....	807,978	54	66.8	.410
From age 20-30..	309,281	380	1257.7	7.727
From age 30-40..	252,248	522	2069.3	12.710
From age 40-50..	172,688	379	2194.2	13.481
From age 50-60..	103,189	218	2112.6	12.980
From age 60-70..	63,388	122	1924.6	11.824
From age 70-80..	31,026	78	2514.0	15.447
Over 80	7,494	31	4136.6	25.415
Totals	1,747,292 (People in Minn.)	1,793	16275.8 (Sum of relative chances.)	99.994

Column 4 is obtained by multiplying Column 3 by 1,000,000 and dividing by Column 2. It is from the proportion: "807,978 is to 54, as 1,000,000 is to the required number."

Column 5 is obtained by dividing the chances per million of each decade by the total number of chances. It merely gives the chance of each decade as compared with the whole in terms of parts of 100. It is a relative percentage.

The caution must be added that this last column does not show the percentage of insane committed, but only the relative chances of becoming insane in one decade as compared to the other decades and as compared with one hundred chances. If there were an equal number of people at each age, this would be the proportion committed from each decade.

A Case of Displacement of the Descending Colon.—Mahmoud Hamdy and Mustafa Fahmy Sorour, of the school of medicine, Cairo, Egypt, state (*Jour. Anat. and Physiol.*, April, 1909, xliii, 242) that it is quite common to find considerable variations in the positions of the various parts of the colon in Egyptian cadavers. There have been reported from Egypt a case of intestinal obstruction, in which the pelvic colon, on post-mortem examination, was found to be 83 cm. in length (1 cm. less than the longest recorded example), a colon passing obliquely across the body postperitoneally, from the cecum to the splenic flexure and the case described below, in which the pelvic colon lay as an inverted distended U-shaped tube in front of and adjacent to the cecum, appendix and distal end of the ileum, in such a position as to give considerable confusion and embarrassment if it became necessary to perform colotomy or to examine the region of the appendix. "The whole oblique extent of the colon, from the splenic flexure to the pelvic colon, was placed behind the peritoneum, which covered only its anterior aspect. The whole of the left side of the abdomen below the level of the kidney was devoid of any colic contents. The root of the pelvic mesocolon was in contact with the cecum, and there was a very deep and narrow cleft between the two, occupied by the appendix and partly roofed over by a peritoneal fold passing from the pelvic mesocolon on to the anterior surface of the ileum and cecum."

THE PLAGUE ERADICATIVE MEASURES (SQUIRREL CAMPAIGN) IN CONTRA COSTA COUNTY, CALIFORNIA

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ALAMO, CAL.

> The hypothesis of an epidemic (or more properly an enzootic, as we are speaking of animals) has greater chances of being true. This enzootic is prevalent in a permanent manner in one species of animals which is found in the mountains of Asia. From this animal the virus is automatically propagated to the rat and from the rat to man. Plague seems thus to be an accidental disease in the rat as it is in man, and it is necessary to trace further back to discover the animal which acts as the host for the bacillus pestis. Beliatsky and Reschtnikoff first, and Zabolotny later have drawn our attention to a rodent of Mongolia which they believe to be this animal host. This rodent is a sort of marmot, the *Arctomys bobac* or *tarabagne* which presents from time to time lymphatic swellings. The natives hunt it for eating purposes and also on account of its fat. According to these three Russian authors the inhabitants of certain uncivilized districts of Siberia receive plague periodically from this animal. The intermediary to the rat might thus be exterminated. One understands the full importance of this discovery if it should be confirmed. To eradicate plague forever from the surface of the globe it would be sufficient to declare a war of extermination no longer against the rat, which is cosmopolitan, but against this rodent of Tibet from which the disease spreads to every part of the globe. *La Pathologie Exotique*, LeDantec.

For several years human deaths from plague have been a matter of annual occurrence in Contra Costa County, and it has been known that for at least the past four years some epizootic has been spreading among the ground-squirrels of that region. This animal, the *Citellus beechyi,* resembles the *Arctomys bobac* very closely in habits and appearance, and it is not at all improbable hat it bears a similar relation to the perpetuation and distribution of bubonic plague to other species. Ranchers and others who have observed the squirrels closely state that in 1904-5-6 they died by the thousand. They would emerge from their holes and stagger about as hough they were drunk, and on many occasions it was possible for one to kill them with a stick. Their fur was turned the wrong way and in some instances they were emaciated, and presented swellings beneath the aws or in the axillæ. Numbers of them were seen crawling on the ground in a dazed condition, apparently having lost all sense of direction, blunderingly trying o find their holes. It is not at all improbable that some were suffering from the pneumonic form of the disease. Several very intelligent ranchers who took the trouble o open the bodies state that the lungs were dark red in olor and resembled liver in consistency. In many places he squirrels died in such numbers that the buzzards came in great flocks, and the air was redolent with the odors of the decomposing bodies. Up to that time the quirrels had been a great pest, levying a heavy annual ribute on the products of the farmer. On some of the anches they existed in such great numbers that "the ntire hillsides seemed to move with them." In one part of the county the vineyards had to be surrounded with heet-iron fences which extended two feet below the ground and three feet above, in order to prevent the quirrels from destroying both the grapes and the vines. Even yet there remain valleys where they are so plentiul that one may see hundreds of them in a few minutes' walk. They may be observed playing about or eating he grain and seeds on which they subsist, and usually here are one or two sitting bolt upright by the entrance o the burrow. On the approach of the hunter they will whistle, and after a short time it is very easy to recogize the meaning of these signals. If one sharp whistle s given the animal will usually sit still, and it is still possible to get a shot. If he gives one sharp whistle and goes down into the hole, it is safe to wait a few minutes for him, but if he gives one sharp whistle followed by two or three trills in a descending scale it is simply a waste of time to wait for him to come out, because he has been thoroughly frightened and may not reappear for two or three hours. In many cases entire crops were destroyed by the squirrels. As a result this epizootic was welcomed because the rancher realized that the extermination of these in such hordes meant a great saving to him.

The epizootic was assigned to various causes. Some thought that it was due to the blasting with dynamite in the construction of a tunnel through the Berkeley hills. Others maintained that it was due to some disease which had been inoculated in the squirrels by some of the professors at the State Agricultural College, while others affirmed that it was due to a product called "squirrelene," which came into general use about that time.

The epizootic seemed to begin in the northern part of the county along the coast of Suisun Bay, and rapidly spread as far east as the river and south into Alameda County. Some observers have stated that the disease entered the county from the south by way of the Niles Canyon, while others believe that the route of entry was through the Moragua Valley. If an entrance was gained through the first route, the hypothesis that the squirrels were infected by rats brought to this country on the sugar ships from Honolulu might be tenable. If the disease came into the county through the two last-mentioned routes, it would seem more likely that Oakland was the infecting nidus. This, however, is a departure into the realm of speculation, which is of little profit.

Surgeon Rupert Blue, of the U. S. Public Health and Marine-Hospital Service, and Dr. N. K. Foster, Secretary of the State Board of Health, looked into the matter, but it was impossible at the time to go into very extensive investigations. In all probability this disease was bubonic plague, but this could not be determined until the summer and autumn of 1908, when the investigations following two human cases resulted in the discovery of four plague-infected squirrels. The pathologic findings in these animals, which were the first cases of natural plague among ground-squirrels ever seen in America, is the subject of an exhaustive monograph by Acting Assistant-Surgeon William H. Wherry, U. S. Public Health and Marine-Hospital Service.[1] Three of these squirrels were shot and one was found dead. All were discovered within four miles of Bay Point, California. One of these was found on the ranch where a boy died from bubonic plague in the summer of 1908; the others were secured near the coast of Suisun Bay. These findings removed the question of squirrel plague from the field of theoretical consideration and placed it on the solid foundation of fact. It remained, however, to prove the extent of the infection and to evolve, if possible, a plan for the final eradication of the disease, which, having gained a permanent foothold in California, would continue as a perpetual menace to the bay cities, the state and the entire union.

In April, 1909, Surgeon Rupert Blue, acting under the authority of Surgeon-General Walter Wyman, of the U. S. Public Health and Marine-Hospital Service, began an active campaign in Contra Costa County, one of the central counties of the state. It is bounded entirely on the west, north and east by water, its western boundary being San Francisco Bay, its northern boundary the San Pablo and Suisun Bay, its eastern boundary the San

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1. Wherry, W. H.: Jour Infect. Dis., v

Joaquin River and its southern boundary Alameda County. It is also bounded, to a certain extent, on the west by Alameda County and is, therefore, in close proximity to all of the bay cities. Its western boundary line is within nine miles of San Francisco and adjoins Berkeley. Its area is 734 square miles, or about 444,491 acres. Its topography is semimountainous, with broad, rich intervening valleys. Besides the range of hills bordering the western and northern portions of the county, there are two ranges of hills running in a general northerly and southerly direction, with large productive intervening valleys watered by substantial streams. In the center of the county stands Mount Diablo, a rugged peak about 3,800 feet in height. The valleys of Alnamora, Pacheco, Ignacio, Clayton and San Ramon extend from Suisun Bay at Martinez on the north to the southern boundary line of the county beyond San Ramon. Numerous smaller valleys branch off from these, and the great San Joaquin Valley begins in eastern Contra Costa, extending from Mount Diablo on the west to the San Joaquin River on the east. The rich valleys afford an abundant food-supply for the squirrel population, while the wild hill lands shelter them in winter from the rains, and human and animal foes. The proximity of the county to the bay cities, which have until recently been plague-infected, and the constant presence of ships hailing from Oriental ports, in Suisun Bay, demonstrate how easily the infection could have been introduced into the county. The large area to be covered, the wide spread of the infection and the character of the terrain all combine to render the campaign exceedingly difficult. This is still in its infancy, but a sufficient number of infected squirrels have been found to justify the belief that we are dealing with a permanent focus for plague.

The beginning of the campaign was very difficult; a new field of sanitary activity was being entered, and there were no established precedents to act as guides. The herculean proportions of the problem and the great distances to be traversed were overwhelming. The difficulties in securing and distributing supplies and in collecting the squirrels and forwarding them to San Francisco all had to be met and overcome. In addition, the confidence of the people had to be gained, and it was necessary to allay their fears so that they would not feel that the county was going to be injured by the work. The matter of personnel was also one of considerable difficulty. Fortunately there were in San Francisco a large number of men who had been carefully trained in the plague campaign there and who could be relied on to execute their orders in an efficient manner and to meet emergencies without calling on the assistance of an officer. The ideal man for this class of sanitary work is one who is tactful, self-reliant, gentlemanly, a good shot, a conscientious worker, and one who is able to go ahead without the constant presence of an officer.

In the early part of the campaign, while the ground was still moist, eradicative measures were put in force, largely for the purpose of determining the efficacy of the various agents to be used in the extermination of squirrels. A careful study was made of their habits, and it was found that the squirrels spend the winters, that is, the wet months, in the foothills, and that there the young are born.

They are usually collected in colonies, and sometimes they dig very extensive burrows, honeycombing an entire hillside. The openings to the burrow are approached by little paths two or three inches wide, worn in the grass by the frequent passage of the animal. As a rule rather soft ground is chosen for digging the warren, but frequently the squirrels will burrow into hard adobe, an in several places they have dug tunnels in the soft limestone. The earth which is dislodged in digging the burrows is piled in a mound at the mouth of the hole. Th tunnel, if the soil will permit, usually makes a shar drop, and then points up hill a distance of two or thre feet. It then forks, one main branch going to the storehouse and the other to the nest. Collateral branches lea off from these two main avenues and usually there ar several exits. The nest is formed of straw and pieces o soft bark, and is usually alive with fleas. In the storehouse may be found grain, fruit, and several varietie of wild seeds, of which they are, apparently, very fond These are transported to the storehouse in the cheeks o the animal. In late April and early May most of th young squirrels have grown sufficiently to travel, and a emigration into the low lands begins. This is not completed until late May, when the grain crops are harvested. By this time food in the hills has become relatively scarce, and the animals, descending into the valleys, subsist on fruit, garden truck and grain. In th former instance their activities are particularly pernicious, and they have frequently been seen to cut off small branch laden with unripe prunes and drag it int their holes.

It is stated by those who have eaten them that at certain seasons of the year ground-squirrels are a toothsome delicacy. Certain it is that many people eat them regularly, and several families have been found who ar in the habit of salting them down in large numbers an using them almost to the exclusion of other meats. I all probability the eating of squirrels is not in itself dangerous, provided they are well cooked, but the danger lies in the handling of them prior to cooking, that is, in skinning and preparing them. There are a large number of men who make their living by hunting these animals for the markets, and, until recently, large daily shipments were made. Realizing the danger of such practice, Surgeon Rupert Blue invited the attention o the State Board of Health to it, and, at his request, a resolution was passed forbidding the acceptance of ground-squirrels for shipment by express companies an common carriers, unless accompanied by a certificate t the effect that they were intended for scientific purposes and carried in sealed metal cans. This succeeded, in a measure, in putting a stop to this dangerous business but a large number of private hunters continued to com into the county. Dr. Blue then brought the matter t the attention of the mayors of Oakland, Berkeley an Alameda, with the result that the people were warned against the use of ground-squirrels for food. An inspector was also stationed at the Fish ranch on the tunne road, which is the main thoroughfare into the county with instructions to inform all persons passing wit bags of squirrels of the danger to which they were exposing themselves. As a result, the practice of eatin squirrels has very greatly diminished, and the marke hunters have been obliged to seek other employment.

Two agents were found which gave good results in th poisoning of squirrels. The first of these was commercial carbon bisulphid. To use this, a piece of waste th size of an orange is saturated with the fluid, and the we ball placed in the mouth of the squirrel hole. Earth i then tamped tightly on it so that the gas which is generated may have no opportunity to escape. All of th holes of the burrow are treated in this way. In som instances the ball is placed deeply in the hole and the ignited. This is more or less dangerous, as an explosio occurs, and, while the gas is thus disseminated to all parts of the warren, its action covers only a limited period of time, and is, therefore, not as certain as the first method mentioned. Experiments are now being made with carbon bisulphid shells, which may prove rapid and efficacious means of squirrel destruction. The shell is made of waxed paper which is loosely packed with waste. Leading into it on either side is an isolated wire, the bare ends of which almost meet in the center of the shell. Just prior to using, the waste is saturated with carbon bisulphid. When the electrical current passes through the wire it sparks across the gap, thus igniting the bisulphid and producing an explosion. If one of these were placed in each hole of the warren and the earth tightly tamped about it, and all discharged simultaneously, it is believed that the shock alone would be sufficient to kill everything in the warren.

Thus far none of the pumps for introducing bisulphid into the tunnels have proved ideal. Many of them are efficacious, but are very heavy and slow in their delivery of gas. It is believed that a light and simple apparatus can be made by attaching an automobile pump to a tube guarded by a valve, and leading to the bottom of a large square tin can, from the upper surface of which would lead a hose for carrying the gas into the hole. By pumping air through the can of bisulphid the gas would be generated and could thus be rapidly forced into the subterranean tunnels. Carbon bisulphid seems to be the ideal agent for the extermination of squirrels in a plague campaign, for the reason that it not only kills the squirrels, but also the fleas on them, and in the tunnels, thus precluding the possibility of infected fleas remaining to perpetuate the epizootic in another colony of squirrels subsequently occupying the same burrow. The chief disadvantages of carbon bisulphid are its high explosive power, its liability to corrode the cans in which it is kept, and its cost, 11½ to 12 cents per pound in the California market. It can not be used when the ground is dry and cracked, and can, therefore, be applied with success only during the wet or winter months.

Sulphur dioxid, if properly applied, would fulfil all of the requirements of an ideal agent for poisoning squirrels. It is cheap and non-explosive. It would kill the squirrel and his parasites. Thus far only one hand-pump for introducing the gas produced by burning sulphur has been found in the market, and an opportunity to experiment with this pump has not yet occurred. Compressed sulphur dioxid, if it could be obtained cheaply enough, would be certain and rapid in its action. In common with all other gases, however, it would be efficacious only when the ground is wet. The fluid obtained on cleaning Pintsch gas tanks has been recommended. It is cheap and said to be efficacious, but it is not easy to secure it in sufficient quantity for carrying on a work of this kind. Experiments are now being made with a view of determining the merit of this product as a pulicide. Should it prove an efficient agent n this regard we will have a cheap and effective weapon.

The second agent which gives good success is poisoned wheat. The poisonous agent used is either strychnin ulphate or cyanid of potassium, preferably a mixture of he two, applied to wheat with a little glucose, or other weet material, and then dried. The appended formula may be highly recommended:

Strychnin	1. oz.
Cyanid of potassium	2 oz.
Eggs	1 doz.
Honey	1 pt.
Wheat or barley	39 lbs.

Stir eggs well, then mix in honey and again stir. Then put in dry powdered strychnin and cyanid and stir until well mixed. Put wheat in large box or can and pour in the mixture of poison and stir until it is well distributed over the wheat. Stir two or three times during twenty-four hours, then spread out and dry. Before putting it out for the squirrels add oil of rhodium 1 drachm.

This agent is very effective when the food-supply is limited, that is, during the winter months. Great care must be taken in the distribution of poisoned wheat lest domestic animals, quail and other birds be killed by it. It should all be placed in the squirrel hole itself, and never on the surface of the ground. This is especially necessary in pastures when the feed is short, because valuable cattle cropping the grass close to the ground are apt to take it and be killed. This not only entails considerable expense, but also incurs the everlasting enmity of the owner of the animal. It will thus be seen that the ideal time to carry on a squirrel eradicative campaign is during the rainy season, as the squirrels are then localized in the foothills, the ground will hold the poisonous gas and the reduced food-supply will cause the consumption of the poisoned wheat.

There is reason to believe that the booby owl, which is a constant companion of the ground-squirrel, occupying the same burrows with him, may play an important rôle in the dissemination of the epizootic. It is thought that this bird, flying from burrow to burrow, may carry infected fleas for long distances. If this be found true, the problem of the eradication of the epizootic will be greatly complicated thereby. Some of the ranchers of this vicinity firmly believe that the booby owl does not harbor fleas, and state that it will transport horse manure long distances for the purposes of lining its nest. Their contention is that the ammonia generated by the decomposing manure will inhibit the growth and multiplication of fleas. As yet no opportunity has occurred to disprove or verify this statement.

Phosphorus has not proved as useful in the destruction of ground-squirrels as in the poisoning of rats. It is dangerous to handle, and serious fires may be started with it. After a few days' exposure to the open air and the bright sunshine it quickly loses its toxic power, and it is, therefore, not recommended for this work.

When there is a sufficient fall of water, flooding the squirrel warren will drive the squirrels out very effectually. If men are stationed around the edge of the colony with guns or clubs great numbers may be slain; but flooding is useless unless this is done, because the squirrels will simply migrate to the high lands, to return as soon as their burrows are dry.

It has been hoped that some use might be made of the natural enemies of the squirrel in this campaign, but no one of the known natural enemies is ideal for this purpose. The coyote, wolf, fox, badger, skunk, mountain lion, gopher snake, and red-tailed hawk all prey on the squirrel, but each is open to some objection. This matter is, however, being carefully studied out, and some plan may be evolved whereby use can be made of these means of killing squirrels.

Several varieties of traps have been experimented with, but none have proved very successful. A squirrel is a very wary animal, and will not enter its hole if it sees anything unusual therein. So simple a thing as a ball of paper placed in the mouth of the hole will cause the squirrels to abandon that particular runway. Experiments are now being made with snares. These are made of fine piano wire, and it is hoped that in this way a large number of ground-squirrels may be captured alive. This will afford the laboratory an opportunity to study the susceptibility to plague of squirrels from an infected locality, and a few may be captured in the early stages of plague, thus rendering it possible to study the natural form of the disease at close range.

As a result of these discoveries it was decided by Surgeon Rupert Blue, who is in command of the plague campaign on the Pacific coast, that the work of the ensuing summer should consist entirely of scouting, with a view to determining the places in which infection occurred, and the percentage, if possible, of squirrels so infected. A number of men were, therefore, sent into Contra Costa County with an officer in charge. They were stationed, usually one man in a place, at what were considered the strategic points. Each was supplied with a double-barreled, 12-gauge shotgun, a cleaning rod, canvas knapsack, canvas-covered aluminum canteen, ammunition, squirrel tags, cans, chloroform, solder, indelible pencils, report blanks and stationery. A folding cot was issued to each man. The government provided subsistence for employés, but the latter were obliged to provide themselves with blankets, hobnailed shoes and other necessities.

It has been found, after considerable experimentation, that the double-barreled, 12-gauge shotgun is the best agent for shooting squirrels. These are light and, therefore, do not overburden the hunter, and, when well choked, are very effective up to fifty yards. As a matter of economy, however, the hunters do not usually shoot squirrels at a longer range than thirty yards. Rifles have been experimented with, but their use has been found impracticable. The 22 automatic is a handy gun for this purpose, but too frequently the squirrels shot by it escape. The 25-20 kills the animal most often, but it is a high-powered weapon, and the bullet will travel a considerable distance after having passed through the squirrel. This makes its use a menace to man and stock, and it is, therefore, not suitable for this sort of work.

The matter of ammunition has also been very carefully worked out, and it has been found that 3¼ drams of bulk powder and 1⅛ ounces of No. 8 soft shot make the most effective charge. Ground-squirrels are very hard to secure after having been shot. Frequently, even though badly mangled, they will crawl into their holes and thus escape. The ideal charge for securing ground-squirrels for purposes of examination is that which gives the maximum shock with the minimum laceration of the tissues. No. 8 shot is large enough to fill these requirements. It has been our experience that squirrels are most often secured when they are shot on the run, and that almost invariably when they are shot sitting up they will fall into a hole and thus escape. By shooting at the running squirrel the hunter has the double advantage of striking the animal when it is spread out, while at the same time he may choose the place where he wishes it to fall.

The squirrels are secured as soon as shot and the tags immediately attached. This is necessary because they will sometimes revive and crawl away, or the hunter may lose track of them and waste considerable time in hunting for them. If they are tagged as soon as shot there is no danger of tagging them wrongly, and the handling is reduced to the minimum. At the beginning of the campaign it was thought that the best way to secure plague-infected squirrels would be to make a careful search for their dead bodies. The employés were, therefore, instructed to make careful search for dead squirrels in and around colonies in which they were hunting. Out of sixty-seven thus found, not one has proved to be infected. This method has not, however been abandoned, but little is expected from it, and it is thought that it is not improbable that the plague stricken squirrels die in their holes.

Dogs are now being trained for the purpose of retrieving squirrels. This will save the hunter a great deal o work, and will enable him to secure almost all of the squirrels which he wounds. It has been found that the early morning and late afternoon are the best times o day to shoot squirrels. They ordinarily do not come out of the holes when it is very warm, very cold or very windy. It is not profitable to hunt in the same colony for more than two or three days at a time, as the squirrels soon become very "gun-shy" and take to earth as soon as any one approaches. Under ordinary conditions a hunter should shoot and secure at least 30 squirrels per day, although when they are very numerous the day's bag may reach 60 or 65. In one instance one man shot 86 in eight hours. It has been found that unless the hunter wears some protection for the shoulder it will become very badly bruised by the recoil of the gun The best agent to prevent this is a pad of soft felt an inch in thickness, such as is used beneath horse-collars

With a small number of employés we have been able thus far to send to the plague laboratory in San Francisco for examination an average of 2,000 squirrels per week. It is hoped that with a small increase in the force now at work this may be increased to 3,500 or 4,000 per week. These are taken from all parts of the county it being the principle that for the present the work shal consist of taking samples of the squirrel population so that we may be able to outline with some degree of accuracy the area at present infected. Each squirrel is tagged to show where, when, how and by whom captured. Usually the label also bears the name of the nearest town, so that if the squirrel should be found infected it will be easier to locate the particular ranch on the map. This is also necessary because there are so many ranches in various parts of the county bearing the same name.

Supplies are secured on contract, and are distributed to employés on requisition. It is not always an easy matter, but a small automobile is used and fifty or sixty miles are covered every day with a load of ammunition, cans and other supplies. By requisitioning early no time is lost by employés in waiting for shells and other munitions.

Employés have been cautioned as to the danger of handling squirrels, and the opportunity to receive Haffkine's prophylactic has been offered them. Several of the hunters have taken this immunizing treatment. All employés have been warned not to thrust their arms down the squirrel tunnels in an endeavor to recover animals which they have wounded. There is not only the danger of being bitten by the squirrel, but some infected fleas may also be picked up in this way. Another point not to be forgotten is that there are sometimes rattlesnakes in the holes. In fact, several employés were nearly bitten in this way. It has been found that a heavy piece of wire with a sharp barb about an inch long on the end is a very effective instrument in extracting wounded squirrels from the burrows. Each hunter carries in his knapsack a ball of waste saturated with chloroform. This is for the purpose of killing the fleas on the squirrels.

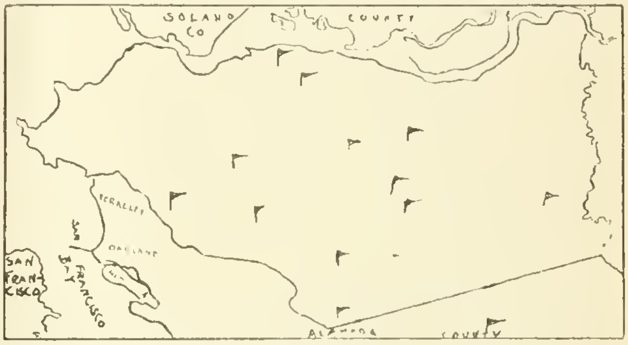
Each evening the squirrels are placed in tin cans specially provided for the purpose. In the can is placed 75 c.c. of commercial chloroform for the purpose of killing fleas; the lid is then tightly applied and carefully sealed with the solder. The can is then tagged and sent by express to the plague laboratory in San Francisco. It will thus be seen that every precaution is taken to protect expressmen and other persons handling the cans. In hot weather the squirrels must be rushed to the laboratory with the greatest expedition, as they are likely to decompose rapidly and generate considerable gas, which will blow off the covers, no matter how tightly they may be secured. This causes complaints on the part of the express companies and their employés. In many instances, however, it is very difficult to forward specimens prior to their decomposition. One hunter stationed in an isolated part of the county makes it his business to know whenever the ranchers in his vicinity are going to town, and gets them to carry his squirrels to the nearest village. There they are delivered to a foreman who ships them by stage to the nearest railroad; thence they are taken direct to Oakland, and by ferry to San Francisco.

Where two or more men are hunting in the same district (or where the bag is unusually large) large milkcans with especially prepared rubber gaskets are used The lids are also secured by padlocks, one key of which is kept by the man sending the can, the other remaining at the laboratory. The small cans are used but once; the large cans are returned by express.

On the arrival of the cans in San Francisco they are immediately transported to the laboratory by a special messenger with a wagon. They usually arrive in time so that they may be examined within twenty-four hours after they are killed. When the squirrels arrive at the laboratory they are first liberally sprinkled with chloroform, after which they are given a bath of bichlorid of mercury, 1 to 1000. They are then piled on a large lead-topped table. One employé tacks the squirrels to shingles and passes them to a second laboratory assistant, who makes a record of the tag and gives the shingle a number, so that if the tag should be lost it will be possible to tell where the squirrel came from in case it should be found infected. The squirrel thus prepared is passed to other men who have become expert in opening small mammals through their great experience in handling rats during the San Francisco plague campaign. These men are very skilful in recognizing the gross lesions of bubonic plague, and as soon as a suspicious animal is found the dissection of it ceases. The attention of the bacteriologist is called to the squirrel, and in case he is unable to look at it immediately it is covered with a damp towel for the purpose of keeping off flies, should any have found entrance to the laboratory. The dissection is then finished by the medical officer in charge of the laboratory, who dictates to a clerk the findings in each particular case. They are noted on a card which becomes a part of the card-index system of the laboratory. Inoculations are made into guinea-pigs, and the usual cultures planted. All squirrels are carefully examined by the medical officer in charge of the laboratory, but so expert have his assistants become that on two occasions only have they failed to lay aside squirrels which subsequently proved infected. The value of the pathologic findings in the recognition of plague is thus very clearly demonstrated.

As soon as a suspicious or positive squirrel is found the medical officer in charge of the field operations is notified. It is the policy to discontinue work on any colony of squirrels which has presented a considerable degree of infection, it being felt that the present object of the work in that particular locality has thus been accomplished. The accompanying map shows the locations in which infection has been found. It will be noted that they are widely separated.

In all, about 250 infected squirrels have been found to date (Oct. 1, 1909), some having been found in almost every portion of the county in which the men have been at work. It is planned that in the autumn, when the suitable time for poisoning squirrels arrives, and the ranchers have the time to take up the matter, a general campaign of education will be instituted, and an endeavor made to enlist the cooperation of every person holding land in the county. It is hoped that poison may be issued gratis, and that the ranchers will distribute it under the direction of inspectors of the service. The State Board of Health and County Board of Supervisors cooperate in every way in the prosecution of this work.



Outline map of Contra Costa County and contiguous counties. The small flags indicate infected areas.

The commercial aspect of the problem is one which will interest the entire farming population of this region, and while they may not be enthusiastic over the campaign from the point of view of the public health, they are keenly alive to the fact that the eradication of the squirrel means the prevention of a tremendous annual monetary loss. It is, therefore, felt that there will be little difficulty in enlisting their cooperation.

The work which is now going on is directed at the eradication of a permanent focus for plague, and it is felt that the successful completion of this undertaking will rid America of a slumbering volcano of plague liable to eruption and great devastation at any time. This is a departure into a new field of sanitation and may be considered an advance in preventive medicine.

Pathologic Menopause.—H. F. Pitcher, Haverhill, Mass., at the recent meeting of the American Electro-Therapeutic Association, stated that when the ovaries begin to atrophy and menstruation ceases while the nervous energies and nutritive system continue active, causing nervous irritability and vasomotor disturbances, the positive static breeze should be used until the nervous tension is relieved. The negative static breeze may be used if the patient becomes apathetic with a tendency to melancholia, followed by a strong spinal vibratory stimulation. He asserted that he has known mental aberration to clear up from this mild form of treatment. Malassimilation and autointoxication as a result of faulty elimination caused by passive congestion of the excretory organs, should be treated with the static wave current over the spinal region and abdomen. This aids metabolism and eliminates toxic material. When cerebral symptoms and vasomotor disturbances are excessive in plethoric patients, better circulation and tone in the pelvic organs may be produced by the static wave current. If the patient is of nervous temperament with sensitive pelvic nerves, the negative pole from the direct current is used in the vagina. On the other hand, prolonged menstruation or excessive uterine hemorrhage is controlled by the positive direct current, either vaginal or intrauterine, or by use of the Roentgen ray.

FOUR GENERATIONS OF AMERICAN GOUT *

ROBERT N. WILLSON, M.D.
PHILADELPHIA

The following series of four instances of chronic food-poisoning in four successive generations is submitted for its diagnostic interest, as well as because of its value in suggesting for therapeutic and hygienic attention the ground condition underlying similar obscure cases:

Case 1.—The patient first came under my medical observation in 1901, when in her eighty-eighth year. She had always been a full eater, but did not consider herself unusual in the matter of appetite. The joints of the fingers and toes showed unmistakable, gouty changes, and the history given was that of an increasing disability of these small joints. On Oct. 10, 1901, while stepping from a carriage she felt a severe pain in the right knee, which gave way, letting her down on the ground. She was in great pain; the knee when seen by me was hot and considerably swollen, and there was some fluctuation evident above and outside the patella. No other joints were involved. On October 12, 1901, both knees and ankles were hot, swollen and tender. This condition gradually subsided under practical starvation and free evacuation of the bowels, and within a few days entirely disappeared. The temperature was never above 99 F.; the heart showed no sign of involvement; the urine was high-colored, full of urates, and contained a faint trace of albumin.

From that time until the death of the patient one year ago, at the age of 93, there were recurrent mild attacks of a similar nature, invariably controlled by and through the dietary, and by artificial evacuation and cleansing of the intestinal tract. Very frequent had been the occurrence of urticaria, sometimes synchronously with the joint involvement, often alone.

A vegetable, restricted diet enabled the patient to remain entirely free from symptoms, but was so seldom adhered to that the discomfort consequent on an oversuppply of food was usually present. This varied according to the gravity of the offense (measured in terms of food quantity) and its duration, far more distinctly than with the variation in the kind of food.

Case 2.—The patient was an otherwise healthy man, aged 61, of sedentary habits, an excessive smoker, and an admittedly rapid eater. His food-supply, while always generous, never amounted to an apparent excess for the average man. He first came under my care in 1900, shortly before I saw and studied the case of his mother, just described. In 1892 he had been in bed several months with sciatica, following an accidental blow on the head. Since that time more markedly than before he had noticed a fulness of the abdomen, dizziness, belching, fugitive pains in the head, general discomfort, and a sense of heat throughout the body. The occiput and nape of the neck felt heavy, and sometimes even ached. There was considerable flatus and discomfort in the abdomen. The mouth "tasted bad," lights were seen dancing before the eyes, and there was some palpitation. The urine was high-colored and full of uric acid and sodium urate crystals.

Since first studied by me there have been many disappearances and just as many recurrences of this picture. Occasionally patches of eczema would appear over the dorsal surface of the hands, or on the arms. Once a large area (the size of the palm of the hand) appeared swollen, red and tender, in the left hypochondrium, and subsided without notice, as though an angioneurotic edema. There has been considerable stiffness and heaviness in the right leg, particularly from the knee down. This he attributes to the accident and to the blow on the head already noted. Occasionally the movements of the ankle and foot "have not been easy or natural." "This has always passed away." There has occasionally been an aching of the shin-bone and the calf of the leg, and a numbness of the toes. All of the symptoms have recently diminished and many have disappeared.

In May, 1905, during a series of symptoms similar to those just narrated, there appeared a crop of suppurating blebs between the toes of both feet, also a few on the under surface of the toes, and in the cracks and crevices of the under surface of the feet. First seeming abrasions, then blebs, then pustules made their appearance. Lymphangitis of the right leg followed, red lines running to the groin. The patient's condition was a distinctly septic one for two days and then settled to the normal. On milk diet and in bed the feet healed and in a week's time appeared well. Immediately on the resumption of solid food the blebs and pustules would occur, to subside again with its withdrawal. There was an excess of acid, offensive perspiration between the toes, and the tissues seemed to break down under its influence unless kept constantly clean. On diet, rest, complete withdrawal of the tobacco, and free evacuation of the bowels, this condition receded, and convalescence was secured, though only after a siege of three months' duration. The urine during this period showed the same concentration as on each previous occasion; also the precipitation of uric acid and its derivatives. In April, 1909, there was a beginning of a similar involvement of the toes and feet. With the previous experience to guide the line of treatment, however, the duration of the condition was brief, and at the end of a fortnight the skin surface appeared and remained normal.

The indefinite discomfort and the local symptoms on the skin of the body have occasionally recurred, but like their congeners, those of the toes and feet, all have yielded to fasting (tobacco and food) and to intestinal asepsis.

Case 3.—This has been my own, and of especial personal interest, in the light of the two preceding pictures in my immediate ancestors. During boyhood I was able to eat inordinately, and no doubt, as most boys do, so I did. There is little doubt, moreover, that, boy-like, the method of eating was hurried and the mastication imperfect. Nothing untoward transpired in a health record singularly free from need for medical attention until the year 1902, when, while in the midst of a tennis match, I found myself unable to run because of a sharp pain in my right hip-joint. The next day this pain had nearly disappeared, and to such an extent that I was able to play through the tournament.

Frequently through that summer the pain recurred, always suddenly, usually during active exertion, and as a rule continuing for the greater part of a day. Usually it was in the hip, sometimes in the right knee. Rarely the right ankle felt heavy and painful. There was never swelling, and the joints were neither red nor hot. I next noticed that in the morning the hands felt puffy and swollen, the eyes tired, and the throat and pharynx stiff and even painful. The urine was normal and at no time then or since has contained either uric acid crystals, urates (solid), or albumin. Finally, one night after severe exercise, I noticed that although before dinner perfectly free from pain, I rose from the table stiff in the right knee and ankle. For the first time I associated the joint pains with the ingestion of considerable quantities of food, especially after severe exercise, and began to experiment accordingly. I found that up to a certain limit I could eat any and every kind of food. As soon as that limit in quantity had been passed the old joint symptoms, plus those of the face, hands, eyes and throat, would all make their appearance, and remain for a time corresponding to the excess of food. I found that fasting would relieve the distress, and that purgation would do away with it almost at once. There seemed to be little doubt either as to the etiology, pathology, or treatment indicated. A dietary régime was instituted that absolutely removed the difficulty and for a time prevented its return.

Two years ago there occurred another series of symptoms which proved equally perplexing, and was stupidly enough attributed to an entirely mistaken cause. I had been in the habit of using the first joint of my left forefinger as a pleximeter under a metal plexor, in order to employ to advantage both the sense of hearing and the perception of resistance to the stroke. On the morning following a banquet I noticed a crop of tiny blebs surrounding this joint, and a sense of heat (not pain) in the skin and overlying tissues. My pharynx was stiff and sore, my eyes were watering, I suffered from a

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* Read at the College of Physicians of Philadelphia, June 2, 1909.

profuse coryza, I sneezed incessantly, and, what seemed exceedingly strange at the time, my hands and feet were too large for gloves and shoes. The urine was absolutely normal. In a day every symptom had disappeared; even the joint of the forefinger had become normal. More than once after this the blebs and slight swelling of this joint reappeared, sometimes with, sometimes without the attendant train of supposedly influenzal symptoms. Invariably the occurrence followed a dietary indulgence between meals, and finally the association became too striking to ignore. I again began to experiment, as frequently as I could persuade myself to endure the discomfort of an old-fashioned influenzal attack. As certainly as I exceeded my heretofore perfectly safe limit, just so inevitably did I pay the penalty. A whole day would go by. Then a general feeling of muscular soreness and exhaustion would appear. The feet and hands would begin to feel swollen, and within twenty-four hours, or much sooner if the excess of food was large, the skin of the first phalanx of the left forefinger would parch and dry up, and later the digital phalanges of the first and second fingers of the left hand also. The dried skin would break out in blebs, with an intense itchng that subsided only with a bowel movement, or with disance from the last ingestion of food. The pharynx would become red and granular; it was painful to swallow; muco-pus formed in the nasopharynx, and very frequently the voice would become husky to an extent that was as embarrassing as ridiculous, the cause being known. My nose would run and he tears flow as though I was suffering from an acute cold. On more than one occasion the irritation of the conjunctiva imulated one caused by a foreign body. The secretion varied rom a clear serum to a true laudable pus. Almost invariably he ears felt full and uncomfortable. On one or two occasions here was a scaling and cracking of the skin between the toes. All of these symptoms, especially those experienced locally in he feet and hands, seemed to be exaggerated by any severe ervous excitement. Even when the blebs and swelling in the uperficial tissues of the phalanges were subsiding, the nervous timulus of a public discussion or speech, or of the presentaion of a scientific paper, or even the stress and hurry of a rowded day's program, would tend to relight their activity, r at least to delay their disappearance. Following a free vacuation of the bowels there was almost immediate partial elief. Sprays, local applications and the internal adminisration of drugs, made matters only worse. Fortunately the onditions were such as naturally to discourage eating, beause the appetite never waned.

Finally it became apparent that the quantity of food inested in the twenty-four hours and that alone was at fault. rom that moment the task became simple, though as difficult s it was plain. If too much was being eaten, less would and must suffice, even if it implied, as it does, a military diet. It ppeared that there had developed either a tendency to the eed of a diminishing amount of food in spite of a persistent ppetite, or a more and more evident contraction in my ability o assimilate food-products. That the latter is not the correct xplanation of the symptom-complex, which I can produce at ill and as readily prevent, seems apparent from the perfect aintenance of health and vigor and bodily weight on an mount of food sufficiently low to prevent discomfort and subective symptoms. That a diminished need plus a family iosyncrasy best explains the phenomenon became laughably nd painfully clear when the tendency reasserted itself in my ild.

Case 4.—This has been studied in my little girl of 4 (now years, a high-strung child, always under nervous tension, ho during the past twelve months has had repeated attacks a type that her mother has labelled "cold," "grip," and erything else except the proper diagnosis, which only within e very recent past has she been willing to admit into conderation. Always overfed, like every other American child of nglo-Saxon parentage, this little girl has, without warning, peatedly become hoarse, has coughed day and night, has neezed when not coughing, and run from eyes and nose until e handkerchief supply has found an end. Relief has been tained when, and only when, the intestinal tract has been mptied from one end to the other and food altogether withawn. Skepticism became so intolerant that I finally challenged the mother to the experiment of deliberately overfeeding the child. She thereby produced a full-fledged, old-fashioned cold that would ordinarily require a week's sojourn in bed. Castor-oil and starvation, with the child at rest in bed, furnished a speedy cure. I have so often watched the process of overfeeding in this case result in the gradual production of the now (to me) classical symptoms, that I can nearly calculate their time of appearance by the amount of food administered.

That this case is not *sui generis* finds ready witness. Only to-day there was sent to me from Virginia a little girl of 12 with the history of a long-standing cold, catarrh of the nasopharynx and constant sneezing. I found her chest and abdomen normal, the lungs and heart absolutely sound. The tonsils were large, and from the nasopharynx dropped steadily a yellowish muco-pus. The mother stated that the child had a poor appetite, but on inquiry from the child I learned that the dietary of the day before had been as follows. Food actually eaten: breakfast, one orange, a plate of cereal, beefsteak, three griddle-cakes and syrup, a glass of milk and one slice of bread and butter; dinner, two helpings of meat, two helpings of potato and of one other vegetable, bread and butter, pickle, radishes and dessert; supper, meat, vegetables and fruit. While in my office this child sneezed several times. Her nasal and pharyngeal mucous membranes were slightly reddened, but otherwise normal. While the case has not been studied to its end, there is little doubt in my mind that this Southern descendant of our English ancestors is suffering from an inherited overappetite and from the need of a lessened food supply.

The danger from such knowledge as is gained through a superficial study of the above series of cases is apparent. It will furnish a strong temptation to the practitioner to term every cold gout, every influenza food-poisoning, every ache and pain lithemia, every joint swelling an excess of food. On the other hand, carelessness of the significance of signs and symptoms leads to disaster. A few days ago I saw in consultation a trained nurse with a tuberculous apex. Tubercle bacilli have since been found in her feces, and a positive tuberculin reaction has been obtained. There was neither a cough nor a particle of sputum to suggest a pulmonary involvement. The case was sent to me as one with a cardiac lesion.

I publish these records, my own among the number, for what they are worth in interest and value as bits of home study and observation and as pointers to the need of a discriminating care in diagnosis. Not without practical interest is the evident association in at least two of these cases of two distinct influences, the toxic and nervous, in the production and accentuation of symptoms. If no other lesson were taught and learned it would be of advantage for us to understand that not every chronic cough and expectoration can be safely regarded as tuberculous in origin; that a moderate amount of food may be an undersupply or an excess for the given individual; and that many a laryngitis and partial aphonia may be rationally attributed to the diet, and cured by a hygienic regime.

1708 Locust Street.

Infant Feeding.—The number of women unable to nurse is much less than is popularly supposed. Madame Dluski, in a thesis delivered at the Baudelocque Clinic, Paris, expresses the opinion that among 100 healthy women, when the necessary conditions of food and rest are present, 99 are actually able to nurse their offspring.—J. M. Connolly in *Hygiene and Physical Education.*

Clinical Notes

A NEW AND STABLE SOLUTION OF GENTIAN VIOLET FOR THE GRAM STAIN

ROBERT KILDUFFE, M.D.
PHILADELPHIA

Unfortunately for the simplification of an often complex problem, we now know that bacteria cannot be divided, as was once thought, into two great classes of Gram-positive and Gram-negative. It is true that many of the varying and contradictory statements on this head may be explained on the score of variations in technic, such as the length of time the stain and the alcohol were allowed to act, and the age of the culture experimented with; but it is nevertheless a fact that organisms repeatedly and consistently found to be Gram-negative will sometimes take the stain very well.

Thus, Zimmermann[1] found that all cultures of the *Bacterium fluorescens* stain well in young cultures; and Lehmann and Neumann[2] found that three out of twelve cultures of the same organism stained beautifully, yet this is a species spoken of in the literature as Gram-negative. The latter workers also stained the bacillus of symptomatic anthrax; and the *Bacillus tenuis*, at first Gram-negative, on a later test with the same technic, stained very well. They state, finally, that "a separation of the individual genera and varieties by Gram's stain now seems scarcely at all possible, since there are found within a single genus all stages, from those which stain well to those which stain poorly or not at all."

Notwithstanding these results, Gram's stain remains a valuable routine procedure, and one which is capable of conveying much information of interest; and, in so far as the gonococcus is concerned, it is a means of differentiating; at all events, it is a measure extensively used.

An intrinsic difficulty, and one usually most apparent just when it is desired to use the stain, is the tendency of the gentian violet solution to decompose, especially in warm weather, with the resultant loss of the entire solution and the time required to make a new one. Having had this happen with annoying frequency, I desired to find some way of obviating the difficulty.

Dr. E. Burville Holmes[3] has had success with the addition of 3 to 5 per cent. of glycerin to the stain, which he keeps in a dark, cool place. This procedure in my hands has not met success, the stain, in some instances, apparently deteriorating even more quickly. A search through the literature at hand revealed very little of interest.

Lehmann and Neumann[3] mention Czaplewski and E. Frankel as recommending, instead of anilin water, a 2.5 per cent. phenol water. This is stated not to decompose so soon as the anilin mixture. Muir and Ritchie[4] also recommend phenol water (1 to 20) and cite Kuhne's method in which the gentian violet is replaced by crystal violet in 1 per cent. ammonium carbonate solution. Beyond this nothing could be found.

After adding various substances to the staining solution without result, the question of a new solvent was taken up. It was found that a weak solution of formalin answered the purpose admirably. To make the solvent, 5 c.c. of commercial formalin (40 per cent.) are added to 95 c.c. of distilled water.

The stain can be made in the usual proportions of 1 parts of the stock solution (saturated alcoholic) o gentian violet to 84 parts of the solvent, or it can b made, as I prefer, in the proportion of 25 parts of th stock solution of gentian violet to 75 parts of solven Such a solution has been kept for over eight months i open test-tubes exposed to light and varying temperatures without deterioration.

It can be used just like the usual anilin solution, an decolorizes readily on the addition of alcohol. Shoul there be any doubt as to whether the preparation ha decolorized completely, a drop of anilin-xylol (equa parts), followed by alcohol, will remove any unce tainty.

The advantages of the solution are obvious. It wi remain good until the last drop is used: thus it is economical. No modification of the technic is necessar Molds cannot grow in it. It will keep indefinitel Preparations made with it are sterile—an advantag not to be overlooked if one is dealing with plague, glanders, or other virulent cultures.

It is hoped that the solution will prove as useful t others as it has been to me in the saving of time, patience, and materials.

2510 South Broad Street.

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1. Lehmann and Neumann: Atlas of Bacteriology, p. 477.
2. Personal communication.
3. Lehmann and Neumann: Atlas of Bacteriology, p. 476.
4. Muir and Ritchie: Bacteriology, p. 110.

UREMIA, SEQUEL TO SCARLET FEVER

VENESECTION AND RECOVERY *

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Acute uremias, dependent on intoxication from an cause, are of such uncertainty of occurrence and s serious in results that the report of a specific case wit its treatment and recovery is not without justificatio The case in question was sequel to a typically sever infection of scarlet fever which terminated on the sixteenth day by fall of temperature without complicatio with no deficiency in urinary secretion or appearance o albumin.

The initial signs of the attack were first observed four day after the fall of temperature, with the child, a previousl healthy boy of 7 years, in bed and on a liquid diet. I the evening of the fourth day, following a cup of broth, th patient was nauseated, but without emesis, and soon fel asleep. In the early morning following, when he had bee thought to be sleeping, he was observed to be twitching abou the muscles of the face, and to be unconscious instead o asleep. At 8 a. m. the rectal temperature, which had not bee above 99 F., rose to 99 1/5 F., and at 2 p. m. was 104 2/5 with a bounding, somewhat irregular pulse of 116, from whic rate it gradually rose, with marked irregularity and intermittency, to 136 at 11:30 a. m. of the following day.

Then, for practically twenty-two hours, hourly convulsion were observed and recorded, of varying severity, at time local, but usually general, noticed especially in the muscle of the face and extremities, though there was no marked r traction of the posterior muscles of the neck and no true opithotonos. Acute and irregular strabismus of both eyes frequently occurred. The only contractures suggestive of foca involvement was, toward the latter part of the attack, th almost continuous twitching of the toes of the left foot. Thi was not observed in the other foot or in the hands. The chil was unconscious during the entire period of the convulsion for a greater part in a state of coma, though at rare interva delirous and irritable, if touched or spoken to.

The temperature, during the attack, after rising to 104 2 degrees per rectum, varied between that and 103 2/5 degree The influence on the circulatory system was most pronounce the pulse was markedly irregular and intermittent, varying from 116 to 136, of high tension, though of uncertain quality at times. The heart sounds were, of necessity, not observed closely during the convulsions, but toward the last were distinctly muffled, with a later developed systolic murmur, which lasted well into convalescence.

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* Presented before the Jackson County (Mo.) Medical Societ Jan. 13, 1909.

Edema, which was not present previous to the attack, soon began about the ankles and joints, and was especially marked about the shoulders, neck and face, though there was, apparently, no effusion into any of the serous sacks. The entire glandular system, including that of the skin and kidneys and of the alimentary tract, was inactive so far as any clinical evidence was concerned, for twenty-four hours, there being no perspiration, natural or induced, and no secretion from the mouth or bowels. At the end of twenty-four hours 2 ounces of urine were removed from the bladder by catheter, the only amount secured; this amount was probably residual urine, rather than a renal secretion during the attack.

Toward the last of the convulsive period, between 8 a. m. and 11 a. m., the coma became more and more marked; the skin of the face was very dusky, the body and extremities mottled, and the lips cyanosed. The respiratory rate, which had been from 20 to 26 and quite regular, grew slower and more difficult until characteristic Cheyne-Stokes breathing, of eight to ten respirations a minute, resulted.

The special senses, especially vision and hearing, showed their involvement as the patient later grew conscious and rational. It was interesting, though somewhat tragic, with the question of systemic and local result in the balance, to see the little patient strain his head toward a sound or voice that he heard, but did not distinguish, and then say, "I do not see you"; then, still later, failing to recognize a face or form, speak of the light burning above his head, and finally as he recognized his mother and others about him, show evidence that his special senses were being restored.

This was, in brief, the picture which presented itself for about twenty-eight hours, while Nature unassisted, though not without attempt to assist by the common and generally accepted measures, fought in her effort to overcome an unknown and suddenly developed enemy in her own structure. The measures resorted to during this attack of uremia had for their purpose the endeavor to lower the local and general congestion and circulatory pressure on nerve centers and in vital structures, and to eliminate from the whole system the known retained wastes which Nature was now unable to discharge, and other products of unknown origin and character, but extremely toxic in their influence on all animal tissues, the latter the probable cause of the convulsions.

To be specific, there was endeavor to stimulate all the emunctories which had ceased to act, and to stimulate and to bring to a state of equilibrium a very much disturbed circulatory system. No stress was placed on controlling the nervous system *per se*. Hot packs were regularly and continuously applied for purpose of provoking diaphoresis; calomel and Rochelle salts, with high enteroclysis of physiologic salt solution, were used, with hope both to eliminate and to dilute the toxins present and to assist in equalizing the circulation, and, if possible, to produce diuresis indirectly. In addition, nitroglycerin and digitalin were administered hypodermically for the peripheral circulation and diuresis. With a few other measures and minor details, such was the therapeusis for twenty-four hours—with results clinically negative. No diuresis occurred; the purging and enteroclysis showed no evident stimulation; perspiration did not occur, the skin remainng hot and dry. The circulation and respiration meantime growing weaker, venesection was advised and performed; the median cephalic vein of the right arm, after careful antisepsis, was opened and the child bled of between 8 and 10 ounces. This was at 11 a. m. with the child *in extremis*, a temperature of 103 2/5 degrees, pulse irregular, high tension and 136, with heyne-Stokes breathing, eight respirations to the minute; delirium and muscular twitching.

No convulsion occurred during or after the withdrawal of he blood. At 3 p. m. the breathing was 22, regular and easy, he temperature 102 3/5 degrees, the pulse 124 and more reguar; the body was covered with perspiration, the child began o answer questions and was less irritable; at 7:45 p. m. 5 ounces of urine, loaded with albumin and casts, were removed by catheter.

From the time of removal of the blood no serious symptoms occurred and steady improvement followed hourly; hot packs, pilocarpin hypodermically, calomel and salines, with a liquid diet, were continued for twenty-four hours; this treatment then being gradually given up, since all the emunctories and in general the body functions were approaching the normal. On the third day, 52 ounces of urine were voided voluntarily, and natural and freely induced perspiration ensued, with marked improvement in the urinalysis. At the present time, several months later, an apparently perfect recovery has occurred.

603 Bryant Building.

COMPOUND FRACTURE OF THE INFERIOR MAXILLA *

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RICHMOND, VA.

The exposed position of this particular irregular bone, as it is classed anatomically, explains the frequency with which the surgeon is called on to treat it. Fractures of this bone are always due to some form of violence, or to the extraction of a tooth, the usual seat of fracture being the anterior part of the body of the bone, between the mental foramen and symphysis, which is obviously in the line of least resistance, although no part of the bone is free from the possibility of a fracture. The case to which I invite attention bears out this statement anatomically.

Patient.—A very robust negro, aged about 30, an employee of the Seaboard Air Line Railway, blacksmith by trade, presented himself at my office not very long since. An hour before he had been struck with a sledge-hammer by a fellow workman on the right side of the chin.

Examination.—Patient was unable to articulate distinctly; saliva was dribbling, the teeth were uneven; there was an open wound just over the mental foramen externally, with a large spicule of bone projecting; the canine on the right side was very loose. On placing my finger in the mouth I detected the presence of bone, which was rather sharp and mobile, but fortunately had not lacerated the mucous membrane. The fracture was complete, transverse in the long axis of the mandible, with little, if any, antero-posterior obliquity. The displacement could be determined easily by inspection.

Treatment and Clinical Course.—The case was seen so early that very little swelling had occurred. Its reduction was easily effected by manipulation. The spicule of bone having been returned, the wound, which for obvious reasons was not sutured, was made aseptic. Although some of our best men advise the removal of the loose teeth at the point of fracture, I did not do so, but permitted the canine to remain; and this treatment was followed by good results. Retention of the fragments in position was sufficiently secured by bandaging the lower jaw to the upper by a single figure-of-eight chin and head bandage. Patient was sent to the Memorial Hospital and permitted to walk around in his room. Feeding with fluids was satisfactorily accomplished through the natural irregularities of the dental arcades, as there was no space due to the loss of teeth. The wound, being dressed daily, had practically healed on the fifth day. I made the bandage sufficiently tight to prevent the patient's opening his mouth and instructed those in attendance not to permit him to talk, but in the event it became necessary, to educate him to talk through his teeth, so to speak. His mouth was rinsed daily with antiseptic solution. At the end of the sixth day he insisted on going to his home, which was in the city; to this I gave my consent, but rather reluctantly, with the promise that he should report to me on alternate days, which he did and at the expiration of two weeks the bandage was removed, not to be replaced. Careful examination at the seat of the fracture failed to reveal any deformity. The patient now began to partake of semisolid food, reporting to me every third day during the third and fourth weeks; at the expiration of the fourth week he was masticating anything he desired and was dismissed as cured; in other words, I did nothing for him except for the first two weeks.

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* Read before the Association of Seaboard Air Line Railway Surgeons, Raleigh, N. C., Oct. 19, 1909.

While I do not wish to decry the use of the various devices employed in such cases, for I know of many in which the devices could not have been dispensed with, in this particular instance I could see no indication for their employment and therefore I simply used the roller bandage, with a happy result; to have used one of those devices would have been a useless expenditure and cumbrance to my patient.

The points I wish to emphasize in the care of this case are the following:

1. Despite the fact that conditions around railroad shops are rather conducive to infection in wounds of every character, and especially in compound fractures, yet in this case infection did not occur.

2. Not only was there no extraction of a tooth, as recommended by many, but I did not remove the one that was loose.

3. No apparatus of any kind was employed, and at the end of the second week the bandage was discarded and semisolid food masticated, the average case requiring a month.

I admit that this is a distinct departure from the ordinary custom and a considerable risk, but the progress was so unusual that I felt the conditions warranted the trial. It is impossible to obtain a text-book which covers every case, as all of us are willing to acknowledge, and it is in the exceptional case that we have to rely on our own resources.

The spicule of bone is accounted for by the fact that the velocity of the striking force, so to speak, was so high that there was an "explosive effect" and lateral transmission of energy to an extent sufficient to cause this colution of continuity; an example of this is seen in the modern missile. This destructive effect occurs only in certain organs and tissues (such as compact bone or organs containing fluid) because these organs and tissues best transmit the energy imparted by the missile. Had this sledge-hammer been moving at a lower velocity, the shock in the bone would not have been so great, the disruption consequently less, and a complete fracture, without the spicule of bone, would have been the result.

103 North Fourth Street.

Predisposition to Cutaneous Affections After Acute Infectious Diseases.—S. C. Beck has encountered more than 50 cases in which various skin diseases developed in children immediately after some acute infectious disease. This list does not include the numerous instances in which a tuberculous cutaneous affection developed after measles—the peculiar predisposition to tuberculosis left by measles is a fact too familiar for more than passing mention. He also excludes the numerous cases of folliculitis, furunculosis and pyodermitis following typhoid or pneumonia, restricting his study exclusively to the cases in which the skin after an acute infectious disease displayed an exceptional predisposition to the changes produced by toxic substances generated in the intestines, and it also seemed to be changed to a more favorable soil for various bacteria or other noxious influences from without. In 30 of his cases, urticaria, eczema or various rashes developed after vaccination in children free from any such tendencies in the past. He tabulates the details of 51 cases in the *Monatshefte für prakt. Dermatologie*, 1909, xlix, 432.

BETTER ANESTHESIA IN MEDIUM-SIZE HOSPITALS

SOME YEARS OF BROOKLYN EXPERIENCE *

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BROOKLYN

Anesthetically, the hospital field in general, like al Gaul, is divided into three parts.

First come the great institutions which we of th hundred-bed class and two-hundred-bed class regard from afar, ascribing to them unlimited incomes. Fo them a salaried staff of expert anesthetists is possible and from them it should be required. Indeed, the public would demand it if the public had any idea of how preposterously ill-balanced the operating-table often is with a resourceful and fearless expert at one end and a scared and clumsy novice at the other.

Next is the small group of private hospitals, which can hardly do better than follow the plan of Baldy and the Mayos, who train an intelligent woman to do that one thing well. Such salaried service is reliable and unvarying. The work is dignified and permanent. Under such conditions it would no longer be considered a makeshif position as it so often is at present by the men of the stop-gap services. Indeed, we may reasonably assume that physicians of moderate ability who have found themselves, in some ways, unsuited for general practice will be glad of a suitable income from such a souree.

The third group is by far the largest. The country is covered with hospitals of medium size, in large cities as well as in small towns, where ether is administered in the most haphazard fashion. This is the serious condition which confronts us, and to meet it I am offering the following practical suggestions, as a step toward realizing the development of that perfected anesthesia toward which we have set our faces.

If we must, for the present, ignore ideals impossible to attain, let us see whether we find any hospitals which are able to maintain high standards of ether administration without raising the salary budget. Can it be done? It has been done by offering adequate inducements to men who are qualified, or inducements sufficiently great to cause men to qualify. They may be tendered one at a time, as a man develops, or all at once. These may be: (1) a title, such as "anesthetist to the hospital;" (2) membership on the visiting staff, or assistant visiting staff; (3) privileges, such as (a) use of operating-room for the anesthetist's own cases, or (b) a free bed or free beds; (4) fees for administering anesthetics to private patients whenever the operation fee warrants it; (5) the understanding that the surgeons of the staff will make operations done in private houses contribute toward the income of the anesthetist.

Chosen for fitness, an ex-intern who has shown natural aptitude for the work, or one of the attachés of the surgical staff who will undertake to give a reasonable time to the work, is elected by the professional staff as anesthetist. He appoints an associate or assistant, or more than one, according to the amount of surgical work done in that particular institution.

In this way responsibility is fixed. If patients are drowned in ether, or complications are frequent, or after-distresses prominent we know to whom to go.

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* Given, in abstract, before the American Gynecological Society, April, 1909.

Duties are defined. Whenever the staff rotates the anesthetist shall train the new house anesthetist or determine whether previous experience has qualified him. In the gravest charity operations always, and in others whenever called on by the operating surgeon, he shall give or supervise the giving of the anesthetic. In private cases, when called on to anesthetize, he may claim a reasonable fee, either in the form of a percentage of the fee or, preferably, as a separate charge. The separate charge adds dignity to the work and attracts a better type of man into it.

As to the period which the incumbent should serve, it is to be specifically understood at the time of appointment that the office is not a narrow stepping-stone, but that the work must be seriously undertaken for a time, such as two or three years. The surgeons do not bind themselves in any way to employ this hospital officer in their operations outside of the hospital. They should, however, extend a reasonable hope that if he will better the anesthesia and lessen the dangers in their charity surgery he will be rewarded by calls to their outside work. Success inside the building will eventually make the anesthetist wanted outside. So the situation takes are of itself, and to the young man an assured sum, ven $500 or $1,000 a year, is no small matter. In regard to the length of time that the anesthetist shall give or supervise the anesthetics at the time of rotation f service of the house staff, this will depend on the apabilities and quickness of the particular intern who ecomes house anesthetist. When a man is entirely napt serious cases may have to be watched throughout is house service.

In any consideration of anesthesia we must not lose ight of our three obligations:

1. To furnish to the particular patient the best possible anesthesia.

2. To supply to the general public as many members f the profession as may be who will have a fair working nowledge of the administration of anesthetics. And ur duty shall always be, first to the members of the ouse staff, and, incidentally, to advanced medical tudents.

3. To train for the profession, and for one's own hospital and for other hospitals, a few expert anesthetists.

The last two duties are in practice not incompatible vith the first, for the reason that it is the general experience that a patient used for teaching is better studied by he teacher, and is cared for with more detail, than the ess observed "case."[1]

The objections usually met are these:

1. The house staff may protest against the loss of this linical experience. In actual practice it has been found hat the fear of active protest is greatly exaggerated, the raining highly appreciated, the nervous apprehension of he beginner quieted, and drudgery turned to intelligent rogress, provided always that the right teacher-anesthetist has been selected.

2. The operator objects to the cost. It is all right here the fee is fair, but if a hundred-dollar laparotomy ust have a ten-dollar ether fee and a ten-dollar microcopic opinion subtracted, there remains little for the urgery and nothing for the after-care.

The time is coming when the private patient will be regularly asked whether he is willing to pay for an ether giver. The bill will be rendered separately or in a separate item. Meanwhile, until the public is educated and its purse loosened, the subtraction will have to be a small one—say 5 per cent.

3. The work will be considered drudgery.

It is drudgery. So it must either be paid for or the present malpractice continue. The payment will be various—in money, in recognition, in promotion, in praise for improved results, and credit by the publication of these, and in the personal satisfaction in good work, bitterly needed and well done.

168 Clinton Street.

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[1] Brooklyn has a live society of anesthetists consisting of twenty embers having active services and an average attendance of fifteen t its meetings. Anesthetists are officially on the staffs of the following hospitals, listed according to the priority of their appointents: Long Island College, Brooklyn, Williamsburg, Bushwick, orwegian, Jewish, Swedish, Samaritan, Methodist Episcopal, Cumerland Street, Bethany, St. Peters, Prospect Heights.

It would seem, therefore, that the only cities in Europe or erica that can claim a systematized practice of anesthesia are ondon and Brooklyn.

TWO CASES OF PELLAGRA

W. T. SHELL, M.D.
CORSICANA, TEXAS

In view of the increasing prevalence of pellagra, I wish to make a brief report of two cases.

Case 1.—The patient, a married woman, white, aged 30, had had no serious illness previous to the spring of 1907, when she had an eruption on the side of the neck and backs of her hands. This improved during the summer but recurred in the spring of 1908 and did not disappear as before. In November, 1908, the patient consulted me, complaining of weakness and dyspnea after exertion and of loss of memory. On Dec. 24, 1908, I saw the patient again and found a dermatitis resembling sunburn on the back of both hands and sides of the neck. In the center of this eruption was a reddish, shiny appearance of the skin, the edges having a brownish, dirty look. No other symptoms were noted except increasing loss of strength. A gastritis and enterocolitis soon followed with diarrhea and vomiting. There was lack of feeling in the stomach and bowels. The bowel movements contained blood and mucus. The bladder was completely paralyzed and there was vaginitis. These symptoms grew stedily worse until the patient's death, Jan. 5, 1909.

Case 2.—This patient was a white woman, married, aged 30. There is nothing of special interest in the family and personal history except that the patient's diet had consisted largely of corn-bread until the last few months, when she could not eat it at all. Digestive disturbances had been present for several months, consisting of constipation, followed by pain in the abdomen and loss of appetite with diarrhea. The eruption appeared on the backs of the hands about January, 1909. The skin on the dorsal surface of both hands was red and shiny. Stomatitis was especially marked and the mucous membrane of the throat very much reddened. There was vaginitis and urethritis, and the skin around the rectum and vagina was inflamed for an inch, beyond which was a roughened scaly eruption. The patient had great pain on defecation. Physical examination of the chest revealed nothing abnormal. With the exception of anemia the blood and urine were normal. Temperature varied from subnormal to 100 F. The inflammation of the skin around the vagina and rectum became pustular, but this cleared up after using a solution of bichlorid of mercury, 1 to 2,000. The patient continued to grow weaker both physically and mentally until her death, Aug. 27, 1909.

Both patients had used a great deal of corn-bread. Further than this the histories throw no light on the etiology.

Greatness.—It is not by birth nor by pedigree but by push that the high places are reached. The men with soft raiment are usually soft all the way through. They are not built for the storms. Greatness is not born under the gambler's roof nor in the inebriate's rendezvous. The manhood of the meadows is mightier than the majesty of the mansions.—*United Presbyterian.*

A CASE OF SPLENIC LEUCEMIA

JOSEPH PLACAK, M.D.
CLEVELAND, OHIO

This case is an interesting one on account of the enormous numbers of leucocytes which were present. The ratio between the white and the red cells, the high percentage of myelocytes, and the excessive number of white cells makes this case one worthy of reporting. Several times during the course of the disease the white cells were 500,000 and over in excess of the red cells.

Patient.—S. B., aged 30, an American woman, white, housewife; family and personal history negative; had had the usual diseases of childhood; mother of two children. She complained of becoming weak, fatigue on the slightest exertion, marked dyspnea, and slight hemorrhages from the mouth. Later the patient was able to feel the enlarged spleen.

Examination.—Development good; nutrition fair; considerable anemia; puffiness of eyelids; slight edema of ankles; glands not generally enlarged; lungs and heart negative but for a hemic murmur.

Left side of the abdomen rounded and prominent. Prominence extended beyond the median line. Mass could be palpated and extended close to the symphysis pubis, smooth with rounded borders. Numerous blood examinations were made over periods of several weeks. Hemoglobin varied from 40 to 25 per cent., increasing for a time on the administration of iron and arsenic. Red cells varied from 1,250,000 to 2,250,000. The interesting feature of the case was the enormous leucocytosis which was attained (1,820,000) and which persisted for a few weeks. Differential counts showed as high as 27 per cent myelocytes.

Shortly before death the axillary, cervical and inguinal glands became enlarged. I have observed this in two other cases of supposedly purely splenic type. No autopsy was obtained.

420 Rose Building.

HEMORRHAGE FROM NIPPLES

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NEW YORK CITY

M. G., aged 26, iii-para, has enjoyed good health for many years. She had no morning sickness or other illness with present or previous pregnancies. Labor was always comparatively easy and normal. She never had trouble with her breasts.

One week before her present confinement, while massaging the breasts, she noticed some blood ooze from the left nipple. The oozing increased from day to day. There was no pain or tenderness on pressure of breasts. Seven days after she noticed the blood from the left breast she gave birth to a normal child. Oozing from the right nipple was then noticed. At this time both breasts were always wet with blood. The least pressure would increase the flow of blood considerably.

On the sixth day after the birth of the child, no change was noticed in the left breast but the right one showed a few drops of milk after some oozing of the blood. On the following day the oozing from the right breast was no more blood but milk. The left breast, however, kept on bleeding for another week before milk was seen to flow from it.

In the literature at my command I have not been able to find any similar case. Several things may be deduced from this case: 1. There need be no special alarm about bleeding from the breasts at the end of pregnancy or a week or two after the birth of the child. 2. Bleeding from this source is self-limited and does not have any ill effect on the patient. 3. It requires no medical treatment.

321 East Tenth Street.

Therapeutics

DRUGS AND THE UNITED STATES PHARMACOPEIA

While dictionaries, directories and encyclopedias mus be arranged alphabetically for ready reference, alpha betical arrangement of drugs for the practicing physicia is very unsatisfactory. Also, for a practicing physician classifications based on chemical constituency, pharmaco logic peculiarities, or toxic action are absolutely of n value. A drug may have a chemical, physiologic or toxi activity that is of no value from a therapeutic standpoint.

The classification always of value and always necessar for the practicing physician is one based on therapeuti uses. In other words, for utility, drugs must be classe according to the objects for which they are to be used For instance: Drugs used to diminish secretion (astrin gents); drugs used to cause vomiting (emetics); drug used to dilate the blood-vessels, etc.

Such a classification does not include drugs that ma have these activities incidentally or in toxic doses, bu the drugs that the physician would use to promote th object desired. Under such headings, the drugs onl should be named that accomplish the object desired th most efficiently. It is positively absurd to name unde such a classification a lot of useless second-, third- an fourth-rate drugs, or drugs that accomplish the objec desired much less efficiently than do drugs of the firs rank. It is also manifestly needless, useless and a unnecessary hardship to require medical students t acquire a knowledge of a drug that is rarely, if ever, an perhaps should never be, used in the practice of medicine. It is also just as absurd to require a student t learn a list of preparations of a drug, two-thirds of whic are useless or never used, when two or three preparation of that drug, and often only one, are all that should b used therapeutically.

In other words, the United States Pharmacopeia i replete with a lot of useless drugs and preparations s that its usefulness for the practitioner is lessened.

The object of the editorials under this section on thi subject is to create sufficient interest among the profession that instructed delegates to the Pharmacopeial Convention of next May, at Washington, will request th Committee on Revision to prepare the Pharmacopeia o 1910 in such form as to be of practical scientific utility.

The following classification, arranged according t therapeutic indications, is copied from Osborne's small text-book on "Materia Medica and Pharmacology."

While it could not be claimed that this enumeration of drugs comprises all that are of value, it does comprise some of the best, and any drug that aspires to a place in such a classification must show positive physiologic activity and therapeutic success to prove that it should be classed among these, the best drugs. Under each heading the drugs are named alphabetically, not because the first drug named is better than the last.

Later, in this department, the best preparations of the drugs in the most important classes will be named. Also, the drugs used for the same objects and official in the present Pharmacopeia, but of second- and third-rate values, will be enumerated and their omission from the next Pharmacopeia urged.

It is probable that, in such an enumeration of drug of second- and third-rate value, physicians in different parts of the country will be horrified to find a pet drug or preparation condemned. Such an enumeration o condemnation does not declare that a drug is not of value as used by the individual physician, but it simpl declares that there are other drugs and preparations that are better. Therefore there is no excuse for continuing a second-rate drug officially in the Pharmacopeia. This is no more radical advice than to declare that there is an improved instrument, bandage, splint or appliance that is better than one that was made and used several years ago. The individual physician or surgeon may still get perfect success out of the old apparatus, but that is no excuse for recommending it as of equal value to the new improved apparatus.

First Division

For Local Action

CLASS 1.—Drugs Used to Destroy Micro-organisms

(a) *To disinfect* (Drugs too strong to be used on the body). For buildings: Formaldehyd, Sulphurous Acid, Steam. For clothing: Formaldehyd, Heat. For dejecta: Chlorinated Lime.

(b) *To inhibit the growth of bacteria on the body or in one of its cavities* (Antiseptics). Alcohol, Cresol, Formaldehyd solution, Hydrogen Dioxid solution, Mercuric Chlorid, Phenol, Salicylic Acid.

(c) *To destroy skin-parasites* (Parasiticides). Beta-naphthol, Chrysarobin, Ichthyol, Iodin, Mercury, Pyrogallol, Resorcin, Sulphur, the above Antiseptics.

CLASS 2.—Drugs Used on the Skin

(a) *To protect* (Dressings). Acetanilid, Bismuth preparations, Boric Acid, Iodin synthetic powders, Lycopodium, Talcum, Zinc Oxid, Zinc Stearate.

(b) *To soothe* (Emollients). Almond Oil, Boroglycerid, Cacao Butter, Glycerin, Olive Oil, Petroleum Oils, Wool Fat.

(c) *To cause hyperemia* (Mild counter-irritation). Tincture of Iodin, Liniments, Mustard.

(d) *To blister.* Cantharides.

(e) *To corrode* (Escharotics). Chromic Acid, Glacial Acetic Acid, Nitric Acid, Potassium Hydrate, Salicylic Acid, Silver Nitrate, Trichloracetic Acid.

CLASS 3.—Drugs Used to Act on Mucous Membranes

(a) *To soothe* (Demulcents). Albumin water, Barley water, Flaxseed infusion, Milk, Warm Physiologic Saline solution, Slippery Elm infusion.

(b) *To diminish secretion* (Astringents). Alum, Bismuth Salts, Weak Silver solutions, Suprarenal preparations, Tannic Acid, Weak Zinc solutions.

(c) *To stimulate.* Copper Salts, Silver Salts, Zinc Salts.

CLASS 4.—Drugs Used for Local Action in the Stomach

(a) *To increase the appetite* (Stomachics). Cinchona, Gentian, Nux Vomica, Salicin, Vegetable Bitters.

(b) *To aid digestion.* Diastase, Hydrochloric Acid, Pancreatin, Pepsin.

(c) *To reduce acidity* (Antacids). Ammonia, Chalk, Lime Water, Magnesia, Sodium Bicarbonate.

(d) *To cause vomiting* (Emetics). Apomorphin (acting on the vomiting center), Copper Sulphate, Ipecac, Mustard, Zinc Sulphate.

CLASS 5.—Drugs Used for Local Action in the Intestinal Canal

(a) *To increase peristalsis* (Carminatives). Anise, Capsicum, Cardamom, Cinnamon, Peppermint.

(b) *To promote evacuation of the bowels.*

Laxatives	*Purges*	*Salines*	*Irritants*
Aloes	Calomel	Magnesium Citrate	Colocynth
Euonymus	Castor Oil		Croton Oil
Magnesia	Comp. Cathartic Pill	Magnesium Sulphate	Elaterium
Podophyllum	Large dose of any laxative	Potas. and Sod. Tartrate	Jalap.
Rhamnus Pursh.		Seidlitz Powder	
Rhubarb		Sodium Phosphate.	
Senna		Sodium Sulphate.	
Sulphur			

(c) *To correct fermentation.* Beta-naphthol, Thymol, Salicylic Acid, Phenyl Salycilate (Salol).

(d) *To remove Parasites* (Anthelmintics). Aspidium, Beta-naphthol, Pepo, Quassia, Spigelia, Thymol.

Second Division

For Systemic Action

CLASS 1.—Drugs Used to Act on the Skin After Absorption

(a) *To stimulate.* Arsenic, Thyroid.

(b) *To decrease perspiration.* Atropin, Sulphuric Acid.

(c) *To increase perspiration* (Diaphoretics). Alcohol, Antipyrin, Pilocarpin.

CLASS 2.—Drugs Used to Act on the Genitourinary System

(a) *To increase the amount of urine.* Buchu, Caffein, Digitalis, Scoparius, Squill, Water.

(b) *To modify the character of the urine.* Hexamethylenamin, Methylene Blue, Potassium Acetate, Potassium Bicarbonate, Potassium Citrate, Salicylic Acid, Salol.

(c) *To stimulate the mucous membranes.* Cantharides, Copaiba, Cubebs, Oil of Santal.

(d) *To increase menstruation* (Emmenagogues). Iron, Manganese Dioxid, Thyroid.

(e) *To contract the uterus* (Oxytocics). Ergot, Hydrastis, Quinin, Viburnum.

CLASS 3.—Drugs Used to Act on the Respiratory Tract

(a) *To increase the secretion of mucous membranes.* (Expectorants). Ammonium Chlorid (small doses), Ipecacuanha, Iodids.

(b) *To decrease the secretion of the mucous membranes.* Ammonium Chlorid (large doses), Atropin, Codein, Heroin, Morphin, Terpin Hydrate.

(c) *To relax spasm.* Atropin, Bromids, Chloral, Gelsemium, Morphin, Nitroglycerin, Stramonium, Tobacco.

CLASS 4.—Drugs Used to Act on the Circulation

(a) *To stimulate the heart.* Alcohol, Ammonia, Camphor.

(b) *To depress the heart.* Aconite, Veratrum.

(c) *To strengthen the heart.* Caffein, Digitalis, Strophanthus, Strychnin.

(d) *To contract the blood-vessels.* Atropin, Ergot, Suprarenal.

(e) *To dilate the blood-vessels.* Nitrites.

CLASS 5.—Drugs Used to Act on the Nervous System

(a) *To stimulate* (Cerebral Stimulants, Antispasmodics, Excitomotors). Asafetida, Caffein, Camphor, Cannabis Indica, Phosphorus, Strychnin, Thyroid, Valerian.

(b) *To depress* (Analgesics; Depresso-motors). Acetanilid, Aconite, Antipyrin, Belladonna, Bromids, Chloral, Lobelia, Opium, Phenacetin.

(c) *To produce sleep* (Hypnotics). Bromids, Chloral, Hyoscine, Paraldehyd, Sulphonal, Trional, Veronal.

(e) *To produce anesthesia.* General: Chloroform, Ether, Nitrous Oxid. Local: Cocain, Ethyl Chlorid, Ice, Menthol, Phenol.

CLASS 6.—Drugs Used to Lower the Temperature of the Body

(Antipyretics). Acetanilid, Antipyrin, Cold, Phenacetin.

CLASS 7.—Drugs Used for Actions Which are Specific

Antitoxin in Diphtheria.
Cinchona in Malaria.
Colchicum in Acute Gout.
Iodids in some disturbances of Metabolism, notably Sclerosis (in small doses long continued).
Iron in Anemia.
Mercury in Syphilis.
Salicylic Acid in Acute Arthritis.
Thyroid in Myxedema.

CLASS 8.—Unclassified Organic Extracts

Mammary.
Ovarian.
Pancreas.
Parotid.
Pituitary.
Testicular.
Thymus.

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[*For other information see second page following reading matter*]

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OPTIC NEURITIS AND TUMORS OF THE BRAIN

Ophthalmoscopy has become a routine procedure in neurologic examinations, and the information thus gathered has been of inestimable service in the diagnosis and therapeutics of nervous diseases in general. In the solution of the special problem of tumors of the brain, however, ophthalmoscopic examination has been less serviceable; while it has indicated the presence, it has done little to establish the localization or the type of such neoplasms.

If ophthalmoscopy was to furnish this much-desired information, thorough, comprehensive study was necessary of the ophthalmoscopic pictures and their relation to the character, location, and size of the new growth within the cranial vault; and fortunately such study has been made. In a comparatively recent paper[1] Leslie Paton has presented a most thorough and interesting analysis of about four hundred cases of brain tumor from the records of the National Hospital for Paralyzed and Epileptic in London. A feature which gives special value to this study is that all of the brains were examined either post-mortem or in the living body in the course of surgical procedures which permitted adequate observation.

Passing over many technical points, which cannot be adequately reviewed here, three groups of facts are worthy of comment: that is, those dealing with the incidence and severity of the optic neuritis, with the location of the tumor, and with the eye changes—points of paramount importance to the ophthalmologist, neurologist, and psychiatrist.

Paton is far from dogmatic in his assertions, but regarding incidence of the optic neuritis he reaches the following conclusions:

1. When a tumor, directly or indirectly, exercises constant pressure on the chiasm or on the optic nerves, it is likely to cause a primary atrophy without any preceding edema of the disc.

2. The absence of optic atrophy is not infrequently indicative of meningeal tumors without involvement of the brain substance.

3. There are two regions of the brain, the pons Varolii and the white matter of the cerebral hemispheres, in which tumors frequently develop without causing optic neuritis.

Concerning the severity of the neuritis, the amount o retinal swelling, as measured by the height, the turgescence, and capillary congestion, offers a fairly reliabl guide; so do hemorrhages and dusky, yellowish patche of exudate. An equally important element in the pictur is the extent to which the neighboring retina is affecte by the spreading of the edema from the neighborhood o the disc. In certain very severe cases a macular fa shows a spreading edema. This is evidence of a neuriti of gross character, and never appears with the lowe degree of swelling. Loss of sight is a very unsatisfactory indication of the severity of the neuritis.

Some of the most interesting facts that may be gathered from this extensive paper concern location, and th conclusions drawn therefrom furnish almost the onl general guides in this difficult field. Precentral tumors Paton says, are nearly always associated with a fairl severe neuritis, whereas postcentral tumors are nearl always associated with a neuritis which is as a rule moderate and often of very short duration.

A neuritis of severe grade is found, moreover, wit tumors of the optic thalamus and midbrain, while cerebellar and extracerebellar tumors of the posterior fossa cause a neuritis of a grave character, but apparently le severe than the preceding.

Temporosphenoidal tumors are almost invariabl associated with a neuritis as grave as precentral o frontal tumors, while subcortical tumors develop a neuritis in only about 50 per cent. of the cases and thi when present, is as a rule mild and, with parietal tumor particularly, of short duration.

In practically one-half of the cases a difference i severity of the neuritis in the two eyes may be noted sometimes being greater on the side of the tumor, a other times on the opposite side. This difference, then is an untrustworthy sign and should be disregarded. Th pathologic nature of the tumor does not in itself pla any part in determining the onset of the neuritis, excep in so far as the nature of the tumor determines its location. The age of the patient in itself bears little or n relation to the occurrence of neuritis.

This contribution of Leslie Paton's will undoubtedl give some assistance in the difficult task of the localization of cerebral neoplasms and should serve to emphasi the desirability of more searching ophthalmoscopi examinations on the part of both nerve and eye specialists.

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[1] Paton, Leslie: Brain, 1909, xxxii, No. 125.

THE EPIDEMIOLOGY OF TYPHOID FEVER

It is but little more than half a century since typhoi fever became first recognized as a disease different fron other "slow" or "continued" fevers or even distinct fron typhus fever. And yet in few other diseases has greate progress been made toward definite conceptions of cause mode of spread and manner of prevention.

The realization of the part played by contaminated drinking-water came very early in the study of modes of dissemination of this infection. It is natural that this should have been the case in view of the explosive character and frequent striking localization of water-borne outbreaks. Epidemics like those at Plymouth, Ithaca and Butler in this country tend to focus attention on drinking-water as a primary source of infection. The practice of distributing to the inhabitants of cities raw drinking-water mixed with sewage is, however, steadily receding. It is not necessary to recapitulate here the various procedures by which improvement of public water-supplies has been brought about. Although much still remains to be done, especially in the United States, it cannot be questioned that the reduction in the amount of water-borne typhoid in the last twenty-five years in all civilized communities has been enormous.

As often happens in infections diseases, the steady diminution of typhoid cases due to one cause has brought into prominence other factors previously unnoticed or regarded as of little significance. Sanitary authorities everywhere have found that the complete eradication of typhoid fever, a typical "preventable" disease, is one of the most difficult of public health problems. It has happened more than once that after a community has obtained a pure and uncontaminated water-supply the typhoid mortality has remained excessively high. The experience of the city of Washington, D. C., affords a well-known illustration of the subordinate rôle that may be played by drinking-water in causing typhoid in a great city. The typhoid fever that still occurs in a community after the public water-supply has been effectively purified has sometimes been designated as "residual" typhoid, but the term seems to be an unfortunate one so far as it implies that the major source of infection has been removed by the elimination of infected water. For it must be admitted that in a great many communities, in this country and in Europe, drinking-water is at the present time a subordinate factor in the causation of typhoid fever. It seems necessary to emphasize this fact, since exaggerated statements have sometimes found utterance; such, for example, as the view expressed by a well-known sanitary engineer to the effect that the universal purification of water-supplies would do away altogether with typhoid fever, or the popular saying, apparently based on the assumption of official negligence in the matter of water-supply supervision, that "for every case of typhoid fever some one should be shot." Naive expressions of this sort can do only harm. It would be well if the general public realized more keenly some of the difficulties in the way of the complete suppression of typhoid fever.

These difficulties have been made apparent to some extent by the investigations of typhoid fever in Washington, published by Rosenau and his associates, and they are again brought to light in Kayser's study of this disease in Strasburg.[1]

From Kayser's observations, which extend over more than three years, it appears that raw milk is credited with causing in all probability 26.7 per cent. of the cases, while only 14.6 per cent. could be traced to water infection (including infection while bathing). Contact with typhoid patients—mostly atypical cases—was apparently responsible for 16.8 per cent. of the cases, while as many as 9.5 per cent. were found to be due to the agency of typhoid carriers! Other less important sources of infection were discovered, such as the consumption of infected food substances and contact with infected clothing or with the contents of privy vaults. In about 13 per cent. of the cases, the disease seemed to have been contracted outside the city. In all, about 87 per cent. of the typhoid cases in Strasburg could be traced to a plausible origin. Kayser seems inclined to attribute the 13 per cent. of unknown origin in large part to the agency of unrecognized typhoid carriers; and certainly the facts in the body of his paper countenance this view. It may be noted that this experienced investigator apparently does not attach so much importance to insect carriers as do many recent American writers.

Among the noteworthy points brought out in the Strasburg investigation is the existence of "typhoid streets" or localized areas in which the disease is disproportionately prevalent. A remarkable liability on the part of certain occupations is likewise observed. Not only is the mortality among professional nurses very high, but the number of cases occurring in persons having to do with the handling and preparation of food substances is amazingly great. Bakers, cooks and milk dealers all have a much higher mortality (1.1 per cent.) in proportion to the numerical strength of their respective occupations than agricultural workers (0.12 per cent.) or employees in paper or textile factories (0.0 per cent.). As Kayser says, in Strasburg typhoid fever can almost be considered as an occupational disease.

Kayser's investigations do not tend to minimize the importance of the bacillus-carrier as an agency in spreading typhoid. Of the twenty-eight known carriers in Strasburg, eleven were definitely implicated in the causation of new cases and nine of the others were with less certainty under suspicion of having disseminated the infection. The difficulties in the way of placing restraint on the occupational freedom of known typhoid carriers are strongly set forth in Kayser's paper. There can be no doubt that control of the sources of infection in typhoid fever offers a serious problem to the public health administration.

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[1] Kayser, Heinrich: Die Art der Typhusausbreitung in einer Stadt (nach Strassburger Beobachtungen), München. med. Wchnschr., May 25 and June 1, 1909, lvi, 1066-1130; abstr. in The Journal A. M. A., July 17, p. 244

TRAMMELING THE SANITARY DEPARTMENT OF THE CANAL ZONE

The work of the Department of Sanitation in the construction of the Isthmian Canal has been closely observed by sanitarians all over the civilized world. In fighting disease, much depends on the accuracy of the information and the promptness with which it is received. Frequent communications between boards of health are as necessary as weather bulletins. The progress of an epidemic, the discovery of new methods of overcoming disease, if transmitted at once to other health officers, may mean the saving of thousands of lives. Frequently issued and widely distributed sanitary bulletins are of the greatest value. Most of the states and a large number of cities issue monthly health reports. The United States government maintains in Manila a sanitary department for the control of diseases in the Philippine Islands which publishes health reports regularly. The United States Public Health and Marine-Hospital Service also publishes weekly reports. All of this matter is carefully scanned by modern health officers and thus the knowledge and experience of one is of assistance to all.

One of the most important things done by Colonel Gorgas, chief sanitary officer of the Canal Zone, was the monthly publication and distribution of the Report of the Department of Sanitation of the Isthmian Canal Commission, which was eagerly looked for and carefully read by all officers of health, not only for information regarding the suppression of disease in the Canal Zone, but also for valuable data on general sanitation and the control of diseases, especially in the tropics. This monthly pamphlet was regarded by sanitarians everywhere as of the greatest value and among the most important of the publications on tropical diseases. It was also of great value to the Department of Sanitation itself, for it brought to it, through exchange, similar publications from other workers, at home and abroad.

It was, therefore, with surprise and regret that sanitarians learned that in March, 1909, the publication of these reports was discontinued by order of Lieutenant-Colonel George W. Goethals, the army engineer officer in charge of the construction of the canal, who evidently did not know that the results obtained by the Department of Sanitation were of interest either to the public or to the medical profession.

In reply to a letter sent from THE JOURNAL, asking why the reports were no longer sent out, the Isthmian Canal Commission stated that the printing of these reports had been discontinued, but that "brief synopses of the reports of the Department of Sanitation have appeared in the monthly reports of the chairman of the commission, which have been published regularly in the *Canal Record*." Examination of seven consecutive numbers of the *Record*, running from June 30 to Aug. 11, 1909, shows that many pages have been devoted to reports from the engineering and construction departments and that much space has been taken up by the monthly record of the performance of steam shovels, building construction, record of excavation, tables showing the height of the tide, amount of rainfall, the exact height of the Chagres River, the rebuilding of the Panama Railroad, the classification of accounts, the awards of contracts, wage classification of employees, and even the social doings on the Isthmus, including clubs, lectures, dances, bowling and indoor baseball, but that less than one column in the seven numbers has been devoted to the work of the Department of Sanitation. Yet even in this small space the surprising record made by the department is evident, since the report shows that the death-rate in the Canal Zone has been reduced from 50.57 per thousand in June, 1905, to 16.42 per thousand in June, 1909, and that, although there were 97 deaths in June, 1906, when the employees numbered only 28,010, there were in June, 1909, only 37 deaths, 60 less than in June, 1906, although the number of employees had increased to 47,493. And yet the Canal Commission considers these facts, showing one of the most brilliant sanitary records ever made, of no interest to the public and of little or no importance to sanitarians.

The work done by Colonel Gorgas in the Canal Zone has been a most striking object-lesson to the people of the United States as to the ability of modern sanitary methods to control disease. It has also had a valuable educational effect on the American public. It is highly probable that if the Department of Sanitation had not made the showing which it has in the suppression of disease, and if it had not sent its reports broadcast, the Canal Commission would now have great difficulty in securing employees. The influence of these monthly reports on health conditions in neighboring Central American states is by no means to be underestimated. Yet their publication and distribution are forbidden on the grounds of economy, when their actual cost to the government is less than $200 a month. What would be thought of a chief sanitary officer if he assumed to veto the plans of the directing engineer for bridges, tunnels, and grades in the railroad work in the Canal Zone? How much importance would the American public attach to the opinions of a medical officer on the strength or position of dams and locks or the construction of steam shovels used in canal construction? Yet this is no more ridiculous than for an engineering officer to attempt to dictate to the Department of Sanitation as to technical details in sanitary matters. The work done by the Department of Sanitation is of vital importance to the completion of the canal, and the American people, when they fully understand the situation, will not only demand that the chief sanitary officer of the Isthmus be allowed to continue his work untrammeled, but that the widest publicity be given to the results obtained in his department in order that all diseases, and especially those peculiar to the tropics, may be further controlled and, if possible, eliminated.

THE VINDICATION OF GALL

Most physicians know the name of Gall because they have heard of the columns of Gall and Burdach in the spinal cord; but few realize that the Dr. Gall who is thus commemorated is the father of so-called phrenology—that is, the attempt to determine intellectual capacity and mental characteristics from the appearance of the skull—and also the pioneer discoverer of the physiology of the brain. Dr. Bernard Hollander, who s president of the Ethnological Society and physician to the British Hospital for Mental Disorders, has spent many years in vindicating the reputation of this great anatomist of the brain from undeserved aspersions nd from exaggerated pretensions made by disciples.[1] Gall's career illustrates the penalties of being before ne's time in knowledge. It is dangerous to discover, before men's minds are prepared for the truth, the circulation of the blood, or that the heart is a muscle, or that the earth moves, because, as Harvey and Steno and Galileo realized to their cost, men do not like to have their cherished beliefs turned to foolishness.

At the end of the eighteenth and the beginning of the ineteenth century four men in Paris startled the scienific world, gained a momentary celebrity, and then apsed into oblivion. They were Cagliostro, Lavater, Mesmer and Gall. A good idea of Cagliostro's characer may be obtained from Dumas' "Memoirs of a Physiian." Lavater did good work in physiognomy, as any ne who goes back to his books will readily appreciate, ut he utterly exaggerated the significance of his obrvations. What Mesmer exploited under the name of animal magnetism" has been used by quacks ever nce, under one name or another; but it must not be orgotten that what he did forms an important chapter n the history of psychotherapy. Cagliostro, Lavater nd Mesmer had more of the charlatan than of the cientist in them. The fourth, Francis Joseph Gall, ndoubtedly made the best investigations on the brain hat had been made up to his time, but because what e discovered was contrary to popular belief his work ame to be ranked with that of the charlatans.

Now comes the vindication of Gall. Several discovies in the anatomy of the nerves undoubtedly belong to im. He was the first to show that the gray matter recedes the white in origin and in importance; he raced the origin of the nerve bundles from the gray matter and taught that the gray substance nourished he white fibers. He traced the origins of the olfactory, he oculomotor, the trigeminal and the abducens nerves. He established the certainty of the decussation of the yramids, when such men as Bichât, Magendie, Moragni and Prochaska were opposed to it. Above all, e was the first to describe the formation and developent of the brain in the fetus and to call attention to the simplicity of the convolutions in new-born infants and in idiots, as compared with the complexity of the brain of the normal adult. Many of these discoveries are usually referred to other anatomists. A typical example of a wrong done to Gall is the naming of the island of Reil, which Gall had described long before, after another anatomist of his time, who had been present at some of Gall's demonstrations. These discoveries of Gall are now generally acknowledged.

The reason Gall did not receive recognition during his lifetime apparently was that Napoleon in some way acquired a prejudice against him; hence it became fashionable to disparage Gall. Before this some of his contemporaries had been most enthusiastic in their praise of his work. Flourens, whose own observations on the brain made at this time are of so much value, declared: "I shall never forget the impression I received the first time I saw Gall dissect a brain. It seemed to me as if I had never seen this organ." Geoffroy St. Hilaire, the famous French naturalist, who tried, before Napoleon's displeasure was known, to obtain Gall's election to the French Academy, wrote: "I shall always remember our astonishment, our sensations, our enthusiasm, on seeing Gall for the first time demonstrate his anatomic discoveries. The word 'brain' will always call up to mind the name of Gall." For many years Gall lived in obscurity. Toward the end of his life some slight honor for all his work came to him. His monument in Père Lachaise, where he lies buried, has recently been renovated; and now it would seem that at last his merits are to receive the appreciation that they so richly deserve.

THE PRESIDENT'S MESSAGE AND THE PROPOSED NATIONAL BUREAU OF HEALTH

The movement originally instigated and long fostered by the medical profession for more comprehensive national health service has received a distinct impetus from President Taft in his message laid before Congress on Tuesday of this week. The part of his message relating to this subject is as follows:

"For a very considerable period a movement has been gathering strength, especially among the members of the medical profession, in favor of a concentration of the instruments of the national government which have to do with the promotion of public health. In the nature of things, the Medical Department of the Army and the Medical Department of the Navy must be kept separate. But there seems to be no reason why all the other bureaus and offices in the general government which have to do with the public health or subjects akin thereto should not be united in a bureau to be called the 'Bureau of Public Health.' This would necessitate the transfer of the Public Health and Marine-Hospital Service to such a bureau. I am aware that there is a wide field in respect to the public health committed to the States in which the Federal Government cannot exercise jurisdiction, but we have seen in the Department of Agriculture the expansion into widest usefulness of a department giving attention to agriculture when the subject is plainly one over which the states properly exercise direct jurisdiction. The opportunities offered for useful research and the spread of useful information in regard to the cultivation of the soil and the breeding of stock and the solution of many of the intricate problems in progressive agriculture have demonstrated the wisdom of establishing that department. Similar reasons, of equal force, can be given for the establishment of a bureau of health that shall not only exercise the police jurisdiction of the Federal Government respecting quarantine, but which shall also afford opportunity for investigation and research by competent experts into questions of health affecting the whole country or important sections thereof; questions which, in the absence of federal governmental work, are not likely to be promptly solved."

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[1] Hollander, Bernard: The Unknown Life and Works of Dr. Francis Joseph Gall. An Inaugural Address delivered before the all Society on May 15, 1909. Paper. Pp. 31. Price, one shilling. ublished for the Gall Society by Siegle, Hill & Co., 2, Langham ace, London, W.

This subject has been discussed by President Taft from the viewpoint of both the jurist and the practical statesman. Addressing himself primarily to the constitutional question involved, he has anticipated the argument that has perennially been brought forward by the enemies of every measure that contemplated the control by the national government of interests susceptible of concurrent control by the states. This argument was urged long and successfully against the organization of both the Department of Agriculture and the Department of Commerce and Labor, but in both instances a broader and wiser interpretation of the Constitution prevailed. No cry of "special legislation" can be raised against a national public health bureau, since no class or social group will be the special beneficiary of such a step. This was recognized a few years ago, when, in the presence of an invasion of yellow fever, the governors of the southern states, in formal conference, yielded certain prerogatives in sanitation to the Federal Government. This action, from those who had jealously guarded the rights of their states, was a forceful recognition of the fact that sanitary regulation for the general welfare ought to be a function of the general government. If a constitutional way can be found for the federal control of yellow fever, why may it not be found for the federal control of tuberculosis, cancer and typhoid? It would seem that the President is disposed to go as far in this direction as his acute and professional intimacy with the Constitution will permit.

The recommendation of President Taft may be a disappointment to those who feel that our national health interests require a separate department with a secretary. It is, however, one thing to wish for a thing and quite another to get it, either for the President or the people, since both must recognize that an evolutionary process has been established through which administrative agencies must pass. A bureau of agriculture, for instance, with a commissioner in charge, was established in 1862, but did not become a department until 1889. A burea of labor and other bureaus, each in charge of a commi sioner, preceded the organization of a Department c Commerce and Labor. If President Taft's policy ca be carried out and if the health service can be place on a basis of uniformity of organization with other ser ices of the government, we may confidently look fo ward to its speedy development in prestige, power an usefulness.

THE VIABILITY OF THE TUBERCLE BACILLUS

There has been a good deal of discussion and consic erable diversity of opinion as to the length of time tl tubercle bacillus may survive extrusion from the anima body. The matter is of no little importance, as on decision of the question must depend the application c certain measures of prevention. At first it was believe that the tubercle bacillus contained spores and that was correspondingly resistant to various destructiv influences. It was eventually found, however, that tl apparent spores were due to beading of the organis in consequence of changes in the protective waxy cove ing by which its body is surrounded. Recent investig tion, moreover, seems to show that the tubercle bacill has no greater resistance to such agencies as heat, dr ing, chemicals, sunlight, than most other non-spor bearing bacteria. Rosenau[1] has shown that exposure a temperature of sixty degrees Centigrade for twent minutes is sufficient to destroy tubercle bacilli in mil bouillon, water and other fluids. In sputum, in du in water and on fabrics, on the other hand, the orga ism may survive for months, although probably tl larger number soon die. In pure culture, however, t tubercle bacillus lives for only a comparatively sho time, even under the most favorable conditions; and is generally agreed that the organism succumbs withi a few hours to the action of direct sunlight.

As a result of his own observations and of a compar son of his work with that of others Rosenau[2] arrives the conclusion that there is no easy method of dete mining the death of the tubercle bacillus. The virulen of the micro-organism vanishes before death takes pla The latter can be determined only by animal expe mentation. Dead tubercle bacilli cause lesions indisti guishable from those due to living bacilli, and ma erroneous conclusions have been reached from lack appreciation of this fact.

THE RED CROSS CHRISTMAS STAMP

The sale of Red Cross Christmas stamps, which w so successful last year and is being repeated this yea has several admirable features. Of course, the huma tarian purpose of the enterprise—the raising of fun with which to carry on the campaign against tubercul sis—cannot fail to receive the hearty approval of phy cians and laymen alike. These stamps, moreover, whi invite the pennies of children and the nickels and dim of persons with limited means, must create an inter

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1. Rosenau: Bull. 42, Hyg. Lab., U. S. P. H. and M.-H. S., 19
2. Rosenau: Bull. 57, Hyg. Lab., U. S. P. H. and M.-H. S., 19

in the work which only a sense of cooperation can give. No imposing subscription list, headed by the names of millionaires, could enlist the active sympathy of the people as can this opportunity for the youngest and the poorest to make their modest offering, secure that it will not be despised. The wide-spread use of the attractive little stamp[1] with its Christmas message must in itself be an educating influence in the antituberculosis crusade. The work deserves the cordial support of all, and physicians especially must desire its success.

Medical News

ARKANSAS

New Board of Health.—Drs. Edward P. McGehee, Lake Vilage, J. T. Blanks, Dermott, and James W. Nicholls, Readand, have been appointed members of the board of health of Chicot county.

Damage Suit Dismissed.—The suit of Dr. Thomas B. Rider, Hot Springs, for $20,000 damages against Dr. Gilbert C. Greenway and other physicians prominent in the Visitors' Protective League, is said to have been decided against the plaintiff, November 20.

Sanatorium to be Built.—The Arkansas Tuberculosis Commission has made arrangements to proceed with the erection of a state tuberculosis sanatorium, which is to cost $50,000. The site, which was donated to the board, is three miles from Booneville and contains a thousand acres.

Elections.—The Third District Medical Society held its annual meeting in Lonoke recently and elected Dr. Henry Rightor, Helena, president; Dr. Thomas J. Stout, Brinkley, secretary, and Dr. Eugene A. Callahan, Carlisle, treasurer.——The physicians of Polk county met at Russellville, November 4, and organized the Polk County Medical Association, electing Dr. Robert M. Drummond, Russellville, president, and Dr. Roy W. arr, Atkins, secretary-treasurer.

ALABAMA

Asks Physician to Collect Data.—Dr. W. H. Sanders, Montgomery, state health officer, has issued a circular letter to the physicians of the state, urging them to do their full duty in the collection of data of diseases and reports of same. He lays special stress on the prevalence of pellagra and asks that careful statistics be collected.

New Society Formed.—The Birmingham Surgical and Gynecological Society has been organized with thirteen charter members, and has elected the following officers: President, Dr. Benjamin G. Copeland; vice-president, Dr. Gaston Torrance; secretary-treasurer, Dr. Edward P. Solomon, and executive council, Drs. John D. S. Davis, William M. Jordan, and Lewis . Morris.

Mobile Physicians Protest.—Fifty physicians of Mobile city and county have signed a petition protesting against the unwarranted restrictions imposed by the prohibition laws of the state and further protesting against such restrictions by the passing of the proposed constitutional amendment. The law referred to prohibits the sale of alcoholic spirits on physician's prescription or otherwise. All hospitals and infirmaries are prohibited from using alcoholic stimulants.

CALIFORNIA

Gives Ambulance to Hospital.—A Studebaker hospital ambulance, fully equipped, has been presented to the San Mateo Red Cross Hospital by Mrs. M. J. O'Connor.

Warning.—The readers of The Journal are warned against person calling himself "Dr. A. Cato," and pretending to sell goods from the Victor Electric Co., of Chicago, on commission. His method of procedure is said to be to sell a bill of goods, get part payment in cash, and then not to deliver the goods.

September Births and Deaths.—During September, there were reported 2,710 births, equivalent to an annual birth rate of 16.2 per cent. per 1,000. During the month 2,353 deaths were reported, equivalent to an annual death rate of 14 per 1,000. Of these 370, or 15.7 per cent., were due to diseases of the circulatory system and 327, or 13.9 per cent., to tuberculosis of various forms.

Sanatoria.—The managers of the Colfax School for Tuberculosis have enlarged their facilities by the purchase of the Tokayano Ranch of sixty-five acres near the town and will proceed at once to erect twenty cottages, and more as required. Dr. Robert A. Peers is medical superintendent of the institution.——Dr. George H. Juilly, San Francisco, is equipping a building in San Mateo for a sanitarium.

Tropical Diseases and Parasitology.—A course of lectures in tropical medicine and medical parasitology will be given in the Oakland College of Medicine, beginning January 3, and lasting for twelve weeks, under the direction of Dr. Creighton Wellman. Two lectures and laboratory demonstrations will be given each week, and interesting tropical cases at the school and various hospitals will be exhibited and studied.

Physicians Injured.—Dr. M. S. da Silva, Sacramento, was seriously injured November 18, when a street car crushed his buggy against a pile of lumber, throwing him out and causing severe contusions.——Dr. Charles S. Taylor, Los Angeles, was seriously injured in San Francisco, October 23. He was standing on a street car when a buggy collided witb the car and one of the shafts was forced into the doctor's right thigh for three inches.

Personal.—Dr. Raymond Russ, Sacramento, has been appointed medical inspector of the state board of health.——Dr. Wallace I. Terry, San Francisco, retiring chief surgeon of the Emergency Hospital, was given a banquet by the assistant surgeons of the staff, October 29, over which Dr. Charles B. Pinkham, the new chief surgeon, presided as toastmaster.——Dr. Stewart McL. Doherty, first assistant physician at the Napa State Hospital, is said to have been dismissed by the board of managers, November 18.——Dr. Robert A. Peers, Colfax, has retired from general practice and will devote himself entirely to the care of tuberculosis. Dr. Henry T. Rooney, San Francisco, will take charge of the general work at Colfax.——Dr. John U. Force has been appointed health officer at Berkeley, vice Dr. Julian J. Benton.——Dr. Martin H. Fischer, professor of pathology in the Oakland College of Medicine, has been awarded the Nathan Lewis Hatfield prize of $500 for original research work in medicine.——Dr. Lionel S. Schmitt, San Francisco, has resigned from the U. S. P. H. and M.-H. Service, and will resume private practice. The attaches of the health department, on October 30, presented Dr. Schmitt with a silver and bronze desk set.

Hospital Interests.—The cornerstone of the new San Francisco County Hospital was laid November 20, under the auspices of the board of health, Dr. William Ophuls, president of the board of health, acting as chairman. The buildings are to cost $2,000,000, and will include a general hospital, an isolation hospital, a tuberculosis hospital, and all necessary buildings for power plant, laundry, morgue, ambulance sheds, and stables.——Plans for a new three-story fireproof hospital for Alameda county have been formulated by a committee consisting of Drs. Daniel Crosby, Fruitvale; Oliver D. Hamlin, Oakland; and William A. Clark, San Leandro.——The old wing of the recently rebuilt St. Luke's Hospital, San Francisco, was destroyed by fire November 18. Twenty patients were removed from the hospital without casualty. Plans have been prepared by the directors of the hospital for the restoration of the institution to its original scope and efficiency.——San Jose is soon to have two new hospitals. A contract has been awarded for the erection of the Contagious Disease Hospital, near the O'Connor Hospital, to cost $9,000, and the Bird Haven Company has let the contract for the erection of a sanitarium for nervous diseases, to cost $5,000.——The Northern California Hospital, Eureka, has recently been completed at an expense of more than $80,000, and is now open and in charge of Drs. Charles C. and Curtis O. Falk.——The contract for the erection of the new St. Francis Hospital, San Francisco, has been awarded for $154,500 for the structural work alone. The new building will cover a space 103x137½ feet, is to be five stories and basement in height, and of steel and reenforced concrete construction.——Fabiola Hospital, Oakland, was benefited to the extent of more than $3,000 by the benefit performance November 2.——The Peninsula Hospital, Palo Alto, will be opened this month. The exterior of the building is completed and as soon as the equipment is received, the institution will be ready to open.

COLORADO

Library Transferred.—The medical library of the Denver Academy of Medicine has been transferred to the Medical Society of the City and County of Denver.

Personal.—Dr. Albert L. Bennett, Denver, has been appointed local consul for Japan.——Dr. Henry S. Denison, Denver, has been appointed editor of *Colorado Medicine*.——Dr. Donald

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[1] Described in The Journal A. M. A., Oct. 30, 1909, liii, 1495.

Gregg, Colorado Springs, has been appointed resident physician of the new government hospital, Manila, P. I.——Dr. George W. Morse, first assistant physician of the Modern Woodmen Sanatorium, Colorado Springs, has resigned and will return to Denver.

The Tuberculosis Fight.—A society woman of Colorado Springs has placed $10,000 in trust, the income of which is to be used in caring for poor patients suffering from tuberculosis. Dr. Charles F. Gardiner has been made almoner of the fund. A second fund of $10,000 has also been placed in trust for the benefit of destitute sufferers from tuberculosis.——About $3,000 of the $10,000 required to build the Associated Charities Sanatorium in Colorado Springs has been pledged.

CONNECTICUT

Sanatorium Site Purchased.—At a meeting of the State Tuberculosis Commission, November 23, a tract of about thirty acres of land on Cedar Mountain, near Hartford, was decided on for the Hartford county sanatorium.

Physicians Offer Services.—The physicians of Manchester have signed an agreement providing for free service to dependent poor of the town, "when deemed proper," and approving of the appointment of a town physician.

Epileptic Colony.—At the last session of the legislature, a bill was passed providing for the establishment of a colony for epileptics, for an appropriation of $25,000 for the purchase of a site, and for the appointment of a commission to select and purchase such site. Drs. William L. Higgins, South Coventry, and Max Mailhouse, New Haven, have been appointed by the governor a committee.

Mental Hygienists Meet.—At the second annual meeting of the Connecticut Society for Mental Hygiene, held in New Haven, November 12, Drs. Seldon B. Overlock, Pomfret, and Frederick T. Simpson, Hartford, were reelected to fill vacancies in the board of directors, and W. Perry Curtiss was elected to fill the vacancy caused by the resignation of Dr. Elizabeth C. Spencer, Waterbury.

Monument to Inebriety-Cure Pioneer.—A monument was unveiled in the Wilton Cemetery, October 27, to Dr. J. Edward Turner, the first to urge the practical fact that inebriety is a disease, and who founded and built the first institution for the treatment of this disease. Dr. Lewis D. Mason, Brooklyn, N. Y., president of the American Society for the Study of Alcohol and Narcotics, delivered the dedicatory address, and the memorial address was made by Dr. Thomas D. Crothers, Hartford.

Dispensary Election.—At the annual meeting of the board of managers of the New Haven Dispensary Association, November 10, the following officers were elected: Dr. Arthur N. Alling, secretary; medical staff: surgery, Dr. Joseph M. Flint; medicine, Drs. George Blumer and Oliver T. Osborne; gynecology, Dr. Otto G. Ramsay; ophthalmology, Dr. Arthur N. Alling; neurology, Dr. Max Mailhouse; pediatrics, Dr. Harry M. Steele; dermatology, Dr. Ralph A. McDonnell; orthopedics, Dr. Frederick N. Sperry; and laryngology, Dr. Ernest H. Arnold.

ILLINOIS

Spitting Ordinance in Effect.—The municipal ordinance against spitting came into effect in Kankakee, November 26. By its provisions, a fine of $3 and costs is provided for the first offense, and a maximum fine of $23.25.

Tent Colony Disbanded.—The Tuberculosis Tent Colony at Peoria Heights has been disbanded and the patients have been discharged and have gone to their respective homes. During its existence the colony has had eight patients, all of whom showed marked improvement. It is proposed to reestablish the colony next year on a larger scale with accommodation for twenty or more patients.

Hospital News.—The campaign in Monmouth for a new hospital was inaugurated November 29. It is expected that $30,000 will be raised for the erection of the new building, and half of that amount has already been secured.——The people of Rochelle have subscribed $22,000 of the $35,000 required to make effective the offer from Emmanuel Hilb, the $15,000 for the establishment of a public hospital in Rochelle.

Retiring Railway Surgeon Honored.—Dr. Charles B. Fry, Mattoon, for many years local surgeon of the Illinois Central and Big Four railroads, who is soon to retire from practice and leave the city, was the guest of honor at a meeting of the railway employees of the city, held November 30. The superintendent of the St. Louis division of the Big Four presented Dr. Fry, on behalf of the employees, with a handsome traveling bag.

Chicago

Tuberculosis Clinic Changes Habitat.—The clinic of the Chicago Tuberculosis Institute, now held twice a week at the Northwestern University Medical School, was transferred December 6 to the Post-Graduate Hospital, Dearborn and Twenty-fourth streets. The clinic days and hours will remain the same, Mondays and Thursdays, from 10 a. m. to noon.

The Old, Old Story.—On information sworn to by three physicians, S. W. Jacobs and Harvey M. Brown, officials of the National Aid Society, were arrested November 30, charged with a new insurance confidence game. It is claimed that the complainants were induced to buy stock in the society on the representation that they would receive stock dividends and furthermore that they were to be called when any of the subscribers were taken ill, and were to be paid liberally for these services.

INDIANA

Personal.—Dr. Paul F. Martin has been appointed a member of the city board of health of Indianapolis, vice Dr. Frank M. Morrison, elected a member of the board of school commissioners.——Dr. Franklin P. Gillaspy, Indianapolis, received painful injuries by being struck by a street car, November 6.

Medical Society Meeting.—At the annual meeting of the Thirteenth District Medical Society, held in Warsaw, Dr. Charles J. Loring, Rochester, was elected president; Dr. Lorenzo D. Eley, Plymouth, vice-president, and Dr. C. Norman Howard, Warsaw, secretary-treasurer. The next meeting will be held in Goshen.——Fort Wayne Academy of Medicine, at its annual meeting, elected Dr. Harold K. Mouser, president; Dr. Cecil C. Kimmel, vice-president; Dr. Willis W. Carey, secretary, and Dr. Charles G. Beall, treasurer.

IOWA

Hospital News.—A new wing to cost $10,000, is to be added to the Graham Hospital, Keokuk. It will contain fourteen rooms for patients, a large kitchen, dining-room, diet kitchen and operating-rooms.——The Sisters of Mercy have assumed charge of the Centerville Hospital.

Personal.—Dr. Elijah W. Jay, Marshalltown, was operated on for the removal of gall-stones at Augustana Hospital, Chicago, November 23.——Dr. William W. Pearson was installed as dean of Drake College of Medicine, Des Moines, November 23.——Dr. Charles F. Dietz, Tabor, is reported to be seriously ill with neuritis.——Dr. Lacy K. Bobo, Oxford Junction, has been made president of the Iowa Sanatorium, Maquoketa.——Dr. John W. Smith, Burlington, sustained painful injuries in a runaway accident, November 10.——Dr. Elbert W. Clark, Grinnell, state senator, is reported to be seriously ill at his home.

District Societies Meet.—At the annual session of the Southeastern Iowa Medical Society, held in Mount Pleasant, November 20, it was decided to hold the next meeting at Fort Madison. The following officers were elected: Dr. Charles S. James, Centerville, president; Drs. William S. Lessenger, Mount Pleasant, and Alfred O. Williams, Ottumwa, vice-presidents; and Dr. E. Francis LaForce, Burlington, secretary-treasurer.——At the fifth annual session of the Second District Medical Society, held in Davenport, November 16, the following officers were elected: President, Dr. Lawrence W. Littig, Iowa City; vice-presidents, Drs. Elbridge H. King, Muscatine, and Gordon F. Harkness, Davenport; and secretary-treasurer, Dr. John V. Littig, Davenport (reelected). The 1910 meeting is to be held in Davenport.——Des Moines County Medical Society, at its annual meeting, held in Burlington, November 10, elected Dr. Charles P. Frantz, president; Dr. Fred E. Koch, vice-president; and Dr. Julia M. Donahue, secretary, all of Burlington.

KENTUCKY

Personal.—Dr. Henry Enos Tuley, Louisville, has been appointed by the governor a delegate to represent the state at the National Rivers and Harbors Congress, held in Washington, December 8-10. He has also been elected director of the Louisville Commercial Club.

Elections.—The Louisville Clinical Society held its annual meeting, November 23, and elected Dr. Joseph W. Irwin, president; Dr. William A. Jenkins, vice-president; Dr. Henry J. Farbach, secretary; and Dr. Argus D. Willmoth, treasurer.——Todd County Medical Society, at its annual meeting, held in Elkton, elected the following officers: Dr. John R. Crittenden, Gordonsville, president; Drs. Charles M. Gower, Trenton, and Walter E. Bartlett, Kirkmansville, vice-presidents; Dr. Lee P. Trabue, Elkton, secretary; and Dr. Robert L. Boyd, Pembroke, censor.

MARYLAND

Baltimore

Personal.—Dr. Paul W. Harrison has been appointed medical nissionary to Africa by the Dutch Reformed Church.——Dr. James H. Stauffer is reported to be ill in Johns Hopkins Hospital.

Sanatorium Opened.—The Berliner Memorial Infirmary was ormally opened November 22. Gen. George M. Sternberg, Surgeon-General U. S. Army, retired, Washington, received he building for the directors, and Emile Berliner, donor of the anatorium, which is a memorial to his father, made an address.

Care of Insane.—A meeting was held December 9 in the hall f the Medical and Chirurgical Faculty to forward the movement for the study and care of insane and for provision of more hospitals. Addresses were made by Dr. William F. Drewry, Central State Hospital for the Insane, Petersburg, Va.; Attorney General Isaac L. Strauss, Dr. Thomas A. Ashby, Baltimore, member of the legislature; and Dr. DeWitt C. R. Miller, Cearfoss District, state senator. The State Lunacy Commission has drafted a bill for presentation to the next egislature, which calls for the formation of a permanent oard of insanity, composed of five members and the attorney eneral, the members serving without pay. The board is to ave power to remove persons from almshouses to asylums. he executive of the board is to visit all institutions at least nce every six months. The state is to be divided into hosital districts, and jurisdiction is provided by boards of isitors for each county, and annual reports from heads of nstitutions. The cost and maintenance of white patients is xed at $200 per annum, and that of colored patients at $150 er annum, of which the state is to pay one-half. The board s to receive $5,000 a year for expenses, out of which a salried executive is to be paid. License is to be required from ll asylums and retreats. In addition to the two present tate hospitals, an additional one is to be provided for white ersons on the eastern shore and one for colored persons in outhern Maryland.

MICHIGAN

Personal.—Dr. Eugene Smith, Detroit, has returned from urope.——Dr. George R. Pray, Jackson, has been elected upreme archon of the Phi Beta Pi Medical Fraternity.

Society Meeting.—At the annual meeting of the Genesee ounty Medical Society, held in Flint, October 26, Dr. Noah ates, Flint, was elected president; Dr. James W. Parker, rand Blanc, vice-president; Dr. Myron W. Clift, Flint, sectary-treasurer; Dr. Amos S. Wheelock, Goodrich, member of he board of directors, and delegate to the state medical ociety, and Dr. Herbert E. Randall, Flint, alternate.

Tuberculosis Records.—Under the new state tuberculosis law, ecord books are provided, giving case reports of tuberculosis, ncluding the name and address of each patient, age, nativity, ex, occupation, color, place where last employed, evidence on hich diagnosis of tuberculosis is made, part of body affected, age of disease, and name and address of person furnishing acts. These registers are open to inspection only by the ealth authorities, and it is not permitted that any such eports or records shall be divulged so as to disclose the entity of the persons to whom they relate.

Tuberculosis Notes.—The Detroit Society for the Study and revention of Tuberculosis has concurred in the report of the natorium committee, recommending the acceptance of a tenure site at Twelfth and Hamilton boulevard. The institution ill be known as the Detroit Tuberculosis Sanatorium. rticles of incorporation were drawn up November 16. Dr. uart R. Shurly has been elected president, and Dr. Herbert M. ich, a member of the executive committee.——The new shack the Antituberculosis Camp, east of Kalamazoo, is ready for cupancy. The building is 25x25 feet and occupies the space etween two other shacks. The institution now has three rge and five small shacks in use.

NEW JERSEY

Fire in Epileptic Village. Three of the five new barns on e grounds of the State Village for Epileptics, near Penningn, were destroyed by fire, November 9, causing a loss of bout $20,000.

Oppose Preventorium.—The protest of certain residents of akewood against the Tuberculosis Preventorium for Children that place has received the support of the governor, who ates that the establishment of an institution of that charter can be done only under state authority, and refers the atter to the Commissioner of Charities and Corrections for tion.

Personal.—Dr. Hyman I. Goldstein, Camden, has been elected assistant laryngologist and assistant in the nose, throat and ear and medical departments of the Lebanon Hospital, Philadelphia.——Dr. William James, German Valley, was seriously burned while attempting to save his horses from a burning stable.——Drs. George C. Becket, Winifred D. Banks, and Palmer A. Potter have been appointed medical inspectors by the East Orange Board of Education.——Dr. Luther M. Halsey, Williamstown, has been appointed medical inspector of schools of Monroe township.——Dr. Horace G. Norton, Trenton, has been elected secretary of the State Board of Medical Examiners, vice Dr. Edmund L. B. Godfrey, Camden, resigned.

NEW YORK

Antituberculosis Society.—The Syracuse branch of the New York Association for the Prevention and Cure of Tuberculosis was organized November 26. Dr. David M. Totman presided and was afterward elected one of the vice-presidents of the association.

Personal.—Dr. George S. Lape has been elected jail physician of Binghamton.——Dr. Vernon L. Bishop, Hemlock, has been appointed physician at the Matteawan State Hospital. ——Dr. J. Reid Davidson, South Bethlehem, has retired after thirty years of practice.

Lockport Physicians Organize. The physicians of Lockport have organized a local society, known as the Lockport Academy of Medicine, have adopted a constitution and bylaws, and elected the following officers: President, Dr. Charles N. Palmer; vice-president, Dr. Flavius J. Baker; secretary, Dr. Charles L. Preisch; treasurer, Dr. Henry H. Mayne; councilors, Drs. Allan N. Moore, S. Wright Hurd, and Alexander McNamara; and trustees, Drs. Ferdinand A. Kittinger, Willis P. Weaver and Warren H. Loomis.

Sanatorium and Hospital Plans Approved.—The State Board of Charities, at a meeting November 7, approved the certificate of incorporation of the Newburgh Sanatorium, to be established by ex Gov. B. B. Odell, Jr., at a cost of $75,000. The board also approved the proposed consolidation of the New York Infant Asylum and Child's Nursery and Hospital, to be known as the New York Infant Hospital and Child's Nursery, with joint resources of about $1,000,000, and the incorporation of the Southampton Hospital Association, which proposes to establish a general hospital at Southampton, Long Island.

New York City

Harvey Lecture.—The third lecture of the Harvey Society, delivered by Prof. T. G. Brodie, of the University of Toronto, December 11, at 8:30 p. m., at the Academy of Medicine, 17 West Forty-third street, is on "Renal Activity."

Honor Retiring Intern. Dr. Walter E. Hurley, whose term of service as house surgeon in the Williamsburg Hospital expired December 1, was given a farewell dinner, November 29, by professional and other friends, at which a colonial clock was presented to Dr. Hurley.

Andrew McCosh Memorial.—The Andrew J. McCosh Memorial Committee has announced that $116,000 have been received. The committee has not decided definitely on the memorial, but the fund probably will be used in the erection of an operating pavilion for the new Presbyterian Hospital.

For City Hospitals.—At the last meeting of the board of estimate the largest appropriation made was for the charities department, $2,237,000, which is to be used in improving the hospital facilities on Randall's and Blackwell's islands, and for improvements in connection with the Kings County and Cumberland Street hospitals.

Appropriation for Sanatorium.—The proposed tuberculosis sanatorium for the city at Staten Island took tangible form November 23, when the Board of Aldermen passed a resolution appropriating $1,300,000 in corporate stock for the building. The board also ratified the issuance of $54,000 corporate stock for the Coney Island Hospital, and $77,000 for the Bradford Street Hospital, Brooklyn.

Clinical Society Organized.—The Clinical Society of the West Side German Dispensary and Hospital was organized November 24. Its membership is composed of members of the staff and faculty of the New York Clinical School of Medicine. The following officers were elected: Dr. Robert N. Disbrow, president; Dr. Leon F. Garrigues, vice-president, and Dr. D. Livingston Morrison, secretary. The society will meet at the hospital on the first Tuesday of each month.

Large Sums for Charity.—The will of Edward O. Kindberg, recently admitted to probate, leaves the residue of his estate, worth about $100,000, to the Presbyterian Hospital.——The death of John Masterson Burke now makes available $4,000,000 for the building of a convalescent home. In 1902 Mr. Burke conveyed to a corporation which he named the Winifred Masterson Burke Relief Foundation, property to the value of $4,000,000, the income of which was spent in caring for worthy sick during his lifetime, but now the entire sum is at the disposal of the corporation.——The will of Herman Jacoby leaves $1,000 each to the Lebanon and Beth Israel hospitals.

Academy Needs Increased Facilities.—Because of the increase in membership of the New York Academy of Medicine, and the lack of space for the rapidly increasing library, it was proposed at a meeting of the directors, December 2, to submit to the members a proposition for the erection of a new building to cost about $700,000. The proposed improvements include an increase in the library space of from 90,000 to 225,000 volumes, and the enlargement of the present building by the purchase of the adjoining lot on the east. The president appointed the following committee to submit a report December 16, and suggest a site for the new building: Drs. Edward G. Janeway, Joseph D. Bryant, Abraham Jacobi, Algernon T. Bristow, Simon Flexner, Joseph A. Blake, Reginald H. Sayre, A. Alexander Smith, Charles L. Dana, Arthur M. Jacobus, W. Gilman Thompson, William C. Lusk, L. Emmett Holt, Herman L. Collyer, Henry S. Oppenheimer, Haven Emerson and Charles N. B. Camac.

NORTH CAROLINA

Personal.—After twenty years' service as surgeon general in the state, Col. Robert S. Young, Concord, has retired with the rank of brigadier general, and has been succeeded by Lieut.-Col. S. Westray Battle, Asheville, deputy surgeon general.——Dr. Francis J. Clemenger, Asheville, has returned from Europe.

The Tuberculosis Conflict.—At a meeting in Salisbury, November 20, the Rowan County Antituberculosis Association was organized. Dr. William W. McKenzie presided over the meeting, Dr. John Whitehead was elected president, and Dr. McKenzie, secretary.——Cumberland County Antituberculosis Society was organized at Fayetteville, November 13, with the following physicians as officers: Dr. Jacob F. Highsmith, Fayetteville, secretary-treasurer; and Dr. Kirby G. Averitt, Cedar Creek, second vice-president.——The North Carolina Association for the Prevention of Tuberculosis will hold its annual meeting in Greensboro, Jan. 25, 1910, under the presidency of W. L. Dunn. Dr. Livingston Farrand, New York, executive secretary of the national association, will deliver a popular address, and a tuberculosis exhibit will be held.——Dr. Charles A. Julian, secretary of the State Association for the Prevention of Tuberculosis, is holding special meetings and organizing local antituberculosis societies. He has requested all ministers to designate a day on which special sermons will be preached along sanitary lines. The governor commends the idea to the clergy. A Sunday in March is to be selected as Sanitary Sunday.

OHIO

Medical Teachers to Meet.—The Ohio Association of Medical Teachers will meet at the Southern Hotel, Columbus, December 27, afternoon and evening. Dr. James U. Barnhill is president and Dr. E. I. McKesson, secretary.

Personal.—While hunting near Marysville, November 23, Dr. Lutrelle M. Henderson was accidentally shot, but was not seriously wounded.——The board of trustees of the Toledo State Hospital has elected Dr. William H. Beggs, Columbus Grove, president, and Dr. George R. Love, Toledo, secretary.——Drs. Kinson S. West and Adams B. Howard, Cleveland, have started for Great Britain.

Cincinnati

Medical Research Society Election.—At the annual election of the Cincinnati Society for Medical Research, the following officers were elected: President, Dr. Paul Wooley; vice-president, Dr. William Wherry; secretary-treasurer, Dr. Jacob L. Tuechter, and executive committee, Drs. Sidney Lange and Joseph Ransohoff.

Celebrate College Union.—The union of the Ohio and Miami Medical Colleges was celebrated by the University of Cincinnati, December 1, at McMicken Hall. The chief address of the evening was delivered by Dr. Victor C. Vaughan, dean of the College of Medicine of the University of Michigan. A reception for the officers and guests of the University followed.

Personal.—Dr. Louis Schwab, mayor-elect, has resigned as medical director of the Cincinnati Hospital, and Dr. Byron Stanton, president of the State Board of Health, has been elected in his stead. Dr. Schwab was guest of honor at a banquet tendered by brother practitioners, November 24. Dr. Charles L. Bonifield acted as toastmaster and Dr. Schwab, in his response, spoke of the urgent need of an improvement in the sewage of the city.——Dr. Miriam Schaar, chief of the Bureau of School Hygiene, has resigned to take effect January 1.

PENNSYLVANIA

Philadelphia

Addition to the Mutter Museum.—A collection of vesical calculi and surgical instruments, formerly belonging to Dr. John B. Mettauer, Richmond, Va., were presented to the Mutter Museum of the College of Physicians by Dr. George Ben Johnston, Richmond.

Mutter Lecture.—The Mutter Lecture for 1909 will be delivered in the Cadwalader Room of the College of Physicians December 10, by Dr. Henry D. Fry, Washington, D. C., professor of obstetrics in Georgetown University. His subject will be "The Nutritional Changes Occurring in the Fibromyomata of the Uterus Incident to Pregnancy and Puerperium."

Heavy Tuberculosis Mortality.—The large weekly mortality rate from tuberculosis has made it necessary for Dr. Joseph Neff, Director of Public Health and Charities, to ask Councils for appropriations to establish day camps for tubercular patients and for other preventatives and curatives. Of the total of 426 deaths reported last week, 117 were caused by tuberculosis.

New Hospital Plan.—A plan to affiliate the Philadelphia Polyclinic and College for Graduates in Medicine, known as the Polyclinic Hospital, with some other institution, was proposed at the last meeting of the directors. If carried out the institution will in the future be only a hospital and the college for graduates in medicine be dropped. The college and hospital were founded in 1883 and constitute the only institution of the kind in the state.

New Cars Decrease Accidents.—Figures have been compiled showing a year's operation of the Rapid Transit Company's pay-within cars, having the closed doors and steps. During the month of October on one line alone there was a decrease in accidents of 74 per cent. In the five heaviest months of the year, April, May, June, July and August, accidents on the Fifty-second street division decreased 79 per cent. compared with the same period of last year when no pay-within cars were used. The number of passengers on this line increased 11.2 to 12.5 per car mile. The greatest number of injuries have been caused by boarding and alighting from cars, a class of accidents entirely avoided by the pay-within car.

Old Hospital Corner-Stone Removed.—The corner-stone of the recently demolished executive building of the Municipal Hospital at Twenty-second and Lehigh avenues was taken from the old grounds, which are being converted into a public park, on December 3, and sent to the bureau of city property in City Hall. It was found to contain the daily papers of Feb. 1, 1864, together with a list of the members of Councils of that year and the names of city officials and the special commission, of which Dr. John B. Biddle was president, appointed for the purpose of obtaining a site and erecting a building for municipal hospital purposes. The ordinance was dated Nov. 24, 1862, and provided that the site should not exceed $10,000 in cost, and the cost of buildings was limited to $30,000. The site is now valued at $200,000.

GENERAL NEWS AND COMMENT

Colorado Medicine.—No reform is accomplished without self-sacrifice and often those who are most ready to assume the burdens are those who would seem least fitted to bear them. The Colorado State Medical Society is not the largest, strongest, or wealthiest of the state associations. Its members number only 778, and the publication of a journal of any kind by this society speaks well for the energy and devotion of its members. When, however, it publishes a periodical which, in the cleanness of its advertising pages as well as the scientific and practical character of its reading matter, can compare favorably with the publications of much larger associations, it is entitled to all the more credit. *Colorado Medicine*, the monthly published by the Colorado State Medical Society, is only in its sixth year, yet from the beginning it has kept a high standard for its advertising pages and has placed the good of its membership above its advertising receipts. The Colorado profession is to be congratulated on having had the right man to manage its official paper.

Chiari to Give Herter Lectures.—The next course of lectures on the Herter Foundation in Johns Hopkins Medical School, Baltimore, will be given Oct. 5, 6 and 7, 1910, by Dr. Hans

Chiari, professor of pathologic anatomy in the University of Strassburg. His subjects will be: (1) "Significance of the Amnion in the Origin of Human Monstrosities;" (2) "Necrosis of the Pancreas;" and (3) "Spondylolisthesis."

Mexican Association to Meet.—The International Medical Association of Mexico announces that its next meeting will be held at Aguascalientes, January 25-27. The officers of the association are Dr. S. H. Hodson, Tampico, president; Drs. C. L. Bennett, Aguascalientes, and J. McPherson, Salina Cruz, Oaxaca, vice-presidents; Dr. J. S. Steele, Monterey, N. L. secretary-treasurer; Drs. Carlos E. Husk, Santa Barbara, Chihuahua, C. E. Cramb, Mapimi, Durango, and R. H. L. Bibb, Saltillo, Coahuila, censors; and Drs. R. D. Robinson and W. R. Jamieson, Torreon, Coahuila, editors of the *Annual*. The work of the association is divided into three sections: first, "original articles;" second, "rehashes;" and third, "emergencies and mistakes."

FOREIGN

Association of Italian Medical Press.—The representatives of the various scientific journals published in Italy met at Genoa, October 24, to organize the Association of the Scientific Press with departments for the various sciences. The medical department has taken for its tasks a campaign against the pseudoscientific medical journals representing commercial interests, and the defense of the Italian language in international congresses.

Death of Duke Karl Theodor, the Royal Ophthalmologist.—Duke Karl Theodor of Bavaria, the well-known ophthalmologist, succumbed to kidney trouble on November 30, at Bayreuth in Bavaria. He was the head of the ducal line of the Bavarian house, and one of his sisters was the empress of Austria, assassinated a few years ago at Geneva; the other sister, the duchesse d'Alençon, lost her life in the Paris charity bazaar fire. One of his daughters is the wife of the crown prince of Belgium, and the other the wife of the heir to the throne of Bavaria. Duke Karl has published a number of good works on ophthalmologic subjects, and had an extensive practice, but charged no fees. He founded and sustained a free eye hospital for his patients. His seventieth birthday was celebrated August 9, on which occasion our Berlin correspondent reviewed his scientific career (page 807).

Other Deaths in the Profession Abroad.—A. O. Lindfors, who was professor of obstetrics and gynecology at the University of Upsala, died while on a trip to England, aged 67. He published a number of works on these specialties, both in Scandinavian and German journals, among them his account of the first successful operation for umbilical hernia.——L. Katz, professor of otology at the University of Berlin, and author of microphotographic atlases of the internal ear, etc., died in September, aged 61.——Prof. A. Dohrn, the founder and director of the Zoologic Station at Naples, the cradle of so much important biologic research by investigators of all countries, died at Munich September 26, aged 59. He is said to have been the first to call attention to the transformation of functions of organs.

Diplobacillus Alleged Causal Germ of Exanthematous Typhus. The *Centralblatt für Bakteriologie*, Oct. 30, 1909, contains an article by M. Rabinowitsch of Kief, Russia, on the local endemic of exanthematous typhus and announcing that he has been able to isolate from the blood and organs a diplobacillus which shows up with the Giemsa stain and induces in aboratory animals a disease closely resembling typhus in man. He states that poverty and destitution in Russia have reached their highest point in the last three years, and that endemic fevers have kept pace with them. Between 1900 and 1906 there were 1,515 cases of exanthematous typhus at Kief, with 124 deaths; 2,873 of typhoid, with 275 deaths, and 332 of relapsing fever, with 4 deaths. Since the beginning of 1906 o the beginning of 1909 there have been enough more cases o bring the totals for the last eight years to 3,261 cases of xanthematous fever, with 297 deaths; 6,118 of typhoid, with 34 deaths, and 13,574 of relapsing fever, with 397 deaths. Since April, 1908, there were in the local prisons alone 840 men and 27 women affected with exanthematous typhus. He assumes that germs lose or acquire certain properties by passage through the animal organism or by breeding in filth, and that poverty and unhygienic conditions, by reducing the resisting powers, favor endemics in general. In the overcrowded Russian prisons some of the men have to lie on the floor close up to the door near which is installed the historically famous "parascha," the can used by the prisoners for their excreta, and which is emptied only once a day. The political prisoners are kept separate, he says, and only a few among them have contracted typhus. The mortality in the prisons has been 23 per cent., while in the general population it was only 8.1 per cent. The distribution of the three endemic fevers throughout the town seems to show that the means of dissemination are practically the same for all. We fail to recognize the pathogenic germs when encountered outside of the body because they have lost certain properties by which we are accustomed to recognize them; every specific bacillus seems to have a corresponding pseudobacillus, he remarks.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Nov. 25, 1909.

The Infectious Nature of Infantile Diarrheas

Some authors have disputed the bacteriologic origin of infantile diarrheas and have attributed it to alimentary intoxication or to external causes, such as excessive variations of temperature. M. Metchnikoff, at the last session of the Academy of Medicine, made an important communication which tends to show the infectious nature of infantile diarrhea. He finds that suckling rabbits often contract a fatal diarrhea after having absorbed a small quantity of the dejections of infants affected with acute gastro-enteritis. A young chimpanzee which had been given a little of the green diarrheic injections of a baby of six months was abruptly seized with a severe diarrhea which lasted four weeks, and a second chimpanzee which was given some of the diarrheic matter of the first chimpanzee also had diarrhea the next day. According to the researches of M. Metchnikoff, the pathogenic microbe of gastro-enteritis is the *Bacillus proteus*. Hence, it becomes difficult to hold cows' milk responsible for infantile diarrhea, since out of every ten samples of cows' milk, only two contain the *Bacillus proteus*. Moreover, many cases of gastro-enteritis are observed in breast-fed children. It seems probable, therefore, that it is not cows' milk, but rather the persons who care for the infants who communicate the infectious agent to them. The *Bacillus proteus* is very abundant in the dejections of animals (the cow, dog, horse); it is probably carried thence by flies to various foodstuffs, such as raw meat, cheese, grapes, salad vegetables, etc., which, eaten without being disinfected, carry the microbe into the alimentary canal. The prolonged contact of infected persons with infants is sufficient to contaminate the latter. To protect infants from gastro-enteritis, therefore, it is not sufficient to sterilize the cows' milk that is fed to them; it is necessary, also, that the hands and the breasts of the women who suckle them should be frequently washed with soap, and that the persons who care for the infants take precautions not to become infected with the *Bacillus proteus*. To this end M. Metchnikoff recommends washing fruits and vegetables, especially salad vegetables, with boiling water, and even singeing cheese crusts.

Limitation of the Number of Medical Students

At the next Congress of Practitioners, which will be held at Paris at the end of March, 1910, the question of limitation or non-limitation of the number of medical students who enter the schools will be discussed. In order to diminish the oversupply which seems to prevail in the medical profession, some physicians propose to establish competitive entrance examinations for the young people who intend to enter a medical career. As I have had occasion to show in a former letter, however (The Journal, Aug. 29, 1908, li, 771), the situation from which the medical profession in France suffers depends, not on the overproduction of physicians, but rather on the bad distribution, a greater number of young physicians seeking to settle in Paris and the large cities, where they drag out a miserable existence, when they might earn a livelihood in the country.

Medical Secrecy with Respect to the Insane

Dr. Pradel has laid before the *Syndicat médical de Paris* a delicate and embarrassing case. A physician had attended a married man who had become insane and had been placed in an institution. The patient had died, leaving a will disinheriting his widow, who, in order that she might contest the will, had asked the physician who attended her husband before he was placed in the institution, for a certificate stating that her husband had had mental trouble at a date anterior to that of the will. The question that Dr. Pradel raised was whether the family physician could give the widow a certificate to that effect. This communication called forth a warm debate and most dissentient opinions. Dr. Chassevant, professor *agrégé* at the Paris medical school, declared that the physician had not the right to deliver such a certificate, because it would be a violation of professional secrecy. Dr. Dalché, physician of the hospitals of Paris, believed that, whatever grounds there might be for giving such a certificate, the law forbade it. Dr. Biarbeau, on the contrary, believed that when a patient had been examined and declared insane, professional secrecy was no longer due to the patient, while his wife had a certain right to demand a certificate stating that there had been mental trouble dating from a certain time, consequently the physician would not violate professional secrecy by granting it. Dr. Granjux, secretary of the staff of the *Bulletin Médical*, insisted that the first duty of the physician was to protect a patient with mental disease by making his condition known to the person who represented the family and indicating the precautions necessary to take. These precautions in reality constitute measures restrictive of individual liberty, and the guardian who executes them has an indisputable right, in order to justify his responsibility, to exact from the physician a written statement of the necessity of such measures. Even if the patient's guardian does not demand a certificate at the time, he might need and demand it later; and in such cases the physician can do nothing else than to protect the patient's representative from responsibility for the measures that he himself has prescribed.

The Public First Aid Service

Dr. Thoinot has just given to the Council on Public Hygiene and Salubrity of the department of the Seine a report on the work of the first aid service (*secours publiques*) during the year 1908. The pavilions established in Paris along the banks of the Seine and the canals for first aid to the apparently drowned have received 392 patients (228 men and 164 women), twelve of whom having been too long in the water could not be resuscitated: 165 of these had thrown themselves into the water. The stations established in the suburbs received 15 apparently drowned persons, of whom only one could not be revived. Of sick and wounded persons 260 (238 wounded and 28 sick) were cared for in the various first-aid posts of Paris. Ninety-five persons (88 wounded and 7 sick) were cared for in the suburbs. The special ambulances used at the time of public ceremonies and holidays received 326. The litters of the various stations of the arrondissements have been used 290 times. In short, the first-aid service has given aid during 1908 to 1,378 persons, 407 of whom had been apparently drowned.

Prizes of the Academy of Sciences

The Academy of Sciences has just awarded the following prizes: the Montyon prize ($150 or 750 francs) was divided between M. Charles Dhéré, professor of physiology at the University of Fribourg, Switzerland, for his "Spectrographic Researches on Absorption of Ultra-Violet Rays by the Albuminoids, the Proteids and Their Derivatives," and M. E. Pozerski, of the Pasteur Institute at Paris, for a work entitled "Contribution to the Study of Papain." The Philipeaux prize ($180 or 900 francs) was given to Dr. J. E. Abelous, professor of physiology at the Toulouse medical school and Dr. E. Barbier, professor *agrégé* at the same school for their works on "The Hypertensive Actions of Urines and Urohypertensin." The Lallemand prize ($360 or 1,800 francs) was divided between M. Auguste Petit (for his work on "The Brains of *Grampus griseus, Steno frontatus* and *Globicephalus melas*") and M. Gustave Roussy, of the school of higher studies at the College of France, for his work entitled "The Optic Thalamus, The Thalamic Syndrome." The La Caze prize ($2,000 or 10,000 francs) was given to Dr. Delezenne of the Pasteur Institute at Paris for his collective works. The Barbier prize ($400 or 2,000 francs) was divided between M. L. Launoy (for a series of works on the "Nuclear Phenomena of Secretion," "The Histophysiology of Pancreatic Secretion," "The Autolysis of Organs and Endocellular Ferments," and "The Aseptic Autolysis of the Liver") and M. J. Lesage, now professor of physiology at the institute of agronomy at Buenos Ayres for his memoir: "Experimental Researches on Maté." The Parkin prize ($680 or 3,400 francs) was awarded to M. Adolphe Cartaz for his memoir on "The Employment of Carbon Dioxid in Diseases of the Nose and Throat."

LONDON LETTER

(From Our Regular Correspondent)

London, Nov. 27, 1909.

The Declining Birth Rate

The president of the Royal Statistical Society, Sir. A. Baines, devoted his inaugural address to "The Recent Growth of Population in Western Europe." The population with which he dealt in 1900 numbered 239,000,000. During the last thirty years the Teutonic element has risen from 53 to 58 per cent. and the Latin has fallen from 44 to 40 per cent. Ireland alone shows an actual decrease of 17 per cent. The general increase is just under 31 per cent., conventionally held to have been normal for the last century. A generation ago the marriage rate was held to be a good barometer of prosperity and wherever there was room for a couple to live up to the conventional standard a marriage took place. But the standard of living and the power of convention over it has risen. On the whole there has been a slight falling off in the marriage rate during the last thirty years, which is especially marked among the already low rates of Scandinavia and in France and Italy. The increased avoidance of matrimony is most marked in the United Kingdom and in North Scandinavia. The mean age of wives has risen considerably in the United Kingdom but the decline of the birth-rate is still greater and cannot be accounted for by this cause. The rate of decline is even greater than in France. Until the present generation the systematic adoption of the limitation of offspring by married persons had been practiced only in the latter country. Now it has permeated this and other countries. As a result we are beginning to have in the green what is so apparent in the dry in France—an increasing preponderance of the population in or past its prime. In spite of the decreasing birth-rate a natural increase of the population continues, because everywhere the death-rate has fallen much faster than the birth-rate. Comparing the different countries the natural increase of population is greatest in Scandinavia, England and Holland occupy a middle position, and France falls behind the rest.

New Factory Act for India

The introduction of western industrialism into India has rendered necessary the adoption of regulations for labor analogous to those of European countries. The first factory act was passed in 1881. It provided for fencing of machinery, inspection and reporting of accidents, and limited hours of children's labor to nine. Seven was fixed as the lowest age for the employment of children, who remained in that category up to the age of twelve. In 1891 another act was passed raising the lowest age for the employment of children from 7 to 9, and the maximum age when they are considered such to 14. Their hours of labor were reduced to 7, the hours of women were limited to 11. A midday stoppage and a weekly holiday were prescribed for all hands. Except for the weekly holiday no restrictions were placed on the labor of adult males. There was no desire among the male operatives that their hours should be limited by law. Nature however imposed limits—the hours of daylight, which average about 12 throughout the year. But the introduction of the electric light has abolished this restriction. In 1904-05 there was a boom in the cotton industry in Bombay and the hands were overworked, though well paid. Adults, and sometimes children, worked as much as 15 hours daily or more and the conditions were denounced as a scandal and attracted public attention. The government, therefore, instituted an inquiry by a committee containing physicians and health officers, who reported in favor of a twelve-hour day. The committee found that the conditions of work in the textile factories were calculated to cause physical deterioration and it was struck by the absence of elderly men, although the demand for labor was much in excess of the supply. The government has now passed a new act limiting the hours of labor to twelve. Employment of women before 5:30 a. m. or after 7 p. m. is forbidden and, unless an approved shift system is adopted, of adult males also. Regulations are made for ventilation, lighting, water supply, latrines, protection against fire, etc. After six hours work there must be an interval of half an hour. A child must be examined and obtain a certificate before employment in a factory. No child must be employed more than six hours in a textile factory. The most important new departure is the regulation of the hours of adult labor. The Indian laborer prefers to work leisurely for long hours with frequent rests rather than work strenuously for shorter hours.

The Royal College of Surgeons

The annual meeting of the fellows and members of the Royal College of Surgeons has been held. The president, Mr. Henry Butlin, expressed doubts whether the proposed combination with the University of London for the purpose of rendering a medical degree more accessible to London students (referred to in a previous letter) was possible. Everything should be done to bring about this object by lowering the standard of examination for the benefit of students educated in London, who suffered great disabilities and disadvantages compared with those educated in the provinces and in

Scotland and Ireland, where a medical degree was obtained more easily. A long discussion took place on the granting of members the right of direct representation on the council (the governing body of the college). At present the council is elected entirely by the fellows, who form a small minority. These holders of the superior qualification are nearly all hospital surgeons and include practically all the names eminent in English surgery. The members number 17,000 and are nearly all general practitioners, the rank and file of the profession. The annual meeting of fellows and members is the only occasion on which the members have any opportunity of expressing their views with regard to the government of the college. For the past twenty-five years they have passed a resolution demanding representation on the council which has never been followed by any action by that body. The members urge that they contribute the largest amount of money (in examination fees) to the upkeep of the college and that their exclusion from representation is not in consonance with modern democratic ideas. However, no allegation has ever been made by them that government of the college is not carried on in the best possible manner and they have never suggested important reforms which should be carried out. Though the government is in the hands of an oligarchy it is an oligarchy of the best possible kind — an aristocracy of brains. The fellowship examination is open to every member and requires only the requisite ability and knowledge. It may therefore be contended that the present government is democratic in the best sense. A resolution was also carried in favor of the promotion of a new charter and act of parliament for the incorporation of the Royal College of Surgeons and Physicians with the University of London with the object of facilitating the obtaining of degrees by London students.

Radium from Uranium

At the Physical Society of London, Mr. Soddy read a paper on this subject which is of interest in view of the therapeutic uses of radium. Measurements on the growth of radium in three uranium solutions purified between three and four years ago have shown that in all the growth of radium is proceeding at a rate proportional to the square of the time. This result indicates the existence of only one long-lived intermediate product in the series between uranium and radium. The period of the average life of this body, calculated on the assumption that no other intermediate bodies exist, is 18,500 years.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Nov. 24, 1909.

The New Bill for the Care of the Insane

Our "lunatic act" (*Irrengesetz*), as it is called, is so behind the requirements of modern times that its reform is the first aim of the new chief board of health (*oberste Sanitäts Rat*). A reform of the clause dealing with the voluntary or involuntary admission of a person of unsound mind into a "sanitarium" is most urgently called for. In future the seclusion of a person supposed to be of unsound mind must be reported to the local authorities within twenty-four hours, if it be a member of the family, or within eight days, if it be a stranger. Then the public health officer has to examine the patient and to report to the board of health whether the person must be detained in a lunatic asylum or any other suitable sanitarium or may be left in charge of his friends. If the patient is dangerous to himself, those around him or the public, or he would be apt to suffer from neglect at home, he must be detained in an asylum. If the patient has no friends the local magistrates may at once order the detention, if the case is dangerous. The patient may be detained against his will or the will of his friends under the following conditions: If the officer of health finds it necessary; if a public judge orders it after hearing medical evidence; if the legitimate representative or guardian of a person under age requires it; or if a person traveling on a railroad or other public conveyance is found to be of unsound mind and the health officer considers him a public danger. Any such case must be reported at once to the board of health, for as the first sentence of the new law says, "all persons who on account of a defect of their mental capacities require special care enjoy the protection of public administration." For this purpose a special inspector for the mentally afflicted (*Irreninspector*), with assistants, will be appointed on the board of health. It is therefore intended to institute a psychiatric sanitary board. The official name of an institution for he insane will no longer be "lunatic asylum," but "saniarium" (*Heil- und Pflegeanstalt*). If a person desires to be detained voluntarily in a mental sanitarium, a request must be signed by the patient himself, and a testimony by a qualified medical man, who is related neither to the patient nor to the owner or director of the sanitarium, must be produced. Such cases also must be reported within twenty-four hours to the inspectorate mentioned above.

Personal

The newly elected chief board of health, which for the first time since its existence contains also a number of country practitioners, held its first meeting for organization a few days ago, and Prof. Ernst Ludwig, the chief analytical chemist of the University of Vienna, was elected president, and Professor Weichselbaum, the well-known pathologist, vice-president, together with Professor Chrobak. Professor Horbaczewski was elected president of the committee for water-supplies, Mauthner, vice-president, Professor Exner, the celebrated physiologist, was elected president of the committee for health resorts, mineral waters and balneologic matters.

The Reform of Contract Practice and the Profession

A subcommittee of the Austrian parliament recently discussed the new arrangements suggested in connection with the proposed "social insurance bill." Representatives of medical councils and organizations were admitted to the inquiry. While employers and employees are willing to concede to the profession only that persons earning more than 4,800 crowns ($960) a year should be exempt from the compulsory insurance against sickness, the doctors wish the limit to be 2,400 crowns ($480). It must be kept in mind that in this country income taxes must be paid from an income of 1,200 crowns, or $240, showing that living is cheaper than in America, since this sum is considered enough to live on. More than 73,000 persons in employment, who are not members of a *Krankenkassa* or sick benefit club, earn over 2,400 and less than 4,800 crowns, so that this important class of the population would be lost for the profession as possible patients. This would mean the ruin of the profession. The figures are official. The government plan favors the lower figure as limit for the compulsory insurance. No consensus of opinion being obtained at the inquiry, and the parliament being willing to disregard the interests of the profession, energetic measures are contemplated by the organization of practitioners, a young but active combination of doctors. In fact, if the law should pass the house and not pay due consideration to our profession, a general strike is already spoken of. But it is hoped that such a step will not be necessary.

Pharmacology

MORE PRESCRIPTION FAKES

Answers to Correspondents as a Means of Exploiting Nostrums

One of the "features" of the modern metropolitan daily is the "Woman's Page," in which is given, for the education or delectation of feminine readers, reading matter that ranges from the useful to the inane. Naturally enough, we find the important subject of care of the health learnedly (?) discussed by the "Madames" or "Mademoiselles" who have charge of these departments. To the "patent-medicine" advertiser who would deceive the reader by publishing his advertisement in "reading-matter" style, space on these "woman's pages" is a valuable asset. A form of deceptive advertisement that of late has become very popular with nostrum exploiters has previously been referred to in these columns as "prescription fakes." The advertisements are usually set as reading matter and contain information regarding the treatment of some physical ailment by means of the drugs contained in an innocent looking formula; usually all the drugs but one are official, the exception being a "patent medicine" with a name not unlike the pharmacopeial preparations. A modification of the "prescription fake" type of advertisement forms the subject of this article.

"HEALTH AND BEAUTY TALKS"

For several months past many newspapers have been carrying on the "woman's page" what, to the uninitiated, appears to be a department devoted to answering queries regarding health. The "department" is entitled "Health and Beauty

Talks," or "Health and Beauty Helps," or "Aids" or "Secrets" —the last word of the title varying with the copy. Under the title is the legend "By Mrs. Mae Martyn." The subject-matter consists of information (?) on questions of health, given in the "answers to correspondents" form; the first and last "answer" usually makes reference to none but simple home remedies or pharmacopeial preparations. For instance:

> Q.: A good foot wash is made of a pint of water, to which are added a tablespoonful of salt and a pinch of alum and a few drops of arnica.

Every other "answer," however, contains a "joker" in the form of a nostrum, which is referred to in such a way as to lead the unsuspecting reader to imagine that it is but an ordinary official drug. Thus, in the advertisement before us, there are nine replies. Here is a sample:

> Ethel J.: (1) It made me happy to read your letter. I am glad you think so well of my recipes that you cut them out and pass them along to your friends. None should have difficulty in getting from her druggist any ingredient I name, for I never advise the use of anything that is not sold in first-class drug stores everywhere. (2) The only objection I know to the use of liquid complexion beautifiers is their high cost when purchased in a ready manufactured state. You can make at home a fine "liquid powder" that softens and whitens the skin by putting 2 teaspoonfuls of glycerin and 4 ounces of spurmax in ½ pint of boiling water; let stand until cold. Apply with the palm of the hand and rub until dry. I prefer this spurmax wash to any face powder I can buy.

The "joker" in this "answer," of course, is spurmax. In the other "replies," all worded in the same deceptive way, the reader is urged to get:

CRYSTOS: for "tired and inflamed eyes."

ALMOZOIN: for "blackheads . . . freckles and tan."

CANTHROX: "for shampooing purposes."

QUINOLA: "to remove dandruff, stop falling hair, relieve itching . . . and promote the growth of hair."

PARNOTIS: "a flesh reducer that . . . should reduce your weight 10 pounds in a few weeks."

KARDENE: "a splendid blood tonic and liver invigorator . . . for pimples, yellow blotches, sallow complexion, scrofula and all eruptions of the skin."

LUXOR: "a very dear friend of mine cured a most obstinate case of eczema with this remedy."

Every week or so "Mrs. Mae Martyn's" fake department will appear in the paper, the initials of the "correspondents" and the wording of the "answers" varying, but the usual changes being rung on spurmax, crystos, almozoin, canthrox, quinola, parnotis, kardene and luxor.

Should the innocent reader go to the drug store and ask, say, for four ounces of spurmax, she is given the inevitable "original package," consisting of a tin box bearing a label with the name of the preparation, the method of using it and the various conditions for which the nostrum is recommended. There is also the statement: "made by H. S. Peterson & Co., 95-97 Kinzie St., Chicago." The company putting out these medicinal agents is not a firm of pharmaceutical chemists, but, we understand, manufactures flavoring extracts and does business largely by means of women agents throughout the country.

Four of these deceptively advertised nostrums were analyzed in the Association's laboratory. The laboratory report follows:

ALMOZOIN

Almozoin, as found on the market, is a pale pinkish-white powder, having a faint odor like benzaldehyd. Qualitative examination of almozoin demonstrated the presence of magnesium, sodium, tragacanth, a carbonate and a borate. Free boric acid, ammonium salts and sulphates were absent. Magnesium and the borate radicle were determined and the tragacanth was approximately estimated. From the results of the examination it would appear that the composition of almozoin is essentially as follows:

Tragacanth (gum tragacanth)	40 per cent.
Sodium borate (borax)	40 per cent.
Magnesium carbonate	20 per cent.

[Retail price of almozoin, one-half dollar; estimated cost of ingredients, three cents.]

CRYSTOS

The specimen package of crystos which was purchased contained about one ounce and was a coarse, white, odorless powder. Qualitative tests demonstrated the presence of chlorid, free boric acid, borate, sodium and traces of sulphate. Alkaloids, ammonium salts, carbonates, heavy metals and potassium were absent. Determinations of chlorid and of free and of combined boric acid were made, from which it would appear that the composition of crystos is about as follows:

Dried sodium borate (dried borax)	20 per cent.
Sodium chlorid (common salt)	20 per cent.
Boric acid	60 per cent.

[Retail price of crystos, one-half dollar; estimated cost of ingredients, one cent.]

PARNOTIS

Parnotis is a pale, cream-colored, fine powder, having an odor resembling cologne, which dissolves in water and forms a turbid solution, which becomes clear by filtration. Qualitative examination of the preparation demonstrated the presence of a bicarbonate, sulphate, sodium and traces of chlorid and of iron. Quantitative determinations of the sulphate and of the bicarbonate were made, from the results of which it would appear that parnotis consists essentially of:

Impure anhydrous sodium sulphate	25 per cent.
Sodium bicarbonate	75 per cent.

[Retail price of parnotis, one-half dollar; estimated cost of ingredients, less than two cents.]

SPURMAX

Spurmax is a pink, crystalline powder, highly perfumed. Qualitative tests demonstrated the presence of magnesium and of a sulphate. The absence of more than traces of chlorid, carbonate, organic compounds and heavy metals was shown by the usual tests. Quantitative determinations were made for magnesium, for sulphate and for water. Microscopic examination indicated that the coloring matter was very unevenly distributed throughout the preparation, some crystals being colorless, while others were very highly colored. Essentially, spurmax consists of:

Crystallized magnesium sulphate (Epsom salts)	100 per cent.
Perfume	trace
Coloring matter	trace

[Retail price of spurmax, one-half dollar; estimated cost of ingredients, one cent.]

NEW FORM OF AN OLD TRICK

Spurmax, then, when subjected to the critical light of analysis and shorn of the hypothetical virtues with which "Mrs. Mae Martyn" invests it, proves to be Epsom salts colored pink and rendered highly odoriferous; the "flesh reducer that . . . should reduce your weight 10 pounds in a few weeks." contains, apparently, nothing more marvelous than sulphate and bicarbonate of soda—and so it goes. The old, old trick of the charlatan, the quack and the nostrum exploiter is again in evidence: Give some well-known drug a fancy name, disguise it physically if possible, advertise it as possessing marvelous virtues and sell it at a price out of all proportion to its value.

The petty dishonesty shown in the method of exploiting these nostrums by means of a fake "woman's department" is disgusting. That otherwise reputable newspapers should sell their pages for such a bare-faced deception and defraud their readers by giving editorial sanction—for that is what a fake "answers to correspondents" department does—to a "patent-medicine" humbug, does not tend to increase one's confidence in the daily press. It is but fair to say, however, that some of the more particular papers insist on making plain to the reader that the thing is an advertisement, either by placing the abbreviation [Adv.-] after the last "answer," or else by placing the matter on a page given over wholly to advertising. Such a course at least gives the reader some protection, as any advertisement inspires the attitude of *caveat emptor.*

Doubtless the financial returns from this style of advertising are a potent influence with those newspaper proprietors who are willing to carry this matter in the form of an original department. Advertisements as "straight reading matter" come high, but the profits derived from the sale of Epsom salts at $2 a pound are probably sufficient to bear it. Meanwhile, the "ultimate consumer," as usual, pays the bills.

BOARD OF TRUSTEES OF THE U. S. PHARMACOPEIAL CONVENTION

Report of the November Meeting

The Board of Trustees of the United States Pharmacopeial Convention met at Hotel Walton, Philadelphia, November 26 and 27, with the vice-chairman, James H. Beal, in the chair, and the secretary, Murray G. Motter, recording the proceedings. Members present were as follows: James H. Beal, Scio, O.; Frederick W. Meissner, Jr., LaPorte, Ind.; Joseph P. Remington, Philadelphia; George H. Simmons, Chicago, and Henry M. Whelpley, St. Louis. H. C. Wood and Charles E. Dohme were absent, owing to illness.

The secretary was instructed to notify a publisher who had failed to recognize the copyright of the Pharmacopeia that the matter would be placed in the hands of an attorney unless the terms of the agreement were complied with by the publisher at once.

The board approved of a form of credentials to the 1910 convention, as presented by the committee on credentials.

It was decided to submit to the 1910 convention an amendment to the constitution which, if passed, will admit delegates from the Department of Agriculture of the United States Government.

Requests were received from numerous other bodies not entitled to representation in the 1910 convention under the present constitution. The board of trustees was requested to take the necessary steps to present to the convention an amendment to the constitution which, if passed by a three-fourths vote of the convention, will entitle these organizations to representation. After discussion, definite action was postponed until the January meeting.

The board of trustees considered other recommendations to be made to the 1910 convention and gave special attention to the subject of size, constitution and work of the committee on revision. Formal action was postponed until the next meeting.

The committee on credentials and arrangements for the 1910 convention met and organized by the election of Oliver T. Osborne, chairman, and Murray Galt Motter, secretary. H. C. Wood, Jr., Samuel L. Hilton, James H. Beal, W. L. Cliffe, and H. M. Whelpley were also present. A synopsis of the proceedings, with information about the appointment of delegates will be furnished the medical and pharmaceutical press by the secretary of the committee, in the near future.

Henry M. Whelpley,
Secretary U. S. Pharmacopeial Convention.

Correspondence

Meat Extracts and Beef Juices

To the Editor:—The editorial on this subject and the excellent work referred to on the same subject by the Council on Pharmacy and Chemistry (The Journal, Nov. 20, 1909, liii, 1744, 1754) are a timely warning to the medical profession. Some of the points presented, however, are not sufficiently emphasized and may even be misleading. The article presents the main objection to meat extracts and juices to be on account of probable starvation to the patient using them; it is stated (page 1744) that "it is even more important to note the surprisingly low calorific value" of meat extract and (page 1756) that "the physician is deceiving himself, starving his patients," etc.

More recent research shows that "starvation" is not the only danger in the use of such preparations, but that the extractives themselves are toxic to the body, either on their own part or by increasing bacterial growth in the gastro-intestinal tract, which results in a still further elaboration of substances acting like toxins.

In preparing meat juice for consumption, it is necessary to take 2.9 to 3.9 per cent. extractives (Bulletin No. 21, U. S. Dept. Agricult.) in order to obtain 2.19 to 6.97 per cent. of coagulable proteids, varying according to the method of expression. And the conclusion that such meat juice might have considerable value as food is open to serious objection on account of the simultaneous intake of so large an amount of toxic substance.

In the threatening convulsions of uremia, cholemia, eclampsia, etc., it is strictly contraindicated to prescribe meat juice, bouillons, or other foods containing meat extracts, on account of the danger of precipitating a convulsive attack and death. In many chronic conditions, such as gout, rheumatism, arteriosclerosis, kidney and liver diseases, appendicitis, ulcer of the stomach or duodenum, and in many nervous diseases, meat and meat juices are positively contraindicated.

In the surgical clinics in certain districts in Europe I recently observed a series of operations on the kidney, and several surgeons made the statement that the large number and severity of kidney lesions are due to the free use of meat juice, soups and gravies.

The extractives of meat are becoming a national question as concerning the etiology of groups of diseases which can be referred to meat-eating people. Watson Chalmers has graphically described the meat-eaters' zone and has shown an increase in disease peculiar to those who indulge in meat and meat extractives, but not peculiar to the people of those countries where nitrogen is obtained from vegetable proteins.

Rothberger concludes that the toxic symptoms of meat extract are due to some substance which the liver destroys (*Ztschr. f. exper. Path. u. Therap.*, 1905, i, 312-359). Pawlow observed that the ingestion of meat by an Eck-fistula dog was followed by a series of toxic symptoms.

Lieblein destroyed liver cells by injecting acid into the hepatic ducts, and toxic symptoms followed ingestion of extractives (*Arch. für exper. Path. u. Pharmakol.*, 1894, xxxiii, 318). Macleod noted a large amount of albumin in the urine of an Eck-fistula dog following addition of meat extract to the diet ("Studies in Pathology," Quarter-centenary of University of Aberdeen, 1906, p. 267). Salaskin believed ammonia to be the prime factor in causing the toxic symptoms (*Ztschr. f. physiol. Chem.*, 1898, xxv, 449). Pawlow injected sodium carbamate into the circulation of Eck fistula dogs with negative results. Hawk repeated the injections and abandoned the theory. He fed Eck-fistula dogs with large amounts of meat extract (20-50 gm. daily for six to eight days) and obtained typical toxic symptoms which terminated fatally (*Am. Jour. Physiol.* 1908, ii, 21).

The injection of meat extract or any of the meat bases into the circulation has resulted negatively in demonstrating the presence of any special toxic body. It has been suggested that purin bodies and uric acid are derived directly from food rich in nucleins and extractives, but recent experiments have shown that these bodies can be formed synthetically from ordinary proteid. H. Trautner, after extensive research, is convinced that uric acid is the result of the activity of the colon bacillus in making reducing substances which undergo chemical changes in the blood. In 22 young rabbits he found no appreciable uric acid in the urine when no colon bacilli were present in the feces, but uric acid appeared when the animals were given colon bacilli added to their food (*Ugeskr. f. Laeg.*, Copenhagen, Sept. 23, lxxi, 1049-1070).

In my own experiments in which meat extractives or meat peptones were injected into dogs, the results were negative. Also injections of living or dead cultures of *Bacillus coli*, intravenously, subcutaneously or intraperitoneally, were negative. But when meat extracts and cultures of *Bacillus coli* were given together with food to dogs, over a definite period of time, lesions of the kidney, liver and stomach resulted and invariably death of the animal.

I have also fed meat extract to mice and rats, with the addition of cultures of *Bacillus coli*, and obtained toxic symptoms resulting in death. In these experiments, on account of increased growth of intestinal bacteria, the bacteriologic factor could not be ignored. It was plain that the meat extractives increased the numbers and activity of the intestinal bacteria. Extract-free meat was fed to animals and the bacterial content of the intestines decreased and no pathologic conditions followed (The Journal A. M. A., June 9, 1906, xlvi, 1753; *Jour. Med. Research*, xvii, No. 4; *Brit. Med. Jour.*, April 20, 1907).

The harmful effect of meat juice, therefore, must be chiefly due to the increased bacterial growth which it causes in the alimentary tract, and the symptoms which follow are more the nature of toxemia than starvation. If patients to whom meat juice would be prescribed are instead given extract-free meat, not only is the danger of extractive poisoning avoided, and of a resulting intestinal toxemia, but the concentrated protein quickly nourishes the patient.

Fenton B. Turck, Chicago.

Umbilical Hernia

To the Editor:—The report of Catchings' case of congenital umbilical hernia (abstracted in The Journal, Nov. 20, 1909, liii, 1779, from *Miss. Med. Month.*, November, 1909) recalls a case of my own. On Feb. 1, 1900, I delivered a baby boy of average size, with an umbilical tumor, larger, I think, than the one reported by Catchings. The contents of the sac were not adherent, and the various organs could be plainly seen through the translucent walls. I plainly recognized a portion of the liver, the spleen, stomach, colon and small intestines. The abdomen seemed entirely empty.

The contents were easily reduced and the cord sac tied very close to the abdomen and trimmed off, boracic acid freely applied and a thick firm pad and bandage put on. The child had no trouble and is to-day a strong healthy boy, with normal umbilicus and abdominal walls. For a while, however, the condition puzzled and worried me. It was my first and only case of that kind.

F. S. Smith, Nevada, Iowa.

Miscellany

A New Blood Test

The importance, for forensic and clinical purposes, of the detection of blood, has led to a great multiplication of blood tests. Most of the substances used for this purpose depend on the power of the blood to carry oxygen from some oxidizing substance to another substance which develops a characteristic color by oxidation. The more important substances used for this purpose in a clinical way have been guaiacum, aloin, benzidin and phenolphthalin, while the oxidizing agent used has usually been turpentine or hydrogen peroxid. A serious objection to the use of guaiac and similar substances has been the great number of substances other than blood which may produce the change in color.

In discussing this matter, J. H. Kastle[1] states: "The general consensus of opinion among those who have given this subject their attention, would seem to be, therefore, that the guaiacum test for blood and similar color reactions are valuable, especially if they lead to negative results, as proving beyond the peradventure of a doubt that blood is absent. On the other hand, if a positive test is obtained, care should be taken to exclude oxidases or peroxidases by boiling, and the salts of the heavy metals and other oxidizing agents by chemical methods, and, if possible, to subject the material under investigation to confirmative tests for blood before finally concluding that blood is present."

Kastle's investigations of the various blood tests lead him strongly to recommend the phenolphthalin test. Phenolphthalin is a product of the reduction of phenolphthalein by means of zinc and sodium hydroxid. When oxidized in alkaline solution it is converted into pheonolphthalein, which gives a red color. The test has about the same delicacy as the benzidin test. In the presence of blood and hydrogen peroxid a red color is almost immediately produced. If blood alone without an oxidizing agent is present the reaction occurs more slowly. Kastle found it possible to prepare a fairly stable colorless alkaline solution of phenolphthalin. A solution of alkaline phenolphthalin containing hydrogen peroxid was prepared which could be preserved for forty-eight hours, if kept in glass-stoppered bottles, in a dark closet at ordinary temperatures. In some cases it was found that with certain specimens of distilled water a coloration, ranging from pink to red, was produced in the reagent as soon as the hydrogen peroxid was added. The reason for this appears to be the presence of very small amounts of copper. To obviate this difficulty the water was redistilled in glass vessels.

Kastle found that the oxidation of phenolphthalin in alkaline solution by blood alone and in the presence of hydrogen peroxid, was considerably retarded by extracts of various animal tissues. The reason for this action is not known, but it may reasonably be attributed to a reducing action on the part of the tissues. At any rate, the detection of blood is markedly interfered with by the presence of certain organic substances of animal origin. Certain specimens of urine known to contain blood failed entirely to give the reaction with phenolphthalin. In no instance has a method of blood testing been devised which will recognize in urine, feces, gastric contents, etc., as small an amount of blood as can be detected in water. Various methods of removing blood from such mixtures have been tried. Thus Heller tests for blood in urine by precipitating the phosphates by alkalies which carry down the blood with them. Kastle uses for this purpose a small amount of aluminum hydroxid. To the separated sediment he applied the phenolphthalin test, and he found that, used in this way, it was very delicate.

For clinical purposes it is quite possible for a blood test to be too delicate, while many possible fallacies may be excluded by the known circumstances under which the test is applied. For forensic purposes, however, all possible fallacies must be guarded against. The phenolphthalin test has been objected to on the ground that many other substances besides blood will respond to it. Kastle finds that most of these substances can be excluded by boiling the mixture; the others present certain differences of action by which they can be easily differentiated from blood. By applying the test to unknown stains prepared by another chemist, Kastle found that he could readily detect blood with certainty. The test bids fair to be a valuable addition to our resources.

Rôle of Leucocytes in Absorption and Elimination of Medicaments.—The facts which have been gathered by a considerable number of observers regarding the action of leucocytes in the absorption of medicines are collected in a very interesting article by Arnozan and J. Carles (*Revue de Therapeutique Medicochirurgicale*, Aug. 15, 1909; *Journal suisse de Chimie et pharmacie*, Aug. 28, Sept. 4 and Sept. 11, 1909). Besredka has shown that the leucocytes absorb by phagocytosis the insoluble granules of arsenic trisulphid, thereby delaying the death of animals fatally poisoned and assisting in the recovery of others if the dose is not too large. Landerer has shown that leucocytes take up the balsam of Peru injected in a state of fine subdivision, and Arnozan and Montel have made similar observations with reference to iodoform and calomel. Oils and milk and medicated fat, such as mercurial ointment, are similarly affected, according to J. Carles. Soluble salts may be absorbed in the same way. Thus salts of iron, silver, mercury, sodium salicylate, atropin, lecithin, etc., are taken up by the leucocytes and unevenly distributed throughout the body. The leucocytes do not always show the same tendency to absorption toward all medicines, and their activity may differ in different species of animals. The medicaments absorbed by the leucocytes may undergo various changes; they may be transformed within the leucocytes by the action of various ferments which these cells contain. They may be carried to the various tissues and may be eliminated by the various excretory organs. One point of great interest is the tendency to elimination at the seat of injury where the leucocytes collect according to the great chemotactic laws. By this means the accumulation of a medicine in an unusual concentration at the seat of a pathologic process may determine either remedial processes or if the dose be too large, aggravation of the disease may occur. The fate of the leucocytes which absorb the various remedies is various. They may act simply as carriers or they may become temporary depots of the foreign substances, or lastly, they may emigrate with their charge of toxic material, passing into the intestines and becoming lost. The therapeuti suggestions based on these investigations are both interesting and important. The action of the leucocytes would make untenable the prevalent doctrine that medicines absorbed into the system are equally distributed throughout the tissues. It would seem probable that, on the other hand, the distribution may be very unequal. It is of especial interest to note that the tendency of leucocytes to collect about an inflammatory focus or other lesion allows of an efficient curative action by a small amount of medicament without an injurious effect on the system in general. For local affections remedies should be preferred which will be taken up by the leucocytes; on the other hand, general infections, toxemias, etc., may escape the action of remedies, because the toxins or bacterial agents producing the disease float free in the blood stream, while the drug which should neutralize or destroy them is locked up in the leucocytes. Another idea springing from this conception is that the leucocytes may take up food substances and become incapable of absorbing medicaments, or may have become so saturated with drugs that they lose their phagocytic power. Metastases and the action of derivatives may be explained by supposing that leucocytes carry toxins from one point to another.

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[1] Bull. 51, Hyg. Lab., U. S. P. H. and M.-H. S., Washington, D. C.

The Electric Forces of Mitosis and the Origin of Cancer.—"Although exception may be taken to any conclusions which are drawn from purely statistical data, yet it would appear that the evidence so arrived at is overwhelmingly in support of the fact that one of the major predisposing causes of cancer is to be found in close inbreeding. Moreover, it would also appear from a detailed comparison of the organs attacked, that those organs which are subjected to stresses and irritations are most liable to develop malignant growth. Both of these conclusions are in close agreement with the theory of electrocytology." Thus are characterized the main factors in an etiologic consideration of cancer in an elaborate paper by A. E. and A. C. Jessup, E. C. C. Baly, F. W. Goodbody and E. Prideaux (*Bio-chem. Jour.*, July, 1909, iv, 191). By these observers normal somatic cell division is explained as the result of well-balanced electric forces which have their origin in electrically charged cellular colloids. When this balance is sufficiently disturbed by external influences, continuous atypical cell division is the rule and a pertinent predisposing cause of cancer is established. The phenomenon of sex production is attributed to these residual colloid charges, and all the phenomena of parthenogenesis, artificial fertilization, pathologic mitoses and sterilization by *x*-rays are explained by the same theory. The daughter cells of the pseudo-reducing pathologic mitosis possess renewed activity. They possess potential probability of conjugation with leucocytes and normal tissue cells. To these latter, together with the stimulation of the surrounding tissue cells by the degradation products of cancer cell metabolism, is attributed the formation of a neoplasm with power of continuous growth. The susceptibility of the cell to derangement is increased with decreasing vitality, such as occurs with age, and as a result of inbreeding. The rate of proliferation depends on the activity of the cytoplasm; the greater the activity the more rapid the growth, while the more highly differentiated the cell and the older it is the less rapid the rate of proliferation. As a concise summary: age incidence, local origin, infiltration, metastases, transmission with all its limitations, and power of continuous growth are the natural outcome of abnormal cell proliferation induced by a disturbance of the electrostatic forces present in normal mitosis.

Glycogen in the Hypophysis and the Central Nervous System.—From a microscopic study of human, sheep and calves' hypophyses, stained with specific stains, W. Neubert (*Beitr. z. path. Anat. u. z. allg. Path.* 1909, xlv, 38) finds that glycogen occurs normally in the hypophysis. It is constantly found in the epithelium of the colloid cysts lying in the boundary zone between the anterior and posterior lobes, in the cysts themselves where a desquamation of epithelium has taken place, and in the colloid which results from this desquamation and transfusion. It is also found in the so-called nervous portion of the hypophysis, both within the glia cells and within the intercellular tissue of the posterior lobe. This latter occurrence of glycogen is indicative of the origin of the corpora arenacea and the corpora amylacea of the hypophysis. In pathologic conditions, as, for example, in diabetes, the percentage of glycogen is markedly increased and glycogen is then found in the parenchymal cells of the anterior, glandular lobe. Likewise, in diabetic subjects, glycogen is found in appreciable quantities in the brain, spinal cord and in the heart muscle, particularly in the lymph spaces, even though the blood contains only extremely small quantities. The occurrence of glycogen in the cystic epithelium and in the nervous portion of the hypophysis, Neubert thinks, is an expression of the embryonal nature of these tissues, of a primitive type of metabolism of the embryonal-like cells and the absence of any high degree of specialized functional activity. Glycogen formation in the liver is a product of a well-differentiated organ adapted to supply a simple primitive food for the nourishment of all the organs. Glycogen formation in any other organ, which is usually at the organ's own expense, represents a reversion from a highly specialized toward an embryonal state in an attempt to make good a deficient food-supply. This is especially true in diabetes.

The Effect of Autocondensation in Diabetes Mellitus.—Dr. F. deKraft, New York, at the recent meeting of the American Electro-Therapeutic Association, after citing 3 cases in detail, made the following deductions: Sugar and other products of impaired metabolism circulating in the blood in greatly increased amount act as irritants to the walls of the arteries, bringing about a form of arteriosclerosis closely resembling the senile form. High-frequency currents, applied preferably by autocondensation, or by the effleuve to insulated patient with grounded metal to back, regulate the circulation when it is unbalanced through profound influence on the sympathetic nervous system, improve the tone of the arterial wall, lower blood pressure, check the formation of toxins and strengthen the natural defenses of the body. They have a marked stimulating action on cell life and on the nutrition of cells at the farthest point. They increase the reducing power of hemoglobin, thus increasing oxidation in the tissues. Greater activity occurs in the kidneys and other glands, and there appears for a time more sugar in the urine, continuing until such time as the glycogenic balance in the liver cells and muscles is restored, after which, under continued treatment, the amount of sugar excreted steadily diminishes, and in favorable cases entirely disappears. In 5 cases of diabetes with marked constitutional symptoms in which the sugar excretion had been between 7 and 9 per cent., the urine has remained free from sugar for many months, and in all patients treated there has been marked improvement in general health.

Salt-Free Diet in Hyperchlorhydria.—Enriquez and Ambard report recent research which confirms their previous assertions in regard to the benefit from withdrawal of salt when the secretion of gastric juice is excessive and the stomach responds with pain. A salt-free diet has a prompt and marked influence on the excessive secretion; the influence on the pains is not felt so soon. Once established, the effect is durable, the pain subsiding permanently and completely in two or three weeks or at most in five weeks. As soon as the pain has been banished by a strictly salt-free diet, the patient is allowed to have his own salt-cellar to use as desired, the food still prepared without salt. This gives the patient a feeling of freedom which renders the restrictions less irksome, and as the capacity of the salt cellar is known, the exact amount he is taking can be estimated. The patient is also given the liberty to eat the ordinary food when dining out, or at certain intervals. The salt-free diet should be instituted in every case of hyperchlorhydria rebellious to other measures. The vanishing of the pains after withdrawal of salt may also turn the scale in favor of a benign gastric affection in certain dubious cases. The article from which the above is taken appeared in the *Revue de Médecine Interne et de Thérapeutique*, October, 1909.

The Development of the Parasite of Oriental Sore in Cultures.—The parasite causing Oriental sore was first described accurately by Wright and named by him *Helcosoma tropicum*. On account of their obvious affinity with the Leishman-Donovan bodies of kala azar, Wright's bodies have been referred by subsequent writers to the previously established genus *Leishmania* (Ross), and they now stand as *Leishmania tropica*, the only other known species of the genus being *L. donovani*, the parasite of kala-azar. The Wright bodies were first grown by R. Row (*Quart. Jour. Microsc. Sc.* 1909, liii, 747), who gives the cultural characteristics, a description of the fresh parasite when just taken from the sore, when grown on artificial media and when stained in Giemsa's stain. It was found not to grow in a sterile citrate solution (2 per cent.)—thus differing from the Leishman-Donovan bodies but did grow well on human blood-serum. "The cultural result is very similar to that obtained for the Leishman Donovan body. It is of some interest, however, that the method of cultivation required appears to be quite different in the two cases, a fact which indicates that the transmission and mode of development are different in the two parasites." "In smears from the juice of the sore stained in Giemsa's stain the parasites are seen in all sorts of shapes —pear-shaped, oval, torpedo-shaped and even spherical. They are found free outside the corpuscles and also in the large macrophages." In cultures after forty-eight hours the parasite in length is two and one-half to three times the diameter of a red-blood cell and about three times as long as broad. The shape is like a banana; "the contour of the body is well defined, the sides being parallel and the ends rounded"; the anterior extremity bears the micronucleus and the parasite has no power of movement. "At seventy-two hours the development is complete" and the flagellum has formed, which is "one and a half times or twice the length of the body of the parasite, and has from six to eight symmetrical undulations." Once the flagellum is formed, the individual is liberated and is free to swim away from the colony. "In life the flagellum is very active and moves very rapidly with a lashing, wave-like, not a corkscrew-like, movement; in appearance it strongly resembles a spirochete."

The Nerves of the Atrioventricular Bundle.—The location, physiology and microscopic structure of the atrioventricular bundle (the bundle of His), with particular reference to its nerve constituents, are considered by J. Gordon Wilson in a paper (*Proc. Roy. Soc.*, 1909, lxxxi, 151) reporting some of the results of his researches on this bundle. In his historical sketch of our knowledge of the bundle special reference is made to the work of Tawara, who claims that the atrioventricular bundle has a uniform arrangement in all mammals (including man), and the outspreading of the bundle into the atrial and ventricular musculature, respectively, consists of Purkinje fibers or their equivalents. This uniting system is early developed in the embryo. From this time on, leaving growth out of consideration, it remains unchanged during life. It is not affected by hypertrophic and atrophic processes in the heart in the same way as the ordinary cardiac muscle. Wilson finds that "anatomically the atrioventricular bundle contains not only a special form of muscle fiber distinct from the ordinary muscle of the atrium or the ventricle, but it is an important and intricate nerve pathway" in which are found numerous ganglion cells—monopolar, bipolar and multipolar. Abundant nerve fibers run through it in strands and there is an intricate plexus of varicose fibrils around and in close relation to its muscle fibers, also the abundant vascular system well supplied with vasomotor nerves. "Physiologically it has been shown that the atrioventricular band constitutes the pathway which assures the communication of the atrioventricular rhythm. When the bundle is sectioned or crushed the ventricles cease momentarily to beat, though they soon regain pulsation, but with a rhythm more slow than that of the atrium. Pathologic anatomy supports this view; the allorhythmia or Stokes-Adams disease can be explained satisfactorily by lesions involving this pathway." It has been very generally held that, this pathway being muscular, the conducting mechanism between the atrium and ventricle must be myogenic. The findings of Wilson are opposed to this hypothesis. "In these experiments and pathologic conditions an important nerve pathway is equally involved with the muscle bundle. Considering the neurogenic as opposed to the myogenic hypothesis from the anatomic standpoint, one must acknowledge that the very complex nerve constituents of the bundle are very suggestive of an intricate nerve mechanism." Finally Wilson discusses the possibility of the atrioventricular bundle being a neuromuscular spindle. The presence of ganglion cells and the absence of those anatomic and neurologic constituents characteristic of the muscle spindle are opposed to a neuromuscular hypothesis.

Uniform Statistics for Puerperal Fever.—P. Rissmann of Osnabrück suggests as a uniform basis for statistics in regard to puerperal fever that the record should include (1) brief record of the birth, date of entry, internal examination, injuries, and operation, if any; (2) temperature above 38.5 C., and date of first fever; (3) pulse over 100; (4) length of stay in the institution; (5) death and autopsy findings, or (6) discharged free from disturbances; or complications, if any; (7) remarks, existing or intercurrent affections, and (8) final outcome; later examination. He gives a specimen chart for the purpose in his communication on the subject in the *Gynaekologische Rundschau*, 1909, iii, 740.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

INJECTIONS OF ALCOHOL FOR FACIAL NEURALGIA

To the Editor:—Please refer me to information regarding the injection of alcohol for relief of facial neuralgia.

F. W. Wilcox, St. Petersburg, Fla.

Answer.—The following articles which have appeared in The Journal will give a fairly complete idea of the subject:

Patrick, H. T.: "Treatment of Trifacial Neuralgia by Means of Deep Injections of Alcohol." Nov. 9, 1907, xlix, 1567.

Patrick, H. T.: Same subject, report of seventy-five cases treated, Dec. 11, 1909 (this issue), liii, 1987.

Hecht, D.: "Methods and Technic of Deep Alcohol Injections for Trifacial Neuralgia," Nov. 9, 1907, xlix, 1574.

"K" PACKAGE

To the Editor:—Please give the contents of the "K" package spoken of in the abstract of Raymond's article in The Journal, Nov. 20, 1907, liii, 1768.

C. O. Henry, M.D., Fairmont, W. Va.

Answer.—The "K" package originally issued to soldiers at Columbus Barracks for the prevention of venereal disease, contained 2 c.c. of a solution of protargol, 20 parts, glycerin, 20 parts, and distilled water, 60 parts, and a medicine dropper, instructions being given to the soldier to inject this solution immediately after illicit connection. The package now in use contains 4 c.c. of a 25 per cent. solution of argyrol, 4 c.c. of a 30 per cent. calomel ointment, and a medicine dropper.

COLONIES FOR EPILEPTICS

To the Editor:—In what states are there colonies for epileptics?

W. O. Bell, M.D., Seattle, Wash.

Answer.—Following are some of the state colonies:

Craig Colony for Epileptics, Sonyea, N. Y.

Hospital Cottages for Children, Baldwinsville, Mass. Hartstein Wendell Page, Medical Superintendent.

New Jersey State Village for Epileptics, Skillman, N J. David Fairchild Weeks, Medical Superintendent.

Indiana Village for Epileptics, New Castle, Ind. W. C. Van Nuys, Medical Superintendent.

North Carolina has recently opened an epileptic colony in connection with one of her state hospitals for the insane. There are also state institutions of various kinds for the care of epileptics in Ohio, Texas, Pennsylvania, Kansas, Michigan and Minnesota, besides a number of semi-private institutions scattered throughout the country.

THE NEGRI BODIES

To the Editor:—Please tell me where I can find Negri's original article (1903) on the Negri bodies in diagnosis of rabies? E. B.

Answer.—Negri published his discovery in the *Zeitschrift fur Hygiene und Infectionskrankheit*, xliii, No. 3. An editorial on this subject in The Journal, Oct. 29, 1904, xliii, 1311, gives a brief account of the technic of investigation and character of these bodies. Another article by Negri appears in the periodical first mentioned, xliv, No. 3. These papers may be borrowed from the Surgeon-General's Library at Washington.

The Public Service

Medical Department of the Army

Changes for the week ended Dec. 4, 1909:

Brown, Orville G., capt, granted an extension of 10 days to his leave of absence.

Wales, Philip G., major, relieved from duty at Fort Apache, Ariz., and ordered to the Presido of Monterey, Cal., for duty.

Smith, Allen M., major, relieved from duty at the Presidio of Monterey, Cal., and orderd to Fort Sam Houston, Tex., for duty.

Raymond, Henry I., lieut. col., relieved from duty at Fort Sam Houston, Tex., and ordered to St. Paul, Minn., for duty as chief surgeon, Department of Dakota.

Maus, Louis M., col., relieved from duty as chief surgeon, Department of Dakota, and ordered to Chicago, for duty as chief surgeon, Department of the Lakes.

Byrne, Charles B., col., relieved from duty as chief surgeon, Department of the East; will proceed home at the expiration of his present leave of absence and await retirement from active service.

Blanchard, Robert M., capt., granted sick leave of absence for 2 months.

Ferguson, James B., 1st lieut., M. R. C., granted leave of absence for 4 months.

Barney, Frederick M., 1st lieut., M. R. C., granted leave of absence for 1 month.

Bowman, Madison H., 1st lieut., M. R. C., ordered to Seattle, for temporary duty on the transport *Dix*.

Medical Corps of the Navy

Changes for the week ended Dec. 4, 1909:

Dickson, S. H., medical director, commissioned Medical Director from Oct. 31, 1909.

Fitts, H. B., medical inspector, commissioned Medical Inspector from Oct. 3, 1909.

Jones, E. L., P. A. surgeon, commissioned P. A. Surgeon from Jan. 6, 1909.

Ames, M. H., P. A. surgeon, commissioned P. A. Surgeon from March 24, 1909.

Allen, A. H., P. A. surgeon, commissioned P. A. Surgeon from May 2, 1909.

Furlong, F. M., surgeon, detached from the *Vermont* and ordered home and granted sick leave for 3 months.

Williams, R. B., surgeon, detached from the Navy Yard, Philadelphia, and ordered to duty in connection with the *South Carolina*, and to duty on that vessel when placed in commission.

Grunwell, A. G., surgeon, detached from the *Kansas* and ordered to treatment at the Naval Medical School Hospital, Washington, D. C.

Minter, J. M., asst-surgeon, detached from the Naval Hospital, Norfolk, Va., and ordered to the *Prairie*.

Foster, T. G., asst.-surgeon, ordered to the *Prairie*.

Wheeler, W. M., surgeon, detached from the Navy Yard, New York, N. Y., and ordered to the *Panther*.

Pleadwell, F. L., surgeon, detached from duty as a member of the Naval Examining and Medical Examining Boards, Washington, D. C., and to duty as assistant to the Bureau of Medicine and Surgery.

Shiffert, H. O., surgeon, detached from the *Lancaster* and ordered to the *Vermont*.

Brnisted, W. C., surgeon detached from duty as assistant to the Bureau of Medicine and Surgery and ordered to special temporary duty in the Bureau of Medicine and Surgery.

Hull, H. F., P. A. surgeon, ordered to the Navy Yard, New York.

Association News

NEW MEMBERS

List of new members of the American Medical Association for the month of November, 1909.

ALABAMA

Anderson, E. C., Amiston.
Bell, A. W., Woodlawn.
Caffee, S. R., Avondale.
Collins, J. A., Birmingham.
Constantine, K. W., Birmingham.
Copeland, W. P., Eufaula.
Dowman, C. E., Jr., Birmingham.
Edmondson, J. H., Birmingham.
Levi, I. P., Anniston.
Mann, S. H., Ensley.
May, E. E., Birmingham.
McGehee, W. W., Montgomery.
Moon, E. K., Birmingham.

ARIZONA

Kennedy, R. D., Globe.

CALIFORNIA

Cerf, A. E., San Francisco.
McClelland, J. L., Los Banos.
Reed, J. R., Pasadena.
Wright, T. B., Pasadena.

COLORADO

Farnsworth, J. A., Fort Morgan.
Harvey, Asa, Forbes Junction.
Roberts, Wm., Denver.
Thompson, Virgil, Hotchkiss.

FLORIDA

Lartigue, Etienne, Gainesville.
Lowry, C. S., Jacksonville.
Thompson, T. C., Jacksonville.

GEORGIA

Cone, R. L., Groveland.
Dancy, W. R., Savannah.
Darby, J. I., Columbus.
Dorsey, R. T., Atlanta.
Fox, R. L., Brunswick.
Hilsman, P. L., Albany.
Moncrieff, J. T., Columbus.
Ridley, C. L., Hillsboro.
Russell, E. A., Fitzgerald.
Willis, C. H., Barnesville.

IDAHO

Boeck, L. W., Boise.

ILLINOIS

Anderson, A. L., Aurora.
Atchison, A. B., Rockford.
Best, C. L., Freeport.
Bohan, J. M., Galesburg.
Bothwell, R. S., Batavia.
Campbell, R. L., E. St. Louis.
Clement, C. C., Chicago.
Everett, J. M., DeKalb.
Fouser, G. G., Chicago.
Frazier, F. R., Yorkville.
Gill, G. P., Rockford.
Goembel, E. W., Rockford.
Gordon, E. E., Cairo.
Hanford, F. W., Rockford.
Harney, L. G., E. St. Louis.
Helm, W. E., Chicago.
Hinton, R. T., Jacksonville.
Iseman, L. L., Chicago.
Keith, D. M., Rockford.
Krueger, A. H. R., Carpentersville.
Kulis, Jacob, Chicago.
Olkon, D. M., Chicago.
Olson, F. A., Chicago.
Scott, L. O., Rockford.
Seibert, H. H., Chicago.
Streuter, A. F., Arenzville.
Tyrrell, G. M., Scales Mound.
Maas, Elizabeth C., Rockford.
Mitchell, J. W., Harrisburg.
Wach, Frederick, Dover.
Winn, G. L., Rockford.
Woodward, W. P., Cherry Valley.

INDIANA

Church, L. O., Fritchton.
Folsom, E. M., Boonville.
Hume, J. R., Milroy.
Koons, H. H., New Castle.
McBride, J. L., Zanesville.
Rogers, Clarke, Logansport.
Schriefer, E. E., Ferdinand.
Swan, D. H., Francisco.
Wallace, L. S., Bunker Hill.
Wilson, Ralph, Shirley.

IOWA

Caldwell, E. J., West Chester.
Crawford, D. A., Guthrie Center.
Emmert, D. F., Avoca.
Gray, Clara, Keota.
Hay, G. W., Washington.
Marugg, A. L., Durango.
Newland, E. R., Drakeville.
Stevenson, A. P., Cincinnati.
Trueblood, W. A., Ottumwa.

KANSAS

Beasley, J. N., Topeka.
Campbell, Farquhard, Kansas City.
Edington, J. L., Marysville.
Matteson, G. W., Herington.
Mitchell, M. R., Topeka.
Purves, G. K., Wichita.

KENTUCKY

Foster, A. C., Owensboro.
Harrison, L. W., Alcorn.
Hurst, Taylor, Jackson.
Yates, J. C., Fulton.

LOUISIANA

Cocram, H. S., New Orleans.

MAINE

Roy, L. O., Augusta.

MARYLAND

Barkdall, F. L., Cumberland.
Girdwood, John, Baltimore.
Wertz, I. M., Hagerstown.

MASSACHUSETTS

Birnie, J. M., Springfield.
George, F. W., Worcester.
Hancock, A. W., Lawrence.
McIntyre, David, Boston.
Newton, R. S., Westboro.

MICHIGAN

Aldrich, A. D., Winona.
Fair, R. C., Durand.
Farnham, L. A., Calumet.
Kugler, J. C., Jackson.
McBride, G. L., Grand Rapids.
McLarty, A. A., Manistee.
Palmer, E. N., Brooklyn.
Ramsdell, L. S., Manistee.
Squiers, D. E., Dowagiac.
Williams, A. R., Jackson.

MINNESOTA

Burns, F. W., Stewartville.
Comstock, A. E., St. Paul.
Kelley, E. S., Minneapolis.
Knight, H. L., Minneapolis.
Winnick, J. B., St. Paul.

MISSISSIPPI

Holman, C. H., Heminway.
Mercer, R. L., Shelby.
Walley, D. W., Richton.

MISSOURI

Boswell, A. C., Kansas City.
Bounds, E. H., Hannibal.
Horigan, J. A., Kansas City.
McLemore, Tipton, St. Louis.
Traubitz, Arnold, Neelyville.

MONTANA

Gerhart, E. A., Billings.

NEBRASKA

Tobias, J. M., Mitchell.

NEVADA

Carpenter, F. E., Yerington.

NEW JERSEY

Eaton, A. R., Jr., Elizabeth.
Frank, Myrtile, Egg Harbor.

NEW YORK

Barber, C. R., Rochester.
Bell, A. M., Saranac Lake.
Brink, C. G., New York City.
DeVoe, B. K., Albany.
Eastman, F. C., Brooklyn.
Gardiner, S. H., Brooklyn.
Gross, Norris, New York City.
Lyon, I. P., Buffalo.
Markoe, J. W., New York City.
Todd, Leona E., Auburn.
Tuttle, F. E., Cattaraugus.
Wood, E. L., Dansville.
Woodbury, M. S., Clifton Springs.

NORTH CAROLINA

McBrayer, T. E., Shelley.
McGougan, J. Vance, Fayetteville.

NORTH DAKOTA

Bunting, F. E., Mandan.

OHIO

Crosby, C. C., Ashtabula.
Hamilton, C. H., Sugar Grove.
Hartzell, H. J., Cleveland.
Kimmel, E. E., Dayton.
Lucas, W. H., Cleveland.
Pan, Oscar, Cleveland.
Reich, Leo, Cleveland.
Riegel, H. C., Lightsville.
Rumbaugh, D. W., Chicago.

OKLAHOMA

Blake, E. W., Talaquan.
Blender, Henry, O'Keene.
Stafford, G. A., Kiefer.
Williams, C. W., Oklahoma City.

PENNSYLVANIA

Campbell, W. M., McKees Rocks.
Devor, J. H., Chambersburg.
McGuire, H. E., Pittsburg.
Page, C. W., Bradford.
Raub, R. S., Easton.
Stevenson, E. W., Pittsburg.

RHODE ISLAND

Bailey, G. M., Providence.
Taggart, F. G., E. Greenwich.

SOUTH CAROLINA

Woodruff, W. A., Cateechee.

SOUTH DAKOTA

Brandt, F. A., Sturgis.
Keller, W. F., Sioux Falls.

TENNESSEE

Brown, C. W., Nashville.
Hix, J. B., Whitleyville.
Joyner, W. H., Persia.
Reisman, E. E., Chattanooga.

TEXAS

Arnold, E. M., Houston.
Cole, W. A., Normangee.
Coopwood, T. B., Lockhart.

VIRGINIA

George, Sumter, Danville.
Hopkins, Frank, Hot Springs.
Iden, B. F., Manasses.
Peters, W. B., Appalachia.
Powell, W. L., Roanoke.
Runyon, Emily C., Richmond.
Tuder, T. J., Critz.

WASHINGTON

Klemptner, L. H., Seattle.
Saxe, Cora T., Seattle.

WEST VIRGINIA

Cook, T. G., Academy.
Cantle, H. C., Austen.
Haskins, T. M., Wheeling.

WISCONSIN

Bennett, L. J., Fort Atkinson.
Bird, H. R., Madison.
Delaney, H. O., Beloit.
Edwards, W. A., La Crosse.
Elson, J. C., Madison.
Fuller, G. H., Madison.
Parker, A. S., Clinton.
Waufle, G. C., Janesville.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Public Health Campaign in Boston

Mr. E. W. McSweeney of Boston has made a report to Hon. George A. Hibbard, the mayor of Boston, on the question of public health, which appears in the October *Annals of Medical Practice*. After stating that it is undeniable that the health of a community is its best asset and that the campaign against tuberculosis is only one part of the problem, Mr. McSweeney discusses the progress that has been made in antituberculosis work since 1906 and recommends that the governor of Massachusetts and the mayor of Boston join in the appointment of a commission to consider the relations which should exist between the state and the city and to agree on a plan of action which will centralize action, reduce expense and increase results, which will aim at something and get somewhere. He furthermore states that, in his opinion, if a basis of cooperation between the state and the various cities and towns cannot be found, it will be much better for the state to take over the entire control of the consumptive problem and to relieve Boston altogether, rather than to continue the present unbusiness-like methods of work.

Mr. McSweeney's second recommendation is that, following the formulation of a general plan of government, the entire reorganization of the Boston health board will be necessary. He states that for more than a decade this body has been steadily losing ground and that it must be reorganized under a single head, no matter who the man is or whatever may be the cost. Especially interesting is his comment that it is no excuse for Boston to point out that it has only followed the bad example of the United States Government "which cares for health and quarantine matters through the Public Health and Marine-Hospital Service, vital statistics through the Bureau of the Census, pure food through the Department of Agriculture, etc."

Mr. McSweeney therefore recommends that the mayor of Boston address a letter to the president of the United States setting forth that, as the health of the city is the most vital concern of the nation, Boston desires to get in line with the most modern scientific progress in this regard and therefore asks for the loan of a competent physician now in the government service to act as medical adviser to the mayor for a period of two or three years. In this connection he mentions four physicians, officers of the United States Public Health and Marine-Hospital Service, whose work in the last few years has been noteworthy and conspicuous.

Taking up the question of the preservation of the child, he recommends that the school committee be relieved absolutely from responsibility for the medical treatment of the children in the schools, as the problem of tuberculosis and other diseases in the public schools is a health problem and not a school question. He states that the best plan which he has found is that adopted by the London county council, which is about to utilize existing hospitals and institutions for the medical treatment of children, giving financial help if necessary and carefully avoiding pauperizing the pupils. The plan proposes that while children suffering from a specific disease must be cared for, the parent shall have the first opportunity to care for them through the family physician and that when this is not possible the children shall be cared for in the hospitals and clinics established, the cost to be charged to the parent of the child treated unless they are unable to pay, in which case the cost is to be paid out of the city treasury.

The Middleman in Medicine

The secretary of state of New York recently refused to file a certificate of incorporation of a Brooklyn concern organized to supply medical treatment and burial service to its members. The position taken by the secretary of state is important in view of the organization in various parts of the country of so-called "Burial and Aid Societies," which offer policies for a small weekly payment binding the company to furnish free medical and surgical service in case of illness, in many cases free medicines and surgical appliances, as well as funeral expenses in case of death.

The secretary of state has ruled that a corporation cannot practice medicine in New York. The company did not propose to practice medicine and surgery itself, but intended to make contracts with physicians to treat the policy-holders of the company at a nominal rate. The New York courts have decided that a corporation cannot practice law and this decision has operated to the extent of prohibiting a certain company in New York City from supplying its patrons with legal services, a scheme which, it is stated, it had worked up into an established and profitable business. By the same line of reasoning, the purpose of the proposed corporation in New York was simply to act as an agent or a middleman between the policy-holder or patrons on the one side and the physicians and undertakers on the other, the profits of the company to be found in the difference between the amount paid it by the policy-holder and the amount paid out to the doctor or undertaker for services.

This form of contract practice, as brought out in a previous discussion on this subject in The Journal (Dec. 14, 1907), is thoroughly reprehensible, since it amounts practically to buying the services of the physician at wholesale and selling them at retail, the middleman in the form of the exploiting company taking the profit. As was previously pointed out, this form of practice should be condemned, not necessarily because a contract exists for the rendering of services but because the arrangement made is economically unjust and is calculated to work injury to the physician, the patient and the public.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fourth Month—Third Weekly Meeting

Pelvic Cellulitis

Pathology: Modes of extension of infection to cellular tissue. Lymphangitis, phlebitis, perilymphangitis and periphlebitis. Terminations, resolution, chronic cellulitis, suppuration. Involvement of adjacent viscera. Relation of cellulitis and tubal inflammation.

Diagnosis: General symptoms. Location, form, relations, mobility, consistence of inflammatory exudate. Differentiate from pelvic peritonitis, pyosalpinx, pelvic hematocele, appendicitis, psoas abscess.

Salpingitis

Etiology: Abortion, labor, instrumentation, adjacent infections, menstrual congestion, acute exanthemata, distorted tube, etc. Micro-organisms.

Classifications (a) Catarrhal, salpingitis serosa, resulting in sactosalpinx serosa hydrosalpinx; (b) purulent, salpingitis purulenta, resulting in sactosalpinx purulenta—pyosalpinx; (c) hemorrhage leads to sactosalpinx hemorrhagica—hematosalpinx.

Symptoms and Diagnosis: (a) Gonorrheal, (b) puerperal, (c) tubercular salpingitis.

Ovaritis

Acute and Chronic: Pathology of each. Symptoms and physical signs.

Pelvic Peritonitis

(a) Exudative, (b) adhesive, (c) tubercular, (d) pachyperitonitis; etiology and pathology of each. Differentiate pelvic peritonitis from pelvic cellulitis, salpingitis, ovaritis.

Society Proceedings

COMING MEETINGS

American Physiological Society, Washington, D. C., December 28-30.
Medical Society of State of New York, Albany, January 25.
Southern Surg. & Gynecological Assn., Hot Springs, Va., Dec. 14-16.
Western Surgical and Gynecological Assn., Omaha, December 20-21.

AMERICAN ACADEMY OF MEDICINE

Third Mid-Year Meeting, held at New Haven, Conn., Nov. 11-12, 1909

CONFERENCE ON PREVENTION OF INFANT MORTALITY

As a result of the conference arranged by the American Academy of Medicine on prevention of infant mortality, the American Association for Study and Prevention of Infant Mortality was organized at a special meeting called at the close of the conference and held November 13 in Lampson Hall, Yale University. Dr. F. H. Gerrish of Portland, Me., presided, and Dr. Charles McIntire, Easton, Pa., acted as secretary. A constitution and by-laws were adopted and officers elected. These were noted in THE JOURNAL, November 20, p. 1751. It was decided that the board of directors should number at least thirty members. The complete number was not appointed, the directorate being authorized to elect additional members at a later meeting. Those appointed included Dr. H. Merriman Steele, Yale Medical School; Dr. Charles Richmond Henderson, professor of sociology of the University of Chicago; Dr. F. H. Gerrish, Portland, Me.; Dr. J. Morton Howell, health officer, Dayton, Ohio; Dr. John M. Connolly, Boston; Dr. H. J. Gerstenberger, Cleveland; Prof. Isabel Bevier, University of Illinois; Dr. W. H. Carmalt, Yale Medical School; Dr. Thomas Morgan Rotch, Harvard Medical School; Prof. Irving Fisher, Yale University, president of the Committee of One Hundred on National Health of the American Association for the Advancement of Science; Dr. Caroline Hedger, of the United Charities, Chicago; Dr. Lilian Welsh, Baltimore; Dr. I F. Edwards, department of health, Pittsburg, Pa.; Dr. Richard A. Urquhart, Johns Hopkins Medical School, Baltimore; Dr. Charles P. Putnam, Boston; Dr. Thomas Darlingon, health commissioner of New York City; and Dr. W. A. Evans, health commissioner of Chicago. Baltimore was selected as the next meeting place of the society. The meeting will be held in the autumn of 1910. Dr. Charles Richmond Henderson of the University of Chicago was nominated president for 1910-1911.

Resolutions Adopted

The task of preventing infant mortality is second to none in importance and should engage the best attention and effort of all individuals, lay and professional, and of every commonwealth and community. As looking toward this., the Academy records its convictions in the following resolutions:

FIRST. *Resolved:* That the present high rate of infant mortality is due to inherited debility or disease, improper environment and care, improper feeding and communicable diseases, and is to a high degree preventable.

SECOND. *Resolved:* That the breast feeding of infants is, when possible, the only proper method and that artificial feeding should never be substituted as a matter of choice.

THIRD. *Resolved:* That the reporting of all communicable diseases, especially of those commonest in society, to health boards, should be compulsory.

FOURTH. *Resolved:* That the scientific instruction of the young in practical hygiene and sanitation, and of mothers in the care and rearing of infants is an important duty resting chiefly on physicians, sociologists, school authorities and boards of health.

The conference was opened by a brief address of greeting y President Hadley of Yale University. The response was made by Dr. W. Blair Stewart of Atlantic City. There were our sessions. The first, devoted to the medical prevention of nfant mortality, was presided over by Dr. J. H. Mason Knox, r., Baltimore, and Dr. Richard A. Urquhart, Baltimore, was secretary. The second session was on the philanthropic prevention of infant mortality and Dr. Edward T. Devine, general secretary of the Charity Organization of New York City, nd editor of the *Survey*, was chairman, and Miss Lilian randt of New York was secretary. Institutional prevention f infant mortality was considered at the third session, which as presided over by Mr. Homer Folks of New York, secretary of the New York State Charities Aid Association, with Miss Mary Vida Clark as secretary. Educational prevention of infant mortality was the subject of the last session, the chairman of which was Prof. C. E. A. Winslow, biologist in chief of the laboratory of sanitary research of the Massachusetts Institute of Technology.

Relation of Alcoholism to Infant Mortality

DR. J. H. MASON KNOX, JR., Baltimore: The importance of united effort to curtail the long prevailing infant mortality is at last being generally recognized. Physicians should be in the van of this movement because they as a class understand most thoroughly the factors bringing about this large death rate among infants, and know how it can be much diminished. Public sentiment must be aroused to insist on suitable hygienic surroundings, adequate care and proper diet for every new-born babe. The minimum of these requirements must be pointed out by physicians. No field in medicine is more enticing. The potential energy of an infant saved from death by proper medical care and nursing supervision cannot possibly be reckoned. The future of these little lives cannot be foretold as can the lives of adults saved from disease. It behooves us then as physicians to investigate thoroughly all sources of this appalling death rate and to make them known to the public, at the same time suggesting remedies. Among the factors directly and indirectly destructive to the life of infants in this country and in most civilized countries is acute and chronic alcoholism in the parents. The injurious effect of alcohol on the infant is threefold: First, the mother's tissues, nervous system and other organs may be so weakened by taking alcohol as to lower her vitality greatly. Second, the germinal cells of both parents may be more or less injured by the ingestion of large amounts of alcohol. Third, alcohol imbibed in large quantities by the pregnant mother may affect the vitality of the fetus. The disastrous effect of chronic alcoholism on the home and so indirectly on the infant life needs little emphasis in this section.

DISCUSSION

DR. THOMAS MORGAN ROTCH, Boston: It is well in any consideration of the subject to remember that alcohol is a drug and as such has an important use.

The Relation of Tuberculosis to Infant Mortality

DR. CLEMENS VON PIRQUET, Baltimore: The great frequency of tuberculosis among infants is shown by the records of post-mortem examinations in Berlin, Vienna and New York. The different clinical forms of infantile tuberculosis are described as chronic tuberculosis of the visceral glands (which is often mistaken as a gastrointestinal marasm), chronic tuberculosis of the lungs, caseous pneumonia, and the meningitic and bronchitic forms of miliary tuberculosis. Children infected within the first year of age nearly always die from tuberculosis, whereas in older children the process is often localized. The best prophylaxis would be the entire separation of infants from adults who are likely to be tuberculous, even separation from parents in such a case. As this cannot often be strictly carried out, prophylaxis has to be exercised at least in such a way as to avoid kissing and fondling of children by tuberculous people, and coughing in their presence.

DISCUSSION

DR. HELEN C. PUTNAM, Providence, R. I.: Does Dr. v. Pirquet consider that there is danger of infection to an infant in a family which moves into a house formerly occupied by a family in which there had been active tuberculosis? How long does such danger, if any, persist, and what amount of cleaning is required to render such a building suitable for occupation?

DR. THOMAS MORGAN ROTCH, Boston: In antituberculosis work care must be taken not to exclude tuberculous patients from institutions in which they would be benefited and in which they do no harm. There is a hospital in New England which is eminently fitted to receive tuberculous babies and young children, but from which all such were excluded. Finally, acting on my advice, non-infectious cases were admitted. As a result complete cures were effected within three or four months. The medical profession is indebted to

Dr. von Pirquet for his development of the subcutaneous test for tuberculosis, as it has proved to be a means of detecting the disease in an earlier stage than is possible by any other means. Dr. v. Pirquet's work with tuberculin will make his name go down to posterity as one of the great reformers in tuberculin investigations, and as one who has done an immense amount of good to humanity.

Dr. Ward Crampton, New York: Would Dr. v. Pirquet advise the segregation of school children who have reacted positively to the subcutaneous test? One society in New York discovered that 23 per cent. of the children examined responded positively. If an examination of the public school children were to reveal the presence of tuberculosis among an equally large percentage of the children, the problem of separation and segregation would assume very serious proportions.

Dr. von Pirquet: A good cleaning of the whole house, with painting of the walls and fumigation of the rooms would be required to render a building such as described by Dr. Putnam free from infection. It has not yet been proved to what extent children suffering from tuberculosis are sources of infection. I do not consider it necessary to separate the children in a hospital except in the case of those suffering from open lung tuberculosis. I advise the separation of tuberculous children from well children when the test reveals the presence of the disease in an institution such as an orphan asylum, but do not urge the segregation of school children.

Dr. T. M. Rotch: In my opinion, the child who reacts positively should be taken out of school for his own sake, so that he may have outdoor treatment, and not because there is danger of his being a source of infection to others, especially as I do not consider that the danger always exists.

Dr. Guy Kiefer, Detroit: Does Dr. Rotch consider it necessary to distinguish between open and closed cases among school children who react positively to the test and who on that account have been segregated from the rest?

Dr. Rotch: My previous remarks applied only to noninfectious cases; the infectious cases should be isolated just as measles and smallpox are.

The Relation of Mothers' Occupations and Long Hours to Infant Mortality

Dr. Caroline Hedger, of the United Charities of Chicago, cited facts from England, America (colored) and Germany bearing on connection between occupation of married women and infant mortality. She discussed the influences on childbearing and on lactation of beast-of-burden trades, muscular fatigue trades, nervous fatigue trades, and poisonous trades, and enumerated desirable modifications in these trades with respect to hours, sanitation, time-limit before and after confinement. Dr. Hedger then took up the secondary effects on infant mortality of married women at work: wages, drink, drugging, homes and abortion.

She then went on to say: Women are in industry to stay. William Hard says: We cannot tomorrow dismiss 6,000,000. We must (1) find out the effect of factory work on women by laboratories, enumeration, birth statistics; (2) so arrange labor that (a) the woman can work without losing her chance of normal motherhood, including lactation; (b) develop day-nurseries; (c) use them as laboratories for teaching infant feeding; (d) always tend toward a wage that will permit those who wish to remain at home.

DISCUSSION

Mr. Edward Bunnell Phelps, New York, editor the *American Underwriter*, gave the statistics he had collected in an investigation which covered 14 textile manufacturing cities, of the relation of woman's work to infant mortality. These figures indicate that the infant mortality rate varies as does the percentage of working women of child-bearing age. This state of affairs is not confined to this country as, according to statistics representing eight leading textile towns in England from 1896 to 1905, the infant mortality rate is 182, while the normal rate for other towns is 147. In France, in textile towns, the rate was found to be 196, and in other cities 140; in German textile towns, 266; in other towns, 207. In the United States, the average in textile towns was 183, as against 145 for the registration area. According to the census of 1900 there were a trifle more than 1,000,00 women, sixteen years old and over, working in factories; thei average earnings were a little less than 90 cents a day. I view of the inability of the mothers to care for their childre themselves, or to provide healthful surroundings for thei children, he advocated the establishment of some form of da nursery.

The Relation of Diet to Infant Mortality

Dr. J. P. Crozer Griffith, Philadelphia: The excessiv mortality of early life occurs principally in artificially fe children and is due chiefly to diarrheal disturbances. Th mortality can be largely prevented by breast feeding. Ther are difficulties in obtaining a suitable artificial food. Man reasons are assigned for weaning, but there is an apparentl increasing desire of mothers to nurse their children. Artificia feeding increases mortality.

DISCUSSION

Mr. Hastings Hart, the Sage Foundation, New York: I the case of illegitimate children, the main obstacle in the wa of maternal nursing has been the practice of physicians an nurses in maternity hospitals of advising the mother not t nurse the child on the ground that they would have to b separated eventually, and the mother would become too muc attached to the child if she nursed it.

Dr. Woods Hutchinson, New York: Artificial foods of an sort are to be condemned. Mortality is least among th breast-fed infants; the percentage is 3 times greater amon those fed on cow's milk; and still greater among those fed o artificial foods. I hope to see the time when the manufacture advertising and sale of mixtures ostensibly for babies, bu really for the profit of the manufacturers, will be a misdemeanor punishable by fine and imprisonment.

Dr. Ira S. Wile, New York: The responsibility for th proper feeding of infants rests on physicians, and goes bac ultimately to the medical schools which should give mor adequate instruction in pediatrics before turning its graduates loose on an innocent and unsuspecting public.

Dr. Lilian Welsh, Baltimore: It is not a question o physicians in some places, but of midwives.

Dr. Thelberg, Vassar College, advocated thorough physiological instruction of the students in women's colleges and i girl's schools.

Dr. Herman Schwarz, New York: The reduction of infan mortality could be accomplished by the combination of thre methods: the care of the child before, during and for at leas a year after birth: the education of parents: encouragemen of breast feeding and securing pure milk for infants who hav to be bottle fed. Breast feeding will reduce the great mortality from gastroenteritis.

(To be continued)

Marriages

Edgar Clay Doyle, M.D., to Miss Mary Cherry, both o Seneca, S. C., September 16.

Chester E. Kinzel, M.D., to Miss Elsie Bailey, both of Wilmington, Ohio, November 17.

Cleland G. Moore, M.D., North Bend, Neb., to Miss Emm G. Lewis, of Baltimore, October 5.

Harry M. Hosmer, M.D., Gary, Ind., to Miss Helen Barto of Kansas City, Mo., November 23.

Albert Havens, M.D., to Miss Gertrude Crabtree, both o New Philadelphia, Ill., November 20.

Harry Waldemar Boice, M.D., to Miss Fannie Elizabet Glassey, both of Brooklyn, November 24.

Preston G. Hundley, M.D., of West Virginia, to Miss Mar E. Lyell, at Baltimore, Md., November 24.

John F. O. Howell, M.D., Skidmore, Texas, to Miss Wil Williams, of Hickman Mills, Mo., recently.

Charles R. Sheridan, M.D., Maysville, Ky., to Miss Hele Carney of Wheeling, W. Va., November 30.

James R. Maxfield, M.D., Grand Saline, Texas, to Mis Marie Streeter, of Waco, Texas, September 29.

Richard Phillips Bell, M.D., Chattanooga, Tenn., to Mis Mary Grasty, at Staunton, Va., November 24.

Deaths

Alfred D. Kohn, M.D. Rush Medical College, Chicago, 1898; a member of the American Medical Association; in 1907 and 1908 a member of the Chicago Board of Education; assistant in medicine in Rush Medical College; chief of the clinic on gastrointestinal diseases at the United Hebrew Dispensaries; attending physician to Michael Reese Hospital; a specialist on diseases of the stomach and intestines; died in the Michael Reese Hospital, December 2, from cerebral hemorrhage, eight days after an operation for appendicitis, aged 40.

Isaac Newton Snively, M.D. Bellevue Hospital Medical College, New York City, 1889; a member of the American Medical Association, and a fellow of the American Academy of Medicine; professor of materia medica, therapeutics and clinical medicine, and dean of Temple College of Philadelphia; visiting physician to the Garrettson and Samaritan hospitals; died in the latter institution, November 23, from pulmonary thrombosis, following an operation for carcinoma of the colon, aged 45.

William Henry McKelvey, M.D. College of Physicians and Surgeons, New York City, 1866; a member of the American Medical Association; for 37 years a member of the Pittsburg Board of Education; for 34 years a member of the Central Board of Education, and for 20 years its president; physician to the Allegheny county jail from 1868 to 1881; and for 30 years a member of the city council; died at the home of his brother, in Pittsburg, November 23, aged 66.

Donald Churchill, M.D. Harvard Medical School, Boston, 1899; a member of the American Medical Association and American Academy of Medicine; secretary of the Providence (R. I.) Medical Association and treasurer of the Rhode Island Hospital Club; admitting physician to the Providence Lying-In Hospital; and surgeon on the staff of the Rhode Island Hospital; died at his home in Providence, November 23, from septicemia, following an operation wound, aged 39.

Harry Martyn Acheson, M.D. University of Pennsylvania, Philadelphia, 1880; of Washington, Pa.; a member of the American Medical Association; for several terms president of the Washington County (Pa.) Medical Society, and the Washington Academy of Medicine; one of the organizers of the Washington Board of Health, and for many years its president; died in St. Francis Hospital, Pittsburg, November 29, from general nervous breakdown, aged 51.

Albert M. Smith, M.D. Jefferson Medical College, Philadelphia, 1870; a member of the American Medical Association; twice a member of the Pennsylvania legislature; a veteran of the Civil War; for 29 years local surgeon of the Pennsylvania System; a member of the local pension board of Beaver Springs; and vice-president and director of the Beavertown Mutual Fire Insurance Company; died at his home in Beaver Springs, November 22, aged 65.

Richard Watson Fry, M.D. University of Virginia, Charlottesville, 1872; College of Physicians and Surgeons, New York City, 1873; a member of the Medical Society of Virginia; of Roanoke, Va.; local surgeon to the Norfolk and Western Railroad; for several years city physician and president of the Board of Health of Roanoke; died in the Jefferson Hospital in that city, November 22, after an operation for prostatitis, aged 59.

John Samuel Cooper, M.D. Georgetown University, Washington, D.C., 1868; of Louisville, Ky.; from 1868 to 1880 a surgeon in the army; later special agent for the quartermaster's department, U. S. Army, and an officer of the revenue service; died in the Norton Infirmary, Louisville, November 25, from peritonitis, following an operation for disease of the bladder, aged 66.

Samuel Kohn, M.D. New York University, New York City, 1877; formerly president of the Sanitarium for Hebrew Children, Rockaway Park; one of the founders and chief of the laryngologic, otologic and rhinologic departments of the German Polyclinic; died at his home in New York City, November 26, from chronic nephritis, aged 55.

John W. Slade, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1857; surgeon of the Eleventh Missouri Volunteer Infantry during the Civil War; for several years a member of the State Board of Medical Examiners of Oklahoma; died in his apartments in Guthrie, November 26, from senile debility, aged 83.

Jacob Quick, M.D. University of Pennsylvania, Philadelphia, 1851; surgeon of the Twenty-second New Jersey Volunteer Infantry during the Civil War; for a time a member of the staff of the German Hospital, Philadelphia; died at the home f his son in West Philadelphia, November 20, from senile ebility, aged 83.

John Charles Shearer, M.D. State University of Iowa, Iowa City, 1896; a member of the Iowa State Medical Society; formerly of Tipton and Allison, Iowa; died at the home of his mother in Lehigh, November 18, from the effects of carbolic acid, self-administered, it is believed, with suicidal intent, aged 35.

Henry Morton Mixer, M.D. Berkshire Medical College, Pittsfield, Mass., 1854; assistant surgeon in the U. S. Navy during the Civil War; afterward a resident of New Hampton, Iowa, and since 1896 a practitioner of Neosho; died at his home in that city, November 23, from senile debility, aged 81.

Hiram A. Wright, M.D. Victoria College, Coburg, Ont., 1885; L.R.C.P., London, 1886; a member of the Michigan State Medical Society; an alienist and medical superintendent of the Pennsylvania Avenue Sanitarium, Detroit; died at his home in that city, November 24, from typhoid fever, aged 46.

William Geoghan, M.D. Albany (N. Y.) Medical College, 1873; a member of the Medical Society of the State of New York; one of the staff physicians of the Metropolitan Life Insurance Company; died suddenly at his home in New York City, November 27, from heart disease, aged 57.

John Barr, M.D. Victoria College, Cobourg, Ont., 1866; of Shelburne; for three terms a member of the Ontario legislature from Dufferin, and for two terms a member of the Dominion Parliament; was found dead in his bed in Ottawa, Ont., November 19, from heart disease, aged 66.

George Emil Voigt, M.D. University of Pennsylvania, Philadelphia, 1901; formerly coroner of Wayne county, Pa.; physician to the county jail and almshouse, and secretary of the Honesdale Medical Society; died at his home in that city, November 29, from uremia, aged 29.

Harlow James Boyd, M.D. Columbus (Ohio) Medical College, 1879; a member of the American Medical Association, and one of the most prominent practitioners of northern Minnesota; died suddenly at his home in Alexandria, November 21, from cerebral hemorrhage, aged 57.

William Samuel Howard, M.D. Medical College of Indiana, Indianapolis, 1892; L.R.C.S., L.R.C.P., Edinburgh, 1893; a member of the Roberts county (S. D.) board of health, and county physician; died at his home in Sisseton, November 19, from heart disease, aged 37.

Henri Theophile Fontaine, M.D. Harvard Medical School, Boston, 1894; a member of the New Hampshire Medical Society; physician in charge of the Pembroke (N. H.) Sanatorium since 1902; died in that institution, November 27, from tuberculosis, aged 42.

Benjamin Robert Bryant, M.D. College of Physicians and Surgeons, Baltimore, 1881; for two terms a representative in the House of Delegates from Southampton county, Va.; died at his home in Boykins, November 14, from pernicious anemia, aged 51.

Virginius Randolph Moss, M.D. Medical College of Virginia, Richmond, 1865; a member of the American Medical Association; for many years a practitioner of Barboursville, W. Va.; died in Moundsville,W. Va., recently, from senile debility.

Burr Schermerhorn, M.D. College of Physicians and Surgeons, New York City, 1863; a member of the local pension board and health officer of Honesdale, Pa.; died at his home in that place, November 25, from heart disease, aged 70.

George H. Aldrich, M.D. Tuft's Medical College, Boston, 1907; formerly house physician to the Waltham Hospital; and later a practitioner of Ludlow, Mass.; died in the Ludlow Hospital, November 22, from typhoid fever, aged 27.

May Burton Collins, M.D. Jefferson Medical College, Philadelphia, 1860; of Glasgow, Mo.; died at the home of his daughter in Kansas City, Mo., November 20, from skull fracture, due to a fall from a street car, aged 72.

Charles C. Van Kirk, M.D. Starling Medical College, Columbus, Ohio, 1897; a surgeon in the United States Indian Service; died at the Leech Lake Agency, Onigum, Minn., November 5, from spinal meningitis, aged 39.

Harvey Mitchell (license, Ind., 1897, years of practice); for 59 years a practitioner of Delaware county, Ind.; and since 1854, of Muncie; died at the home of his daughter in that city, November 22, aged 83.

Lewis Edgar Klinefelter, M.D. College of Physicians and Surgeons, Chicago, 1903; a member of the American Medical Association; died at his home in Rockford, Iowa, November 26, from typhoid fever, aged 32.

Albert R. Lash, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1881; a member of the American Medical Association; died at his home in Ellinwood, Kan., October 10, from cerebral hemorrhage, aged 66.

William H. McGuire, M.D. Eclectic Medical Institute, Cincinnati, 1874; a member of the Indiana State Medical Association; pension examiner; died at his home in Frankfort, November 27, from cerebral hemorrhage, aged 62.

Joseph Marion Lanham, M.D. University of Tennessee, Nashville, 1882; a member of the South Carolina Medical Association; died at his home near Woodruff, November 25, from cerebral hemorrhage, aged 48.

Aden Thomas K. Lynch, M.D. Kentucky School of Medicine, Louisville, 1893; a member of the Kentucky State Medical Association; died at his home in Short Creek, November 22, from typhoid fever, aged 45.

John C. Mahorney, M.D. Hahnemann Medical College, Philadelphia, 1878; was kicked in the abdomen by a horse, near his home in Ladoga, Ind., August 10, and died two days later from his injuries, aged 57.

Josephine E. McKenzie Roberts, M.D. Hering Medical College, 1897; assistant to the chair of diseases of women in that institution; died at her home in Chicago, November 8, from angina pectoris, aged 59.

Frederick William Fisher, M.D. Detroit (Mich.) College of Medicine, 1894; a well-known marine surgeon of Ashtabula, Ohio; died at his home in that city, November 25, from typhoid fever, aged 38.

Heber R. Elderkin, M.D. University of Louisville (Ky.), 1858; a member of the Idaho State Medical Association; was found dead in his office in Coeur d'Alene, November 18, from heart disease, aged 78.

James S. Knox, M.D. Louisville (Ky.) Medical College, 1882; while preparing to make a professional call, died suddenly in his barn at Pellville, Ky., November 20, from heart disease, aged 49.

Esther Hayes Young, M.D. University of Minnesota, College of Homeopathic Medicine, Minneapolis, 1893; of Minneapolis; died in the Asbury Hospital in that city, November 15, from cancer, aged 63.

Frank Kiefer, M.D. Texas Medical College, Galveston, 1867; of Roby, Texas; for 40 years a clergyman; died in the Hollis Sanitarium, Abilene, November 25, from cerebral hemorrhage, aged 76.

Chads D. Chalfant, M.D. Western Reserve University, Cleveland, Ohio, 1886; a member of the Illinois State Medical Society; died at his home in Streator, November 22, from diabetes.

Frederick W. Bates, M.D. Baylor University, Dallas, Texas, 1904; of Dallas; died in the Baptist Sanitarium in that city, November 20, after an operation for appendicitis, aged 29.

Robert Griffis, M.D. Medical College of Ohio, Cincinnati, 1853; for 56 years a practitioner of Middletown, Ind.; died at his home, November 18, from cerebral hemorrhage, aged 83.

Samuel James Kelly, M.D. Laval University, Montreal, 1879; for three terms a member of the common council of Fall River, Mass.; died November 15, from diabetes, aged 53.

Charles Fuller, M.D. Medical School of Maine, Brunswick, 1869; formerly of Lincoln, Maine; died at his home in Dorchester, Boston, November 22, aged 69.

A. R. McFadyen, M.D. Jefferson Medical College, Philadelphia, 1859; died at his home in Jackson Springs, N. C., November 18, from paralysis, aged 78.

Raymond Sauvage, M.D. Tulane University, New Orleans, 1879; died at his home in New Orleans, November 20, from cerebral hemorrhage, aged 66.

Charles F. W. Hall, M.D. Jefferson Medical College, Philadelphia, 1875; died at his home in Parksley, Va., November 14, from cerebral hemorrhage.

Edmund A. Crain (license, Mont., 27 years practice, 1889); died in his apartment in Butte, November 26, from an overdose of morphin, aged 56.

William J. Barron, M.D. Tulane University, New Orleans, 1859; died at his home between Ackerman and Sturgis, Miss., November 22, aged 75.

Edward N. Franklin, M.D. University of Pennsylvania, Philadelphia, 1869; died at his home in Gallatin, Tenn., November 21, aged 64.

Stephen Jack Welsh, M.D. New York University, New York City, 1882; died at his home in Monroe, N. C., November 19, aged 55.

George H. Schmitt, M.D. Detroit (Mich.) Medical College, 1881; died at his home in Los Angeles, November 24, aged 62.

Charles Cook Winslow (license, N. C., 1889); died at his home in Hartford, November 9, from locomotor ataxia, aged 52.

Book Notices

MODERN PROBLEMS IN PSYCHIATRY. By Ernesto Lugaro, Professor of Neuropathology and Psychiatry in the University of Modena Translated by David Orr, M.D., and R. G. Rows, M.D Publication of the University of Manchester, Medical Series, No. XII. Cloth Pp. 305, with illustrations. Price 7 shillings 6 pence net. Manchester: University Press (Sherratt and Hughes), 1909.

The purpose of this book is to indicate the lines along which efforts should be made at the present time to solve the many difficult problems of psychiatry. We commend it study to every one who has, in any way, the care of the insane. It is in no sense a text-book wherein one may find cut-and-dried classifications and clinical descriptions to enable one to label particular cases that may fall under observation but rather a series of essays logically connected and abounding in modern scientific data and philosophical discussion Hypotheses naturally bristle throughout the book, for the author recognizes the oft-forgotten truth that "every particular cognition is a hypothesis, which, with an increase of experience, can acquire a greater degree of probability but which can never attain to absolute certainty" (p. 55). To the student of psychiatry Lugaro's work will prove to be more helpful and practical than nine-tenths of the text-book compilations with their confusing schemes of classification, ancien psychology, and unconfirmed clinical data. The body of the work consists of seven chapters. The general introduction rivets the attention at once.

Of modern psychiatry Lugaro affirms that "the general tendency which to-day is becoming increasingly stronger, aims a interpreting all mental disturbance as a pathologic manifestation, and welding psychiatry with general clinical medicine" (p. 17). We are cautioned not to "look on normal psychiatry as a purely introspective analysis" (p. 19); but to remembe that "in no science do so many sciences dovetail into each other as in psychiatry" (p. 25). Indeed, the dominant tone o of the book, so clearly sounded in this introductory chapter, i that "the alienist must—as much as the time at his disposa and his individual capacity permit—take an active part in work developing in neighboring fields of research, cultivate other sciences, and help them to progress, in order to further the progress of his own" (p. 55); a truth which John Fiske long ago intimated when he asserted that psychology, in its broadest sense, was the science of sciences because the validity of every scientific observation and deduction must rest ultimately on the validity and reliability of the phenomena of mind.

Determination, realism and idealism, and other metaphysica questions are all critically passed in review in Chapter 2 and are more or less dismissed with the statement, "We reject as illusory all these traditional solutions and we deny the legitimacy of the metphysical problem" (p. 39). Anatomy and physiology are regarded with more hope for the elucidation of mentalization.

The neuron doctrine is the ground whereon the "anatomic problems" of the third chapter are worked out. Of this much-debated doctrine the author says, "For a short period it seemed as though it might be shaken from its foundations; but this was merely transitory; criticism stimulated a multitude of researches, and it can now be asserted that the neuron doctrine has successfully resisted all the attacks made on it" (p. 90). In this same chapter are brief but comprehensive discussions of neurotropism, the neurofibrils, and the neuroglia in their functional relationship to mental phenomena.

With Chapter 4, on pathogenesis, we plunge at once into the practical problems of clinical psychiatry, and continued wrestling with them throughout the rest of the book. The rôle of the intoxications and infections, that of exhaustion those of congenital deficiencies, and of psychic and hereditary factors in the production of mental alienation are admirably presented. The author deprecates the great stress so often laid on the psychic causes. "Even the forms of insanity which are considered to be most easily influenced, if not determined by psychic causes, may arise independently and without the slightest participation of any psychic disturbance" (p. 184) The analysis of the hereditary factor is profoundly learned and thoughtful. In view of the oft-reiterated commonplaces as to the relationship of heredity to degeneracy, it is highly refreshing to read that "heredity, if it comes into play at all, acts in a direction which is distinctly opposed to degeneration. . . . Degeneration is a disease of the stock, but it is a disease that is curable. . . . The mechanism of hereditary transmission—contrary to the biblical legend—is free from every blemish. It tends to transmit unaltered the products of biologic experience and the adaptations which have been acquired throughout the whole of the evolution of life. External influences alone are capable of disturbing it or of giving rise to disease" (p. 212).

As a final illustration of the author's fearless independence and keenness of reasoning, we note the study, in Chapter 5, of the nasologic problems. No mere hack-writer or text-book compiler would have dared to say, in face of the almost universally contrary practice, that "it would be vain to seek for distinctions based on psychologic observation alone. We should fall into the old errors of mistaking simple psychic syndromes for true diseases and of failing to recognize the close affinity of origin and mechanism which exists between the most diverse syndromes" (p. 253).

Such is this most thought-stimulating and broadly scientific book. We have deemed it best to show the high plane of scientific inquiry which it touches by quoting liberally from its pages. And we earnestly commend its careful perusal by very medical man who is interested in psychiatric problems nd who sincerely wishes to become acquainted with the latest dvances in this difficult yet fascinating branch of medicine.

Leucopathies, Métastases, Albuminuries et Icteres Leucoathiques. Par Emile Feuillié. Préparateur à la Faculté de Méd- cine. Paper. Pp. 196, with illustrations. Price, 6 francs. Paris: . Steinheil, 1909.

This monograph, the result, according to the author's statements, of seventeen years of investigation, bestows on the eucocyte a much more independent rôle than is commonly coneded to it. The conception of a "leucopathy," i. e., of primary nodifications in the activities of the leucocytes (secretion, notility, organ infiltration, etc.) is created and a new nomenlature invented that is intended to express these special perersions. The introduction of many new terms and of the ypothetical pathologic conceptions they are meant to illusrate renders the understanding of the volume difficult. The uthor speaks an unfamiliar language; his disquisition may ontain a valuable diamond of truth, but it is very much bscured by the setting given to it. It seems a pity that the omenclature should be so involved; it prejudices the reader gainst the value of the statements made. What is true and hat is new, could surely be expressed in simple language, eadily understood by any one familiar with the ordinary erminology of the pathology of the blood. Of the many eterodox statements enunciated, the following may be lected as types: "In acute nephritis the lesion of the 'noble lement' does not produce leucocytic infiltration. If infiltraon is present it is due to a coexisting 'leucosis.'" "Cell casts the urine are an indication of a leucopathy and not of a ephritis." "Edema may coexist with albuminuria; both are multaneous effects of the same leucopathy." Much is said of ephrosis, nephrexosis and exonephrosis, of leucoxosis and exoucosis and of leucopathic fibrosis, but it is all obscure. The mphlet is offered as an incomplete thesis; and the writer ively states, "My master, Bouchard, has advised me to be rief in order to be clear." This is good advice, but it has not en followed. It is to be hoped that at some future day Dr. euillié will furnish a brief, clear and comprehensive exposion of this subject in order that more ample justice may be ne his diligent labors by the ordinary reader.

Tufts Medical Diet Charts. (Charts A and B.) Prepared by . D. Arnold, M. D., Professor of Clinical Medicine at Tufts Medl College, Boston. Single Charts, 5 cents; 50 Charts, $2; 500 harts, $18; 1,000 Charts, $30. Philadelphia: W. B. Saunders Co., 09.

These are conveniently arranged charts for indicating and lculating the value of the diet. Chart A has space for cording the diet for five successive days or for five changes diet for any interval of time. Chart B fulfils the same nction for a single day. The nutritive value of the food given for such measures as are used in every-day life. The arts will prove of very practical value for those who give y thought to diet in the treatment of disease.

Chemical and Microscopical Diagnosis. By Francis Carter Wood, M.D., Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University, New York. Second Edition. Cloth. Pp. 725, with 192 illustrations and 9 colored plates. Price, $5. New York: D. Appleton & Co.

In this second edition of his well-known book, the author has kept his text clear and concise and has eliminated many tests which have proved less accurate and valuable than those inserted in their place. Additional matter has been introduced on some of the new methods for determining the functional activity of the gastro-intestinal tract, especially noticeable being the desmoid reaction of Sahli and the nucleus test of Schmidt. In the chapter on the blood, few insertions are found and, indeed, few were needed, as this section was exceptionally complete in the first edition. The discussion of the *Spirochæta pallida* is, perhaps, somewhat limited, although it is becoming more and more probable that this organism may be only incidentally associated with syphilis. It is unfortunate that Wood has made no mention of the work of Ricketts on the causation and spread of Rocky Mountain fever, as this is not only of great interest but is of extreme importance.

The introduction, into the section on urine, of Folin's methods for the determination of ammonia and of creatinin, as well as of various new and more reliable methods for the determination of beta-oxybutyric acid, has greatly enhanced the working value of this portion of the book. It would, however, seem that the author should have taken the opportunity in this revision to enlarge greatly his clinical discussions of the various factors, which may be closely studied in the urinary output.

It is in the section on transudates and exudates that one observes the greatest changes. Here one finds a discussion of Cammidge's reaction C, of the cutaneous and ocular tuberculin reactions, of the opsonic index, of the Wassermann and hemolytic tests, and a treatment of the Negri bodies as associated with rabies as well as of the Leishman-Donovan bodies as related to kala-azar. These insertions are treated clearly, although somewhat briefly; they should, however, prove of great value to the general as well as to the special student.

This work is to be especially commended for the clearness and brevity of its text, for its careful and judicious selection and discussion of the tests and methods advocated, and for its thorough treatment of the general subject matter of chemical and microscopic diagnosis. The cuts and plates are satisfactory and entirely adequate. A complete index makes the book a very easy one with which to work.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. Part VIII. Gout. By Prof. Dr. H. Strauss, Professor of the Third Clinic, Royal Charity Hospital, Berlin. Authorized American Edition. Translated Under the Direction of Nellis Barnes Foster, M.D., Associate Physician to the New York Hospital. Cloth. Pp. 70. Price, $1. New York: E. B. Treat & Co., 1909.

This little volume is the authorized American translation of a series of articles published seven years ago. They are written altogether for the general practitioner and make no claims to exhaustiveness. The chapters on the pathogenesis of gout, including the pathology and chemistry of uric acid, are clear and concise and contain all the information practically necessary. As was to be expected, particular importance is given to German publications, while the valuable American contributions to this subject are altogether omitted. The symptomatology of uricacidemia is covered in about two hundred words occupying one page. This brevity is commendable, especially by contrast with the voluminous, vague symptomatology covering many pages in other monographs on the subject. There are really very few clean-cut definite symptoms of uric acid intoxication.

The therapeutics of gout are very well presented in this work, especially from the dietetic standpoint. Much that is here recommended apodictically seems rather theoretical and commands consideration chiefly because it is supported by the authority of so careful and experienced a clinician as the author of this monograph. There is nothing new about the treatment of the acute attacks, or about the balneologic management of gouty cases. A great deal of conservatism is displayed in the recommendation of the protean array of drugs that have at different times been recommended for the treatment of gouty manifestations.

Semmelweis, His Life and His Doctrine. By Sir William J. Sinclair, M.A., M.D., Professor of Obstetrics and Gynecology in the University of Manchester. Cloth. Pp. 369. Price, 7 shillings 6 pence. Manchester: At the University Press, 1909.

With the exception of a small monograph written by Dr. Duka, a Hungarian, and published in 1888, this is the first biography of Semmelweis in the English language. This remarkable man, perhaps the only medical discoverer who can be ranked with Jenner in regard to the importance of his discovery, has a life-history as sad as it is interesting and instructive. Professor Sinclair has succeeded in giving a very interesting picture of the man and of the condition of obstetrical practice and teaching of his time, and in conveying a clear impression of the contents of his epoch-making and immortal work, "The Etiology, the Nature and the Prophylaxis of Childbed Fever." In drawing this picture Sinclair has quoted largely from all the chief physicians of Austria, Germany, France, England, Italy and other European and foreign countries, as well as from the work of Semmelweis himself. In this way we get impressive and fascinating details drawn by contemporary hands of a struggle for the acknowledgment of a truth.

The book is divided into nine chapters, the first two of which contain the introduction and a brief sketch of Semmelweis' parentage and nationality. Chapters 3 and 4 describe his life in Vienna, and the rise and spread of the doctrine of the contagiousness of puerperal fever, the disappointment of Semmelweis on account of his treatment, and his departure from Austria. Chapter 5 contains an account of the beginning of his work in Budapest and the further diffusion of his theory before the appearance of his book. In Chapter 6 there is a short but satisfactory abstract of Semmelweis' book, together with a review of his correspondence and an account of the further dissemination of his teachings. Chapter 7 gives an account of his last illness and a summary of the spread of Semmelweis' doctrine. In Chapter 8 the work of forerunners and contemporaries is reviewed and the claims of Holmes considered. While admitting the services of Holmes, Sinclair holds that the work of Semmelweis and that of Holmes are not to be compared. One made a discovery and founded a doctrine; the other did not contribute a fact of his own, but conferred great benefits on humanity by devoting his literary genius to attracting attention to puerperal fever and by trying to suppress the practices which brought childbed fever in their train. Sinclair says, "If Semmelweis could have written like Holmes his 'Etiology' would have conquered Europe in twelve months." In Chapter 9 the relations of the doctrine of the contagiousness of puerperal fever to bacteriology are discussed.

The book closes most appropriately with the eloquent sentiment of his sympathetic biographer, Bruck of Budapest:

"The great revolution of modern times, in obstetrics as well as in surgery, is the result of the one idea that, complete and clear, first arose in the mind of Semmelweis and was embodied in the practice of which he was the pioneer. When we with just satisfaction contemplate and enjoy the achievements which with mighty strides bring us nearer to the Fortune's crowning slope of full fruition, every time must the name of Semmelweis be uttered with grateful recognition."

Clinical Treatises on the Symptomatology and Diagnosis of Disorders of Respiration and Circulation. By Prof. Edmund Von Neusser, M.D., Professor of the Second Medical Clinic, Vienna. Authorized English Translation by Andrew MacFarlane, M.D., Professor of Medical Jurisprudence and Physical Diagnosis. Part III. Angina Pectoris. Cloth. Pp. 71. Price, $1. New York: E. B. Treat & Co., 1909.

This monograph has been a recognized classic for a number of years. In so far as nothing new has been contributed either to the pathogenesis, the diagnosis or the treatment of angina pectoris since this treatise was written, the present English version fulfils a useful purpose. The translation is fairly good. It does not obscure nor does it embellish. The differentiation by type of case-reports from the text proper is omitted in the English edition, probably in order to make a larger volume.

A Book of Quatrains, Original and Translated. By Frederic Rowland Marvin. Cloth. Pp. 101. Price, $1. Boston: Sherman, French & Co., 1909.

This little book is a compilation of original and translated quatrains, many of which are classical. It furnishes pleasant reading for a leisure hour.

Medicolegal

Company Maintaining Hospital Not Liable for Surgeon's Failure to Give Promised Notice of Changed Condition of Patient

The Court of Civil Appeals of Texas says that the case o Carroll vs. St. Louis Southwestern Railway Co. (120 S. W. R 1079) was founded on the alleged failure of the chief surgeo in charge of the defendant company's hospital to comply wit a promise he had made to notify the plaintiff of any unfavorable change in the condition of her son, as a result of a surgical operation he was to undergo for appendicitis.

Admitting all that was alleged—that the promise wa given, and that the surgeon either wilfully or negligentl failed to send the notice—the court does not think it followe that the railway company would be liable for the consequence of such failure. Before the company could be held responsibl it must appear from the averments of the petition, at least that it owed the duty of sending that notice to the plainti when the conditions arose calling for such information. Th right to recover damages must depend on the breach of som duty assumed by contract, or imposed by the law of th land. It was claimed only that the surgeon made a promise without alleging anything which would, in law, constitut a consideration giving to such a promise the force of binding contract to perform the particular service. There wa nothing to show that this promise was more than a persona and gratuitous undertaking on the part of the surgeon t accommodate an anxious mother. But, assuming that it wa personally binding on him, there was nothing alleged whic would show that he had authority to bind the company b any such promise.

The petition showed that the defendant was an ordinar railway corporation engaged in the business for which suc companies are usually chartered. It maintained a hospita for the benefit of its sick and disabled employees, and ha placed the surgeon in charge for the purpose of treating th inmates. Certainly, it could not be contended, with any show of reason, that this surgeon had the authority to make binding engagements to transmit to outsiders having no connection with that institution messages regarding the conditio of the inmates.

From the facts stated, the only dereliction on the part o the railway company for which the plaintiff might hav maintained an action for damages would be such negligenc as might have caused the death of her son. But nothing o this character was charged.

If this action be regarded as one founded on the negligen failure to perform a legal duty, as distinguished from breach of contract, the petition still failed to state any elements of damages recoverable in such a suit. No physical o personal injury was alleged, but mental anguish alone constituted the damages claimed. The doctrine laid down in th telegraph cases, and relied on by the plaintiff as sustainin her right to recover for mental anguish alone, distinctl places their holding on the ground of a breach of contract.

Admissibility of Hospital Records as Evidence

The Supreme Judicial Court of Massachusetts applies, i the personal injury case of Delaney vs. Framingham Gas Fue and Power Co. (88 N. E. R. 773), to hospital records, practically the same rules which it has applied to tradesmen' books, to determine their admissibility in evidence. The hospital records in question, it says, were not made in accordanc with a requirement of law and therefore were not legal record within the meaning of the rule that legal records or copie thereof are generally admissible in evidence. Still it appeare that the hospital records were made in the usual course o business, by a person in the discharge of a duty, who appeare not only as the maker of them, but as their custodian. If sh had died and her handwriting had been proved, in the absenc of any other testimony as to the manner in which they wer made up, they would have been admissible in evidence. I would have been assumed that the records were of facts know to her. The rule or requirement applicable to such record ordinarily is that the entries were made by a person who had personal knowledge of the truthfulness of the statements. That rule or requirement has been adhered to quite generally, except where in the course of the business the clerk making the entry received his information either orally or in writing from various persons whom he cannot expect to remember and whom it will be impracticable to call as witnesses.

But in this case it appeared that the person who made the records and had the custody of them, never had any personal knowledge of the facts stated therein: that she received slips of paper from the physician, and copied them into the record, and that was all she knew about them. The record was offered as evidence to show that the statements therein made were true. As handed to the witness by the physician, they were simply statements of the physician as to what the patient had said to him, or as to the diagnosis made by the physician. The records were comparatively recent. It was not shown that the physician was not living and within the jurisdiction of the ourt. No necessity was shown therefore for the introduction of this hearsay testimony. For aught that appeared there was etter evidence. Under these circumstances the records were ot admissible in evidence. The reason on which the general ule was based, namely, that the record should be a record of acts of which the writer had personal knowledge, should be pplied. The case was not within the above-mentioned exception to the general rule.

Assistant Not Liable from Operating Surgeon Leaving Sponge

The Supreme Court of Michigan says in the malpractice case of Brown vs. Bennett and Smith (122 N. W. R. 305) that it was the theory of the plaintiff that the defendants jointly undertook to perform an operation on her; that they, or one of them, left in the abdominal cavity one of the gauze pads or laparotomy sponges used in performing the operation; that t remained there for ten months; that this was negligence, nd that for the effects of such negligence both of the defendnts were liable. The trial resulted in a judgment against oth of the defendants for $625.

But the Supreme Court finds no testimony tending to prove joint undertaking of the defendants. The case for the plainiff, it states, stated most favorable to her, was that she was dvised by her physician, Bennett, who had treated her for ertain disorders, that the remedy for her ailment was a urgical operation. The family of the plaintiff, including her usband, knew of this advice, consented that an operation hould be performed, and that the defendant Bennett should elect and arrange with some surgeon to perform the operaon. They were told that Dr. Smith had been selected; that trained nurse would be selected by him; that it was proposed hat there should be present Dr. Smith, who was to receive 75, and Drs. Bennett, Crosby and Ransom, who were to be aid $10 each. The husband or father of the plaintiff, or oth, agreed to procure, and did procure, $100 and gave it to r. Bennett, and took his receipt therefor. Afterwards they aid him $5. This money Dr. Bennett distributed as above dicated, receiving himself $10. The husband of the plaintiff, some one for him, also paid the nurse. Every one underood that Dr. Smith would perform the operation, assisted by he other physicians.

There was some testimony to the effect that the contract ade, not by the plaintiff, but by her husband and her father, as made with the defendant Bennett, and that he was to e that the operation was properly performed, and would arantee a cure. But this did not tend to prove a joint ndertaking by these defendants to perform the operation. was said in the brief for the plaintiff that "the husband the plaintiff agreed to employ Dr. Bennett and Dr. Smith perform this operation," but it was the not uncommon se of a practicing physician advising a patient to submit a surgical operation to be performed, not by himself, but some surgeon of reputation, skill and experience, for which eration, with the consent of his patient, he makes the necesry arrangements, in performing which he assists the operatg surgeon as directed or advised. The operation was not rformed by these defendants jointly. Dr. Smith performed as his testimony and that of each of the physicians and the nurse conclusively showed.

In accordance with modern methods, the operation was an organized performance. Dr. Crosby administered the anesthetic. That was his duty and responsibility. Drs. Bennett and Ransom assisted the operating surgeon. "They stood with me," Dr. Smith testified, "at the side of the patient and assisted me as I directed; that is, they retracted the sides of the wound when it was open, pulled them apart, the sides of the wound. They helped in regard to sponging up blood, and perhaps occasionally caught a spurting vessel when it was cut, and that is about all, generally. I performed the operation. The duty of Dr. Ransom was practically the same as Dr. Bennett." The nurse had charge of the sponges before and after they were used, and counted them before and after the operation. That was her duty. The operating surgeon, having inserted the large sponge or pads, and having removed all of them in the immediate field of operation, relied on the nurse and her assurances that all sponges were accounted for, and closed the wound.

Undoubtedly each case of this nature must stand on its own facts. The length of time required to perform the operation, the nature of the operation itself, as whether the field is deep in the abdomen, the number of pads or sponges used to keep the field of operation clear, the opportunity or chance for one or more of the pads to be displaced, rolled on itself, and hidden, all of these and other considerations measure the required skill and care of the surgeon.

It must be considered as established in this case that a sponge or pad was left in the abdomen, and that an injury to the plaintiff was the consequence. It was not claimed, and was not to be supposed, that any one was intentionally at fault. Both of the defendants were men whose general professional knowledge and skill were unquestioned and undoubted. They were not engaged in a trespass. Neither was employed by the other. Each was required to exercise ordinary skill and care. But direction and control of the operation were both with one man. Whether responsibility for what occurred is rested on contract or on negligent performance of duty, there is no rule of law which under the undisputed facts impute want of skill or care by Dr. Smith to Dr. Bennett. The jury should have been so instructed.

As to Dr. Smith, it is held that the court did not acquire jurisdiction over him, because he was a non-resident of the county where sued and under the circumstances could not be held to come within the Michigan statute, which, in effect, provides that what is termed an action of trespass on the case against two or more defendants may be brought in any county where one or more of them resides or is found.

The conclusions are held to require a reversal of the judgment, and no new trial.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

November 27

1 *Treatment of Pulmonary Tuberculosis Based on the Assumption that the Dietetic Cause of the Disease is Lime Starvation. J. F. Russell, New York.
2 Is There a Venereal Peril for Us? J. Van R. Hoff, U. S. Army.
3 *Hemolysis and its Diagnostic Significance in Cancer and Tuberculosis. F. Smithies, Ann Arbor.
4 Atropin as a Hemostatic. W. F. Waugh, Chicago.
5 *A Statistical Study of Alcoholism as a Causative Factor in Insanity. C. R. McKinniss, Norristown, Pa.

1. **Treatment of Pulmonary Tuberculosis.**—The special aim of Russell's treatment is to supply lime phosphate, casein, and hydrochloric acid together. Neither alone will answer. They must all be present in the stomach at the same time. The addition of dilute hydrochloric acid to milk and eggs accomplishes this endeavor. With the exception that vegetable juice is no longer prescribed and that the total amount of food consumed is less, the use of this acid is the only notable change made in the treatment heretofore employed. Vegetable juice, glycerin and calcium chlorid have been discontinued. It is now probable that the good effects of vegetable juice were chiefly due to its acidity; of glycerin to its power of extracting enzymes. Calcium chlorid is formed in milk when

hydrochloric acid is added. Russell believes that the results so far obtained give sufficient promise of an improvement in the treatment of the tuberculous in the home climate to warrant their publication. The experiment is not yet completed. There are 25 of the original number of patients still under treatment. Further reports will be made until the work is finished.

3. **Hemolysis in Cancer and Tuberculosis.**—The results furnishing the basis of Smithies' communication are based on the findings in 85 patients affected with various ailments. Some were very interesting, particularly the cancer patients, the syphilitics, the tuberculous patients, and those affected with non-maligunant diseases, but with diseases frequently productive of anemia, as Graves' disease, pernicious and severe secondary anemia, Addison's disease, etc. Of the malignant tumors, in the main, serum from moderately advanced and advanced cases reacted well, while recent tumors either caused poorly manifested reaction or none at all. The cases which did not react at all were one early carcinoma of the prostate, one scirrhus carcinoma of the stomach, and one early malignant tumor of the breast. There were two "undetermined" reactions, namely a late cancer of the breast and an early cancer of the uterus. There was one case of "reverse hemolysis," first emphasized by Crile. Both these patients had moderately advanced lesions. Six patients with tuberculosis showed negative reaction, and a like number are for fairness recorded as "undetermined." Of 12 cases of syphilis, 8, or 65 per cent., were negative, while 3 were classed as "undetermined." In all, the reactions were slightly manifested. One case—a patient with tertiary lesions and grave anemia—exhibited positive reaction. Of 25 patients affected with various more or less serious diseases, selected at random, 5, or 20 per cent., exhibited positive reaction. Of 25 patients ill, but clinically non-cancerous, 6 were classed as "undetermined." These were respectively severe acne, chronic parenchymatous nephritis, old rheumatic endocarditis, gall-stones with jaundice, neurasthenia, and pernicious anemia. One case of chorea—a young female with anemia—exhibited "reverse hemolysis." Of the clinically normal individuals—19 in number—one gave slight positive reaction, while 92.7 per cent. were negative. It seems that the blood serum of the majority of patients affected with malignant disease is capable of destroying normal red blood cells. It also appears that while this fact is very interesting from a clinical and etiologic standpoint, similar manifestations are possible, in non-cancerous patients. It should be emphasized that while the seroreactions for cancer and tuberculosis may furnish valuable and interesting information, they cannot be accepted as sole or deciding evidence. In confirmation of clinical findings they may be of importance, but as with other laboratory tests, of like nature, they cannot take the place of careful anamneses, careful examination of the patients from every viewpoint, and the adoption of clinical measures which have been proved feasible and dependable.

5. **Alcohol as a Causative Factor in Insanity.**—McKinniss' study includes 520 male patients. In 46 per cent. of these, alcohol either alone or in combination, was an important etiologic factor. In 13.5 per cent. they were classed as alcoholic psychoses. In 41 per cent. of the imbeciles and 34.5 per cent. of the epileptics, alcohol was responsible for their commitment.

New York Medical Journal

November 27

6 *Relation of Tuberculosis to Infant Mortality. C. F. von Pirquet, Baltimore.
7 Surgical Treatment of Posterior Displacements of Uterus. C. C. Barrow, New York.
8 *Significance of Posture in Obstetrics. A. F. A. King, Washington, D. C.
9 The Percentage Principle as Applied in Infant Feeding. H. Koplik, New York.
10 *Biology as the Basis of Infant Feeding. H. D Chapin, New York.
11 The Question of Clean Milk. W. L. Carr, New York.
12 The Feeding of Infants During Illness. L. E. La Fétra, New York.
13 Expert Testimony. T. J. Kelley, Willimantic, Conn.
14 *Post-epileptic Albuminuria. J. F. Munson, Sonyea, N. Y.

6. **Relation of Tuberculosis to Infant Mortality.**—Von Pirquet says that if we go carefully into a detailed study of the possibilities of infection, we find in nearly every case tuberculous infants another person in the neighborhood wh has an open tuberculosis. Whether the infection is directl through droplets containing tuberculous germs which ar coughed out by the infected person and then breathed in b the child, or by bacilli taken in from the dust of the room i which tuberculous sputum has been dried out, is a questio which has not yet been decided. In comparison with th danger of infection from other human beings in the neighbor hood, that of infection through tuberculous milk is probabl rather small. Still, the milk of cows with tuberculous udde very often contains tubercle bacilli, and we must consider dangerous, and therefore remove all tuberculous cows fro farms that supply milk for babies; if this is not done, or we do not know the condition of the milk, then it must b boiled. The most important way to prevent tuberculosis i infants is, however, to be careful that the baby does not com in contact with anyone who is likely to have tuberculosis the lungs.

8. **Posture in Obstetrics.**—King maintains that the recum bent posture during labor is much overdone, and that it ofte does harm by prolonging labor, by exhausting the woman, an sometimes leading to the persistence of faulty presentation By persistently maintaining the recumbent posture, th woman is deprived of one of the chief factors of power—th factor of thigh pressure on the walls of the abdomen an uterus, which comes into play when she assumes a sittin kneeling or squatting posture. This thigh posture is also th natural means by which transverse presentations are eithe altogether prevented, or, when they occur, are corrected. Th act of squatting as usually practiced is not a symmetrical pro ceeding. Usually, in squatting, one foot is placed flat on th ground and in advance of the other, while this other foot considerably posterior to the first, rests its toes only on th ground. The thigh of the forward foot will assume a more o less acute angle with the woman's spinal column and wil come in contact with the abdomen over a large surfac extending from the groin to a line considerably above th umbilicus; while the thigh of the posterior foot will b almost horizontal, and will have a much more limited surfac of contact on the lower lateral part of the abdomen only. Th direction of pressure by the thigh of the forward foot will b obliquely upward and toward the median line; the directio of pressure by the thigh of the posterior foot will be almos horizontal from without inward with a little upward lift.

In shoulder and arm presentations, if the woman in squat ting always places that foot forward which agrees with th side of the abdomen toward which the child's breech i directed, the pressure of this thigh will come into forcible con tact with the back of the child, and lift it and the breech en up toward the median line and ensiform cartilage; while th other thigh (corresponding to the foot that is placed pos teriorly and resting on its toes) will press on the abdome low down, over a smaller surface, and coming in contact wi the projecting head of the child will lever it off of the ilia fossa, inward toward the median line, and thus into the pelvi brim, and so a head presentation is produced. And if, instea of squatting, the method of unsymmetrical kneeling is adopted in which the woman kneels on one knee, the same rule is t be followed, the foot flat on the ground must be the one cor responding to that side of the abdomen toward which th breech is directed. Whichever method be tried, it is impor tant that the woman maintain the selected posture lon enough to have a few labor pains.

10. **Biology as Basis of Infant Feeding.**—Neither biochem istry, nor the question of the heat producing power of food nor the quantitative manipulation of the ingredients of vari ous milks, Chapin says, can form alone a broad enough basi for scientific infant feeding. They may all be employed bu must be subordinated to their proper place by biology. Thi science, however, will always put the emphasis on growth a the largest factor in early life. It likewise for the first tim in the history of this question considers the developmental a well as the nutritive functions of milk in connection with th evolution of the particular digestive tract it is intended t serve. Along this same line it will incidentally show how f

various milks are interchangeable and suggest methods of making them so.

14. **Postepileptic Albuminuria.**—In studying a disease whose etiology is so complicated as that of epilepsy, Munson shows that a symptom such as the passage of albumin into the urine after seizures should not be overlooked. The possibilities that this albuminuria is due to an old nephritis which has passed unrecognized—and the nephritis might also have etiologic relationship to the epilepsy—makes it of importance in the study of the causation of the disease. Munson examined 34 patients at the Craig colony. Post-epileptic albuminuria occurred in 28.4 per cent. of the males, and in 12.3 per cent. of the females, or in 21.5 per cent. of the whole number of cases. As regards the kind of seizure in both males and females the entire number of seizures was made up of about 75 per cent. severe and of 25 per cent. mild attacks. Of the seizures followed by albuminuria 81.5 per cent. were severe and 18.4 per cent. mild, these figures being about those for each of the two sexes as well as for their average. It is thus seen that the occurrence of postepileptic albuminuria is greater in males and after severe seizures than it is in females and after mild attacks.

One of the most striking facts brought out in this work is that albumin is always accompanied by casts. The sediment picture is of all degrees—in some urines but one or two casts were to be found in a drop of sediment, while in others the field would be crowded with them. Microscopic fields containing 5 or 10 casts were not uncommon. Practically all varieties of cast were found, though, as may be expected, cellular varieties were rare. So severe is the picture presented in some of these cases that had the urine been received at the laboratory without clinical data, the guess would have been natural that the urine was from a case of severe nephritis. After the seizure, the casts persist much longer than the albumin.

It seems probable from the evidence submitted that there is renal congestion following many severe and some mild seizures. This alone is sufficient to account for the albuminuria, and perhaps for some of the casts. There are not a few cases in which signs of chronic nephritis are present on histologic examination. It seems to Munson that we have to deal with a condition which has its origin in the congestion following or associated at any rate, with the seizure and it does not seem an unfair presumption to assume that some of the chronic changes are due to the congestion, so often repeated.

Lancet-Clinic, Cincinnati

November 13

15 The Problem of Living. C. Pope, Louisville, Ky.
16 Centralization in the Municipalities' Tuberculosis Work. W. C. White, Pittsburg, Pa.
17 The Tuberculosis Dispensary of Cincinnati. O. W. Stark, Cincinnati.

November 20

18 Cerebral Decompression for Papilloedema and Brain Tumor. H. H. Hoppe, Cincinnati.
19 The Septic Tank in Sewage Disposal. R. Holmes, Chicago.

Northwestern Lancet, Minneapolis

November 15

20 *Transactions of the Minnesota State Medical Association.

20. This issue of this journal is devoted entirely to the ransactions of the 1909 meeting of the Minnesota State edical Association.

Southern California Practitioner, Los Angeles

November

21 The Indiana Idea of Human Sterilization. H. C. Sharp, Indianapolis.
22 *Bladder Resections. G. MacGowan, Los Angeles.
23 Trachoma. D. W. White, Phoenix, Ariz.
24 Irreducible Fracture of the External Condyle of the Humerus and Operation. F. E. Shine, Bisbee, Ariz.
25 *Abscess of the Liver of Unusual Origin. W. B. Power, Redlands.
26 Easy Method of Discovering Refractive Errors by the General Practitioner. W. H. Dudley, Los Angeles.

22. Published in *Northwest Medicine*, November, 1909.

25. **Abscess of the Liver.**—The chief points of interest in owers' case, explaining, perhaps, the failure to diagnose the resence of the abscess, were the latent character and long uration of the trouble, the absence of physical signs or mptoms referable to the liver, the presence of evident lesions of kidney and lung, the absence of leucocytosis, and the non-appearance of jaundice.

Journal Medical Society of New Jersey, Orange

November

27 *Medical Expert Testimony. T. P. Prout, Summit.
28 Symptoms, Etiology, Pathology and Treatment of Exophthalmic Goiter. F. McEwen, Newark.
29 When to Operate in Acute Abdominal Affections. A. J. Walcheid, Union.
30 A Plea for More Internists. K. H. Goldstone, Jersey City.

27. Abstracted in The Journal, Aug. 28, 1909, p. 736.

Journal Michigan State Medical Society

November

31 *Unusual Forms of Syphilis of the Liver. A. R. Edwards, Chicago.
32 *Simple Refraction for Family Physicians: Its Promotion During 1908-09. L. Connor, Detroit.
33 *Cases in Which the Extract of the Corpus Luteum has been Used. W. H. Morley, Detroit.
34 *Present Status of Stomach Lavage. C. D. Aaron, Detroit.
35 Danger in Interval Appendectomies. W. H. Haughey, Battle Creek.
36 *Sarcoma of the Ulna. H. E. Randall, Flint.

31. Abstracted in The Journal, Oct. 2, 1909, p. 1122.

32. This article appeared in The Journal, Oct. 9, 1909, p. 1206.

33. **Extract of Corpus Luteum.**—Morley used an extract made from the corpora lutea of beef ovaries rather than an extract of the entire ovary as the consensus of opinion seems to be that the internal secretion of the ovary is produced by the yellow body. The extract is given in 5 grain doses, 3 times a day, from one-half to one hour before meals. His results in 18 cases may be summed up as follows: Five patients were cured, 12 were improved, and 1 obtained no relief. Included in the 12 patients who were improved are grouped those who are still taking the extract. A permanent cure may result in a few of those under treatment. Of the 18 patients, 14 suffered from disturbances of operation or artificial, and 4 from those of natural or physiologic menopause. While the results obtained in so small a group of cases do not warrant the drawing of any definite conclusions, still the author thinks that the results are favorable enough to justify a continuance of the treatment in other cases, where there is a disturbance incident to artificial or physiologic menopause.

34. Abstracted in The Journal, Sept. 25, 1909, p. 1047.

36. Abstracted in The Journal, Oct. 9, 1909, p. 1224.

Memphis Medical Monthy

October

37 Staining Technic for Krauss' Modification of Giemsa's Stain. W. Krauss, Memphis.
38 A Case of Pellagra. R. G. Henderson, Memphis.
39 The Use of the Curette. O. S. McGown, Memphis.
40 Symptoms and Treatment of Typhoid Perforation. W. T. Pride, Memphis.

Archives of Internal Medicine, Chicago

November

41 *Chronic Infectious Endocarditis. F. Billings, Chicago.
42 *Venous Pulse in Paroxysmal Tachycardia. F. W. Peabody, Baltimore.
43 *Relation of Iodin to the Structure of Human Thyroids. D. Marine and C. H. Lenhart, Cleveland.
44 *Use of Active and Inactive Serum in the Complement Deviation Test for Syphilis. H. F. Swift, New York.
45 *Ulceration of Stomach and Necrosis of Salivary Glands Resulting from Experimental Injection of Bile Salts. A. W. Sellards, Baltimore.
46 *The Effect of Hexamethylenamin on Guinea-pigs. C. Frothingham, Boston.

41. **Chronic Infectious Endocarditis.**—In the series of 14 cases presented in this report the disease manifested itself clinically over varying periods of time. In one patient, the symptoms began two years before the real condition was recognized. One case began fourteen months before a definite diagnosis was made. Another patient probably suffered from the disease for more than two years, and in the earlier part of the illness the diagnosis of typhoid was made for a condition which was, in all probability, infectious endocarditis, the diagnosis having been based on the fact that there was fever and splenic enlargement. No rose spots were found; there was no diarrhea, and the Widal reaction was negative throughout.

The infectious organisms found in Billings' 14 cases were as follows: The pneumococcus, 11 cases; streptococcus, 3 cases. The organisms obtained in the 11 patients suffering from pneumococcemia had many of the morphologic characteristics of streptococci. Study of the organisms in culture and in animals proved that they were the pneumococcus. In one patient of this series the infectious endocarditis followed pneumonia. Tonsillitis had occurred in two cases. In the other patients the source of infection could not be learned. There can be no doubt whatever that simple local infection like tonsillitis, as well as abscess of the aural cavities, infection of the postnasal space of the antra, and so forth, may be the port of entry.

In some cases of this series the infection was implanted on an old endocardial or valvular scar. An old heart lesion existed in 7 patients, of whom 6 had suffered from rheumatic fever and one from chorea. Two of the patients gave no history, and the question of previous heart lesion was in doubt. In 5 the infection had apparently been implanted on a normal endocardium or valve. The valves involved in the 14 cases were as follows: aortic valve alone, 1; mitral alone, 7; pulmonary semilunar alone, 1; aortic and mitral together, 5; mitral and tricuspid together, 1. The evidence of heart lesion, as manifested by murmur, may be absent in the primary cases during the earlier part of the disease, and sometimes throughout it. The prognosis with the present knowledge or want of knowledge in reference to any specific treatment is, in his experience, bad.

The treatment should be absolute rest, with good air, sunshine, as much simple liquid and soft solid nourishment as may be given, and the use of those remedies which will conserve the patient's strength and the functions of the organs without too much mischievous interference. Inoculations of patients with large doses of their own dead pneumococci was always harmful. Observation of patients injected with even small doses (2,500,000) leads Billings to believe that this form of treatment for infectious endocarditis due to the pneumococcus is not only devoid of benefit to the patient, but probably is harmful.

42. **Venous Pulse in Paroxysmal Tachycardia.**—From the point of view of the venous pulse all cases of paroxysmal tachycardia apparently fall into a group which includes those cases in which the venous pulse assumes the "ventricular" or "positive" type, and there is no evidence of any contraction of the auricles. It is important to distinguish between cases of idiopathic paroxysmal tachycardia, with sudden onset and cessation, and cases of simple rapid heart action beginning and ending more or less gradually.

43. **Relation of Iodin to Structure of Human Thyroids.**—Marine and Lenhart conclude that active thyroid hyperplasia is present in all developing goiters in all animals. All thyroid hyperplasia so far as they can determine, is anatomically, chemically (iodin) and biologically the same. Thyroid hyperplasia develops in both normal and colloid glands. Colloid glands, anatomically, chemically and biologically, are the nearest approach to the normal gland that hyperplasias can become, and obey all the known biologic laws of normal glands in so far as these laws are at present known. The various degenerations, hemorrhages and cysts are secondary and complicating changes engrafted on to the three fundamental types of normal hyperplastic and colloid glands. Iodin is necessary for normal thyroid activity. The iodin content varies inversely with the degree of hyperplasia. The percentage of iodin present in the thyroids is variable, but there is a quite constant minimum percentage necessary for the maintenance of normal or colloid gland structure. Iodin is taken up rapidly by the thyroid, the rapidity depending on the degree of active hyperplasia. Mild degrees of thyroid hyperplasia accompany or follow many of the chronic nutritional disturbances without detectable clinical symptoms referable to the thyroid. Exophthalmic goiter is constantly accompanied during the progressive stage of the disease by thyroid hyperplasia and the iodin percentage varies inversely with the degree of hyperplasia. In endemic cretinism the fibrous overgrowth with atrophy of the gland cells is consequent on active hyperplasia and is associated with very low iodin content. In myxedema the anatomic and iodin changes are similar to those of cretinism.

44. **Active and Inactive Serum in Test for Syphilis.**—Although the use of active serum gives more delicate results in syphilis, Swift says it is not to be recommended, because it gives too high a percentage of reactions with non-syphilitic serums. When inactive serum is employed in the proportion of twice the amount of guinea-pig serum, a high percentage of positive reactions is obtained in syphilis, and non-syphilitic serums, giving a positive reaction with active serum, give a negative reaction when the same serum is inactivated. The use of inactive serum instead of active serum renders the Noguchi method more accurate and nearly as convenient as originally described, and still easier of application than the Wassermann method. The amount of blood required can readily be obtained without resorting to venous puncture, so that it is possible to make frequent tests without too much inconvenience to the patient.

45. **Lesions Resulting From Bile Salts.**—Sellards found that the injection of guinea-pigs with the lethal dose of sodium glycocholate produces lesions in the stomach which are relatively specific. These lesions are closely analogous to those produced by the direct injection of bile into the pancreatic duct. Injection of sodium taurocholate into the parotid gland of dogs produces lesions which are less extensive than for corresponding conditions in the pancreas. An extract of the pancreas is actively hemolytic *in vitro*. Its behavior toward blood serum and corpuscles in test-tube experiments is exactly analogous to that of the bile salts. The pancreatic ferments might, theoretically, augment the lesions produced, *in vivo*, by bile. The hemorrhage in the acute pancreatitis caused by bile would, judging from the hemolytic reactions, tend to neutralize both the toxic action of the bile salt and also of the pancreatic secretions.

46. **Effect of Hexamethylenamin on Guinea-Pigs.**—Frothingham found that hexamethylenamin, when given subcutaneously in guinea-pigs, either in single doses or in repeated doses, produces necrosis of the muscle and cellular reaction at the point of inoculation. It also causes congestion of the stomach vessels, and in some cases hemorrhage into the mucosa, with ulcer formation. Frothingham says that this work offers no proof as to what lesions in man may be the cause of symptoms occasionally produced by hexamethylenamin, but it suggests that these lesions are not organic. The most interesting points brought out are the enormous amount of hexamethylenamin a guinea-pig can receive subcutaneously without apparent injury, and the fact that hexamethylenamin is another drug to add to the list of those that may cause hemorrhage in the stomach walls of guinea-pigs.

Ophthalmic Record, Chicago

November

47 Conservative Surgery in Ocular Injuries. L. W. Fox, Philadelphia.
48 The Major Smith Modification of the Modern Cataract Operation—Intra-Capsular Extraction of the Cataractous Lens. R. Sattler, Cincinnati.
49 An Operation for Enucleation of the Eye. M. Iversen, Stoughton, Wis.
50 Keratoplasty with the Rabbit's Cornea. F. Valk, New York.
51 Teaching of Ophthalmoscopy to Undergraduates and Graduates in Medicine. W. A. Fisher, Chicago.
52 Ocular Symptoms in Pellagra. E. M. Whaley, Columbia, S. C.

Colorado Medicine, Denver

November

53 *Tuberculosis and its Treatment by Mercury. B. L. Wright, U. S. Navy.
54 Correlation of Pathologic States Between the Thyroid and Prostate Glands and the Uterus, Chiefly Bearing on Epilepsy and Other Nervous Disorders. E. Dupuy, Paris.

53. **Tuberculosis.**—Since the latter part of October, 1908, Wright has made it a routine practice to examine the feces as well as the sputum of every tuberculous patient, and in almost every instance he has demonstrated the presence of the tubercle bacillus in the feces, in many cases in which repeated examinations of the sputum were negative and in which the pathologic lesions of the disease were apparently confined to the lungs. He has also found the bacillus in the feces in cases in which it had long since disappeared from the sputum and the patients appeared to be otherwise clinically

cured. With the above facts in view, it must be admitted, he says, that tuberculosis is primarily a general systemic infection, a bacteremia, but never a local condition under any circumstances. Since February, 1908, Wright has advocated the treatment of this disease by the deep muscular injections of mercury. Experience has led him to modify in some degree the dosage he first used and recommended. He says: Begin with grain 1/15 of mercury succinimid; give injections every other day; slowly increase the dose until a slight tenderness of the gums or a slight diarrhea is produced, then reduce the dose until these symptoms are overcome, and continue the injections until thirty have been given. Then give the patient a rest for two weeks; at the end of this interval of rest resume injections, using the dose used at the last previous injection, and continue on this dose as long as the patient continues to improve, up to thirty injections; if any untoward symptoms arise, or the patient does not appear to be doing well, reduce the dose, or alternate injections of mercury with injections of arsenious trioxid, gr. 1/30 and ferrous citrate, gr. 1/2, for a short time. Each series of injections should consist of thirty, with two weeks of rest intervening. As treatment progresses smaller doses of mercury are required. At the end of one year's treatment a rest of from 2 to 3 months should be given, when, if the patient is not cured, treatment should be resumed. As many patients with syphilis do not respond entirely to mercury but do better when this drug is combined with arsenic, so many patients with tuberculosis do better when arsenic is added to the doses of mercury.

Good results from this method of treatment have been obtained irrespective of what organ or tissue has shown local involvement. Of 83 patients treated by this method during 1908, 89 per cent. were improved, 7 of whom were cured. Of 24 cases of secondary ulcerative tuberculosis of the larynx, 20 were cured; the 4 remaining patients died within two months after admission, post-mortem showing in each case advanced lesions of practically all the organs, and yet in one of these the extremely marked ulcerative process in the larynx was completely healed. Four patients with general glandular involvement, 3 of whom had a suppurative process of the nterior cervical glands, were cured. One patient with tuberculous epididymitis was cured.

Northwest Medicine, Seattle

November

55 The Layman of To-day and his Relation to the Public. W. O. Spencer, Huntington, Ore.
56 *Resection of the Bladder for Malignant Disease. G MacGowan, Los Angeles.
57 Conditions Simulating Bladder Tumors. G. S. Whiteside, Portland, Ore.
58 The Nasal Septum, its Strategic Position and its Baneful Influence on the Eyes and Ears when Deviated or Otherwise Deformed. Submucous Resection. F. W. Hilscher, Spokane.
59 Injury to the Knee and Ankle Joints. O. M. Jones, Victoria, B. C.
60 Epileptoid Conditions. W. T. Williamson, Portland, Ore.
61 The Doctor. E. H. Van Patton, Douglas, Wash.

56. Published in the *Southern California Practitioner*, November, 1909.

New York State Journal of Medicine, New York

November

62 Diagnosis of Pulmonary Tuberculosis. H. S. Goodall, Lake Kushaqua.
63 Management and Care of Tuberculosis. E. R. Baldwin, Saranac Lake.
64 Surgical Aspects of Tuberculous Lesions. E. A. Vander Veer, New York.
65 Tuberculosis in Eye Diseases. J. W. Stirling, Montreal.
66 Artificial Dilatation of Stomach and Colon as Aids in Abdominal Diagnosis: A Helpful Sign in Chronic Appendicitis. W. A. Bastedo, New York.
67 Early Diagnosis of Intestinal Cancer. I. S. Haynes, New York.
68 *Chronic Appendicitis as an Etiologic Factor in Other Conditions. H. J. Knickerbocker, Geneva.
69 *Psychoses Occurring During Pregnancy and the Puerperium. E. P. Ballintine, Rochester.
70 Habit and Diet in the Paroxysmal Neuroses. H. W. Hicks, Amsterdam.
71 Two or Three Points Concerning Insane Patients. G. W. Sargent, Seneca Castle.
72 Functions of the Medical School. E. H. Long, Buffalo.
73 Roentgenology for the General Practitioner. D. R. Bowen, Rome.

68. **Chronic Appendicitis.**—In the routine examination of gestive patients by colon dilatation, Bastedo noted some three years ago, that acute pain or tenderness in the region of McBurney's point or dilatation of the colon regularly meant appendicitis. He has many cases in which the finding has been proved correct by operation, and in every patient operated on in whom the sign was positive, a diseased appendix has been found. He has a few cases thought to be appendicitis in which the sign was negative; in some of these from one to three years have passed without any appendix manifestations; in the others operation was performed and the appendix found normal. In no case with the sign negative was appendicitis found at operation. Bastedo asks all surgeons to employ this method so that its exact value may be determined, for it would seem to be especially useful in cases in which slight tenderness to finger point pressure at McBurney's point still leaves doubt as to the advisability of operation. Pain and tenderness are regularly brought out at the site of old abdominal operations, and occasionally in various parts of an abdomen that has not been operated on. Their occurrence in the same spot at repeated examinations suggests adhesions.

69. **Psychoses During Pregnancy and Puerperium.**—One thousand women have been systematically and individually studied by Ballintine in reference to the causes, symptoms and outcome of their insanity, and the findings carefully recorded. It was found that 457 of these women had borne children (including 5 illegitimate pregnancies). In 141, or 30 per cent. of these cases, the onset of the psychosis occurred during either gestation, the puerperium, or lactation. Agreeing with the results of similar studies recently made by others, Ballintine found that the study of the 141 cases taught that puerperal insanity, so-called, presents no characteristic or constant symptomatology or pathology. On the contrary there are several forms of insanity that may occur during the puerperium or during pregnancy and these are forms that occur as frequently in the non-puerperal as in the puerperal state.

Considered etiologically, the puerperium in many cases was only an exciting or determining cause of the mental breakdown in the predisposed. In other cases the real causes of the psychosis were due to some accident at childbirth, or some other intercurrent disease or infection. In still other cases childbirth was simply incidental to the psychosis.

The majority of cases of insanity occurring in women before the climacteric may be included in three large groups, namely—dementia præcox or the deteriorating psychoses; manic-depressive psychoses; and infective-exhaustive psychoses. Eighty-seven per cent. of the 141 women under consideration glided readily into these three well-known groups of acute insanities. Dementia præcox, the largest group, included 46 persons, four being admitted more than once, bringing the total admission up to 50. The manic-depressive psychoses included 33 persons, 35 admissions. The infectious exhaustive psychoses and allied forms included 38 admissions. Other forms included 20 admissions. Among the patients under consideration were a few in whom a careful study shows that some premonitory symptoms presented themselves before gestation, but the condition was not recognized and in nearly all of these women the puerperal condition of childbirth was believed to be the cause of the insanity, and so recorded in the medical certificate on which they were admitted to the hospital.

Dominion Medical Monthly, Toronto

November

74 The Action of Some Remedies in Myocardial Disease. V. E. Henderson, Toronto.
75 Repair of Injuries to the Pelvic Floor. A. C. Hendrick, Toronto.
76 Sixteenth International Congress of Medicine at Budapest. W. H. B. Aikens, Toronto.

Journal Missouri State Medical Association, St. Louis

November

77 *Internal or Direct Splint in the Treatment of Fractures. H. E. Pearse, Kansas City.
78 Eleven Cases of Epidemic Meningitis Treated with Flexner's Serum. D. L. Harris, St. Louis.
79 Accidental Opening of the Lateral Sinus. E. T. Senseney, St. Louis.
80 Treatment of Parenchymatous and Exophthalmic Goiters. E. G. Blair, Kansas City, Mo.

81 *Injury to the Heart. L. Rassieur, St. Louis.
82 Results with the Wassermann Reaction for the Serodiagnosis of Syphilis. J. W. Marchildon, St. Louis.
83 Acute Perforative Appendicitis with Recovery. H. C. Crowell, Kansas City.

77. **Internal Splint in Fractures.**—Pearse uses a steel splint or splice fastened with screws directly to the replaced fragments of the bone, as first advocated and employed by Lane.

81. **Injury to the Heart.**—The first case was a penetrating stab wound of the right ventricle. The wound penetrated the left pleural cavity. The pericardium could be felt but no puncture was found. A gauze plug was tightly forced into the wound to stop any bleeding. On account of great shock, radical procedure was deferred. The patient was almost pulseless; he was dyspneic. A dressing was applied; morphin sulphate, gr. ¼, was given hypodermically once. Physiologic saline solution was given repeatedly hypodermically and by the rectum. Three days later, signs of a pyohemothorax were appearing. The left pleural cavity was almost entirely full of fluid. One inch of the sixth rib was removed in the left posterior axillary line. The pleural cavity was full of infected blood; a rubber drainage tube was introduced. The course now was one of empyema of the thorax. The patient grew gradually weaker and died seventeen days after the beginning of his trouble. From the postmortem findings it was evident that this was a case of penetrating wound of the right ventricle which would have healed without operation. Unfortunately death, caused by sepsis, intervened.

The second case was a non-penetrating gunshot wound of the apex of the left ventricle and of the margin of the left lung. An incision three inches long, parallel to the papillary line, was made extending through the gunshot wound. One inch of the fourth and fifth ribs was resected (one-half inch of the cartilaginous and one-half inch of the bony portion of the respective ribs).

Interstate Medical Journal, St. Louis

November

84 Investigation as to the Prevalence of Visual and Aural Defects Among the Public School Children of St. Louis County. A. E. Taussig, St. Louis.
85 Value of the Examination of Fresh Blood. S. Strouse, Chicago.
86 Improved Methods for the Examination of Sputum and Blood in Tuberculosis. F. T. B. Fest, Las Vegas, N. M.
87 Cutaneous Manifestations of Diseased Ductless Glands and the Application of Animal Therapy in Certain Skin Diseases. J. M. Winfield, Brooklyn.
88 Rheumatism in Young Children. D. E. Broderick, Kansas City, Mo.

Therapeutic Gazette, Detroit

November

89 A Second Season's Experience of Hypertonic Transfusions in Cholera Controlled by Observations on the Blood Changes. L. Rogers, Calcutta, India.
90 *Method of Curing Quickly Beginning Gonorrhea by Sealing Argyrol in the Urethra. E. G. Ballenger, Atlanta, Ga.
91 Skin Grafting on Large Surfaces. E. K. Macomber, Amsterdam, N. Y.
92 Methods Employed for the Relief of Organic Stricture of the Urethra in the Genitourinary Surgical Department of the Jefferson Hospital. O. Horwitz, Philadelphia.

90. **Method of Curing Gonorrhea.**—The treatment employed by Ballenger was described in The Journal, Dec. 12, 1908, page 2081.

Texas State Journal of Medicine, Fort Worth

November

93 Electricity in General Medicine. J. M. Martin, Dallas.
94 The Technic of the Radical Mastoid Operation. D. T. Atkinson, Dallas.
95 Use and Abuse of Cocain in Ophthalmology. R. H. T. Mann, Texarkana.
96 Is a Double Iridectomy Advisable in Primary Bilateral Glaucoma? W. D. Jones, Dallas.
97 Transient Myopia of Traumatic Origin. W. Ralston, Houston.
98 Trachoma. C. Joyes, Fort Worth.
99 Treatment of Chronic Trachoma. J. M. Woodson, Temple.
100 Bullet in Brain—Removal and Recovery. R. M. Wickline, Austin.
101 Surgical Corsets. B. C. Eskridge, Houston.
102 Relation of Infant Feeding to Future of the Race. L. B. Kline, Houston.
103 Antigonococcus Serum. H. C. Moore.
104 Pellagra in Colorado. C. I. Phoenix, Colorado, Tex.

Ohio State Medical Journal, Columbus

November

105 Myatonia Congenita of Oppenheim. W. B. Laffer, Cleveland.
106 *Phases of Sarcomata and their Removal. J. U. Barnhill, Columbus.
107 Complicated Case of Abdominal Pregnancy. M. Tate, Cincinnati.
108 Palliative Treatment of Prostatic Hypertrophy. A. J. McCracken, Bellefontaine.
109 Extension of Middle-Ear Suppuration Through the Internal Ear to the Brain. J. A. Thompson, Cincinnati.
110 *Multiple Myeloma: Report of Two Cases. G. F. Zinninger, Canton.

106. **Phases of Sarcomata.**—Of 11 cases reported by Barnhill only one could be called an early operation; in 4 there has been no sign of recurrence. The mortality is 63 per cent., the average life after operation being 16 months. In 3 of these cases the *x*-ray treatment was used—one patient has remained well for 5 years, another for 15 months, and the third is still under treatment. Barnhill is persuaded that without its use he should have had a recurrence in a case of sarcoma of the sacrogluteal region. He advocates the *x*-rays or the Coley toxins as supplements or auxiliaries of surgical measures. Of all patients operated on early, in the general line of cases as they come to the surgeon, probably not more than 25 per cent. remain permanently cured. These results could be greatly improved if cases were reported earlier and surgeons were prompt in operating in all suspected cases. Coley's statistics, including about 500 cases of inoperable sarcoma treated by the mixed toxins, show that 10 per cent. recover. This 10 per cent. is, of course, of the inoperable cases—uncured and uncurable, in all probability by any other means. Thus we have, with the combination of operative measures and the Coley serum, a chance to save about 35 per cent. Now, if, in addition to this, the *x*-ray treatment be employed, to prevent recurrence and complete the cures after excision, it is not improbable that we would be able to save another 10 or 15 per cent. of those affected with this type of malignant growth.

110. Abstracted in The Journal, May 22, 1909, p. 1688.

Washington Medical Annals

November

111 Cesarean Section—The Obstetrician a Specialist. J. T. Kelley, Washington, D. C.
112 Therapeutic Value of Ions. P. S. Roy, Washington, D. C.
113 Junod's Blood Derivations. G. Werber, Washington, D. C.
114 Syphilis of Liver and Other Organs. D. S. Lamb, Washington, D. C.
115 Anomalous Origin of the Right Subclavian Artery. W. G. Owen, Washington, D. C.
116 *Bacterial Inoculations in the Prophylaxis and Treatment of Typhoid. J. B. Nichols, Washington, D. C.
117 Case of Osteomyelitis. W. P. Carr, Washington, D. C.
118 Plastic Operation to Free Adherent Arm. E. M. Hasbrouck, Washington, D. C.
119 Epidemic Carcinoma of Thyroid in Fishes. H. M. Smith, Washington, D. C.
120 Dermoid Cyst of Testicle. W. P. Carr, Washington.
121 Congenital Telangiectasis of Arm and Forearm. L. A. LaGarde, Washington, D. C.

116. **Bacterial Inoculations in Typhoid.**—Eight patients were injected by Nichols after the method of Smallman, with from 1 to 4 large doses (150 to 600 millions) each, at intervals of several days, according to the course of the case. One case was complicated with wild delirium, one with intestinal hemorrhage and relapse, one with a relapse, two were prolonged to 31 and 33 days; aside from these, the cases were mild to moderate, and uncomplicated. There was no uniform effect of the injections on the temperature, and in most instances the temperature course seemed unaffected. Only one injection (300 millions) was followed by any notable local reaction or marked soreness at the site of inoculation. The reactions seemed less than would be expected after similar injections in healthy subjects. No bad results from the inoculations were apparent. No effect on the clinical conditions, in the way of either improvement or aggravation of the symptoms was definitely demonstrable. The patients did very well, but that may have been coincidental.

Three patients were treated by a different system—smaller doses at regular and frequent intervals—that is, 50 millions every other day. One was a mild case of 24 days, with a slight relapse. The other two were very ill on admission, and had prolonged febrile courses of 45 and 40 days; but the improvement in one of these cases was so satisfactory that if the injections could be credited with the result the usefulness of the treatment would be confirmed.

The results in the whole series are quite inconclusive. They probably show that typhoid vaccine, even in quite large doses, produces no harmful effects; but to what extent the favorable course in most of the cases was effected by the inoculations is indeterminate. Relapses certainly were not prevented.

Chicago Medical Recorder

November

122 Bismuth Paste Treatment of Tuberculous Sinuses. J. Ridlon and W. Blanchard, Chicago.
123 Sex Problems in Social Hygiene. W. T. Belfield, Chicago.
124 Housing in Illinois Cities. J. H. Tufts, Chicago.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

November 13

1 The Nation and the Tropics. W. Osler.
2 *An Improved Method of Removing the Testicle and Spermatic Cord for Malignant Disease. J. Bland-Sutton.
3 Typical and Fractional Pneumonia. Sir C. Allbutt.
4 *Radium in Treatment of Cancer and Some Associated Conditions. H. T. Butlin.
5 Brain and Mind. C. Mercier.
6 *Civilization in Relation to the Abdominal Viscera, with Remarks on the Corset. W. A. Lane.
7 Rhythmic Interrupters for Use in Electrotherapeutic Work. H. L. Jones.
8 Treatment of Chronic Ulcer of Leg. W. Evans.
9 Atrophic Paralysis of the Muscles of Both Hands and Forearms; Recovery. R. T. Williamson.
10 *Enumeration of Blood Corpuscles by Simplified Methods. R. Samut.
11 Simultaneous Fracture of the Patellæ. W. Sheen.
12 Large Vesical Calculus, Weighing 26¼ Ounces, Removed by Suprapubic Lithotomy; Recovery. W. W. Hearne.
13 The Plea of Lunacy in the Criminal Courts of Scotland. J. Glaister.

2. **Improved Method of Removing the Testicle.**—In a case of malignant disease of the testicle, Bland-Sutton determined to remove the testicle, the spermatic cord, with its arteries, veins, and lymphatics, and the associated lymph glands which lie on the inferior vena cava. The scrotum was freely incised and the right testicle was exposed and freed from its investments, and the spermatic cord was isolated as far as the internal abdominal ring. After much of the loose scrotal skin had been removed, the bleeding vessels were ligated with fine silk, and the testicle was enveloped in a fold of sterilized gauze. The second stage consisted in making a free incision of the right abdominal wall in the line of the linea semilunaris from the costal arch to the opening in the inguinal canal. The incision divided all the structures of the anterior abdominal wall, down to the peritoneum. Gentle tension on he testicle soon showed the position of the spermatic vessels ying in the loose areolar subperitoneal tissue. In order to solate them, they were surrounded by a thin silk ligature ust before their termination in the vena cava. The vas deferens and its artery were ligatured and divided at the brim of the pelvis.

At this stage the retroperitoneal tissues of the right lumbar region were well exposed and examined for enlarged lymph glands. Bland-Sutton found one on a level with the third umbar vertebra, lying on the anterior face of the vena cava; lthough as large as a haricot bean it shelled out easily. A areful search was made for other lymph glands but without uccess. In spite of the large area of tissue opened up, there vas little loss of blood, and the only vessels, apart from the permatics, which required to be ligated were those divided n the scrotum and in the abdominal wall. The abdominal ncision was closed by interrupted silk sutures, and the cut dges of the scrotum were brought together by sutures of hin silk. A narrow rubber tube was inserted into the epths of the wound for twenty-four hours. The wound was ressed with sterilized gauze and Gamgee tissue, held in position by a many-tail bandage, reinforced in the inguinal region y a spica bandage. Afebrile healing followed, with a rapid nvalescence. The patient left the hospital on the seventeenth day after operation.

4. **Radium in Cancer.**—Butlin regards it possible by means f radium to promote the healing of epitheliomatous ulcers very small extent, and to remove the induration around he ulcers. The cure of such conditions appears to be as satisfactory as the cure of rodent ulcers. In cases of epithelioma of any but the smallest extent we are not yet justified in advising patients whose disease is amenable to operation to try the effect of radium unless there are circumstances in the individual case which render an operation inadvisable. So far as associated affection of the lymph glands is concerned, Butlin has not yet seen anything which would warrant him in believing that the application of radium to the primary disease, even if it were successful, would avert affection of the glands, nor has he seen any case in which undoubted secondary affection of the glands was cured or decidedly benefited by the use of radium. Whether the application of radium over the glandular area before it is obviously affected will be found by-and-by to exercise a protective effect on the glands he does not know. At present the glands must be treated, as they have been hitherto, by operation.

The results which he has seen of the treatment of leucoplakia and allied conditions lead him to believe that radium only cures them by substituting thin scar-tissue for them, but does not restore the mucous membrane to the condition it was in before the development of the disease. Treatment by means of radium in such cases has, however, the great advantage over surgical removal or the use of destructive agents in that it is quite or almost painless, and that no actual inflammation and no open sore are produced by the applications when they are made by experienced operators.

6. **Abdominal Viscera and Corset.**—Lane calls attention to the disadvantage that the individual experiences from the habit of keeping the trunk constantly erect. The erect posture affects men and women differently, for the reason that the abdomen of a woman is relatively much longer than that of a man, while the female pelvis and thorax differ materially from the male. The abdominal wall of the woman is also rendered less efficient by pregnancy and by the support afforded by her dress. When the trunk is erect, there exist tendencies to the downward displacement of the viscera contained in the abdominal cavity. The several viscera are influenced by this tendency in a varying degree in proportion as they themselves vary in weight. The mechanics of the abdominal wall are such that the muscles exert a firm pressure on the viscera and tend to prevent their downward displacement. Still, in the abdomen, as well as in the body generally, the anatomy is so arranged that there must be a suitable relationship between the attitudes of activity and those of rest, or, in other words, that the erect posture, in which the viscera tend to drop, must be alternated sufficiently with a position in which all strain is taken off the viscera and the tendency for them to drop is in abeyance. This latter may be obtained by the assumption of the recumbent or of the squatting posture. In the former the viscera tend to displace upward by their own weight, while in the latter they are forced upward by the forcible apposition of the thighs.

This falling of the viscera leads to all sorts of disturbances—more or less annoying—and of more or less serious import. Lane says that the corset has not received the attention it deserves, so that by far the most important factor in the treatment of intestinal stasis and of its effects has been left in abeyance. He urges its therapeutic value on the medical profession as being the most effectual means by which the trouble to which he has called attention may be avoided or mitigated.

10. **Enumeration of Blood Corpuscles.**—Samut uses the Blenden-ocular "Ehrlich." With this instrument enumeration of corpuscles is done as follows: The drop of blood is obtained and diluted in the Thoma-Zeiss pipette and blown out onto the Thoma-Zeiss ruled slide in the usual way. When this has been placed on the microscope, five minutes are allowed to elapse. A No. 9 Leitz objective and a Blenden-ocular are used, the slit being so adjusted by means of the little knob that four squares of the central platform of the counting chamber just coincide with it. The red corpuscles are counted and the preparation may now be shifted as many times as desired, each count representing the number of corpuscles in four squares, since the slit corresponds exactly to four of the squares. The total number obtained after several such counts being divided by the number of counts gives the number of red corpuscles per field of four squares; hence division by four

gives the number per square. This number multiplied by 4,000 would represent the number of corpuscles per cubic millimeter were it not that the dilution has to be taken into account, and accordingly the result must be multiplied by 100 or 200.

Again, the Blenden-ocular may be used for the purpose of counting the leucocytes in the following manner: A dry film preparation of the blood to be examined is fixed and stained by Leishmann's or Jenner's stain. Using a No. 9 Leitz objective and a Blenden-ocular the red and white corpuscles are counted, the shutter of the ocular being at one-half or one-quarter of the total field of vision. The count is made several times through the same slit and an average of corpuscles to the field is obtained.

British Medical Journal, London

November 13

14 Present Position of the Neurone Doctrine in Relation to Neuropathology. F. W. Mott.
15 *General Spinal Analgesia. T. Jonnesco.
16 The Departmental Committee on Humidity and Ventilation in Humid Cotton-Weaving Sheds. M. D. O'Connell.
17 *Classification of Cases of Pulmonary Tuberculosis. W. R. Huggard.
18 Acute Lupus Erythematosus. F. Beetham and F. W. Eurich.
19 Henoch's Purpura. L. Day.

15. This subject was discussed fully in The Journal, Nov. 27, 1909, page 1831, in the Department of General News.

17. **Classification of Pulmonary Tuberculosis.**—Huggard estimates numerically the extent, the intensity and the duration of the disease from 1, the lowest grade, to 5, the highest, except that the highest grade of intensity must be taken to range from 5 to 10, so as to include excessively acute or fulminating cases. The sum of these figures will indicate the class in which the case is to be placed:

Extent: *Amount of tubercle in the lung.* E^1 = Not more than 1/20 of the volume of one lung, whether in one spot (massive), or distributed throughout both lungs (scattered). E^2 = Not more than 1/10 of the volume of one lung, whether in one spot (massive), or distributed throughout both lungs (scattered). E^3 = Not more than 1/5 of the volume of one lung, whether in one spot (massive), or distributed throughout both lungs (scattered). E^4 = Not more than 3/10 to 5/10, or roughly, ⅓ to ½ of the volume of one lung, whether in one spot (massive), or distributed throughout both lungs (scattered). E^5 = Not more than 6/10 to 10/10, or roughly ⅔ to 1, of the volume of one lung, whether in one spot (massive), or distributed throughout both lungs (scattered).

Intensity: All the conditions named under one heading need not be present at the same time. I^1 = Sluggish, with little or no rise in temperature or other general symptoms. Only slight, if any, hemoptysis. Physical signs of active disease slight, just detectable. I^2 = Slight pyrexia and night sweats; moderate loss of appetite and of strength. Physical signs of moderate activity. Bronchial catarrh, if present, slight in amount, and restricted to the area of the tubercle. I^3 = Moderate fever and night sweats; seriously impaired health: loss of strength and weight. Hemoptysis, if present, followed by continued pyrexia. Physical signs of softening or of cavity formation. Bronchitis, if present, more marked or more diffused in I^2. Recent tubercle if elsewhere than in lungs, very slight. I^4 = Grave constitutional disturbance—more pronounced than in I^3. Physical signs of greater activity. Bronchitis, if present, more marked or more diffused. Tubercle if present elsewhere, more active than in I^3. $I^{5\text{-}10}$ = Very serious illness. Physical signs more active still. Bronchial catarrh more pronounced or more diffused. Acute or fulminating phthisis.

Duration: D^1 = not over 3 months; D^2 = not over 6 months; D^3 = not over 1 year; D^4 = not over 3 years; D^5 = over 3 years.

Clinical Journal, London

November 10

20 The Treatment of Fractures: With Special Reference to Mistakes that May Lead to Litigation. C. M. Moullin.
21 Abdominal Emergencies. R. Morison.
22 *Concerning Cough—Special Reference to a Method of Lessening Some of its Harmful Effects. W. E. Burton.

22. **Cough.**—The method referred to by Burton may be briefly described as "discharging" cough without closing the glottis, that is, by maintaining the glottis open from the first stage onward. So that when thus performed cough should consist of (1) a forced but not considerable inspiration made through the nose, the lips being closed; and followed (without closure of the glottis and without pause) by (2) a forced expiration through the mouth. Burton terms this "open" cough.

Medical Press and Circular, London

November 3

23 Suppuration in the Accessory Nasal Sinuses. J. Donelan.
24 Hematemesis and its Surgical Treatment. W. Taylor.
25 Removal of the Normal Appendix. H. A. Lediard.
26 Quackery Law. G. F. Darker.
27 The Ethics of Journalism in Relation to Quackery. H. Sewill.

Journal of Tropical Medicine and Hygiene, London

November 1

28 Hydatid Cyst of the Left Ventricle. Hydatid Disease in the Anglo-Egyptian Sudan. J. B. Christopherson.
29 *Burmese "Htone Na": A Peripheral Neuritis of Malarial Origin. L. G. Fink.

29. **Burmese "Htone Na."**—The object of Fink's communication is twofold: First, to establish the fact that certain forms of peripheral neuritis are of malarial origin. Second, to show in what respect these cases of malarial peripheral neuritis differ from cases of beriberi. In all cases, with one exception, seen by Fink, there was a history of repeated attacks of ague. In the majority there had been some enlargement of the spleen. In some cases the symptoms came on gradually, in others suddenly, usually after a bout of malarial fever or exposure to damp or cold.

Signs and Symptoms: Fever.—Usually there is a previous history of ague, but there may be no abnormal temperature when the neuritis supervenes. Parts affected: usually the lower extremities; sometimes upper extremities as well. The distribution is usually symmetrical.

Knee reflexes: In the early stage this has been noticed to be markedly increased, but later this is entirely lost. This happens also in beriberi. Electric reactions were not tested. Anesthesia varies in extent and degree, but is usually best marked over the front and inner aspects of the legs. Hyperesthesia of skin was not noted. The patients in the early stages usually complain of burning or shooting pains, "pins and needles," or a feeling of numbness. This may affect the lower or upper extremities, chiefly the former. Pinching the skin over the affected part usually causes no pain. Hyperesthesia of muscles is always present. Muscular wasting is very marked in severe cases. The muscles become flabby. Paresis varies as in beriberi, and may go on to complete paralysis with atrophy of muscles. Edema is usually slight, sometimes entirely absent, and, as a rule, is confined to the region of the ankles. Epigastric tenderness or uneasiness at the pit of the stomach has not been observed before or after the neuritis supervened. Furthermore, obstinate vomiting does not occur in malarial neuritis as in some cases of beriberi.

Condition of heart is normal in malarial neuritis; there is no acceleration of the pulse, no palpitations, no cardiac murmurs as in beriberi. Hence, there are no sudden deaths from malarial neuritis as in beriberi. Dyspnea does not occur in the dry variety of malarial neuritis, however severe the case may be. Alteration of voice was not noticed, whereas in beriberi the voice is said to be very hoarse. Mental disturbances are exceedingly difficult to test in native patients. The mental disturbances caused by malarial toxemia are sometimes very severe, and cases of insanity from this cause have been recorded. Optic neuritis and even complete blindness have been known to follow severe attacks of malarial fever.

From the facts noted above it will be seen that while there are many points of similarity between cases of malarial neuritis and beriberi, there are important differences, and these are attributable to the selective influence of the poisons in each case, notably to the affection of the vagus nerves in beriberi and not in malarial neuritis.

Glasgow Medical Journal

November

30 The Doctrine of Inflammation. R. Muir.
31 Pyelitis Complicating Pregnancy and the Puerperium. W. D. MacFarlane.
32 Pregnancy with Kidney Complications. J. Craig.

Annales de Gynécologie et d'Obstétrique, Paris

October, XLVI, No. 10, pp. 577-656

33 *Treatment of Puerperal Infection. A. Pinard.
34 Appendicitis and Diseases of the Adnexa. (L'appendicite et les maladies des annexes.) P. Segond.
35 *Kidney Operations. (Quelques reflexions à propos de 265 opérations rénales.) H. Hartmann.

33. **Puerperal Infection.**—Pinard presents in tabulated form the details of his obstetric service since 1882; the 10 tables and curves giving an instructive oversight of the results of the application of the technic he prefers. During the 26 years there were 58,213 childbirths, the total mortality in the first series of 12,580 being 0.75 per cent. and in the later series of 45,633, 0.44 per cent. His leading principle is that the parturient should be aseptic as also everything that touches her. In order to ensure this he concludes the general and local toilette with vaginal injection of an antiseptic, covering the parts with cotton thereafter. A similar vaginal injection is made at once after expulsion of the fetus and another after the third stage of labor. If there is suspicion of a chance for infection, antistreptococcus serum is injected and an intrauterine injection is given. He approves of curetting with thick fetid lochia but not otherwise, and regards it as dangerous when applied tardily. His curves show the apparent harmlessness of antistreptococcus serum while it seems to increase the resisting powers in streptococcus infection. He has gradually increased the dosage, now injecting 40 c.c. morning and night for 3 days or until all symptoms have vanished. A number of the women thus received from 300 to 600 c.c. and always, he says, to their great benefit. The morbidity has dropped from 25.76 to 5.64 per cent. since 1890, the total mortality from 0.72 to 0.18 per cent. It was only 0.03 per cent. in the 3,028 deliveries in 1907.

35. **Kidney Operations.**—Hartmann performed nephropexy in 31 cases but found that certain patients continued to suffer as before; the disturbances had evidently been of nervous origin or merely one element in multiple ptoses. Intermittent attacks of retention of urine, however, are an important indication for operative measures. In 57 cases of tuberculosis of the kidney, favorable results were attained by nephrectomy, but tuberculous epididymitis developed later in 2 out of the 15 men nephrectomized, another succumbed in less than 3 months to tuberculous meningitis and in several concomitant pulmonary lesions continued to develop. In some of the 42 women an existing pregnancy continued its course apparently unaffected by the nephrectomy. Only 4 of 11 patients with kidney stones and pyonephrosis recovered completely after a conservative operation; a fistula persisted in the others necessitating secondary nephrectomy. The mortality was 13.3 per cent. in 15 nephrectomies done for cancer; the first symptoms had been observed 3, 5 or 12 years before in a number. None of the patients has passed 4 years without recurrence; in several the recurrence developed after the third year.

Archives de Médecine des Enfants, Paris

October, XII, No. 10, pp. 721-800

36 *Recurrent Vomiting in Children. (Vomissements cycliques chez les enfants.) L. Comby.
37 *The Neck Sign in Meningitis. (Signe de la nuque. Signe nouveau sur les membres inférieurs dans les méningites chez les enfants.) J. Brudzinski.
38 Milk for City Children. (Fourniture en masse aux nourrissons d'une nourriture convenable.) E. Deutsch.
39 *Pyelitis and Pyelonephritis as Complications of Measles. (Pyélites et pyélonéphrites comme complication de la rougeole.) M. de Biehler.

36. **Recurrent Vomiting in Children.**—Comby refers to recurring attacks of uncontrollable vomiting lasting for one or several days, observed generally in children between 2 and 6, who are apparently entirely well during the intervals. This singular syndrome has not attracted much attention until the last 10 years, he says, but a good description of it was published by Gruère as early as 1838. Comby himself has encountered 104 cases; 54 in girls. In 6 cases, 2 or 3 members of the family were affected. A neurotic-gouty family history was evident in 62 cases. Preceding dyspeptic disturbances were frequently encountered as also a history of some infectious disease, but appendicitis is one of the most frequent causes; liver trouble and acetonemia are more dubious factors. In the 10 fatal cases on record fatty degeneration of the liver and certain gastrointestinal lesions were encountered, but the appendix was not examined in all. The attack comes on suddenly as a rule, the vomiting continuing for one or three days, or even from eight to ten days. Obstinate constipation is the rule with great prostration, and sometimes there is vague abdominal pain. There may or may not be fever; sometimes it is very high. Coincidence or succession of migraine in some cases is mentioned. He found appendicitis in 50 per cent. of his cases, and regards appendicectomy as the best means to put an end to this recurring vomiting. Medical treatment consists in alkalines to combat the evident acid intoxication, giving from 30 to 60 grains of sodium bicarbonate a day. In prophylaxis he advises a vegetable diet, out-of-door life and general hygiene. During an attack nothing should be given by the mouth, and lavage of the stomach may arrest the vomiting. Morphin is a valuable aid, with saline infusion to restore the needed fluids. The diagnosis has generally wavered between indigestion, poisoning, migraine, meningitis, intestinal obstruction, peritonitis and appendicitis. In 3 of his cases the vomiting recurred even after appendicectomy. In prophylaxis he has frequently derived benefit from a powder containing 0.25 gm. each of calcined magnesia, benzonaphthol and sodium bicarbonate with 0.01 gm. pulverized nux vomica. One of these powders is taken before 2 meals for 10 days and then a wineglassful of Vichy water in their place for 10 days, after which the powders are resumed. This kept up systematically seems to relieve and ward off recurrence unless the trouble is due to the appendix. A simple indigestion or poisoning rarely induces such severe and incessant vomiting. He summarizes the details of his 104 cases. The vomiting recurred every month in some, every four months or more irregularly in others. An acid and chloroformic odor of the breath just before or during the attacks was noticed in a large number of the cases. He quotes extensively from American writers, especially J. P. Crozer Griffith in *American Journal of the Medical Sciences*, 1909, cxx, 553, who also reports a case in which the attacks recurred after removal of the appendix. In 2 of the 4 cases mentioned the children succumbed.

37. **New Sign in Meningitis in Children.**—Brudzinski's previous announcement of the value of the contralateral reflex as a sign of meningitis has been confirmed by his later experience in 17 cases of tuberculous meningitis and 6 of the epidemic variety. He now announces a sign which is even more constant in meningitis than the Kernig and Babinski signs, having been encountered in all but one of 48 cases of meningitis of various etiology, and this exception was in a moribund child. He discovered the sign accidentally in testing for rigidity of the back of the neck; as he tried to bend the neck he noticed flexure movements in the ankle, knee and hip joints. In one child with pneumonia the positive findings with this neck sign cast doubt on its specific nature until further signs of meningitis developed and lumbar puncture gave issue to a purulent fluid containing pneumococci. Increased pressure on the brain is not enough alone to induce this sign as it is absent in hydrocephalus and other abnormal brain conditions.

39. **Kidney Complications of Measles.**—Biehler declares that the fact that complications on the part of the kidneys are so seldom encountered with measles is because no one thinks of looking for them. She, however, has found pyelitis or pyelonephritis in 9 out of 147 cases of measles and albuminuria in 59 others. In some cases the absence of anything else to explain the persisting high fever first led to examination of the urine with resulting discovery of the kidney complication. Nephritis was discovered in a tenth case of mild measles. All but 2 of the 10 children were girls, and the kidneys were known to have been previously healthy. The children all recovered in less than six weeks but in one case nephritis occurred again during an attack later of scarlet fever.

Revue de Médecine, Paris

October, XXIX, No. 10, pp. 673-752

40 Blastomycetic Infection. (Mycose de Gilchrist, blastomycose ou oidiomycose des Américains. I.) L. Laederich and H. R. Duval.
41 *Prolonged Treatment of Epilepsy with Bromid and Deprivation of Salt. E. Long.
42 Two Cases of Sclerosis of the Kidney, of Tuberculous Origin. (Les scléroses rénales d'origine tuberculeuse.) A. Moulonguet and V. Courtellemont.

41. **Treatment of Epilepsy.**—Long reports 7 years' experience in treatment of epilepsy by giving bromids while reducing the intake of salt. He expatiates on the necessity for (1) careful dosage of the bromids as their action is much enhanced under these conditions; (2) exact determination of the amount of salt still permissible; (3) most appropriate form of salt-free diet, and (4) the influence of this diet on the general health. His conclusions emphasize the importance of this method of treating epilepsy as the patients bear it well and it can be kept up indefinitely without harm. In the past, some of the accidents ascribed to bromid intoxication, he suggests, may have been due to the enhancing of the action of the bromid by the patient's casually and unintentionally ingesting less salt than usual, as when, for instance, his diet included more milk. On the other hand, if he happened to eat more salted food than usual, the action of bromids being taken at the time would be correspondingly reduced. The combination of a salt-free diet with bromids given for their sedative action in other affections may prove a valuable innovation in all fields of therapeutics. Long gives the details of 4 typical cases of severe epilepsy in which this treatment was kept up for years with great benefit, the patient being under observation for more than 7 years.

Beiträge zur Geburtshilfe und Gynaekologie, Leipsic

XIV, No. 3, pp. 341-516. Last indexed September 11, p. 901

43 *High Forceps. (Zur Frage der Wertigkeit der hohen Zange.) F. Miescher.
44 Conditions in the Pelvis with Congenital Dislocation of the Hip-Joint. (Beitrag zum Luxationsbecken.) O. Henrich.
45 *Febrile Childbirths and the Prognosis for the Puerperium. (Fieberhafte Geburten und deren Wochenbettsprognose.) E. Wirz.
46 Case of Encephalocystocele. (Hydromeningocele aus einer Encephalocystocele hervorgegangen, mit congenitalen Hautdefekten. Verhorntes geschichtetes Pflasterepithel im Amnion.) A. Sitzenfrey.
47 *Predetermination of Sex of Offspring Before Conception and Determination of the Sex During the Pregnancy. (Bestimmung des Geschlechts am menschlichen Ei vor der Befruchtung und während der Schwangerschaft.) Otto Schöner (Rottach am Tegernsee).
48 Histology and Etiology of Sacral Tumors. E. Eiche.
49 Unusual Case of Incarceration of Gravid Retroflexed Uterus. A. Rosenberger.
50 Influence of Castration in Osteomalacia. M. Ogata.
51 Blood-Pressure in Pregnant and Parturient Women. (Blutdruckmessung bei Schwangeren, Gebärenden und Wöchnerinnen.) Sakurai.
52 Case of Polypous Uterine Sarcoma. J. Bäcker and K. Minich.

43. **The Expediency of High Forceps.**—Miescher has been able to find records of 484 childbirths in which extraction was by high forceps, and by comparing the immediate and ultimate outcome he seeks to determine the relative rank of this method of delivery. The list includes 26 deliveries with normal and 25 with contracted pelvis at the gynecologic clinic at Basle, which he reports in detail. The principle for the application of high forceps, he affirms in conclusion, is that it is the last resource of expectant treatment before perforation; he prefers it in the interests of the mother to a pelvis-enlarging operation. Consequently the forceps should be applied without force, tentatively, ready to proceed, in the home, to perforation or, in the hospital, to conservative Cesarean section or pubiotomy at need. The mortality of 30 per cent. among the children should not deter as, in the home, 70 per cent. of the children are delivered alive who otherwise would have succumbed to perforation.

45. **Febrile Deliveries and Prognosis for the Puerperium.**—Wirz reports from von Herff's clinic at Basle 212 febrile deliveries, about 52 per cent. in primiparæ. The outcome of the cases was the more favorable, the more conservative the management of the childbirth. The main cause for the fever is the premature rupture of the membranes; on this depend all the other phenomena observed. The more protracted the birth after rupture of the membranes, the worse the prognosis; it may be regarded as fatal if the febrile labor extends over several days. The height of the fever is no criterion as to the ultimate outcome. A persistently high pulse rate, even with relatively slight fever, is serious ground for alarm, especially when the temperature subsides as the pulse increases. Operative interference renders the outlook still graver; it should be considered only when tympany of the uterus and other signs indicate severe infection. Under all other conditions, spontaneous delivery seems to offer the best prospects for both mother and child.

47. **Predetermination of Sex.**—Schöner has had access to a parochial register which records the dates of births in 315 families for nearly 100 years, a total of 1,615 children. Comparison of the details recorded here with his own experience and results of his observation has enabled him to form a theory, based on arguments which he relates in detail, to the effect that the sex of the ovum is already decided at conception, and that each ovary produces three ova in succession, two of the same sex, the third of the opposite sex. The other ovary then takes up the task and produces in turn its two ova of the same and one of the opposite sex. The functioning ovary is tender, and this tenderness persists all through the pregnancy and even a little beyond. It is thus possible, he believes, to determine the sex of the fetus by computing the number of menstruations between two conceptions.

Medizinische Klinik, Berlin

October 31, V, No. 44, pp. 1653-1692

53 *Nature and Treatment of Asphyxia in New-Born Infants. (Wesen und Bekämpfungsmethoden der Asphyxia neonatorum.) C. Hoerder.
54 Disturbances in the Sympathetic System and Their Relation to Psychoneuroses. J. Kyri. Commenced in No. 43.
55 Autoserotherapy in Serofibrinous Pleurisy. S. Szurek.
56 *Operation for Felon. (Zur Technik der Panaritiumoperation.) S. Kofmann.
57 Transmission of Acute Anterior Poliomyelitis to Monkeys. (Experimentelle Uebertragung der Poliomyelitis anterior acuta auf Affen.) W. Knoepfelmacher.
58 *Chronic Influenza. F. Franke.

53. **Asphyxia of the New-Born.**—Hoerder explains asphyxia of the new-born as the result of intrauterine stimulation of the respiration center by deprivation of oxygen from some interference with the circulation during the birth process. As the respiration center is thus stimulated, the fetus makes a breathing movement and this draws amniotic fluid into its air passages so that normal respiration is impossible when it finally emerges into the air. The spasmodic breathing movements that follow strong stimulation of the respiration center from lack of oxygen cause the aspirated substances to be drawn unusually deep into the air passages, as in drowning, and this is the cause and danger of asphyxia neonatorum. He warns that a sudden jet of cold water has been known to arrest the respiration even in health. Alternation of friction and dipping the child into cold and warm water are more to be advised. The stimulation from the air has also an influence, the tender skin of the new-born infant probably sharing in the respiratory process. He commends Ogata's modification of the Schultze method and Prochownik's method (the former was described in The Journal, Dec. 14, 1907, page 2044, and Volland's method, Oct. 2, 1909, page 1140), declaring that perseverance is liable to be rewarded with success even after hours. When he was a student, an infant in asphyxia was given up by the obstetrician in charge after prolonged efforts at revival had proved unavailing, but after he had left the room the students took the supposedly dead infant out of the crib to continue their practice of the Schultze swinging which they did not strive to make particularly gentle; in the hands of the third student the child was found to be alive.

56. **Treatment of Felon.**—Kofmann commends the method of incising along the tendons but never over them, reaching them from the side and never cutting into the joint if he can avoid it. He supplements this single incision with a crescent-shaped incision around the base of the nail, distant about 3 mm., cutting down to the bone. This prevents injury of the sensitive tip of the finger and deformity of the joint.

58. **Chronic Influenza.**—Franke ascribes to chronic influenza a number of common ailments which are generally regarded as pure complications and intercurrent affections, but which he thinks are due to the persistence of the influenza infection. The list includes tedious bronchitis, asthma, bone and joint affections, conjunctivitis, neurasthenia and catarrhal affections of various kinds both of the respiratory and gastrointestinal passages. The recurrence or persistence of influenza is frequently styled "mere cold," but every acute influenza, he affirms, should be regarded and treated as a serious illness and every effort made to cure it completely to prevent its persistence in a chronic form. If in any way possible, the

patient should stay in bed and not try to fight the infection, particularly if there is much prostration. In nothing else is it so important to refrain from drafts and getting chilled; the body is incredibly sensitive to these factors during influenza infection, more objectively than subjectively. The patients "catch cold" even in dressing, and in some cases every chilling is followed by aggravation of the state of the blood, aspect and general condition. In some cases he has been able to transform the ailing patient completely by housing him in a warm room for three or five months. One of his own children had influenza twice before the age of 2, once followed by paralysis of the legs for three months and attacks resembling angina pectoris, the pulse dropping to 60. The child did not grow robust until he was kept in the house, protected against chilling, for four or five months for two consecutive winters. He warns his influenza patients: "Beware of getting chilled sitting, lying or standing," but he commends exercise, warmly clad, in almost any weather. Another peculiar feature of influenza is the extreme sensitiveness of the skin to mechanical injury. Complete rest of body and mind aids materially in the cure of bone and joint and other affections of influenzal origin. Bromids are indispensable in the nervous form but iron and quinin do not benefit as the apparent anemia is really a neurasthenic pseudo-anemia; arsenic is the main reliance. He has frequently been amazed at the improvement on a mixture of 5 gm. Fowler's solution, 10 gm. tincture nux vomica and 15 gm. tincture valerian, of which 10 drops are taken in a large glass of water after meals. The dose is increased by one drop until 30 drops are being taken three times during the day. This is kept up for a month or two and then gradually reduced. Very hot brief baths are less debilitating than other forms of bathing in these cases and help in the toughening process. The raspberry tongue is characteristic of chronic influenza; the papillæ on the front of the tongue being red and swollen. A red stripe on the anterior pillars of the fauces is also characteristic during an acute attack and during acute exacerbations.

Münchener medizinische Wochenschrift

October 26, LVI, No. 43. pp. 2201-2248

59 *The Functioning of Diseased Kidneys. (Funktion kranker Nieren.) K. Schlayer and Takayasu.
60 Leech Extract in Treatment of Eclampsia. (Bedeutung des Blutegelextraktes für die Therapie der Eklampsie.) F. Engelmann and C. Stade.
61 Cobra Venom Reaction. (Ueber die Kobragift aktivierende Eigenschaft menschlicher Blutseren und über den Mechanismus der Kobragifthämolyse.) W. Beyer.
62 *Serotherapy and its Dangers. (Ueber Serumbehandlung und ihre Gefahren.) E. Scheidemandel.
63 Demonstration of Tubercle Bacilli in the Blood (Zum Nachweis der Tuberkelbazillen im strömenden Blute der Phthisiker.) A. Lippmann.
64 Possibility of Transformation of Human into Bovine Tubercle Bacilli. (Weitere experimentelle Beweise für die nahe Verwandtschaft der beim Menschen und beim Rinde vorkommenden Tuberkelbazillen und die Möglichkeit einer Umwandlung menschlicher Tuberkelbazillen — Typus humanus—in rindervirulente Formen—Typus bovinus.) A. Eber.
65 New Methods for Determination of Proteolytic Ferments and Antiferments. M. Mandelbaum.
66 *Milk Organotherapy in Climacteric Disturbances. (Zur Therapie der klimakterischen Störungen und der Dyspareunie.) C. J. Bucura.
67 Designation of Tuberculin Dosage. (Zur Bezeichnung der Tuberkulindosen.) Weinberger.
68 Technic for Extraperitoneal Cesarean Section and After-Care. (Zur Frage des Wundschutzes beim extraperitonealen Kaiserschnitt nebst einigen technischen Bemerkungen zu dieser Operation.) F. R. Brewitt..
69 Dangers of Tamponing Nasopharynx. (Gefahren der Tamponade des Nasenrachenraumes.) O. Mayer.
70 *Postoperative Duodenal Ileus. C. Weinbrenner.
71 Apparatus for Automatic Fixation and Embedding of Microscopic Specimens. G. Arndt.

59. **Functioning of Diseased Kidneys.**—Schlayer publishes the results of experimental research which show that the elimination of certain substances is exclusively the task of the tubules or of the vessels. Salt is evidently eliminated by the convoluted tubules and the elimination proceeds undisturbed, so long as they are intact, no matter how much the kidney may be diseased otherwise. On the other hand, lactose seems to be eliminated exclusively by the vessels so that the elimination proceeds unmodified by disease of the tubules. The experiments were made with salt, lactose and potassium iodid. The latter behaved like salt in these experiments. About 150 series of researches were made on rabbits; the nephritis was induced with chromin, aloin corrosive sublimate or uranium, to act on the tubules, and with cantharidin or arsenic to act on the vessels. The result of this research demonstrates that there are two kinds of hyposthenuria, as he calls the excretion of abnormally thin urine. When the tubules are diseased the solid elements are unable to pass into the urine. When the vessels are unusually irritable they respond to the slightest stimuli by throwing off large amounts of water. This dilutes the urine but the solid elements are eliminated as usual, only more diluted. It is thus possible to distinguish between tubular and vascular hyposthenuria.

62. **Serotherapy and Its Dangers.**—Scheidemandel discusses the condition known as anaphylaxis, allergy or hypersusceptibility, and warns that the experiences to date show the possible peril with serotherapy. It should be restricted to cases in which it is absolutely necessary, and the patient's susceptibility should be determined, with minute doses first. Before giving the serum, inquiry should be made as to whether the patient has ever used it before. Scheidemandel thinks that it is possible that curative serums derived from monkeys may be better suited for clinical use than horse serum. He reports a case of severe collapse after a third injection of antistreptococcus serum given on account of a febrile osteomyelitis of the pelvis. These anaphylactic phenomena have been observed as late as three years after the first injection.

66. **Organotherapy of Climacteric Disturbances.**—Bucura suggests the use of milk from cows in heat as a form of organotherapy of climacteric disturbances. He is theoretically convinced that such milk contains exceptional amounts of the internal secretions of the ovaries, and that it might be possible to prevent disturbances from castration if such milk were systematically taken.

70. **Duodenal Ileus.**—Weinbrenner urges that more attention should be paid to postoperative duodenal ileus as it is so easily remedied. The syndrome is apparently that of perforation peritonitis with a stormy onset, but all disturbances subside if the patient assumes the ventral or the knee-elbow position. This relieves the mechanical trouble causing the disturbances. The possibility of this mechanical ileus should be borne in mind in every case of persisting postoperative vomiting of bile.

Wiener klinische Wochenschrift, Vienna

October 21, XXII, No. 42, pp. 1431-1468

72 *Suture of Vessels in Man. (Gefässnaht am Menschen.) E. Ranzi. (Arteriennaht.) J. Gobiet.
73 Seroreaction with Echinococcus Cysts. (Blutserumprobe bei Echinokokkuszyste.) A. Jiann.
74 Disappearance of Seroreaction in Syphilis, and Other Disputed Points. (Ueber das Schwinden der Wassermann-Neisser-Bruckschen Reaktion bei syphilitischen Erkrankungen und einige strittige Punkte derselben.) W. Jaworski and S. Lapinski.
75 *Glycosuria and Pregnancy. (Glykosurie und Schwangerschaft.) M. Reichenstein.
76 Influence of Famine Years in Finland on Incidence of Tuberculosis. (Einfluss von Notjahren auf die Tuberkulosehäufigkeit sowie die Latenz der Tuberkulose auf Grundlage der Kassationen beim finnischen Militär.) K. E. Linden.

October 28, No. 43, pp. 1469-1506

77 *Pancreatitis. P. Albrecht.
78 Changes in Pancreas with Glycosuria. (Ueber Veränderungen des Pankreas bei Zuckerkranken unter Berücksichtigung ätiologischer Momente und des klinischen Verlaufes.) A. v. Halasz.
79 *Vaccine Treatment of Skin Diseases. (Die aktive Immunisierung bei Akne, Furunkulose und Sykosis.) J. Sellel.
80 Cutaneous Reaction to Electrolytic Administration of Tuberculin. (Auftreten einer Hautreaktion bei der elektrolytischen Einführung von Tuberkulin.) F. Winkler.
81 *Removal of Hypophysis Tumor Through the Nose. F. Smoler.

72. **Suture of the Arteries.**—Ranzi reports four cases. They emphasize anew the importance of examining for disturbances of the circulation in every case of fracture; the trauma may have injured some vessel by a bone splinter or from thrombosis, without laceration of the vessels, or by compression from a hematoma or the vessels may have been cut in the injury. The suture of the artery was successful in all but one case in which the patient was not seen until twenty-four hours had elapsed after contusion of the arm and a plaster cast had been applied in the interim. The radial pulse was still missing when the cast was removed, and gangrene developed, notwithstanding the resection of the thrombosed portion and suture of the brachial artery. Gobiet reviews the his-

tory of the subject, mentioning that 74 cases have been recorded, including 17 of circular suture of an artery. He describes a successful case of suture of the axillary artery after removal of an arteriovenous aneurism in a young man. This makes the fifteenth aneurism operation followed by suture; the results were satisfactory in all. In another case a laceration of the popliteal artery from dislocation of the tibia was treated by resection and suture. Gangrene developed, requiring amputation, followed by smooth recovery. He thinks that this is the first case of the kind on record in which an attempt was made to save the limb after such an injury. The prognosis of this injury is very grave and if the defect is two inches long a simple suture is inadequate and the gap should be bridged by a piece of the saphena, excised for the purpose, or its equivalent.

75. **Glycosuria and Pregnancy.**—Reichenstein examined 93 pregnant women in respect to their tolerance for sugar, finding that the fact of the pregnancy seems to have a remarkable effect in reducing the limit of tolerance for sugar. A marked tendency is displayed for glycosuria, both spontaneous and alimentary, as also for alimentary levulosuria. He theorizes to explain it as the result of the action of the ovaries on the other glands with an internal secretion which normally regulate the carbohydrate metabolism, the liver, pancreas, thyroid, parathyroid and suprarenals.

77. **Treatment of Pancreatitis.**—Albrecht reports a case in which the symptoms indicated acute pancreatitis and the laparotomy revealed traces of fat necrosis near the pancreas, but the organ itself was not examined. The transverse colon was found much distended and a drain tube was introduced to form a Witzel fistula. The symptoms rapidly subsided and the patient, a workman of 39, was soon restored to health, except that a slight tendency to jaundice is apparent. Examination a year later showed alimentary glycosuria and abnormally small amounts of trypsin in the stools; these findings were accepted as indicating that the trouble the year before had been true pancreatitis. The clinical picture simulates perforation peritonitis or ileus, but the absence of increased peristalsis and of progressive vomiting turn the scale in favor of pancreatitis. The pulse, pressure and tenderness are not so pronounced as with perforation peritonitis, and the cyanosis of the face and a tendency to jaundice speak for pancreatitis. Another differentiating element is the absence of indican in the urine although positive findings do not absolutely exclude a pancreas affection. The fat tissue necrosis was of such slight extent in his case that the operation evidently had been done during the early phase of the trouble. Between the onset of the acute symptoms and the operation only five days had elapsed, and yet the patient was in such collapse that the condition seemed beyond relief, but the opening made into the intestine and drainage transformed the clinical picture at once, so that a fistula into the large intestine should be regarded as an important measure in acute pancreatitis with much meteorism. In conclusion, he urges the importance of keeping an oversight of all patients who have had acute pancreatitis. Phillips has reported that diabetes developed in 2 out of his 6 cases of chronic pancreatitis.

79. **Active Immunization Against Acne, Furunculosis, etc.**—Sellei reports good results with a staphylococcus vaccine in various staphylococcus affections of the skin. The best results were obtained in furunculosis, two or three applications arresting the affection. He describes the method of making the vaccine and its application.

81. **Hypophysis Tumor.**—Smoler reports a case in which the hypophysis tumor was readily removed by the nasal route, but the patient succumbed to pneumonia from aspiration of blood. In another case of the kind he would make a preliminary tracheotomy before attacking the tumor.

Zentralblatt für Gynäkologie, Leipsic

October 30, XXXIII, No. 44, pp. 1521-1552

82 Acute Fatal Lysol Intoxication. (Akute Lysolvergiftung durch Uterusspülung während eines extraperitonealen Kaiserschnittes.) R. Birnbaum.
83 *Adrenalin in Uncontrollable Vomiting of Pregnancy. (Hyperemesis gravidarum und Adrenalintherapie.) S. Rebaudi.
84 *Emptying the Peritoneal Sac. (Ausschütten des Peritonealsackes.) J. Kocks.

83. **Vomiting of Pregnancy and Adrenalin Therapy.**—Th case reported has been previously mentioned in these column Rebaudi stating that a few cubic centimeters of an extract o the suprarenal capsule proved effectual in conquering previously uncontrollable vomiting which for two months ha been reducing the patient to extreme debility. The adrenali did not seem to have any injurious by-effects either on th mother or the fetus.

84. **Emptying Out the Peritoneal Sac.**—Kocks has notice in many cases that even vigorous irrigation and swabbing ar not always able to clear the peritoneal sac of all clots. Thos remaining are liable to prove an excellent culture medium fo germs, and they explain many of the fatalities after laparotomy. In order to clear the peritoneal sac completely, h makes a practice of turning the patient over first on one sid and then on the other and continuing this until the content of the peritoneal sac have thus been literally all poured out.

Riforma Medica, Naples

November 1, XXV, No. 44, pp. 1206-1232

85 Experience with Thiersch Flaps in Sixty-five Cases. C Cignozzi.
86 The Proteolytic Antiferments in Acute Suppurating Processe (Gli antifermenti proteolitici nella terapia dei processi suppurativi acuti.) D. Maragliano.

Hygiea, Stockholm

September, LXXI, No. 9, pp. 881-1005

87 Hygienic Conditions in Country Schools in Sweden. (E svensk folkskola på landet.) G. Tornell.
88 Multiple Metastases of Malignant Thyroid Adenoma (Metastaserande sköldkörteladenom.) G. D. Wilkens an G. Hedren.
89 Appendicectomy with Immediate Suture: Sixty Case (Redogörelse för den af mig använda metoden vid operatio af varig appendicit.) E. Hedlund.

Nordiskt Mediciniskt Arkiv. Stockholm

XLII, Internal Medicine, No. 1. Last indexed August 28, p.

90 *Suggestions for Improved Physical Diagnosis. C. E. Waller

90. **Physical Diagnosis.**—Waller remarks that the diagnostician has now to determine not only the presence but th character of the tuberculous process in the lung, and he presents evidence to show that the usual method of percussin symmetrical points is liable to prove misleading and tha much more reliable information can be derived from study o the non-tympanitic resonance at a given point tested with percussion of varying force. This reveals the extent and th degree of dulness far better than can be estimated from percussion of symmetrical points with percussion of uniform strength. He classifies the findings as follows: 1. With ligh percussion: The non-tympanitic resonance is heard during th entire phase of respiration but a trifle or distinctly shortene (dulness of the first degree: D, 1); or the non-tympaniti resonance is heard only during part of the respiration (D, 2) or no non-tympanitic resonance is audible. 2. Moderate percussion: The non-tympanitic resonance is heard (D, 3); o no non-tympanitic resonance is audible. 3. Forcible percussion: The non-tympanitic resonance is audible (D. 4), or none at all is heard (D. 5). By percussing in this way, he states it is possible to detect incipient dulness earlier than by any other method, and the findings with different investigators or after different intervals can be readily compared. The percussion findings with pleuritic effusion, etc., do not come within the scope of this method of percussion. He commences the percussion at the points where the resonance normally is particularly clear instead of in the fossa above the clavicle and the supraspinous fossa. The best point is the infraclavicular fossa, a little toward the side from the median line of the fossa, and in the back, in the infrascapular space or the "stethoscopic triangle." After study of the resonance at these points by the scheme outlined above the percussion is carried further. He discusses further the breath sounds rhythmical with the pulse, prevailing opinions in regard to the staccato and systolic breath sounds differing widely both as to their origin and their dependence on the heart action. He explains them as the result of mechanical compression at each pulse wave of the parts of the lung near the large vessels. It is not a pathologic phenomenon, not at least as regards the lungs.

When it is extremely pronounced and widespread the heart nd large vessels should be examined. In conclusion, he disusses what is meant by the term "rough breathing" as used by Turban, Grancher and others, his definition being that it is not a true breath sound, but is probably due to muscular contraction and is of no importance for the diagnosis of pathlogic conditions in the air passages, except as it apparently grows louder as the true breath sounds grow feebler in bnormal conditions.

Norsk Magazin for Lægevidenskaben, Christiania

October, LXX, No. 10, pp. 913-1040

91 *Surgical Treatment of Laryngotracheal Stenosis. V. Uchermann.
92 *Placenta Prævia in Norway. N. Kahrs.

November, No. 11, pp. 1041-1128

93 *Glycerin in Pernicious Anemia. H. J. Vetlesen.
94 Reaction to Pathologic Cell Growth. (Om organismens reaktioner mod pathologisk cellevekst.) M. Haaland.
95 *Acute Articular Rheumatism and its Complications. (Lidt statistik over Rheumatismus acutus og dens komplikationer.) K. Thiis.

91. **Operative Treatment of Stenosis of Larynx and Trachea.** -Ucherman's long article was one of the addresses presented t the recent international medical congress, and discusses the ubject on a broad basis of personal experiences.

92. **Placenta Prævia in Norway.**—Kahrs has found official ecords of 1,505 cases of placenta prævia among 2,858,901 irths since 1853 and up to 1896. The record averages 1 case o 1,200 births, with the death of 7 of the mothers and of 30 f the children each year. He tabulates the cases to show the requency in towns and rural districts and the comparative ortality after different obstetric interventions. The aternal mortality averaged 18.3 per cent. after version; 3.6 per cent. after forceps delivery; 25 after tamponing and 7.3 per cent. with natural delivery. The mortality of the hildren was 58.5 per cent in the 989 cases with version; 37.7 er cent. in the 239 with forceps; 50 per cent. with tamponing, nd 11.4 per cent. in the 44 spontaneous deliveries. The total aternal mortality was 12.9 per cent.; and the fetal mortality 6.3 per cent.

93. **Glycerin in Pernicious Anemia.**—Vetlesen has given lycerin in 2 cases of pernicious anemia according to Tallquist nd Faust's suggestion that glycerin might combine with the poid substance assumed to be responsible for the disintegraon of the red corpuscles, combining to form a harmless roduct. The special lipoid substance found in the anemia om intestinal parasites proved to be oleic acid, and this mbines with glycerin to form triolein. Vetlesen's first case as very encouraging and in the second administration of tablespoonfuls of glycerin a day, with lemon juice, was folwed in the course of two and a half months by an increase the reds from 990,000 to 4,760,000, and of hemoglobin from to 90 per cent. No other drugs were given except a little tipyrin and caffein for a day or so to combat a neuralgic adache. The patient was a woman of 33, six weeks after e birth of her fifth child. During the latter part of the st pregnancy there had been some edema of the legs and buminuria, but after normal delivery the albumin disapared almost entirely. Five weeks later great weakness, rdiovascular symptoms, vertigo and darkness before the es developed, with some fever and mental hebetude by the d of the week, extreme pallor, systolic anemic heart sounds, d retinal hemorrhages, but no hypochlorhydria. The red rpuscles were increased in size and irregular in shape. In s than a month under the glycerin the hemoglobin had creased from 20 to 60 per cent., and the reds from 990,000 2,860,000. By the end of the two months and a half the ight had increased by nearly 20 pounds.

95. **Acute Articular Rheumatism and its Complications.**—iis reviews the experience with 288 cases during 13 years at e Christiania hospital and also with 247 cases of heart sease, 32 of chorea, 89 of chronic rheumatism, and 34 of norrheal joint affections to determine their connection with ute rheumatism. A second attack of the acute articular eumatism occurred in 25.5 per cent., a third in 12.3, and a urth in 4 per cent., while a fifth, sixth and eighth was known from 2 to 0.4 per cent., thus a total of 45 per cent. of the tients had the disease more than once. Two-thirds were between 10 and 30 years old. A preceding or accompanying infectious sore throat was noticed in 53 cases. Complications on the part of the heart occurred in 41 cases, 33 per cent. in patients under 10, 23.3 per cent. between 10 and 20, but only in 7 per cent. of 100 patients between 20 and 30 and never in the 20 patients over 50. In 113 of the 242 cases of heart disease there was a history of acute articular rheumatism, that is, in 46.5 per cent., of arteriosclerosis in 10.7 per cent., of syphilis in 9.2, and influenza in 2.5 per cent., and of scarlet fever, sepsis or chorea in from 1.6 to 1.2 per cent. Only 5 of the 32 patients with chorea had a history of acute rheumatism, but it was possible in 2 other cases, a total of 21.8 per cent. There was some cardiac defect in 31 per cent. of his cases of chorea; in 4 others the affection developed after a fright. About 50 per cent. of the chorea patients had no inherited neurotic or personal rheumatic tendency, but in the others mental derangement, alcoholism or chorea was evident in other members of the family or the parents. In one case exophthalmic goiter developed at the age of 26 after the girl had had five attacks of acute rheumatism. Vetlesen has reported 2 such cases among 43 with exophthalmic goiter, and in 8 he noticed rheumatic complications. In Thiis' 89 cases of chronic rheumatism, a directly preceding acute articular rheumatism was recorded in 14.6 per cent., and in 9 others after an interval of years. In 2 patients there were hallucinations during salicylic medication, suggesting intoxication, and another patient died. The latter was a servant maid of 27, but the exact amount of salicylate taken before entering the hospital was not known, and there were symptoms of diphtheria. Twelve of the patients with acute articular rheumatism were pregnant, and in 2 at the seventh or eighth month premature delivery occurred under the salicylic medication, but one was a syphilitic and the other had erysipelas at the time. One young woman developed urticaria five or ten minutes after taking a tablespoonful of a salicylate solution, equivalent to 15 grains.

Ugeskrift for Læger, Copenhagen

September 30, LXXI, No. 39, pp. 1071-1090

96 *Mode of Action of Gastroenterostomy. (Gastroenterostomiens Virkemaade.) A. Pers.

October 7, No. 40, pp. 1091-1116

97 *Collective Inquiry in Regard to Cancer in Denmark. J. Fibiger.

96. **Action of Gastroenterostomy.**—Pers reports the results of Roentgen examination of 40 patients from a few months to six years after gastroenterostomy to determine its ultimate action. He found that the stomach emptied itself in from 10 to 25 minutes in 9 cases; in from 20 to 50 minutes in 15, and in about 90 minutes in 15. The gastroenterostomy thus answered its purpose of rapid draining away the contents of the stomach in nearly every case, and this effect was obtained whether the pylorus had previously been permeable or not. He gives typical skiagraphs of the findings and of the two exceptions in which the pylorus evidently participated in the evacuation of the stomach; in one of these there were still dyspeptic disturbances. The new opening had either become obstructed or the stomach musculature was too weak, so that the evacuation of the stomach proceeded more as under normal conditions.

97. **Report of the Danish Cancer Research Committee.**—Fibiger states that 1,668 question blanks were sent to medical men throughout Denmark; 144 reported that they were no longer practicing, but all the others, with 11 exceptions, filled out the question blanks with scrupulous care. Microscopic findings were mentioned in 35 per cent. of all the cases of cancer. Only 620 physicians had cancer patients in their charge on the day selected for the enquiry, April 1, 1908. Dropping a few duplicate cases, the number of known cancers in charge of physicians was 1,138 in a population of 2,650,000, that is, 0.43 per thousand inhabitants. This proportion is a little larger than is reported elsewhere, but may be due to more precise records. The proportion of cancer patients in the cities was somewhat larger than in the rural districts, three times as many uterine cancers being reported in the cities than in the rural districts, while gastric cancer is more frequent in the country. About 92 per cent. of the women with uterine cancer and 64 per cent. with mammary cancer

had borne children. The fact that 23 of 112 male patients with gastric cancer were alcoholics, and 7 of 16 with cancer of the esophagus and 4 of 11 with cancer of the liver, suggests liquor as a causal factor, but there is no history of liquor drinking among the 91 women with gastric cancer (with a single exception) and 11 with cancer of the esophagus and 6 of the liver. The influence of heredity seemed to be apparent in 5 or 6 and possibly in 7 per cent. of all the cases. The influence of contagion also seems to be indicated in a number of others, the total reaching 14 per cent., in which there was evidence in favor of the assumption of direct transmission of the cancer. This proportion was still higher, between 14 and 20 per cent., for gastrointestinal cancers. In conclusion he appeals for closer study of the particulars in regard to the anamnesis respecting possible contagion. The collective inquiry by the Danish committee, he says, is the most valuable contribution of the kind yet presented, as over 99 per cent. of the medical men throughout the country cooperated and with zealous thoroughness.

Upsala Läkareförenings Förhandlingar

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98 *Primary Cancer of the Lungs. (Bidrag till kännedomen om den primära lungkancern.) S. Oerström.
99 *Development of Tuberculous Meningitis in Connection with Trauma. V. Hedesström.
100 Changes with Age in Number of Nucleated Cells in the Thymus. (Om åldersförändringar i de Hassal'ska kropparnes antal.) I. Syk.
101 Tuberculin Test for Differentiation of Tuberculous Salpingitis. (Om Kochska tuberkulinprofvet som diagnostikum vid den tuberkulösa salpingiten.) F. Zachrisson.
102 Thirty-five Cases of Ileus from Mechanical Obstacle. (Inre mekanisk tarmtillslutning.) G. Ekehorn.

98. **Primary Cancer in the Lungs.**—Oerström reports 7 cases of primary cancer of the lung, all but one in the right lung. The patients were between the ages of 47 and 69. One patient had had a dry cough at night for several years and began to feel weak a year before the cough increased and slight hoarseness was noticed, after which a tendency to dyspnea soon developed with increasing debility and pain in the right chest. Transient improvement followed tapping but the cancer progressed to a fatal termination four months after the increase in the cough had first suggested serious trouble. In the second case death occurred six months after the symptoms of oppression and pain in the right chest had first attracted attention. The first symptom in the third case was hoarseness, which persisted alone for nearly a year, when increasing emaciation and night sweats developed, followed by dull pain in the left thigh and inability to stand on the left leg. Signs of a lung tumor were found and spontaneous fracture of the femur confirmed the diagnosis of a metastatic cancer. Death ensued five months after the first serious symptoms. In the fourth case death occurred eight months after the patient first noticed that her right hand was growing weak and twitching. The jerkiness increased and the arm and back of the neck became involved in the spasms, after each of which the arm felt heavy and lifeless. These symptoms gradually increased to include the entire right side. On entering the hospital the clinical diagnosis was arteriosclerosis, aneurism of the aorta and brain tumor, but autopsy revealed a primary cancer in the right lung with metastases in the brain. The case shows how a metastatic brain cancer can overshadow the entire clinical picture while the primary growth escapes discovery. In the fifth case, chills were noticed and periods of great lassitude, followed in a month by development of pain in the right chest, severe cough and slight mucous expectoration, dyspnea and emaciation. The cancer diagnosed during life was found as anticipated in the right lung after death. It was accompanied by metastases in the liver, suprarenals, peritoneum, etc., and a hypernephroma was found in one kidney. The sixth patient was a soldier of 49 dying five months after he had first noticed pains in the left side of the chest radiating later to the stomach. He lost rapidly in weight and strength, but there was no cough although the physical signs indicated malignant disease in the left pleura. It proved to be a metastasis of a cancer in the left lung which had also induced metastases in the viscera. The seventh patient was a woman of 50, mother of 12 children, who had been coughing for two months, with a little blood at times in the scanty sputum; fine hard râles were heard over the left lung. She had also night sweats, but no tubercle bacilli in the sputum. The progressive dyspnea was explained by the autopsy findings in the seventh month, revealing a primary cancer in the right lung. The pathologic anatomy of the tumors in the various cases is described in detail and the prevalence of primary cancer in the lung is discussed on the basis of published records.

99. **Tuberculous Meningitis in Connection with Trauma.**—Hedesström reviews the literature on this subject and reports 5 cases from his own experience in which tuberculous meningitis followed a traumatism in persons with a primary focus elsewhere. The tuberculous meningitis was an autopsy surprise in 3 of the cases as attention had been directed solely to the trauma. The latter had probably roused the tubercle bacilli lying latent in some primary focus elsewhere and allowed their entrance into the blood where they settled in the meninges as the point of least resistance owing to the injury from the accident to the head. All the patients had been previously clinically healthy, and the trauma was comparatively trifling, but a few days afterward slight brain symptoms developed, increasing until the patients had typical meningitic symptoms by the fourteenth to the twenty-ninth day, with death the twenty-fourth to the fortieth day, the autopsy revealing the tuberculous nature of the meningitis and the unsuspected primary focus in the lungs or bronchial glands.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Collectanea Jacobi. Collected Essays, Addresses, Scientific Papers and Miscellaneous Writings of A. Jacobi, M.D., University of Bonn (1851); LL.D., University of Michigan (1898), Columbia (1900), Yale (1905), Harvard (1906). Professor of Infantile Pathology and Therapeutics New York Medical College. In Eight Volumes. Edited by William J. Robinson, M.D., New York, 1909. Price, $15 per set. If ordered before January 1, $10. New York: The Critic and Guide Co., 1909.

Rotter's Typische Operationen. Kompendium der Chirurgischen Operationslehre. Mit besonderer Berücksichtigung der topographischen Anatomie, sowie der bedürfnisse des praktischen u. Feldarztes. 8 Auflage. Pp. 362, with illustrations. Herausgegeben von Dr. Alfred Schönwerth, K. Bayr. Oberstabsarzt und Privatdozent für Chirurgie. Cloth. Munich: J. F. Lehmann's Verlag, 1909.

Girl and Woman. By Caroline Wormeley Latimer, M.D., M.A., Formerly Instructor in Biology, Woman's College of Baltimore. With an introduction by Howard A. Kelly, M.D., Professor of Gynecological Surgery, Johns Hopkins University. Cloth. Pp. 318. Price, $2. New York: D. Appleton & Co., 1910.

Soured Milk and Pure Cultures of Lactic Acid Bacilli in Treatment of Disease. By George Herschell, M.D., Fellow of the Royal Society of Medicine. Second Edition. Cloth. Pp. 72, with illustrations. Price, 2/6 net. Chicago: Chicago Medical Book Co., 1909.

Practical X-Ray Therapy. By Noble M. Eberhart, A.M., M.S., M.D., Professor and Head of the Department of Electrotherapy, Chicago College of Medicine and Surgery. Second Edition. Cloth. Pp. 250, with illustrations. Price, $1.50. Chicago: New Medicine Pub. Co.

Recent Advances in Physical and Inorganic Chemistry. By A. W. Stewart, D.Sc., Lecturer on Organic Chemistry in the University of Belfast. Cloth. Pp. 250. Price, $2.50. New York: Longmans, Green & Co., 1909.

Die Basedow'sche Krankheit. Von. Dr. med. H. Sattler, o. ö. Professor der Augenheilkunde an der Universität Leipzig. 1. Teil: Symptomatologie. Paper. Pp. 523. Price, 21 marks. Leipzig: Wilhelm Engelmann, 1909.

Practical Therapeutics and Prescription Writing. By Daniel M. Hoyt, M.D., Instructor in Therapeutics, University of Pennsylvania. Flexible Leather. Pp. 291. Price, $2.50. Philadelphia: Edward P. Dolbey & Co.

Preventable Diseases. By Woods Hutchinson, A.M., M.D., Author of "Studies in Human and Comparative Pathology," etc. Cloth. Pp. 442. Price, $1.50. Boston: Houghton Mifflin Co., 1909.

Bacteriology for Nurses. By Isabel McIsaac, Author of "Primary Nursing Technique," etc. Cloth. Pp. 176, with illustrations. Price, $1.25. New York: The Macmillan Co., 1909.

State of Ohio Dairy and Food Department Bulletin. Patent or Proprietary Medicines. Renick W. Dunlap, State Dairy and Food Commissioner. Paper. Pp. 82.

Report of the Commissioner of Education for the Year Ended June 30, 1909. Vol. 1. Cloth. Pp. 598. Washington: Government Printing Office, 1909

The John Crerar Library. A List of Books In the Reading Room, 1909. Paper. Pp. 488. Chicago: Printed by order of the Board of Directors.

Annual Report of the Brockton Hospital Company for the Year 1908. Paper. Pp. 56.

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Original Articles

THE SYMPTOMATOLOGY AND FUNCTIONS OF THE OPTIC THALAMUS *

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SYMPTOMATOLOGY

Some years ago I wrote several papers on the subject of the bilateral temperatures in cerebral hemorrhages, and came to the conclusion that cerebral hemorrhages of any importance caused a slight rise in the temperature on the paralyzed side, a phenomenon which did not occur in acute softenings and which had, therefore, some diagnostic value. I further found that there was no particular area in the cerebral hemispheres which seemed to have definite relation to rise or fall of the bodily temperature—in other words, no specific heat center, such as physiologists seem to be able to find in experimental studies on lower animals. Pursuing a somewhat similar line of investigations as regards blood pressures on each side of the body after cerebral hemorrhages, using the Riva-Rocci and Janeway apparatus, I found that, as a rule, there was a difference of several millimeters of mercury in the two sides, there being a lower pressure on the paralyzed side than on the sound side. This unilateral fall in blood-pressure is present very soon after the attack and continues for one or two weeks. The general blood-pressure usually falls during this time, and, as it does this, the blood-pressure on the two sides becomes gradually equal, even though the hemiplegia continues; hence the drop in pressure is not due to muscular paralysis. This final equalization of pressures, however, I found did not always take place. In one patient, who had had his hemiplegia for six years, I found a difference in blood-pressure sometimes of 15 or 20 mm., the pressure being lower on the affected side. For example, on one occasion, the blood-pressure on the right side was 200 and on the left side 150. On another occasion the difference was only 10, the pressure being 160 on the normal side and 150 on the paralyzed side. This patient's hemiplegia had features which indicated an involvement of the optic thalamus. His hemiplegia was not accompanied by contractures, and the arm and fingers of the hand hung straight to he side. The hemiplegia was not very great. The paient's grip was fairly good and he could walk quite well. He had no ankle-clonus and no Babinski phenomnon. While there was no anesthesia or ataxia on the afected side, he suffered intensely from central pain, complaining of a burning and soreness all the time, as well as a great deal of tenderness and hyperesthesia on the paralyzed side. He had, however, no hemianopsia, no disturbances of the ocular muscles or of the pupillary reflexes. The hemiplegia had at first been very much more marked, and was accompanied by ankle clonus and Babinski, but this had gradually disappeared, leaving, to a great extent, only a hemisensory disorder. There was evidently, also, some vasomotor disturbance on this paralyzed side, for the hand was puffy and reddened, and the circulation was evidently sluggish. This altogether formed a fairly good syndrome of the thalamic lesion, and it led me to investigate the blood-pressure in such other cases as I could observe. So far these have been only two. In both of these there was a fairly good thalamic syndrome, with a difference in blood-pressure of between 5 and 10 mm. I have not been able to discover such marked differences in blood-pressure in other old hemiplegics who did not present evidences of a thalamic involvement. Still, this part of my investigations is not finished, and I only present these points as suggestive and worthy of further investigations.

During this time, my interest being aroused in the symptoms due to thalamic lesions, I collected three reports of cases, with autopsies, which had come under my observation at Bellevue Hospital during recent years, and, at the same time, I was fortunate in observing a patient under the care of the late Dr. Loomis, who had a hemiplegia, with thalamic symptoms, and who subsequently died. The autopsy showed a very well-defined lesion, involving the inner portion of the thalamus.

I have studied the symptoms of these four cases and collated them with the studies of three other cases in which there were no autopsies, in order to see how far the records would corroborate preceding observations regarding the symptoms of thalamic lesions. In acute lesions there are three groups of symptoms: one consisting of such symptoms as disturbance of intelligence, due to the general effects of an insult to the brain; second, a set of symptoms due to the pressure of the thalamic lesion on surrounding parts, or the involvement, to some extent, of these parts, and, third, disturbances due to an injury of the thalamus itself.

1. The general symptoms vary, naturally, very much, with the condition of the patient, and have little bearing on the question of localization. Some of my patients, for example, were alcoholic; one had a beginning tuberculosis and terminal pneumonia, and two others had very extensive general cerebral arteriosclerosis.

2. The symptoms due to involvement of or pressure on neighboring parts of first importance were those causing the hemiplegia. This is due to the clot pressing on or tearing the internal capsule, so that in almost all lesions of the thalamus there is at first a hemiplegia, with usually exaggerated reflexes and signs of involvement of the pyramidal tract. These symptoms, after a

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* Read in the Section on Nervous and Mental Diseases of the merican Medical Association, at the Sixtieth Annual Session, held t Atlantic City, June, 1909.

longer or shorter time, pass away in great part, leaving often an almost flaccid hemiplegia. With the hemiplegia there is always some anesthesia, which involves both the superficial and deep sensibilities, so that there may be some hemiataxia as well as hemianesthesia. This anesthesia improves, but, as a rule, it does not entirely disappear, so that finally the patient is left with a sensory hemiplegia largely. The other extrathalamic symptoms were those due to involvement of the corpora quadrigemina and mid-brain. These in my cases consisted only in inequalities of the pupils and paralyses of eye reflexes. Disturbances of ocular movements and forced movements of the body, and choreic and athetoid movements, might be expected, and have been observed, but were not present in my cases. The same may be said of hemianopsia, which occurs when there is involvement of the primary visual centers, including the lateral geniculate body and posterior corpora quadrigemina or the tracts connected with these.

3. The most definite symptoms of thalamic lesion alone seem to be central pain, some anesthesia and perhaps some hemianopsia. The latter two symptoms may be caused also by a lesion that is extrathalamic. Whether vasomotor and temperature changes occur or the viscerai centers can be affected is yet to be proved; but the more recent cases which I have observed seem to indicate that at least extensive lesions in the thalamic territory or zone do cause such results. The pain involves the paralyzed side only: it involves the arm and hands most, the leg and foot next, rarely the head; it is more severe in the peripheral segments of the limbs, i. e., the hands and feet; it may be very distressing and intense. It is usually different from the ordinary kinds of pain, being a sort of burning discomfort, much more distressing, apparently, than sharp or aching pains, and often making the patient's life a burden. Even when the pain is only a slight dysthesia, it seems to annoy the patients intensely. Sometimes the pain is said to be neuralgic and shooting in character. I have not noted such cases.

In all my patients with autopsies there were changes in the pupils. They were usually unequal and one or the other was rigid.

In none of the cases have I observed the so-called paralysis of emotional expression, and in none have I observed any decided explosive laughter or crying, unless there were symptoms which showed that the lesion involved more than the thalamus. The hemiplegia, in these cases, if it persisted, as it usually did, to some extent, was not accompanied eventually by any increase in reflexes or signs of involvement of the motor tract. I found, in none of them, any choreic or athetoid movements, and it seems to me that these post-hemiplegic movements are in all cases, whatever their source, more commonly developed in children and not in adults.

About the time that I was studying these cases Roussy published a very elaborate monograph on the optic thalamus and the thalamic syndrome. His work contains a very complete and admirable historical introduction. It contains the records of experiments on animals which, it seems to me, are not convincing, and are certainly far less valuable than those which have been made and are now being made by Dr. Ernest Sachs. His clinical studies and pathologic work are, however, very carefully done, and he reaches the conclusion that the thalamic syndrome, which merits to-day a place in our nosology, is characterized by, first, a slight, persistent hemianesthesia, more or less marked for superficial sensation, and, second, by a slight hemiplegia, usually without contracture, and rapidly regressive; third, by a hemiataxia, which is slight, and an astereognosis, more or less complete; fourth, by sharp pains on the hemiplegic side, which are persistent, paroxysmal, often intolerable, and not yielding to any treatment, and, fifth, by certain choreic and athetoid movements in the limbs of the paralyzed side.

Aside from the purely thalamic syndrome, we often have, as already stated, lesions which involve the thalamus and the parts adjacent, so that usually the thalamic syndrome is complicated by the symptoms of these adjacent parts. If the lesion extends well forward, we have a permanent hemiplegia, with contractures. If it is more posterior, we have hemianopsia, involvement of the ocular muscles, pupillary reflexes and forced movements.

It will be seen that the cases which I have studied tend to confirm, in a general way, the elaborate studies of Roussy. We have both, apparently, independently reached the conclusion that the old idea of the thalamus being an organ which controlled the movements of emotional expression was incorrect. It seems unlikely, also, that pure lesions of the thalamus lead to any such disturbances of emotional expression as are seen in forced laughter and forced crying. Still, I believe that thalamic lesions which extend into other areas and involve some of the associated tracts and higher reflexes do produce these phenomena.

FUNCTIONS

It would be premature in me now to discuss the extremely interesting question of the anatomic connections and functions of the thalamus. Work on this line is being carried on by Dr. Ernest Sachs with the very ingenious instruments devised by Sir Victor Horsley and Dr. R. H. Clark. The tendency of the investigations of Sachs, as well as those of Roussy, and of the comparative anatomic studies of Edinger, is to show that the thalamus is essentially only an organ for the reception and distribution to the cortex of sensory impressions, that it forms a part of the primary sensory centers for vision, hearing, smell, equilibrium and deep and superficial sensibility.

One stands almost aghast at the enormous inflow of sensory impulses which this small body must be continually receiving and distributing. The spinothalamic fibers bring up sensations from the columns of Goll and Burdach, and the anterior peduncles of the cerebellum pour its equilibrating outflow from cerebellar cortex and dentate nucleus into the thalamus. The pulvinar receives some of the primary visual sensations, and there are centers which receive impulses from the auditory and olfactory nerves. This sensory inflow is distributed to the various regions of the cortex connected with the sense of vision, hearing and smell and muscular and cutaneous sensibility. Dr. E. Sachs has shown that tracts from the thalamus pass up to the precentral convolutions, there being special fibers for the face, arm, trunk and leg centers.

The thalamus, therefore, seems really to have about the function which Meynert assigned to it thirty years ago, when he said that it was an organ which received sensations and registered them in consciousness. There is still some dispute as to whether it has efferent tracts to the cranial and spinal motor nerves, acting in this way as a reflex center of a high order. It does, however, send efferent fibers to the longitudinal bundle. There is also some question as to whether there are fibers from the cortex to the thalamus. The question whether the thalamus has centers for vasomotor and thermic regulation or for the visual organs is still unsettled. At present all we can say is that it is an enormous primary sensory nodule, acting to receive and to distribute sensory impulses probably of all kinds, but just as it is not all of the primary visual centers or of the primary auditory centers so it seems to me likely that it is not the whole of the primary center for the sensations that are poured in from the spinal cord and cerebellum.

Therefore, there would come from its injury always some sensory disturbances, such as anesthesias, ataxias, astereognosis, pains, and disturbances of vision and of the ocular movements, but these would not be complete in any direction.

In conclusion, we may accept it as a fact that there is a pretty definite thalamic syndrome which has been given above and ought to enable us to recognize thalamic lesions and thalamic lesions associated with injury to neighboring parts. This syndrome may be made much more definite and modified by subsequent investigations. It may be found, for example, that some ocular reflex disturbances always occur; the character of the sensory disturbances need careful study; also the changes in the vasomotor innervation and temperature; indirectly, through involvement of the thalamus, there may be some psychical disturbances, and in large lesions forced laughter and crying may be present. The syndrome varies somewhat according to the location of the lesion. The halamus has a vascular supply from three different sources, and the organ can not be easily destroyed altogether by one vascular lesion.[1]

Case I.—*Focal Hemorrhage in the Optic Thalamus.—History.*—Charles C., aged 56, colored, born in the United States, occupation, porter, was admitted to Bellevue Hospital on December 26. His father died at the age of 60, of unknown cause, and his mother at childbirth; his two brothers were living and well. The family history was unimportant, here being in it no history of rheumatism or arterial disease or alcoholism. The patient was married and had two children. He suffered from the ordinary children's diseases, and had heumatism about five years before admission. He had had no previous attack like the present. He was moderate in his habits—in his use of tobacco and beer. There was no specific history, or evidence of syphilis about him.

Present Illness.—The patient's story was that at about 11 . m. on the day of admission, while at his ordinary work, and feeling as well as usual, he suddenly felt a severe headache, with sickness of the stomach and vertigo. He had to stop work, and an ambulance was called which brought him to the ospital.

Examination.—When admitted he was in a semicomatose tate, with a very complete paralysis of the left side, so that e could not move eitner arm or leg; there was also a lower acial paralysis, the tongue protruding to the left. In general ppearance he was fairly well nourished, mucous membranes ormal, tongue white and coated. There was a systolic apex murmur over the heart; the pulse was slow (50 per minute), egular and strong, of moderate volume, and not very high tension. The arteries were much thickened and had calcareous eposits. The temperature was subnormal, 97.4 F., in recum. respirations 28, and there were a few mucous râles in he lungs. The abdominal organs were normal; skin moist. An examination of the urine, made the next day, and on sevral subsequent days, showed a specific gravity ranging from 020 to 1025, a trace of albumin, no sugar, hyaline and granuar casts during the first week, but no casts after that time. he eyes showed a pronounced arcus senilis; the pupils were unequal, left large, the right small, the left reacted to light slightly, the right not at all to light or accommodation. The paralysis of the left side was complete, as stated, involving the lower part of the face, hand and leg. Both knee-jerks were exaggerated, the left more than the right; there was no clonus or Babinski reflex. There was a slight degree of anesthesia on the left side; no hemianopsia. The patient was able to swallow and his speech was normal, except that it was indistinct, owing to the clouded mental condition. He had incontinence of urine but not of the bowels. He was too stupid to exhibit any emotional disturbances.

Course of Disease.—He vomited once about an hour after admission. He passed a quiet night, took nourishment very well, and appeared much brighter in the morning. His incontinence of urine continued the next day, so that he had to be catheterized. This incontinence continued for the succeeding week. The next day his paralysis had nearly disappeared. He could move the arm and leg, in one or two days he was able to sit up and in four or five days he walked about the wards. At the end of about a week, however, he complained of weakness and grew more dull, went to bed and did not get out of it again. He continued in bed, growing more apathetic, though restless at times, and acted in a childish and irrational manner, talking continually, trying to get out of bed, so that some of the time his feet and shoulders had to be restrained. He would move his arms about restlessly, pulling at the bedclothes and trying to pull over the table near him or to stretch out and reach the patient in the neighboring bed. Still he was able to answer ordinary questions and to talk with his children, who came to see him in the first week of his stay. At the end of ten days he developed at times incontinence of feces as well as of the bladder. The changes in the pupils disappeared, as did also most of the anesthesia and all of the exaggeration of the reflexes. At no time was it possible to get an ankle-clonus or a Babinski on the left side. At the end of the third week the patient was unable to swallow nourishment and medication, and became very weak. He at no time seemed to suffer from any disorder of the special senses, his eyesight and hearing being apparently normal. His temperature, after the initial fall, gradually rose, so that on the seventh day and again on the eleventh day it was 101. It ranged during the course of his illness about 99½. The last day of his illness it rose to 102½ in the rectum. The pulse, which was at first about 50, gradually increased until, on the fifth day, it was 60, and on the seventh day 80. It then gradually increased until it ranged about 100; respirations ranged about 26 throughout the course of the disease. He had an average of one stool a day; the urinal amounts were small, ranging from 10 to 20 ounces per day, though at times some was lost with the stools. He finally developed a hypostatic pneumonia and died on January 16, three weeks after the onset of the disease.

Autopsy.—The postmortem, made by Dr. Fiournoy, showed a slight amount of tuberculosis of the apex of the lungs, and beginning apex pneumonia, on the right side; a thickening and hardening at the base of the aortic valves, and a thickening of both mitral valves, with hypertrophy of the left ventricular wall; marked atheromatous changes in the aorta, both in its thoracic and abdominal portions; very general arteriosclerosis; spleen, liver, suprarenals, and abdominal viscera normal; a chronic interstitial nephritis. The brain showed marked atheroma of the vessels at the base. The dura was not adherent. No edema was noted. The only gross lesion of the brain was a hemorrhage about 2 by 1 cm. in size, in the inner and anterior portion of the right optic thalamus, and confined to the optic thalamus, but pressing very manifestly on the internal capsule behind the germ. The posterior portion or pulvinar of the thalamus was not involved, and as this is the part which is supplied by the posterior cerebral, it is to be inferred that the vessel which was ruptured was one of the small branches of the opticostriate artery, which comes from the middle cerebral.

The localizing symptoms in this case are explained by the findings. The hemiplegia was undoubtedly due simply to pressure. The patient's mental condition was very dull, and he was inclined to sleep a great deal—a phenomenon which has been observed in thalamus lesions.

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[1] Hemorrhages in the thalamus may come from (1) the lenticulo-optic arteries; (2) the postero-internal optic (a branch from he posterior communicating); (3) the anterior choroidal arteries; 4) a branch of the posterior cerebral, which sends also branches the geniculate bodies and their surrounding parts. Also the rteries of the corpora quadrigemina send small branches to the halamus. On account of this varied supply of small arteries, emorrhages of the thalamus are smaller than those of the corpus riatum. The lenticulo-optic and the branch from the posterior ommunicating cause hemorrhages in the anterior and posterior arts respectively. Those in the posterior part are certainly rare. is these which destroy the pulvinar and often neighboring parts, nd cause central pain, hemianesthesia and hemianopsia.

There was an unusual disturbance of temperature at the beginning; it could not be inferred that the lesion here had any effect on what fever the patient had later. There were no convulsive choreic movements and no evidence of pain, either central or peripheral. The patient's clouded mental condition was one that could hardly be explained by the very circumscribed lesion. The paralysis of the bladder came on early and continued to be present, despite the disappearance of the hemiplegia. One could not certainly, however, exclude the mental condition as the causative agent in producing the bladder incontinence. There were no trophic disturbances of the body and no marked vasomotor disturbances. Whether the patient had any paralysis of the emotional movements of face, I regret to say, could not be determined. They certainly were not noticeable when the examination was first made. At that time the facial paralysis was similar to that found in ordinary hemiplegia, involving the internal capsule.

The localizing symptoms were a flaccid sensory-motor hemiplegia, the motor symptoms rapidly disappearing, leaving only sensory symptoms; the absence of exaggerated reflexes; pupillary symptoms.

The absence of central pain was, no doubt, due to the fact that the posterior portion of the thalamus was not involved, the central pain probably only occurring when the branch of the posterior cerebral, which supplies this part, is affected.

The theory that choreic and asthetoid movements are produced by lesions of the thalamus, which irritate the fibers of the internal capsule, would seem to be somewhat weakened by the facts of this case, so far as they go, for here was a lesion which unmistakably pressed directly on and lay close to the motor and sensory tract of the capsule.

The mental condition was not unlike that seen in terminal apoplectic states and might be largely due to the pressure and irritation of the lesion at first; later to toxemia and secondary degenerative changes in the brain, the result of the arterial sclerosis.

Case 2.—*History.*—Henry H., aged 64, mason, was brought to the hospital with the history of having suddenly fallen from a chair, and found to be partially paralyzed on the left side. His previous history was little known, except that he had been a hard drinker. It was not until about three weeks after this attack that he was brought to Bellevue Hospital, where he was admitted on February 21.

Examination.—He was then much emaciated, with brown, dry tongue, rectal temperature 97.6, regular but feeble heart action, no murmurs. The thoracic and abdominal organs were apparently normal, except that the liver was quite small. There was no albuminuria. There was a partial paralysis of the left side, the leg being held rather stiffly, but the tendon-reflexes were absent and there was no clonus. There was some loss of cutaneous sensation on this left side. The pupils were equal, but did not react to light or accommodation. The neck was somewhat stiff. The patient was in a semidelirious state, but slept the greater part of the time. There was incontinence of bladder and bowels. The arteries were very incompressible and atheromatous.

Course of Disease.—The patient continued in about the same condition of semicoma, with a muttering delirium, but without any fever, temperature ranging from 97.4 to 98. He finally developed pulmonary edema and died two weeks after his admission and about two months after the onset of his disease.

Autopsy.—The lungs were emphysematous; the heart was hypertrophied, with some rigidity of the valves. There was atheroma of the aorta. The liver was cirrhotic. The kidneys showed some amount of cirrhosis and parenchymatous degeneration, though there had been no albumin in the urine. The brain showed a good deal of serous effusion under the pia and in the subarachnoid space. There was an old hemorrhage, which had occurred six weeks before in the thalamus, and als quite a fresh one, which lay to the outer side of the first. Th first was confined to the thalamus, the second extended int adjacent parts.

In this case the localizing symptoms were masked b the confused mental condition.

There was the rather remarkable persistence of low temperature, and the rigid pupils, the sensori-motor hemiplegia without exaggerated reflexes, were sugges tive. The muttering delirium and the mental cloudines and somnolence are best explained by the general con dition of arterial sclerosis and the so-called "serou meningitis" or serous effusion which were present. He had had no alcohol for two months. The loss of reflex to light and accommodation in the pupils and absence of deep reflexes were symptoms found also in the pre vious case.

Case 3.—*History.*—Christina T., aged 53, Italian, persona history unknown, two weeks before admission to the hospital was going downstairs, and when near the bottom suddenly fel forward on the floor. She was picked up unconscious and remained so for about an hour. Then she became restless and delirious, and it was noticed that she had a left hemiplegia She was brought to the hospital two weeks later.

Examination.—When admitted the patient was in a mildly delirious condition. There was a considerable degree of paraly sis of the left arm and leg, but very little in the face. There was a cutaneous anesthesia of the left side, and the reflex of the knee on the left side was absent. The thoracic and abdom inal organs were normal, except that the urine showed a small amount of albumin and casts.

Course of Disease.—On the succeeding days the patient be came more quiet and finally quite rational. She slept most o the time. Pupils were evenly contracted, but responded to light. The paralysis gradually improved. After about ten days she began to relapse into a comatose condition, with stertorous respiration, and four days later the coma deepened the pulse became slow, and she died.

Autopsy.—There was found a large recent clot in the optic thalamus, on the right side. The ventricular fluid was not in any excess, but was slightly stained with blood; the clot, how ever, had not burst into the ventricle. The kidneys showed a chronic fibrous nephritis.

Case 4.—*History.*—The patient, a man, aged 34, was taken to the alcoholic wards of Bellevue Hospital, suffering from de lirium tremens. He presented the usual symptoms of motor and mental excitement, with hallucinations. Nothing was known of the previous history. His temperature on admission was 105.4. The next day it was 105.8, and he died on the second day. During his stay in the ward he showed no evi dences of any paralysis or any disturbance of nervous centers aside from the excitement and delirium.

Autopsy.—The brain in this case showed the usual degree of congestion. There was no exudation and not much edema On cutting the brain open a small hemorrhage was found in the middle part of the posterior third of the right optic thalamus. It measured 1 by 0.75 cm. and was about the size of a small bean. Another small hemorrhage was seen on the descending horn of the right lateral ventricle. The other organs were practically normal.

The history in Case 3 simply shows a temporary hemiplegia with residual anesthesia and absent reflex. This, so far as it goes is characteristic of the thalamic syndrome. The fourth case shows simply that a small thalamic lesion may be present and cause no severe symptoms.

53 West Fifty-third Street.

ABSTRACT OF DISCUSSION

Dr. Hugh T. Patrick, Chicago: In these thalamic lesions are the pain and anesthesia pretty well defined as to localization, that is, not quite hemiplegic, but perhaps affecting only the foot, hand or face? This point might be noted in connection with my own paper, because one of the patients whom I did not inject was sent to me by a physician who assured her that I would relieve the pain. She complained of pain particularly in the upper part of the face, not limited to the supraorbital distribution; it was not pain of trifacial neuralgia, but it was exceedingly distressing and was a constant pain which was just wearing this old lady out. She had the other symptoms of thalamic lesion; that is, she had had a stroke of hemiplegia from which she had practically recovered and still had the anesthesia. There was a little clumsiness on the one side, but practically no loss of power.

Dr. H. A. Tomlinson, St. Peter, Minn.: I have the records of three cases of unusually high temperature persisting until death, in which, postmortem, I found a spot of softening on the ventricular surface of the optic thalamus just to the outside of the pulvinar. In these cases the temperature had ranged from 105 to 107 F. for several days before death.

Dr. Julius Grinker, Chicago: In the cases of hemiplegia which are followed by pain, of the kind described, are we to infer that the lesion is always in the optic thalamus?

Dr. C. L. Dana: In Dr. Patrick's case the pain was a central one, but in the cases I have seen the pain has been in the arm and foot mainly, not all over the body necessarily, but in one case I remember the patient who was rather hemiplegic still had terrible pain in the foot and leg. In another patient it was mainly in the arm; and I can conceive that the lesion might be such as to cause pain mainly in the face.

I doubt if one can get any central pain from a brain lesion alone except from a lesion of the thalamus. I do not think there can be pain from the irritation of the sensory tract behind it unless it be perhaps in the bulb. The real serious pain at least seems to be always a thalamic pain.

TRANSMISSION OF MALARIAL FEVER IN THE CANAL ZONE BY ANOPHELES MOSQUITOES *

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It is between eleven and twelve years since Ronald Ross conducted his famous experiments demonstrating the transmission of malarial fever by mosquitoes. This demonstration, it seems to me, has contributed more to the forging of the key to the control of the tropics than any other one in the annals of tropical medicine, for Ross' discovery focused the attention of the medical world on the part played by suctorial invertebrates in the transmission of infectious diseases. Knowledge of this doctrine of the insect intermediary host, coupled with Dr. H. R. Carter's invaluable observation of the extrinsic period of incubation, enabled the yellow fever commission to verify Finlay's notion about the transmission of yellow fever by stegomyia mosquitoes.

The application of these two discoveries, Ross' and Reed's, to the problems of preventive medicine by your President-elect has made yellow fever a historic disease in Panama and is surely reducing the morbidity and mortality from malarial fever to the vanishing-point.

The object of the work briefly reported here was to go over the whole subject of the transmission of malarial fever by anopheles mosquitoes. I have been guided by the work of Ronald Ross, Stephens, Christophers and James, whose investigations of malaria in India and Africa must stand as models for all future workers on this subject. In every malarial region it is a matter of importance to determine the varieties of anopheles in that region, their bionomics, the species hospitable to malaria and those which can not transmit it. The English investigators, James, Christophers and Stevens, observed that different species of anopheles had different degrees of susceptibility to malaria; certain species were natural transmitters of malarial fever, while others were rarely, if ever, found infected naturally, although it would be possible to infect them under laboratory conditions. It is important, then, to determine what varieties of anopheles are present and which ones may act as the intermediary hosts in the transmission of malarial fever; this is particularly true when the malaria-transmitting anopheles have different breeding habits from those which are not responsible for the spread of malarial fever. Various observers have published notes on the breeding habits of anopheles. It may be said that there is as much selection of breeding-places by anopheles as there is selection of feeding-grounds by fish. Trout, salmon and bullheads have their analogues among anopheles larvæ, some requiring fresh aerated water, or water containing much green algæ; others select tree-holes and the recesses of epiphytic tree-plants, such as bromelias, as breeding-places; while others preferring fresh aerated water are so adaptable that they will breed in brackish water, containing half its volume of sea-water; some species require plenty of sunlight, while other sylvan species prefer shady pools in which chlorophyl-bearing algæ are relatively absent.

The identification of mosquitoes used in these experiments has been corrected or verified by Mr. A. H. Jennings, and his identifications are being checked in the Bureau of Entomology, U. S. Department of Agriculture, Washington.[1]

Notes on the species of anophelines in the Canal Zone, their relative numbers and breeding habits, were published by Mr. August Busck of the U. S. Bureau of Entomology in May, 1908. Eleven species of anophelines have been collected in the Canal Zone. Of these eleven species the three commonest ones are *A. albimanus*, *A. pseudopunctipennis* and *A. malefactor*. *A. albimanus* is much the commonest anopheles in the Canal Zone and is the one oftenest taken in quarters and barracks, although the proportion of one species to another varies somewhat with the season and locality. In certain villages only *A. albimanus* is taken in barracks, while in other villages from 5 to 10 per cent. will be *A. pseudopunctipennis*, and at Ancon during October, 1908, 27.5 per cent. were *A. malefactor* and 72.5 per cent. were *A. albimanus*. Tree-breeding species are rarely encountered and I know of no instance in which specimens of this species have been taken in quarters. The female anopheles visits quarters to obtain blood, which is necessary for the development of her ova. When specimens of *A. albimanus* (males and females), placed in a large comfortable breeding-jar with sufficient vegetable food, such as dates and bananas, were permitted to pair, the ovaries of the females showed no development within fifteen days.

The experiments were begun in October, 1908, during the rainy season and discontinued in February, 1909, during the dry season. Mosquito larvæ were collected by sanitary inspectors at various places in the Canal Zone. On being received at the laboratory, larvæ and algæ were placed in moist jars on a table in front of a window with an eastern exposure so that they got direct sunlight for an hour or two in the morning. Predaceous larvæ were killed and removed from the breeding-tanks. A preliminary difficulty was experienced in the gradual fouling the water of the tank; this was obviated in a very simple way by passing air bubbles through the water with a Paquelin cautery bulb. In this way the water was kept fresh and the larvæ remained vigorous. After the larvæ had pupated they were placed in breeding-out tubes plugged with cotton, and after twenty-four or forty-eight hours the newly emerged mosquitoes were transferred to jars made of lantern chimneys, covered with crinoline gauze, where they might pair and be kept for biting. Females would bite twenty-four to forty-eight hours after emerging; frequently on successive and always on alternate nights for a period of at least fifteen days. The species of anopheles used were *A. albimanus, A. pseudopunctipennis, A. franciscanus, A. argyritarsis, A. malefactor* and *A. apicimacula.* These mosquitoes fall into three groups: the white hind-footed group; the uniformly colored group; and the spotted-legged group.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Dr. H. G. Dyer has since verified all our identifications save one rubbed specimen which is probably *A. apicimacula*.

A series of bitings were conducted on suitable infected patients who were carrying estivoautumnal or tertian gametes in their peripheral blood, using four varieties of mosquitoes. Out of several hundred mosquitoes used in the biting experiments, 100 mosquitoes were dissected, and of these 70.8 per cent. of *A. albimanus* became infected; 12.9 per cent. of *A. pseudopunctipennis* became infected, and none of *A. malefactor* (17 mosquitoes used) became infected, although several of the latter were purposely placed in jars with *A. albimanus* and bit at the same time persons from whom the specimens of *A. albimanus* became infected.

It is concluded from this series of biting experiments that *A. albimanus,* the common white hind-footed mosquito—an extremely hardy, vigorous, rapidly developing, adaptable mosquito—is the transmitter of estivoautumnal and of tertian malarial fever in the Canal Zone at this time. Specimens of this species infected with tertian parasites became infective between nine and eleven and a half days after the first feeding. When infected by estivoautumnal parasites, sporozoites appeared in the salivary glands as early as the eleventh day in some mosquitoes and later than twelve and a half days in others. *A. malefactor* is not concerned in the transmission of malarial fever in the Canal Zone at this time. *A. pseudopunctipennis* is only slightly concerned in the transmission of malarial fever; this appears not only from the fact that only four out of thirty-one mosquitoes under the most favorable artificial conditions became infected, but from the additional fact that relatively few specimens are taken in quarters at the present time.

The English investigators appear to have made no attempt to determine the limits of infectiousness of man in malarial fever. To me this appeared to be, if possible, worth determining, because in the discharge of patients from the hospital it would be manifestly unwise to turn a patient out, although free from symptoms, yet with gametes enough in his peripheral blood to infect every susceptible anopheles mosquito that might bite him. Efforts to determine the limit of infectiousness of man were made in the following way:

In the 47 biting experiments, several blood preparations were taken fresh and for staining, at the time of the biting. Differential counts of leucocytes and the ratio between crescents and leucocytes were determined the next morning. Leucocyte counts were occasionally made at the time the blood was taken so as to check this method of estimating the crescents. In this way it was always known how many crescents were in the peripheral blood per c.mm. at the time the mosquito was infected. The next step was to weigh a number of mosquitoes before and after biting in order to estimate the amount of blood retained by a mosquito. In this way the approximate number of gametes ingested could be calculated. Again, smears were made from the midgut of mosquitoes that had a few minutes before bitten a person whose blood contained numerous gametes. From this it was found that about one-half the gametes were phagocyted by polymorphonuclear leucocytes and thus destroyed. Finally, mosquitoes which had fed but once on patients whose crescents per leucocytes had been estimated were fed subsequently on dates, and on dissection of these mosquitoes the probable limit of infectiousness was determined as being near one gamete per 500 leucocytes. From these observations, I am confident that a patient with more than one crescent for every 500 leucocytes, or 12 crescents per c.mm., is infective, and it follows that such an individual should not be discharged from treatment in that condition or should be warned or required to continue treatment. Such a person is a gamete-carrier and is a menace to a malarial community whenever susceptible anopheles have access to him.

The effect of quinin administration on the number of gametes in the peripheral blood was studied in a number of patients suffering from estivoautumnal and tertian fever by the administration of 30 grains quinin daily, either with or without iron and arsenic, and by withholding quinin and merely requiring rest from labor. In estivoautumnal infections, when there were crescents in the blood, the number was reduced by quinin, 30 grains daily, at the following rates. For example, in Experiment 17 there were:

9 crescents per 100 leucocytes on December 26
5 crescents per 100 leucocytes on December 27
5 crescents per 100 leucocytes on December 28
4 crescents per 100 leucocytes on December 30
1 crescent per 100 leucocytes on December 31
0 crescents per 100 leucocytes on January 2
0 crescents per 100 leucocytes on January 13

In Experiment 20 the crescents were reduced from 67 per 100 leucocytes to one per 200 leucocytes in twenty-five days.

In Experiment 41 crescents were reduced from 92 per 100 leucocytes to one per 100 leucocytes in fifteen days; while, on the other hand, in Experiment 6, when quinin was withheld, crescents remained constantly in the peripheral blood for twenty-three days, there being 16 crescents per 100 leucocytes on admission and 20 crescents per 100 leucocytes at the end of the period.

From this it is concluded that generous daily doses of quinin, grains 10 t. i. d., will reduce the sexual forms of the estivoautumnal parasite to a non-infectious minimum in from a few days to two or three weeks, depending on the severity of the infection.

In tertian malarial fever there is never an abundance of gametes in the peripheral blood after the disappearance of the asexual forms such as is seen in estivoautumnal infections; besides, all forms of the tertian parasite disappear from the peripheral blood within two or three days under quinin treatment and occasionally disappear when quinin is withheld.

A curious relation was observed between the average number of days that gametes remained in the blood in estivoautumnal and tertian infections when under quinin treatment, the number being about ten in estivoautumnal and three in tertian, and the average proportion of the incidence of estivoautumnal to tertian malarial fever in the Canal Zone. This might be interpreted as indicating that the proportion of cases of estivoautumnal to tertian malaria depends on the number of days that gametes are in the peripheral blood in numbers sufficient to infect *A. albimanus,* which is the host for both forms of the parasite.

The infection of *A. albimanus* and the development of malarial parasites in her midgut is not interfered with by quinin when such an infected mosquito feeds daily or on alternate days for fifteen days on patients who are receiving 30 grains of quinin in solution daily. In these instances the zygotes mature and sporozoites reach the salivary glands in the usual period.

Observations on latent malaria were made during the past dry season in several villages where the malarial sick-rate did not fall to zero and where no anopheles were breeding. On a systematic blood examination of laborers and their families, I found that 10 per cent. of men who were at work without symptoms had parasites. Three per cent. of the cases of latent malaria were of the estivoautumnal variety and 7 per cent. of the tertian variety. Among the families of Spanish and West Indian laborers the amount of latent malaria was 30 per cent. A few cases of fever would arise from this source every week, probably following some loss of resistance caused by dissipation, wetting or overheating. It is this latent malaria in every tropical community which contributes largely to the preservation of the malarial parasite and to the infection of anopheles when, after the onset of the rainy season, mosquitoes have begun to breed in numbers.

The theories of Mannaberg and Craig explain the persistence of latent malaria by the process of conjugation of two ring forms within a red blood corpuscle. During examinations of the blood, in cases of latent malaria, I have frequently seen estivoautumnal crescents which had apparently been formed by the fusion or conjugation of two ring forms, or of two pigmented forms, but I have also very frequently seen in estivoautumnal and tertian malaria red blood cells infected by two or more ring forms which have gone on to maturity without conjugation. Sometimes these contiguous parasites were of the same age, but oftener one would be a little older.

Quinin administered in latent malaria appears to destroy the ring forms only and prevents the possibility of their development into gametes. The gametes in the blood stream are probably phagocyted by splenic and hepatic endothelial cells and are not influenced by quinin directly.

The points I wish to emphasize are these:

A. albimanus, the common white hind-footed anopheles, is the host for estivoautumnal and tertian malarial parasites in the Canal Zone at this time.

A. malefactor, notwithstanding its name, does not transmit malarial fever.

A. pseudopunctipennis is only slightly concerned in the transmission of malarial fever.

In the efforts at mosquito destruction, the extermination of *A. albimanus* is of paramount importance.[2]

Patients having crescents or tertian gametes in their peripheral blood should not be discharged from the hospital, nor should treatment be discontinued until gametes have been reduced to a non-infectious minimum. The destruction and prevention of development of the sexual parasites in man is of great importance and may be accomplished (1) by appropriate quinin treatment of all gamete-carriers entering the hospital; (2) by occasional quinin treatment to destroy latent malaria; (3) by the periodical blood examination of laborers in quarters where there is a high malarial rate for the detection of gamete-carriers and latent malaria in order to carry out appropriate treatment.

Thirty grains of quinin sulphate in solution daily is an efficient dose for the purpose required.

Ancon Hospital.

ABSTRACT OF DISCUSSION

Dr. John A. Witherspoon, Nashville, Tenn.: We all know now that the malarial parasite is really carried by the mosquito. I have been especially interested in the attacks made on the anopheles in the Canal Zone and the special methods used. It seems to me that the great work in the Canal Zone, especially in carrying out the discoveries of Ross, means much for the future, not only for the preservation of life of the people, but for the natural resources of the country. It solves the problem of what to do with the products of that country; it solves the problem of how the Canal Zone can be peopled. Nothing could be accomplished without these important discoveries. I think the people owe a debt of gratitude not only to Colonel Gorgas, but to men like Dr. Darling and others who are working there every day. The excellent work that is being done in the Ancon hospital is a credit to any country; the work done in the Canal Zone is a credit to the nation.

Dr. Seale Harris, Mobile, Ala.: It seems to me that we should apply the lessons learned in the Canal Zone to our own country. The majority of us who treat malaria cease giving quinin after the patient has been relieved of his fever. In order to prevent other mosquitoes becoming infected, I think it would be well to continue the use of quinin for a considerable length of time. Note the antimalarial work that has been done in Italy in the last five years; the death-rate there from malaria has been reduced two-thirds by this crusade, which was carried on with the idea of preventing the mosquito becoming infected. After the patients were free of fever for some days, after a sufficient dose of quinin had been given to relieve the paroxysms, quinin is given in small doses, 6 grains a day, for a period of at least three months. It seems to me that in the treatment of malaria we should use exactly the same methods to prevent others from becoming infected, as with patients afflicted with yellow fever. Malaria and yellow fever are diseases, so far as their transmission is concerned, of much the same character. Both are transmitted by the mosquito. If we use the same measures in malaria as are used in Italy, I think we can reduce the number of cases of malaria very materially. In handling a patient with malaria, the first thing to do is immediately to isolate him by placing him under mosquito bar, or in a house where the mosquitoes cannot gain entrance. Individuals who have been exposed should receive prophylactic doses of quinin. The medical profession should begin an active crusade against malaria in this country. It means a great deal to us. When we consider that the number of deaths from malaria is probably 15,000 per annum and that several millions of people in the United States are affected by that disease, we realize the importance of the disease and we should at once institute a crusade against it. I am sure that such a crusade, carried out as it has been in Italy, will give results as good as have been obtained there.

Collections of Medical Books.—Our German exchanges comment with envious approval on the fine medical library of the College of Physicians in Philadelphia, with its 100,000 volumes, most of which are said to be the gifts of members. The *Münchener medizinische Wochenschrift* exclaims: "How much we can learn from our American cousins! With a few exceptions, which we gratefully appreciate, the books left by German physicians on their decease find their way to the second-hand bookstores to which they are sold for a song and the collection is dispersed, while if they were bequeathed to some medical library they would keep their former owner's memory in honor while benefiting the profession at large."

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[2] I have since determined that *A. tarsimaculata* also transmits estivoautumnal parasites. This mosquito belongs to the white-hind-footed group and has recently been breeding in rather large numbers in brackish water near Colon.

THE VALUE OF ALIMENTARY LEVULOSURIA IN THE DIAGNOSIS OF HEPATIC CIRRHOSIS *

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Any condition bringing about macroscopic or microscopic changes in an organ must of a necessity be accompanied by disorders of the normal function of that organ. On the other hand, there are some functional disturbances of the body and its organs, collectively and individually, which so far as we know are unaccompanied by any microscopic or macroscopic alterations of structure. Investigators interested in this particular field are devoting more and more attention to the functional consequence of organic disease. We are not content now simply to make a clinical diagnosis of a condition, but we demand to know what physiologic change is brought about by the morbid process we are studying. When it is recalled to what extent the literature has been enriched by the reports of investigators, in regard to testing the function of various organs, the publications pertaining to methods for determining disturbed hepatic function seem insignificant. The nervous and cardiovascular systems have been systematically studied; the lungs have received some attention; the stomach, the intestines and the kidneys are claiming their quota of experimental and clinical work, and functional tests for all are described, confirmed and constantly used by the foremost clinicians. Yet, despite the inestimable advantages which we have derived from some of these tests, we seem to know of none we can call to our assistance to aid us in diagnosing cases of functional disturbances of the liver.

Investigators there have been who claimed to have found clinical tests for such conditions, but one by one these have fallen into oblivion for want of confirmation. The following may be cited as illustrations:

The toxicity of the urine was thought by Bouchard[1] to be an indication of hepatic insufficiency. Schapiro,[2] in studying the question of prognosis in liver cirrhosis, stated that he found a more rapid output of strychnin, given in medicinal doses, in liver cirrhosis than normally. He also states that he found glycosuria followed 200 to 250 gm. of sugar given in the form of fruit preserves to cirrhotics, a fact which he did not properly interpret, and to which I shall refer again. Schwarz[3] eight years later, made some experiments based on Minkowski's observations that after liver extirpation lactic acid appeared in the urine. He gave 15 gm. sodium-lactate and determined the time of the appearance and the amount of lactic acid. Schwarz found that cirrohsis and functional disturbances did not affect the output, but that the lactic acid appeared later than normally, and concludes that it may be explained on mechanical rather than on chemical grounds.

The most marked advance on our knowledge of the subject we owe to Strauss,[4] who approached the question from three points of view:

1. Detoxicating process.
2. Protein metabolism.
3. Carbohydrate metabolism.

1. *Detoxicating Process.*—He observed an increase of fatty acids in the urine of cirrhotic patients. Munk some time before had found that the toxicity of a soap solution was two and one-half to three times as great when it was injected into the great body veins as it would be if it were injected into the portal veins, owing to the detoxicating action of the liver. Based on this report, Strauss gave 20 gm. sodium butyrate in 8 cases: 5 cirrhosis, 2 carcinoma and 1 chronic obstruction of the common duct. In 6 cases he found increase of fatty acids, in 1 of carcimona and in 1 of obstruction, no increase; but he lays no importance on this, as the same was observed in fever, lead-poisoning and diabetes. He regards the test as valueless.

2. *Protein Metabolism.*—With protein metabolism he had no definite results, and he believes that the study of the relation of urea to total nitrogen is worthless as a test.

3. *Carbohydrate Metabolism.*—This part of his study was based on the research of Sachs,[5] who, working under Strauss' direction, found that in frogs, after extirpation of the liver, there was a lessened tolerance for levulose, but not for dextrose, galactose and arabinose. Sachs made some clinical experiments and found that healthy individuals, as well as diabetics, stood levulose better than dextrose, whereas in liver diseases the tolerance to the same amount of levulose was very much diminished. In a later paper Sachs[6] showed that only the liver was able to form glycogen from levulose, the muscles having no such property, so that it was fair to assume that alteration in hepatic function would be expressed in a diminished tolerance for levulose.

Strauss followed up this very broad hint in 87 cases, 58 of the subjects being healthy as to their liver, clinically, and 29 hepatic cases. Of the latter, 26, or 90 per cent., showed levulosuria, while of the healthy subjects 6 showed levulosuria, giving a percentage of 10. Strauss thinks that this 10 per cent. error—one might call it—may possibly be no error, as there was no way of knowing, apart from clinical study, whether there was any latent disease of the liver or not. In fact, 2 subjects were drunkards, and suffering from obesity and gout; 1 had pneumonia (Rosenberger[7] found levulosuria to occur quite frequently in this condition) showed chronic fever, 1 anemia from gastric hemorrhage, and 1 had some hepatic congestion secondary to mitral stenosis.

In the cases of liver disease not showing levulosuria 1 was atrophic cirrhosis with severe diarrhea interfering with absorption of levulose; the second was acute cholecystitis of two days' duration; and the third was a cyst of the liver.

Furthermore, Strauss found two cases of diabetes showing levulosuria, which is remarkable, as ordinarily diabetics excreted more dextrose after levulose ingestion.

Unlike most observers advancing a new idea, Strauss says that not too much weight should be placed on the test alone, but that a final diagnosis should be made only after careful weighing of the data derived from clinical and laboratory examinations. He made eight observations with 150 gm. cane-sugar and found once glycosuria, four times levulosuria, once saccharosuria and two negative.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

* From the private laboratory of Dr. John H. Musser.

[1] Bouchard: Quoted by Strauss, Deutsch. med. Wchnschr., 1901 pp. 757 and 786.

[2] Schapiro: St. Petersburg. med. Wchnschr., 1891, p. 241.

[3] Schwarz: Wien. med. Wchnschr., 1899, p. 1754.

[4] Strauss: Deutsch. med. Wchnschr., 1901, p. 757.

[5] Sachs: Ztschr. f. klin. Med., 1899, 38, p. 87.

[6] Sachs: Ztschr. f. klin. Med., 1900, 41, p. 434.

[7] Rosenberger: Deutsch. med. Wchnschr., 1906, p. 994.

In 20 liver cases he found alimentary dextrosuria but nce, which is in marked contrast to the French ob-ervers, who found it quite a usual occurrence. This iscrepancy is best explained by the fact that these men sed cane-sugar as a test instead of dextrose (see Scha-iro[2]). DeHaan[8], in fact, reported 29 cases studied with egard to the assimilation of glucose and found 18 pos-ive and 11 negative, but his own statement of having sed 150 gm. of cane-sugar, and only in doubtful cases aving recourse to the polariscope, robs his paper of any ientific value. Lépine[9] shares this view, and in his rticle he contributes one case of liver disease showing limentary levulosuria.

Bruining[10] studied 21 hepatic cases with levulose, sac-harose and glucose. Of the 12 cases studied with levu-ose, he found 10 (all cirrhosis) positive and 2 negative. f these two, one was carcinoma of the stomach and ver, with absence of free hydrochloric acid and much ctic acid, which he thinks interfered with absorption f levulose; the other case was one of cirrhosis. Here, hen, in 11 cases of cirrhosis he found 10 positive with vulose, or 90 per cent., corresponding exactly with trauss' figures; and Bruining lays great stress on the nportance of this test. With saccharose, it might be tated, he got 13 positive glucose reactions. He hints at he future possibility of diagnosing liver diseases by the ay various sugars are utilized, and reports cases, one eginning cirrhosis, one of catarrhal icterus, and one in hich there was no alimentary glycosuria or levulosuria, ut after saccharose there appeared glycosuria in all hree. He does not explain this apparently strange henomenon.

Baylac and Arnaud[11] in the same year at the French edical congress, held in Toulouse, made a report on the linical value of alimentary levulosuria, based on the tudy of 23 liver cases. Of these 21 showed levulosuria, r a percentage of 91 positive reactions. Of 20 cases resenting no symptoms referable to the liver, they ound alimentary glycosuria in 7, or a percentage of 35, hich is in marked contrast to the 10 per cent. of Strauss. aylac and Arnaud guardedly add, that as these appar-ntly liver-healthy cases occurred in hospital patients, it ay be that there was some derangement of hepatic unction, which would account for some of the reactions.

Landsberg[12] the next year gives his experience with 21 ases of liver disease, only 9 of which or 43 per cent. ave a positive result.

TABLE 1.—LEVULOSURIA IN 21 HEPATIC CASES (LANDSBERG)

Disease.	No. cases.	Pos.
Carcinoma	4	1
Cirrhosis	11	4
Hypertrophic cirrhosis	2	2
Congested liver	1	0
Icterus after calculi	1	0
Chronic obstruction of common bile-duct	2	2
	21	9

To prove his point regarding the futility of levulose s a test, he gave levulose to seven healthy persons. He btained positive results in four, and concluded that trauss probably took far-advanced cases for his series, n which a collateral circulation had been established, nd that in this way there was rapid entrance of levulose nto the blood and urine. On these seven cases he makes he rather bold assertion that as the test is positive in ealth, it has no value clinically, adding that he be-eves idiosyncrasy plays more of a rôle in alimentary vulosuria than does functional disease of the liver.

Although hardly bearing on this subject, an observation of Samberger[13] has some significance. Briefly stated, Samberger endeavored to prove that the urobilinuria seen so often in syphilis was of hepatic origin, and selected as his vehicle levulose as recommended by Strauss, with results in accordance with Strauss, Sachs Bruining and others, i. e., urobilin was present in those cases which showed levulosuria.

In 1904 Chajes[14] collected all reports on alimentary levulosuria published up to that time, adding 21 normal cases, showing only one positive levulose reaction. He includes in his table 16 cases published by Ferannini with 11 positive reactions or 69 per cent. Of 84 reported cases of clinically diseased livers, Chajes found 86 per cent. showing alimentary levulosuria; of 99 sound as to their liver, 15 per cent. showing alimentary levulosuria. He concludes the former is about the percentage of alimentary levulosuria.

Von Halász[15] criticizes Strauss' work, as he thinks that the patient might have had a low assimilation limit for all sugars, but he confirms Strauss' observations and those of other writers. Von Halász thinks the test of great service in deciding between cirrhosis and other conditions, and states that normally 100 gm. levulose rarely causes levulosuria; a positive result therefore suggests a diffuse and consequently severe disease of the liver, especially indicative of cirrhosis.

The method of examination adopted in this series was as follows: No food was given the patient after the evening meal. The patient voided his urine at a stated hour the next morning, after which, on a fasting stomach, he was given 100 gm. of levulose dissolved in 500 c.c. tea or water according to taste, the whole amount being taken within fifteen minutes. At the termination of each hour thereafter, for four consecutive hours, the urine was collected in four separate bottles, after which breakfast was eaten. It was impossible in some instances to obtain urine each hour, in which case collections every two hours had to be resorted to. Each specimen of urine, including that passed before the beginning of the test, was examined separately by the Fehling, Nylander, Seliwanoff, and fermentation tests, and the combined urine with the exception of the urine before the ingestion of levulose, by the above tests, and in addition by Rosin's method and by the polariscope. As the number of cases increased the spectroscopic examination was omitted. Despite the criticism lately directed against the Seliwanoff reaction by Borchardt,[16] I regard the test as a very useful one, and so far in my experience the disturbing factors mentioned by him have not been met with. Reliance was not placed on this reaction alone, and the presence of levulosuria was accepted as certain, only when there was reduction of the Fehling's and Nylander solutions, fermentation with yeast, a positive Seliwanoff test, and left rotation with the polariscope.

In performing the Seliwanoff test care must be taken not to confuse the rose tint obtained with many urines by boiling with hydrochloric acid, with the typical color reaction due to levulose. In the first instance the shade of red is very light, and fades away entirely on standing or on cooling, while the color in the latter case is a dark magenta red, clouding the entire specimen of urine and deepening on standing or on rapid cooling. The color due to levulose persists for days and there is deposited on the bottom of the test-tube a dark red precipitate.

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8. De Haan: Arch. f. Verdauungskr., 1898, iv, 4.
9. Lépine: Semaine méd., 1901, p. 105.
10. Bruining: Berl. klin. Wchnschr., 1902, No. 25.
11. Baylac and Arnaud: Compt. rend. Congr. franç. de méd. ulouse, 1902, ii, 98.
12. Landsberg: Deutsch. med. Wchnschr., 1903, p. 563.
13. Samberger: Arch. f. Dermatol. u. Syph., 1903, p. 89.
14. Chajes: Deutsch. med. Wchnschr., 1904, p. 696.
15. Von Halász: Wien. klin. Wchnschr., 1908, p. 37.
16. Borchardt: Ztschr. f. phys. Chem., 1908, p. 241.

The cases reported in this paper number thirty-two, and most were seen in the private practice of my chief, Dr. Musser, and in his wards at the University and Presbyterian hospitals. Additional cases were furnished me by Dr. Alfred Stengel, Dr. James Tyson, Dr. D. F. Woods, Dr. E. J. G. Beardsley, Dr. J. H. Musser, Jr., Dr. W. Taylor Cummins, and Dr. M. Solis-Cohen, to all of whom I wish to acknowledge my great indebtedness.

In the first ten cases the tolerance for glucose and saccharose in addition to levulose was tested, but this necessitated so much inconvenience on the part of the patients that it was omitted in the remaining twenty-two cases. I believe, nevertheless, that in all instances in which alimentary levulosuria can be demonstrated, the tolerance for glucose and saccharose should be determined, since there may be, in certain individuals, a normally low assimilation limit for all sugars.

In hepatic disease, after 100 gm. of levulose, the sugar usually appears in the second-hour specimen, after which time it either varies in degree or is absent entirely from the succeeding portions of urine. Strauss has already observed this phenomenon. The appearance of levulose is tardy and of short duration in cases in which the liver is but moderately affected; it is, however, rapid, intense and prolonged in cases of profound alteration, so that alimentary levulosuria may perhaps be regarded as an early symptom of hepatic disease (cf. Baylac and Arnaud[11]).

I was unable in the majority of instances to confirm the diagnosis by postmortem examinations, so it was impossible to control the extent of the hepatic lesion, but judging from the clinical course of the individual cases, I believe the inference to be drawn from the early or late appearance of levulosuria, as stated above, is correct.

As will be seen from a study of the table, all of the cirrhosis patients exhibited alimentary levulosuria, the early appearance coinciding with severe disorders and the tardy appearance with the clinically mild affections.

One case (No. 3) of marked fatty degeneration (autopsy) showed levulosuria in the first hour.

All of the six subjects of hepatic enlargement due to chronic passive congestion assimilated 100 gm. of levulose easily. In these cases the tolerance was of considerable assistance in arriving at a proper diagnosis.

One patient with ovarian cyst (No. 26; operation) had certain symptoms of cirrhosis, but showed no alimentary levulosuria, and at operation the liver was found to be apparently healthy.

Levulose was given by mistake to the diabetic patient (No. 22) instead of to another patient in the same ward. There was a marked intolerance, which is the more remarkable as diabetics are supposed to utilize levulose well (Külz,[17] etc.).

Alimentary levulosuria was present in one case (No. 27) of catarrhal cholangitis in which a cirrhosis could not be excluded.

The one patient (No. 31) with supposedly syphilitic cirrhosis utilized levulose perfectly. The clinical diagnosis was at first carcinoma of the liver, but was later changed to the one given in the table.

Patient 32 (carcinoma of the gall-bladder) excreted levulose in the last two hours following ingestion of the same.

TABLE 2.—LEVULOSURIA IN 32 PATIENTS

(100 Gm. Sugar Administered in Each Case)

Cases.	Form of Sugar.	Excretion by hours 1	2	3	4	Diagnosis.
1	Levulose	—	0	++	+	Cirrhosis
	Glucose	0	+	++	0	
	Saccharose ..	0	0	0	0	
2	Levulose	+	+	0	0	Cirrhosis
	Glucose	0	0	0	0	
	Saccharose ..	0	0	+	+	(levulose test)
3	Levulose	+	++	0	0	Fatty degeneration
	Glucose	0	0	0	0	
	Saccharose ..	0	0	0	0	
4	Levulose	0	+	+	—	Cirrhosis
	Glucose	0	0	0	0	
	Saccharose ..	0	0	0	0	
5	Levulose	0	++	+++	+	Cirrhosis
	Glucose	0	0	0	0	
	Saccharose ..	0	0	0	0	
6	Levulose	+	++	+	+	Cirrhosis
7	Levulose	+	+	+	+	Cirrhosis
8	Levulose	—	0	0	+	Cirrhosis
9	Levulose	++	+	+	—	Cirrhosis
10	Levulose	+	0	0	+	Cirrhosis
11	Levulose	+	++	+	+	Cirrhosis
12	Levulose	+	+	++	0	Cirrhosis
13	Levulose	+	++	+	0	Cirrhosis
14	Levulose	+	++	+	0	Cirrhosis
15	Levulose	+	0	+	++	Cirrhosis
16	Levulose	+	+++	+	0	Cirrhosis
17	Levulose	0	+	+	0	Cirrhosis
18	Levulose	—	+	+	+	Cirrhosis
19	Levulose	0	—	+	0	Cirrhosis
20	Levulose	0	+	++	+	Cirrhosis
21	Levulose	+	++	+	+	Cirrhosis
22	Levulose	+	++	+++	+	Diabetes
23	Levulose	0	0	0	0	Myocarditis with secondary hepatic congestion
	Glucose	0	0	0	0	
	Saccharose ..	0	0	0	0	
24	Levulose	0	0	0	0	Tricuspid insuf. with hepatic congestion
	Glucose	0	0	0	0	
25	Levulose	0	0	0	0	Chronic Pass. cong. Myocarditic Nephritis
	Glucose	0	0	0	0	
	Saccharose ..	0	0	0	0	
26	Levulose	0	0	0	0	Ovarian cyst
	Glucose	0	0	0	0	
	Saccharose ..	0	0	0	0	
27	Levulose	0	++	++	+	Catarrhal Cholangitis. Cirrhosis (?)
28	Levulose	0	0	—	—	Chronic Pass Cong. Myocarditis
29	Levulose	0	0	0	0	Chronic Pass. Cong. Nephritis
30	Levulose	0	0	0	0	Nephritis. Chr. Pass. Cong.
31	Levulose	0	0	0	0	Syphilitic Cirrhosis (?)
32	Levulose	0	0	+	+	Carcinoma of Gall bladder
	Glucose	0	0	0	0	
	Saccharose ..	0	0	0	0	

SUMMARY

DIAGNOSIS.	TOTAL.	POSITIVE.	NEGATIVE.
Cirrhosis	20	20	0
Cirrhosis (?) Syphilitic	1	0	1
Fatty Degeneration of Liver.........	1	1	0
Chronic Passive Congestion..........	6	0	6
Catarrhal Cholangitis-Cirrhosis (?) ..	1	1	0
Carcinoma of Gall-Bladder..........	1	1	0
Ovarian Cyst	1	0	1
Diabetes Mellitus	1	1	0
Total	32	24	8

Percentage Positive Reaction..............................	75
Percentage Positive Reaction in Cirrhosis..................	100
Percentage Positive Reaction in Chronic Passive Congestion..	0
Percentage Positive Reaction in Disease of Liver, Bile-Ducts and Gall-Bladder	97
Percentage Positive Reaction in Non-Hepatic Disease	12.5

CONCLUSIONS

1. Alimentary levulosuria is almost a constant phenomenon in cirrhosis of the liver.

2. The early or late appearance of levulose may be regarded as a sign of severe or mild hepatic disease.

3. Alimentary levulosuria is a useful aid in diagnosing between cirrhosis on the one hand and chronic passive congestion on the other.

4. A study of the hepatic function with glucose and with saccharose in addition to levulose is to be desired, inasmuch as there may be an individual intolerance to carbohydrates.

5. While not indicative of any specific organic lesion of the liver, alimentary levulosuria is most frequently observed in cirrhosis.

248 South Twenty-first Street.

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[17] Külz: Quoted by von Noorden, Handbuch der Pathologie des Stoffwechsels, 1907, ii, 53.

ABSTRACT OF DISCUSSION

Dr. De Lancey Rochester, Buffalo: Did Dr. Goodman find he reaction positive in cases of mixed cirrhosis and passive ongestion?

Dr. J. R. Williams, Rochester, N. Y.: I have attempted to xamine some cases in the way described by Dr. Goodman, vith unsatisfactory results. Investigations of this sort may asily be carried on in an endowed hospital, but sometimes hey are not practicable in private practice. For example, evulose costs about 80 cents an ounce, making the cost of a ingle examination about $2.50, obviously a prohibitive cost o the general practitioner. I have attempted to carry out he test using honey instead of levulose; honey contains ap-roximately 50 per cent. of levulose. My experience with it s too limited, however, to enable me to express an opinion s to its value.

Dr. Edward H. Goodman, Philadelphia: It was impossible n my series of cases to control the clinical diagnosis by utopsy, so I can not say just how extensive the hepatic esion was. I obtained levulose from Schering & Glatz of Vew York, one pound costing $1.60.

VATER CONTAMINATION ABOARD SHIP AND ITS PREVENTION

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There are four methods of supplying drinking-water board ship. The first is the storage of the water in anks and barrels which have been filled over the side rom some regular supply, such as a water-boat which as run alongside. By the second the water is pumped n, or otherwise forced into the tanks, through a hose, rom a city supply, over the side. By the third method he ship takes water in midstream, or when out in the akes, by pumping through the sea-cock. The fourth nethod is to condense the drinking-water from steam. t sometimes happens that a fifth method of obtaining lrinking-water is used by the crew, as, for example, vhen the ship is lying in fresh water it is common prac-ice for the men to haul a pailful of water over the side, s this is cooler than the water stored in the tanks or arrels.

Of all the methods, it is readily seen that there is nly one which can be relied on for purity, namely, the rinking-water from the condenser. All other sources re dangerous to a greater or lesser degree. Especially s this true at the present time, when it is asserted that ur Great Lakes have sewage contamination several niles from shore, and most of our great shipping cen-ers have dangerous water-supplies. It is not a surpris-ng statement, then, that seafaring men have consider-ble typhoid on the Great Lakes. That some of these ases of typhoid are contracted on shore, is probably rue, but that most of them originate aboard the boats, rom contaminated water, is too evident a fact to be dis-uted. And this contamination of the water on ship-oard is the result of faulty construction and a reckless isregard of sanitary principles, by all the vessels on the reat Lakes, whether private or owned by the govern-nent.

I know of no steamer on the lakes that uses a con-enser; nor do I know of any boat, of any description, hat takes drinking-water over the side except when laid p in the winter. It is, then, fairly safe to say that all rinking-water used aboard vessels on the lakes, for the rews and passengers, is admitted to the boats through he ordinary sea-cocks. And if this is true, then passengers and sailors are constantly drinking water which has passed through pipes that have been lying in sewage while the ship was in port. All water used aboard, for whatever purposes, is pumped through the sea-cocks which perforate the shell of the ship in the bottom, as indicated by the arrow in the diagram, which represents a cross-section of a ship, the sea-valve, pony-pump and pipes to drinking-tanks. Now suppose that valve A is kept closed when not in use—which is never the case except when the boat is laid up for the winter—then when the ship lies in the Chicago River, say, all that portion of the piping and sea-cock, from the bottom of the boat to valve A, stands filled with sewage, or Chicago River water, which is the same. But let us go farther: Suppose that the boat is loaded down so she lies in the water to the depth indicated by B, then the river-water would rise through the sea-cock to the level of B at C. From the sea-cock to the pony-pump is a long stretch of pipe in most steamers, and as the pony-pump is constantly in action to maintain the pressure in the various pipes, and to feed the boilers, it is plain that all this section of pipe is filled with sewage all the time that the boat lies in foul water. It is not hard for one to picture the scum and deposits which form on the inside of this portion of the piping from the sea-cock to the pump; and even though the drinking-tanks are not filled until the ship is well out in clear water, and not until the water has been forced through the sea-cock and overboard, until it comes through clean (?), still the very thought that one is drinking water which has passed through a pipe which has but a few hours before been standing full of sewage in which macerated animals and solid fecal matter are churned into solution is, to say the least, just short of nauseating. It is quite certain that the sea-cock and the pipes leading to the drinking-tanks are coated with slime and vegetable growth in which there surely must be the bacterial life common to sewage.

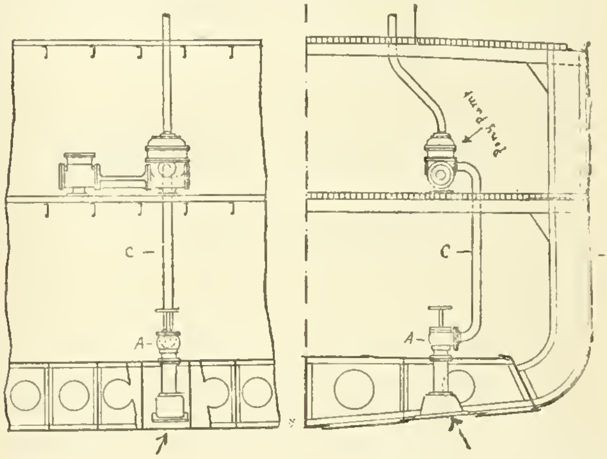

Diagram of a ship, showing method of supplying drinking-water on shipboard; a, valve to shut off river-water; b, c, level to which river-water may rise when boat is loaded down. The diagram shows, on the left, a section taken fore and aft, and, on the right, across the hull.

On certain steamers the water-bottoms are filled through the sea-cocks, and the big iron ore steamers run alongside the docks and as the ore is unloaded the water is let in to trim ship regardless of where the boats are lying. If the boat is lying in the Chicago River, or South Chicago, it makes no difference, for this water is run into the water-bottom, just the same, sewage and all. When unloaded the ship clears for another cargo, holding this water in the bottom, or pumping it overboard, as the exigencies of the weather permit, and when the drinking-tanks need filling, a valve is opened, and the tanks filled through the very selfsame sea-cock that was used for filling the bottom with sewage. Clearly the drinking-water for the tanks should not be pumped through the same pipes through which millions of gallons of sewage have just been pouring. It is probably true that flushing these pipes when in clear water does wash out most of the bacterial content which might otherwise cling to the vegetable growth in the pipes, but from any point of view it is absolutely disgusting to think of drinking water which has been pumped through a pipe which in the last few hours has been filled with Chicago or Milwaukee sewage.

The vessels from which the U. S. Public Health and Marine-Hospital Service receives most of its typhoid patients are the passenger boats with short runs. The main reason for this is that these boats lie in the river half of the time, and their pipes are, therefore, more contaminated than those of other ships, and there are greater chances of carelessness, such as leaving open the valves when entering the rivers, etc. It is true that the drinking-tanks are not filled until the boat is well out in clear water, and then some one opens the lateral to the drinking-tanks and lets it run until the tanks are filled. And frequently this valve is left open after the boat has entered the rivers, and the tanks are filled with sewage. If the captain discovers this carelessness, the tanks are immediately emptied and cleaned, but it must often be the case that the men or junior officers who are responsible for such a mistake will keep the matter quiet for fear of reprimand.

The drinking-water is pumped into iron tanks; these are supposed to be cleaned out several times a year, but it is a fairly safe guess that investigation would show that many of them have not been even fairly well cleaned more than twenty times in twenty years. That they are ever thoroughly and safely cleaned is impossible, as any one can easily convince himself of by a personal examination. It is admitted by every well-informed person with whom I have discussed the matter that these tanks become very foul, and are lined inside with vegetable growth and a thick slimy deposit. That typhoid bacilli get into these tanks at various times, in greater or smaller quantities, and that these same bacilli multiply on this fine medium, would seem to be a safe assertion.

Not a few times has the fact been noticed by officers of the Public Health and Marine-Hospital Service that some one particular vessel was sending an unusual number of cases of typhoid to hospital, and when conditions were looked into carefully it has always been found that there was carelessness and lack of sense and cleanliness on the part of the ship's officials. But the prime fault is one of construction, for it is impossible to guard against carelessness in this particular. In the first place, a general pipe system which lets water into the water-bottom, and to the boilers and the sanitary tanks, and the tanks for drinking-water, and through which the decks are flushed down, is a dangerous system.

I have the statement of captains to the effect that it has happened several times that vessels have come to their docks in Chicago or Milwaukee rivers with their drinking-tanks overflowing with dirty water from the rivers, because some careless person has left the valve open, and the constantly working pony-pump has kept pumping water into the tanks after the ship has entered the foul rivers. There is still another method by which the drinking-tanks can be fouled, and that is by leakage past a poorly fitting valve. The fire-drills aboard ship are most often held while in port; and almost all deck washing is done while lying at the wharf. The pony-pump is constantly running, but during fire-drill, and washing down deck with the hose, the big pump is turned in and the greater pressure in the pipes probably causes a certain amount of leakage into the drinking-tanks, past valves which may not be properly seated. This is probably a common occurrence on most boats.

All water aboard ship, for whatever purposes, must first pass through the sea-cock and pipes leading from it, and it must be alarming for one to discover, while a passenger on these vessels, many of which are floating palaces, that he has been drinking water which was introduced into the ship through pipes smeared on the inside with sewage. It cannot be clean, cannot be free from bacterial life and fecal matter. Surely no man would dare say that such water was clean and free from danger.

There are but two practical methods to avoid this contamination. One is to disconnect the drinking-tanks from the other pipes, so that it would be impossible to fill them with foul water accidentally. Then it would be necessary to drop a pipe over the side when out in clear water, and pump the water into the tanks. All the officers with whom I have discussed the matter think that this method would also be objectionable because some one would forget to haul in the pipe that was over the side. In the second method, and the only reliable way to obtain absolutely pure water, is to condense it, as is done by ocean-going steamers. It could be installed on any steamship with comparatively little expense.

403 Iron Block.

LOCALIZED SUBPHRENIC TUBERCULOSIS

EXCISION OF THE TUBERCULOUS MASS; RECOVERY; FREEDOM FROM RELAPSE AT THE END OF TWO YEARS *

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Patient.—Mr. X., a man of 28, came to Colorado in the spring of 1907 with a moderate tuberculous invasion of both lungs. His home was in Boston, and for some months before leaving there he had suffered with pain and discomfort in the region of the gall bladder. A diagnosis of gall-bladder trouble had been made by two physicians and this was confirmed by Dr. Swan of Colorado Springs, through whose kindness I saw the patient. When I saw the young man with Dr. Swan in the latter part of April, 1907, I found him fairly well nourished; his chest trouble was in apparent arrest, he was without fever, he had a good appetite and was possessed of a fair degree of general strength. The pain and discomfort in the region of the gall bladder had recently become more marked. He had had no jaundice; he had not suffered acute pain, but the dull pain and constant discomfort had become a marked and disturbing factor in his daily life. The pain was apt to come on at night and keep him awake.

Examination.—The abdomen was found to be soft; there was no local rigidity. There were no evidences in the region of the appendix. There was moderate tenderness on deep pressure at the site of the gall bladder and this tenderness was constant. This was about the only symptom presented. The diagnosis of probable gallstones was concurred in and operation advised

Operation.—At St. Luke's Hospital, in Denver, May, 1907; ordinary gall bladder incision. Careful inspection and palpation revealed nothing abnormal in the gall bladder or bile ducts. The cecum and appendix were explored and found to be normal. At about the middle of the liver there were adhesions etween it and the anterior abdominal wall. These adhesions ere not very dense and were broken through. Small, aparently tuberculous nodules were seen on the upper surface f the liver. On drawing the liver down a caseous mass about s large as the bowl of a dessert-spoon was found between the iddle of the upper surface of the liver and the diaphragm nd involving both. This was excised with some difficulty nd its bed scraped and mopped with carbolic acid and alcohol. loderate hemorrhage was checked by packing. Outlying odules were excised. Free gauze packing was placed between he liver and the diaphragm. The remainder of the wound as closed.

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* Read in the Section on Surgery of the American Medica Association, at the Sixtieth Annual Session, Atlantic City, 1909.

The tissue removed was sent to Dr. J. A. Wilder, professor f pathology in the University of Denver, who pronounced it uberculous.

Postoperative History.—The patient made a smooth convaescence; his sinus became permanently closed at the end of en weeks. He has had no further trouble in the region of the iver. In February, 1908, he developed moderate appendiceal ymptoms and a somewhat thickened appendix was removed, vhich on pathologic examination was pronounced tuberculous y Dr. Wilder. Since then the patient has had no abdominal ymptoms whatever. I examined him recently, two years fter the operation on the liver. His lungs are in good conlition; his weight, strength and appetite are good; he feels vell and enjoys life. There is no hernia at either scar and side from the scars themselves there are no abdominal evilences. There is no evidence to be discovered of tuberculous eritonitis in any portion of the abdomen. His digestion is good; he has no discomfort.

We have in this case a localized subphrenic tuberculosis. Thorough excision of the tuberculous area was folowed by healing. Two years after operation there was o evidence of relapse.

A thorough search of medical literature, in which uest I have had the kind aid of Dr. F. Robbins of New York, fails to reveal a definitely similar observaion.

Eisendrath[1] reports a case of general tuberculous eritonitis with a localized subphrenic collection of luid. Michaux[2] makes a somewhat similar observation. n his case the patient's illness began abruptly with evere dyspnea under the picture of pneumothorax. There were no gastrointestinal symptoms. Edema exsted on the right side of the chest, the abdominal wall nd the legs. There was a high fever. An incision long the costal arch served to evacuate gaseous pus nd opened into a large cavity, reaching as far as the hird rib. The operation was followed by marked imrovement. The edema diminished, but subsequently n uncontrollable diarrhea developed and the patient lied one month after the operation. The autopsy howed the presence of dry tuberculous peritonitis vhich had given rise to the formation of a subphrenic bscess.

Consideration of subphrenic abscess as a complicaion of an intrathoracic affection is of interest. Acording to Archibald,[3] this complication is extremely are. Among 447 cases compiled by Maydl (1894), rüneisen, and Perutz, only 21 owed their origin to his cause; including 6 instances of empyema after neumonia; 7 instances with an unknown source of nfection; 1 instance of pulmonary abscess; 2 instances f pulmonary gangrene, and 1 instance of tuberculosis. n the cases compiled by Maydl prior to 1894, with a inge exception, there was invariably found a perforaion of the diaphragm. This was not demonstrable in he later cases, treated by operation, showing that the diaphragm is only gradually destroyed, later, at one or more points, as the result of the prolonged contact with the pus.

The mode of passage of the infection from the pleural to the subphrenic cavity is of interest. Küttner[4] seeks an explanation in the course of the lymph current, which was demonstrated by him through careful experimental injections. The lymph channels of the parietal pleura and peritoneal serosa communicate with those of the diaphragm, and in the diaphragm itself exist many perforating lymph vessels, not only in the direction from the peritoneum to the pleura, but also in the opposite direction. According to Burkhardt, the bacteria penetrate through the membranes and muscles by active growth instead of by passive transportation. It is possible that the metastasis is caused in either fashion. This work of Küttner has special reference to the transmission of chronic inflammatory processes from one of the two large body-cavities to the other. Küttner discusses, in the first place, tuberculosis of the serous membranes. He quotes Tilger,[5] who examined the autopsy material of the Geneva Pathologic Institute in regard to the question as to whether tuberculous peritonitis can infect the pleura by way of the diaphragm. Among forty-nine cases of extensive tuberculosis of the peritoneum, he found the pleura to be affected in thirty cases. In almost all of these, however, the pleurisy had originated independently of the peritonitis, or a chain of tuberculous lymph glands could be followed from the abdominal cavity to the thoracic space. It was only in three cases that the pleurisy had been positively transmitted from the peritoneum through the diaphragm. In one instance the peritoneal tuberculosis had led to an affection of both pleuræ; in the other two cases the right pleura alone was infected; here the process was not tuberculous in character, at least not microscopically, and Tilger assumes that only the purely inflammatory factor of the tuberculous peritonitis was transmitted through the diaphragm to the pleura. He regards it as probable that propagation in both cases took place through the lymph vessels of the diaphragm. Tilger thinks that this assumption is favored by the right-sided location of the pleural disease in both cases (relations between the lymph vessels of the liver and the right pleura). It follows, according to him, that the perforating lymph vessels of the diaphragm do not play a very important part in the primary tuberculosis of the serous membranes, but that tuberculous peritonitis and pleurisy should almost invariably be regarded as equivalent affections, arising on an identical basis (polyserositis of Italian authors).

In a general way it may be said that certain clinical cases, otherwise difficult of interpretation, may be explained in a similar manner by the perforating lymph vessels of the diaphragm, which traverse the diaphragm in the direction from peritoneum to pleura and *vice versa,* establishing numerous communications between the two large body-cavities and even providing for their relations with remote regions.

An isolated observation by Muck[6] is as follows: The patient presented bronchial bruits over the lungs and had a slightly febrile temperature. There were no other symptoms suggestive of tuberculosis. Death occurred as the result of exhaustion; at the autopsy old tuberculosis was found in the left apex and a cavity in the right apex; there was a broken-down focus in the right lower lobe. A subphrenic abscess, probably tuberculous, though not microscopically examined, was demonstrated on the right side.

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[1] Eisendrath, Daniel D.: The Acute Forms of Abdominal Tuberulosis, THE JOURNAL A. M. A., Jan. 23, 1909, lii, 291.

[2] Michaux: Bull. et Mem. Soc. de chir. de Paris, 1897, xxiii.

[3] Archibald: Brit. Med. Journal, May 19, 1906.

[4] Küttner: Beitr. z. klin. Chir., 1903, xl.

[5] Tilger: Virchow's Arch. f. path. Anat., 1894, cxxxviii.

[6] Muck: Inaug. Diss., Munich, 1894.

Cornet[7] considers that tuberculous changes in the liver as a sequel to pulmonary phthisis are uncommon. The liver is most frequently affected in general miliary tuberculosis, under the formation of disseminated miliary tubercles, apparently not uncommonly immediately before the death of consumptive individuals. Localized tuberculosis of the liver often appears under the picture of enormous isolated, softened, tuberculous ulcers (Orth, Simmonds, Zehden, Wagner, Clement).

Hepatic tuberculosis originates by the hematogenous route, through the bowel, or through the peritoneum. In addition the hematogenous route practically opens all the organs of the body to the bacilli. This view is supported by Lubarsch,[8] who cites investigations on tuberculosis of the stomach (Simmonds, Bindo de Vecchi) of the heart muscle (de Vecchi), the muscles of the body (Saltykow), etc.

Of contributory interest is the work of Kelynack.[9] In 3,053 autopsies Kelynack found distinct hepatic cirrhosis in 121 instances. In 28 cases (23 per cent.) there existed a tuberculous infection, either in the shape of active process, latent or old tuberculosis. Pulmonary tuberculosis was found in 14 cases (12 males, 2 females). Among these cases the lungs and the peritoneum were simultaneously affected in 6 males and 1 female; the lungs alone in 5 males and 1 female; the peritoneum alone in 2 males and 2 females. Latent or old tuberculosis was present in 8 per cent. of the cases. The average age in active tuberculous processes was 45½ years; in tuberculous pulmonary disease, a little above 44 years; in disease of the peritoneum, barely 47 years; in latent or old pulmonary tubercles, a little over 44½ years.

Tuberculous pleuroperitonitis is discussed at length by Zelistratow.[10] Zelistratow gives a brief description of the clinical picture of the disease and five personal observations: One case was associated with general miliary tuberculosis; in another case the pulmonary and intestinal symptoms were so marked that the affection of the pleuræ and the peritoneum was of minor importance only. In Cases 3 and 4, the affection of the pleura and peritonitis were the only symptoms; in Case 5 these were the predominant symptoms.

The Influence of Proteids and Carbohydrates on Metabolism.—It was sought to determine the immediate effects of these two classes of foodstuffs on the products of metabolism. A. Gigon (*Skandin. Arch. f. Physiol.*, 1909, xxi, 351) made observations on himself, which were of ten hours' duration. Every quarter hour during the observations, doses of casein (155.6 gm.), dextrose (460 gm.) and of dextrose and casein (equal to the sum of these two) were administered. The experiments were carried out in the Sondén-Tigerstedt respiration apparatus, and in addition the exchange of nitrogen and phosphorus were determined. It was found that proteids as well as sugar increased the output of carbon dioxid and that the mixture of proteids and sugar increased the output of carbon dioxid to an extent which equaled the sum of the output from sugar and proteids when given separately. The doses of sugar, however, had no appreciable immediate effect on the exchange of nitrogen or phosphorus.

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7. Cornet: Die Tuberkulose, Vienna, 1907.
8. Lubarsch: Encyclop. Jahrb. d. ges. Heilk., 1904, ii.
9. Kelynack: Med. Chron., January, 1897.
10. Zelistratow: Klin. Jrl. Russ., December, 1901; Centralbl. f. d. Grenzgeb. d. Med. u. Chir., 1902, v.

SURGICAL TREATMENT OF TUBERCULOUS PLEURISY, LUNG ABSCESS AND EMPYEMA *

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It is an established fact that at least 70 per cent. of all cases of the serofibrinous type of pleurisy in adults are of tuberculous origin, the figures of various observers varying from 15 per cent. to 82.6 per cent.

I need not here review the literature or quote statistics which establish this fact, since this has only recently been done by Lord[1] and in 1908 by S. Goodall,[2] but I shall briefly discuss the methods by which we may ascertain the true etiology of pleuritic effusions.

We shall here exclude the transudates due to circulatory disturbance, kidney affections, cancer, or injuries to the pleura and confine our study to the forms which are associated with or follow inflammatory diseases of the lungs, pleura or neighboring organs.

Dealing, then, with only inflammatory types of effusions, our first step is to determine what disease is its causative factor. Is it a tuberculous or one of the more acute forms of inflammation, such as lobar or bronchopneumonia, rheumatic arthritis, etc., or a suppurative disease of a neighboring organ, as, for instance, an abscess of the liver, spleen or mediastinum?

Since a large percentage of pleural effusions are associated with pulmonary tuberculosis, we shall naturally suspect most cases to be of such origin and shall search for verification.

METHODS OF DIAGNOSIS

The cytodiagnosis takes first place. It was first advanced by Widal and Ravaut, and verified by many observers, especially by Musgrave,[3] who analyzed seventy-two cases at the Massachusetts General Hospital. Musgrave approved Widal's formulated rules for differentiation, which are as follows:

1. A predominance of lymphocytes in the effusion indicates an early stage of tuberculosis of the lungs.
2. A predominance of polymorphonuclear leucocytes indicates that the effusion is due to an acute infectious process.
3. A large number of endothelial cells occurring in sheets or plaques means mechanical effusion or a transudate.

The tuberculous variety is divided into two classes: a class of cases which are forerunners of pulmonary tuberculosis, at least in which no tuberculous lesion can be discovered by physical examination, called the primary form, and then a group in which the pleurisy is associated with a well-pronounced tuberculous disease of the lung, the secondary form.

In the primary and most common form the lymphocytes predominate. During the first week or ten days in a tuberculous effusion the polynuclear cells may predominate, but these rapidly disappear and give place to a purely lymphocytic form.

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* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

* Owing to lack of space the article is here slightly abbreviated. It appears in full in the Transactions of the Section and in the author's reprints.

1. Lord: Treatment of Serofibrinous Pleuritis, Boston Med. and Surg. Jour., April 15, 1909.
2. Goodall, S.: The Relation of Pleurisy to Pulmonary Tuberculosis, Med. Rec., June 27, 1908.
3. Musgrave, P.: Examination of Pleural Fluids with Reference to their Etiology and Diagnostic Value, Boston Med. and Surg. Jour., 1904, pp. 317, 347, 377, 406.

In the secondary form, which is not so frequent (about 1 in 10) the sediment does not contain many lymphocytes, but consists principally of necrotic cells which are not entirely degenerated, the larger percentage being polynuclear.

Next to cytodiagnosis the process of "inoscopy"[4] is of diagnostic value. It enables us to find the tubercle bacilli in the effusion by means of a process of digestion of the fluid before staining.

The method of animal inoculations with the pleuritic fluid is another valuable aid in proving the correct diagnosis, but is, on account of the time required for the test, not very practical.

Another diagnostic aid which has recently become very popular is the tuberculin test, either by the cutaneous, subcutaneous, or conjunctival method. Its true value in this capacity is at the present time a subject of animated discussion in the medical world and will, no doubt, be decided by those who are now testing its reliability in thousands of cases.

The radiograph of the chest has, as yet, not received its merited appreciation as a diagnostic aid. By means of this quite recently developed adjunct we are able to recognize pleural effusion as well as pulmonary tuberculosis in the early stages in the lung, and when the two coexist we have evidence that the effusion is of tuberculous origin.

The literature on the radiograph as a diagnostic aid in diseases of the chest dates back as far as 1896 (Walsham[5]), and its more extensive application has been endorsed and perfected by Rieder,[6] Krause,[7] Holland[8] and many others.

The skiagraph is an accurate record of the presence and location of a lesion or fluid within the chest. Its interpretation is submitted to the acutest of our senses, the sense of sight. The eye, of all the senses, is the least liable to be deceived, and a perfect radiograph, if properly interpreted, is a valuable guide in the early diagnosis of tuberculosis, with or without effusion.

Recently I brought to the attention of the State Medical Society of Illinois an innovation in this diagnostic aid, which enables us not only to discern the earliest signs of tuberculous disease, but also to differentiate an active tuberculous process from a latent one, i. e., *the stereoradiograph of the chest* (Fig. 1). The stereoscopic effect brings into relief the structures of the lesions while the non-stereoscopic, single radiograph shows only a shadow. The active tuberculous process is recognized by dark shadows surrounded by a halo, the latter indicating the infiltrated area around the tuberculous focus.[9]

Quite different is the picture of an old healed tuberculous process, in which only scars remain in the lung tissue as relics of the disease. Here we find the shadows standing out clearly like spiders, surrounded by clear lung tissue.

Summing up our diagnostic aids, the clinical history, the physical findings, the chemical and bacteriological examination of the blood and secretions, the cytodiagnosis, inoscopy, the tuberculin test, animal inoculation and the stereoradiograph as guides in determining the character of pleuritic cases, we proceed to the treatment.

CURRENT METHODS OF TREATMENT

In the treatment there seem to be some inconsistencies. The idea that as soon as an effusion in the chest is discovered its immediate withdrawal is indicated is still too prevalent among practitioners and it is time that the medical profession take some definite position on this question.

In studying the literature of this subject one is impressed by the growing opinion of authorities that the pleural effusion in incipient cases of pulmonary tuberculosis is a factor promoting the cure of the disease. It is asserted that the collapse of the diseased lung produced by the effusion has a highly beneficial influence on the healing process. This, of course, has relation to the unilateral involvement alone, and many instances in which the spontaneous cure has taken place by either a pneumothorax or pleural effusion are reported in medical literature (Späth,[10] Konzelman[11]). The latter recently published twenty-five cases of all stages of pulmonary tuberculosis with intercurrent pleuritic effusion in which fourteen patients recovered and are able to work, and he regards the pleuritic effusion as the factor conducive to the healing of the underlying disease.

Lord, on the other hand, states that of every 10 cases of primary pleurisy 3 or 4 develop pulmonary or other tuberculosis within four to six years, and advises that every case of serofibrinous pleuritic effusion be treated as tuberculosis.

Autoserotherapy in serofibrinous pleurisy was first introduced by Gilbert and Fede,[12] and its efficiency in absorbing the pleuritic exudates has been corroborated by Nasetti[13] and by Schnutgen.[14] It consists in withdrawing by means of a Pravaz syringe 1 c.c. of the serofibrinous exudate and reinjecting the same at once subcutaneously. These injections are made daily for four or five days, according to the severity of the case, and within twelve to fifteen days the fluid in the chest cavity usually disappears. Bad after-effects were not noted. In fourteen out of fifteen cases of serofibrinous pleurisy thus treated by Schnutgen in the clinic of Professor Senator the results were positive.

Whether this form of treatment of removal of the exudate is of permanent value depends on these salient points: Does the disappearance of the fluid also cure the underlying disease, namely, the tuberculosis? Have these patients remained well or have they developed tuberculosis later on? Nasetti and Schnutgen have not made these points clear, except by suggesting that probably through the subcutaneous injection of the exudate a quantity of antitoxic and antibacterial substances gain entrance into the circulation.

Assuming, then, that the pleuritic effusion is conducive to the healing of tuberculous disease of the lung, is it not irrational to advocate its removal or favor its absorption by medical means, except when urgent symptoms, such as difficult breathing, extremely high blood pressure, or disturbance in the circulation, require immediate relief? Then, of course, it is advisable to withdraw a sufficient quantity to establish equilibrium.

The pleuritic effusion should not be regarded a disease. It is in reality a symptom, just as free fluid in the peritoneal cavity is a symptom of tuberculous salpingitis or tuberculous appendicitis. Its removal does not cure the underlying disease; on the contrary, it interferes with the healing process. The treatment of tuberculous pleurisy, therefore, should consist in the treatment of its causative factor, namely, the pulmonary tuberculosis.

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[4] Jousett: Semaine méd., 1903, No. 3, p. 22.

[5] Walsham: The *X*-Rays in the Diagnosis of the Chest, Ref. Arch. Roentg. Ray, July, 1908.

[6] Rieder: Zur Früh-diagnose der Lungentuberculose mit Hilfe der Roentgenstrahlen. Beitr. z. Klin. d. Tuberc., xii, No. 2, 195.

[7] Krause, P.: The Value of Roentgen-Ray Examination in the Diagnosis of Pulmonary Tuberculosis, Especially in Reference to Early Tuberculosis, Am. Jour. Med. Sc., March, 1909, cxxxvii, No. 3.

[8] Holland: Diagnosis of Pulmonary Tuberculosis by Means of the *X*-Ray, Liverpool Med.-Chir. Jour., July, 1908.

[9] This point is further discussed in a paper which will soon be published in the Illinois Medical Journal.

[10] Späth: Beziehungen der Lungencompression zur Lungentub Würtenberg, Cor.-Bl. lviii, No. 15.

[11] Konzelmann: Ueber den Einfluss der pleuritischen Exudate auf den Verlauf der Tuberculose, Beitr. z. Klin. Tuberc., x, No. 4.

[12] Gilbert and Fede: Schmidt's Jahrb. d. in- u. Ausländ. Med., 1907, xcv, 247.

[13] Nasetti: Ref. Deutsch. med. Wchnschr., 1908, No. 42, p. 1819.

[14] Schnutgen: Berl. klin. Wchnschr., Jan. 18, 1908, p. 97.

Returning to the principle of compression of the lung in the treatment of unilateral tuberculosis, we may state that this was inaugurated by Forlanini[15] in 1894, and independently practiced by Murphy[16] by means of injections of nitrogen gas into the pleural cavity, where the adhesions of the lung did not prevent its introduction.

In Germany this method has been tried by Brauer,[17] who published his later experiences with the method in 1906, and recently Carl Lexer[18] published four cases so treated, and the results obtained by all these authors were quite encouraging.

Another method of lung compression was tried by A. Schmidt,[19] which consisted of the injection of oil instead of nitrogen gas.

More recently a radical method has been advised by Brauer, namely, the mobilization of the entire chest wall of the affected side by extrapleural resection of the entire length of as many ribs as will permit the remaining soft structures to fall against the diseased lung and prevent its expansion. It is essential to guard against injuring or opening the pleural space during the operation.

This work has been developed and extensively described by Professors Brauer[20] and Friedrich,[21] and, while the operative procedure is connected with danger and leaves the patient with deplorable deformity, they regard it as justifiable in cases in which the lives of those otherwise doomed unfortunates can be prolonged and made more comfortable.

Professor Friedrich reports ten cases treated in this manner, with three deaths and seven recoveries. This entire series consisted of patients with extensive unilateral pulmonary tuberculosis in which climatic and medical treatment had failed to prevent the spreading of the tuberculous process.

While these various methods differ in their application, the underlying principle in all of them is the same—namely, to bring about a collapse of the diseased lung, thereby suspending its action and putting it to rest for such length of time as may be required for the healing process.

To determine the causes which bring about this improvement has tempted many to investigation. Karl Spengler,[22] Baumler[23] and others have pointed out that pneumothorax could, in many cases of cavernous phthisis, produce a marked improvement, and the experiments of Forlanini, Murphy, Lemke,[24] in America, as well as Tuffier[25] in France and Brauer in Germany, with production of an artificial pneumothorax have shown that the compression of the diseased lung causes collapse of abscess cavities, arresting respiratory function and furthers cicatrization, and in consequence the lymphatic circulation is retarded and the absorption of toxic material from the diseased organ reduced. This effect is clinically evident in the cases thus treated, by a reduction of fever, cessation of cough and improvement in the general condition.

I am satisfied that this principle of immobilization of the lung is correct, and am certain that in working out some method which would facilitate its application without causing the great mortality or deformity of the present methods lies a promising field in the treatment of unilateral tuberculosis.

To exploit this valuable principle of lung collapse, and to perfect its means of application, has been my aim, but my experiments in this particular field are too recent and incomplete to permit their publication, although they seem very encouraging.

TREATMENT BY INJECTIONS OF VASELIN PASTE

At this point I desire to discuss the treatment of empyema and lung abscess, which, in a measure, led to my experiments in the treatment of tuberculous pleurisy.

During the past two years my brother, Dr. Carl Beck, and I have had considerable experience in the treatment of empyema by means of injections into the cavities of a liquefied paste made of 33 per cent. bismuth subnitrate and 67 per cent. of vaselin.[26]

The subject has, in connection with the treatment of chronic sinuses and suppurative conditions of the nasal accessory sinuses,[27] aroused considerable interest in the medical profession, since its simplicity and efficiency seem to have rendered it a valuable addition to our present methods of treatment of this class of chronic suppurative diseases.

In this paper I shall omit a review of the literature on the treatment of empyema, knowing that the medical profession is familiar with the methods in vogue; I shall confine myself to the consideration of this one method of treatment, which I first introduced in 1907, and to its further development since that time.

In December, 1907, I instituted this form of treatment in the first case, an abstract of the history of which is here cited:

Case 1.—*Empyema.*—Patient, H. A., aged 19. Family and personal history free from tuberculosis. January, 1907, an attack of pleurisy with effusion, soon changed into empyema March 20, 1907: Resection of two ribs, evacuation of pus drainage. A daily discharge of 2 to 3 ounces of fetid, green pus persisted in spite of all treatment until Dec. 20, 1907 when the patient was brought to me for treatment.

Bismuth Treatment.—Drainage-tube was removed and 120 gm. of bismuth-vaselin paste were injected into the suppurating cavity in the patient's chest. Two days later the injection was repeated, most of the previously injected paste having escaped with the discharging pus.

Later History.—After four days the discharge became serous lost its foul odor and greatly diminished in quantity. Injections were repeated daily for a few days, and on the twelfth day the sinus closed and has remained so to date; the patient has gained 30 pounds and is in perfect health. Skiagraphs had been taken at intervals of two months which demonstrated the gradual absorption of the bismuth paste and the slow expansion of the lung where the abscess had existed.

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[15] Forlanini: Deutsch. med. Wchnschr., 1906, No. 35; referring to previous work.

[16] Murphy, J. B.: Surgery of the Lung, The Journal A. M. A., 1898, xxxi, 151, 208, 281, 341.

[17] Brauer: Die Behandlung der einseitigen Lungenphthise mit künstlichem Pneumothorax, München. med. Wchnschr., 1906, No. 7.

[18] Lexer, Carl: Therapeutische Versuche mit. künstliche Pneumothorax, Beitr. z. Klin. d. Tuberc., 1907, viii, 101.

[19] Schmidt, A.: Deutsch. med. Wchnschr., 1906, No. 13.

[20] Brauer: Lungencollapse-Therapie, Beitr. z. Klin. d. Tuberc., xii, 49.

[21] Friedrich: Lungen-Chirurgie, München. med. Wchnschr., Dec. 1, 1908.

[22] Spengler, Carl: Thoracoplastic und Höhlendisinfection bei Lungenphthise, Deutsch. med. Wchnschr., 1903, xxix, 312; Zur Chirurgie des Pneumothorax, Beitr. z. klin. Chir., 1906, xlix.

[23] Baumler: Abhandlungen über tuberk. Empyema, Deutsch. med. Wchnschr., Sept. 13, 1894, p. 717.

[24] Lemke, A. F.: Discussion on his paper on Pulmonary Tuberculosis, The Journal A. M. A., 1899, xxxiii, 1085.

[25] Tuffier: Ref. by Musgrave, Inter. Med. Congress, Moscow, 1897.

[26] Beck, E. G.: Fistulous Tracts, Tuberculous Sinuses and Abscess Cavities: A New Method of Diagnosis and Treatment by Bismuth Paste, The Journal A. M. A., March 14, 1908, l, 868.

[27] Beck, J. C.: Bismuth Paste in the Treatment of Suppuration of the Ear, Nose and Throat, The Journal A. M. A., Jan. 9, 1909 lii, 117.

This surprising result led me, and others also, to the further application of this simple method of treating such complicated and usually unfavorable cases, and six months later I was able to include in my report to the Sixth International Congress on Tuberculosis[28] 19 cases in which empyema and lung abscesses were treated by this method; 14 of the patients were then apparently cured, 4 improved and still under treatment, and one not improved, having discontinued treatment.

The sources of this report were quite reliable, such competent surgeons as Mayo, Ochsner, McGuire, etc., contributing to same in addition to the cases treated by myself.

Since the publication of these cases reports from many surgeons throughout this country and from abroad have convinced me that the application of the bismuth paste in the treatment of empyema surpasses even the good results obtained in treating other suppurative conditions by the bismuth paste method.

Nemanoff,[29] for instance, reports 4 cases of empyema treated in Professor Kadjan's clinic, St. Petersburg, in which one injection of the bismuth paste in each case was sufficient to produce complete closure, whereas the same patients had been treated at the clinic for six months without success. Eighty grams of the paste was the maximum dose.

Dr. A. J. Ochsner,[30] Chicago, reported to the American Surgical Association June 4, 1909, 14 cases of empyema, in all of which operation had been previously performed and the sinus failed to close, although in two of them the Estlander operation had been performed. In all these cases he applied the bismuth paste, with the result that twelve cases had completely healed and two patients are still under treatment and very much improved.

My experience and that of Dr. Carl Beck disposed of 10 cases of empyema and three cases of lung abscesses.

How many of these cases were of tuberculous origin it is difficult to say. In two of them we could positively prove the tuberculous nature, having found the bacilli in the discharge, and also proved its existence by animal inoculation.

Cases 1 to 9 inclusive were treated according to the method described in my previous publication. In the last four cases, 10 to 13 inclusive, important modifications were made, which may lead to entirely new and valuable improvement in the surgical treatment of empyema and lung abscess.

I shall briefly cite the histories of these thirteen cases, since nearly each one brings out some points, knowledge of which will be of value in the future treatment of similar cases.

Cases 2 and 3 are cited in detail elsewhere,[28] and I shall not give detailed histories of them in this paper.

Case 2.—*Tuberculous Empyema.*—Patient was a young lawyer. Repeated withdrawals of pleuritic fluid in 1906 were followed by empyema. The same year five ribs were resected but the cavity did not collapse and discharged 100 c.c. of green pus every day.

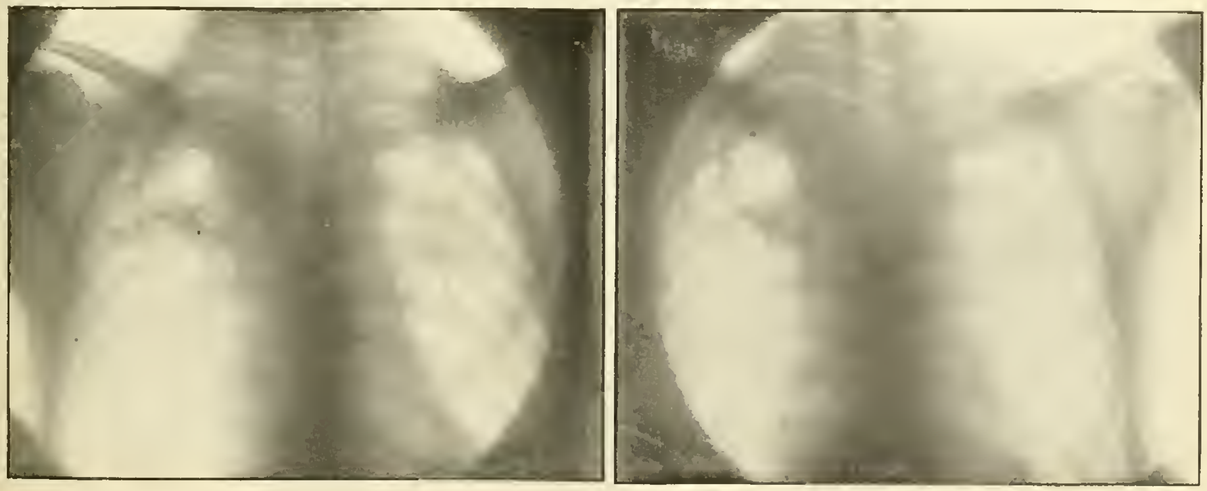
Bismuth Treatment.—In April, 1908, the cavity was injected with 720 grams of bismuth paste, which was allowed to remain six weeks. At first the patient gained in weight, but at the end of six weeks he developed symptoms of bismuth intoxication, starting with slight cyanosis, then blue borders on his gums, loss of weight one pound a day and desquamative nephritis. As soon as the cause of these symptoms were explained the cavity was immediately filled with 500 c.c. warm sterile olive oil, which formed an emulsion with the paste, and was easily withdrawn the next day by means of a suction pump.

Later History.—All symptoms of intoxication disappeared in one week and patient regained his weight at the same rate that he had lost it. The pus became seropurulent and continued to discharge in quantities of one to two ounces a day until December, 1908, when the sinus closed and remained so until March, 1909, when it reopened and a quantity of green pus escaped, which, on examination, was found to be sterile. The cavity was refilled with pure, sterile petrolatum. It closed the following day and has remained closed to date. The final result of this case is not as yet decided, although the patient considers himself perfectly well and has chosen the occupation of chauffeur.

Case 3.—*Lung Abscess.*—The report of this case, which is similar to Case 2, is given in full in the Transactions of the Sixth International Congress on Tuberculosis.

Both Cases 2 and 3 proved to be of tuberculous origin and in both the bacteriologic studies of the secretions, as well as tests by animal inoculation, proved that within the first six weeks of treatment with bismuth

Fig. 1 Stereoscopic view of active tuberculosis with cavity formation.
The stereoscopic views are placed at the margin to facilitate the use of the stereoscope.



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[28] Beck, E. G.: Tr. Sixth Internat. Cong. on Tuberculosis, 1908.
[29] Nemanoff: The Treatment of Fistula and Drainage Passages, Russk. Vrach, vii, 1568.
[30] Ann. Surgery, July, 1909, p. 151.

paste the tubercle bacilli, as well as other micro-organisms, gradually diminished and finally disappeared. Ten c.c. of the secretions injected into the peritoneum of a guinea-pig did not produce tuberculosis or septic infection, while previous to the bismuth treatment one drop of the pus of each of these cases injected into guinea-pigs produced a tuberculosis within four weeks.

Case 4.—*Empyema.*—Chas. L., aged 18, had the grip in March, 1908; two weeks later developed pleurisy with effusion. Temperature 105. Aspiration was not performed until four weeks later, when resection of a rib was done and 2,000 c.c. of pus evacuated and drainage established. For three and a half months the pus continued to discharge profusely. July 20 30 gm. of bismuth paste were injected, whereupon the secretion ceased within twenty-four hours and sinus closed five days later. Patient gradually regained his health and sinus has not reopened.

Case 5.—*Empyema.*—M. O., aged 48, electrician, in 1906 developed an empyema, which, after resection of two ribs and drainage, failed to close. A radical operation was performed sixteen months later by resection of three more ribs, but even this was in vain, and bismuth injections were tried by his physician, and as these also were ineffective, the latter referred the patient to me for treatment. I saw him first on Aug. 2, 1908, with a sinus beneath the right scapula leading into a large cavity from which a seropurulent discharge of a sour, fetid odor escaped, causing severe eczema around the mouth of the sinus. After ten injections of the bismuth paste at intervals of three days the condition was no better. I then tried an injection of the paste to which 2 per cent. formalin had been added. This caused severe pain and the condition seemed aggravated. Patient discontinued treatment and came under the care of another physician, who recently reported to me that another radical operation had since been performed with the object of producing lung collapse, but patient did not rally and died shortly after the operation.

Case 6.—*Empyema.*—Mary H., 8 years old, had at the age of 6, developed empyema which, after several months of expectant medical treatment, ruptured spontaneously in two regions on the anterior left chest wall, leaving three sinuses discharging green, thick pus. Child was very much emaciated when brought to me in May, 1908; fever varied from 101 to 102 daily. Patient coughed and had shortness in respiration (20 to 42). There was dulness on the entire left chest, radiograph showing distinctly that side filled with fluid. Instead of the usual resection of ribs and drainage, I injected 60 grams of the bismuth paste through one of the sinuses. Temperature and cough persisted in a milder form for a period of three weeks; thereafter all symptoms disappeared and all three sinuses closed. While I could ascertain the presence of fluid in the pleura three months later the child had, nevertheless, gained 20 pounds in weight and is at present in perfect health, the fluid having been in the meantime entirely absorbed.

Bacteriologic examination of pus, carried out systematically, proved that the pus discharge became sterile twenty days after first injection.

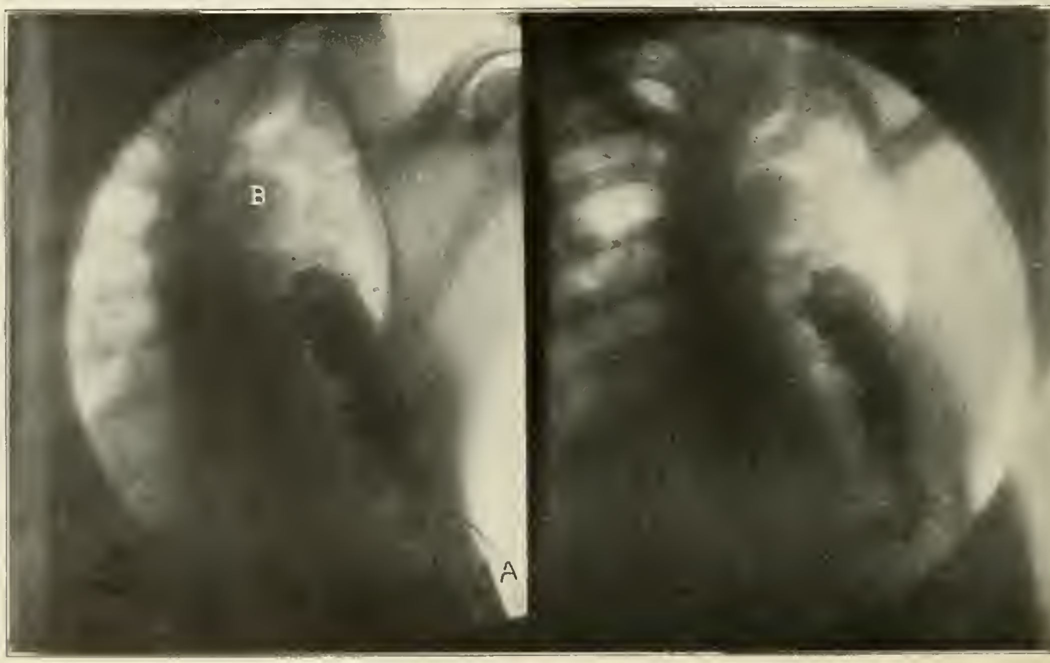
Case 7.—*Empyema.*—Miriam D., aged 5½ years, a delicate child, was taken sick at the age of 3 with acute lobar pneumonia. Empyema followed, and after the withdrawal of some of the fluid a resection of two ribs was performed by a surgeon in Ohio. In spite of perfect drainage and careful medical treatment the empyema continued discharging pus for one and one-half years, child failing gradually in health. As a last resort an Estlander operation was advised by the physician in charge, which the parents refused. In October, 1908, the child was brought to me for treatment. Her temperature varied from 99 to 101. Extreme emaciation and cough with pain as well as retraction of chest wall, were the principal symptoms. The small contracted opening into the chest secreted about 30 gm. of creamy pus daily. Through this sinus I injected 30 gm. of bismuth paste and took a radiograph, which showed that the cavity contained a large quantity of pus and the paste merely floated therein. Without resorting to further injections I observed the case for two weeks and noted a gradual decrease in the fever and cough, cessation of the discharge and closure of the sinus on tenth day. The child gained four pounds during the two weeks and the latest reports indicate that she has regained perfect health. (This patient was presented at the session of the American Medical Association, Atlantic City, June, 1909.)

The lesson learned from Cases 6 and 7 is the following:

1. It was not necessary to evacuate or drain off the pus from the pleural cavity before injecting the bismuth paste, and small quantities (30 to 60 gm.) were sufficient to produce the desired results.

2. Although the purulent exudate was not absorbed for several weeks after the bismuth injections had been

Fig. 2.—Stereoscopic view of sinus from empyema of twenty-eight years' standing, filled with bismuth paste Case 9) closed in sixty days after first injection. A indicates rubber drain; B, arch of aorta.



made, its presence caused no elevation of temperature and sinuses closed in a comparatively short time.

3. While the discharge retained its purulent character after the bismuth injections, it was nevertheless found to be sterile.

Through the courtesy of Dr. W. C. Kirchner, surgeon-in-charge of the St. Louis City Hospital, who placed at my disposal a number of patients for demonstration of the bismuth paste treatment of sinuses before the members of the St. Louis Surgical Society, I injected, among other cases, one of empyema which I desire to include in this series. Dr. Kirchner's history of the case follows:

Case 8.—*Empyema.*—Boy, aged 8, entered City Hospital, March 19, 1909, with a tentative diagnosis of appendicitis. Pulse, 140; respiration, 44; temperature, 101.6. After a few days of observation diagnosis of bronchopneumonia with pneumothorax was made.

Bismuth Treatment.—Temperature became normal three days after operation; discharge diminished but was very offensive under daily dressing until April 25, when patient was taken to clinic and 120 gm. of 33 per cent. bismuth paste, Formula 1, were injected into the pleura by Dr. E. Beck of Chicago. A second injection was given April 30 and on May 25 sinus was entirely closed and patient apparently cured.

Smear preparation of pus and the sputum were negative as to tubercle bacilli.

Case 9.—*Empyema.*—G. T., aged 39, engineer, family history negative, had measles at the age of 15; no other disease. In 1881 he suffered from an attack of pneumonia, followed by accumulation of pus in the left pleura. Drainage was established by intercostal incision (Dr. Favill, Sr., Madison, Wis.) and rubber tubing inserted. The purulent discharge had persisted since 1881 and with only a few days intermission, a drainage tube had to be kept in the discharging sinus. Various methods, except radical operation, were tried in attempts to close the sinus, but all failed. In January, 1909, the patient was referred to me by Dr. H. B. Favill for treatment. His general health was very good, temperature and pulse normal, right lung normal, left lung and chest cavity very much retracted. Pus discharge of thick and of dark green color, contained staphylococci and a few streptococci.

Bismuth Treatment.—Injection of bismuth paste, Formula 1, 60 gm., filled out the entire contracted pleural sac. Temperature remained normal and discharge became serious on fifth day. Injections were repeated every third or fourth day, and after sixty days the sinus closed and patient returned to Arizona to resume his work.

This case is very instructive, since it teaches that even after twenty-eight years' constant suppuration an empyema may be obliterated by injection of the paste. The stereoradiograph (Fig. 2) of this case demonstrates distinctly in plastic effect the size and contour of the remaining pouch and likewise illustrates the efforts of Nature in her attempt to obliterate this cavity during the twenty-eight years. The ribs were so retracted that the intercostal spaces disappeared, the spinal column curved with its convexity to the well side, clavicle drawn down and diaphragm drawn up, all structures contracting toward one center, the old suppurating cavity.

The following case illustrates a new method of treatment of lung abscess, and for that reason I will give a more detailed history.

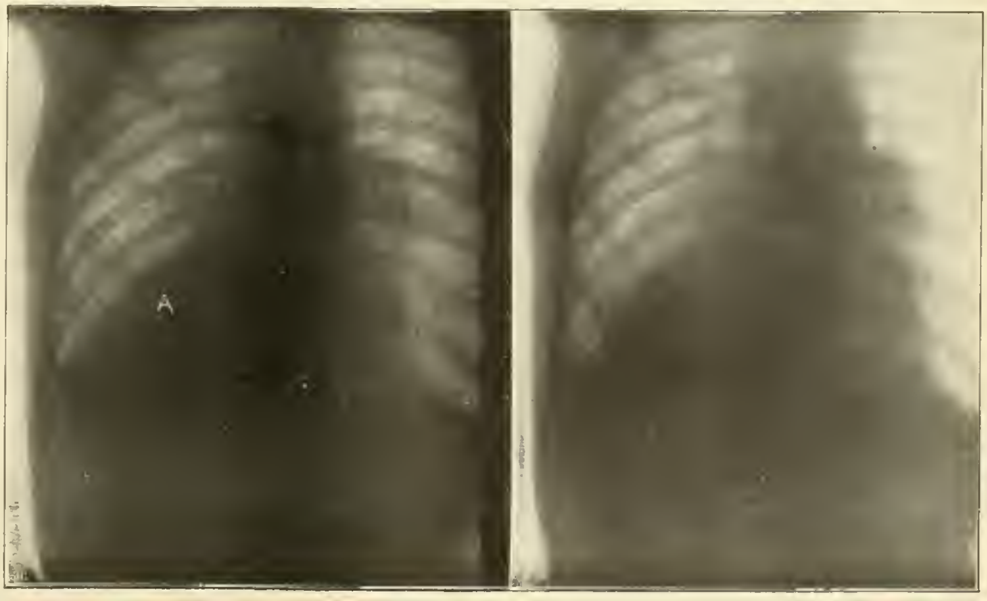
Case 10.—*Abscess of Lung.*—Ellsworth D., aged 15, family history negative as to tuberculosis, was well until four years before examination, when he inhaled a brass pin-tack, the size of a lentil. Within a week he developed pneumonia. While the acute symptoms passed, he continued to expectorate pus and had a daily elevation of temperature from one-half to 3 degrees. In spite of all medical and climatic treatment, the above symptoms persisted for four years.

Examiantion.—I first saw him Dec. 15, 1908. His weight was 98 pounds, temperature 97, pulse 120, cyanotic and greatly distressed. The entire chest was resonant, except the right posterior and lower part, the dulness extending upward to the angle of the scapula. Stereoradiographs were taken (Fig. 3), which were of great assistance in the anatomic diagnosis, since they brought out, in plastic effect, the location of the abscess and its relation to the other structures, and show the foreign body. The expectoration had a fetid odor, was green in color, and at each coughing spell at least half an ounce of pus was expelled. The microscopic examination of the pus revealed the presence of streptococci, pneumococci and staphylococci. Cultures produced an abundant growth of streptococci.

An operation was decided on and a modified method of treating abscess of lung employed in this case as stated above.

Operation and Bismuth Treatment.—With the usual preliminary preparation for rib resection, the patient was chloroformed and under the guidance of the stereoradiograph an incision 10 cm. in length was made, directly over the region of the abscess, i. e., about 5 cm. below the angle of the scapula. Resection of 4 cm. each of seventh and eighth rib was made without opening the pleural cavity. Two catgut stitches were inserted by means of a curved needle, fastening the visceral pleura to the chest wall. Packing sterile gauze against the exposed parietal pleura, temporary sutures in the skin were inserted and the patient put to bed. On the third day another short chloroform anesthetic was given, the gauze packing removed, an incision of one inch made in the pleura, and, with the index finger the lung tissue was bored through until the

Fig. 3.—Stereoscopic view of lung abscess, treated by prophylactic bismuth paste method, closed in ten days. A indicates abscess before operation.



resistance indicated that the abscess wall had been reached. A pair of blunt, curved artery forceps were passed along the index-finger, pushed into the abscess and the cavity widely spread apart. About 100 gm. of a very offensive pus escaped. The hemorrhage was very slight. Five strips of gauze 2 inches in width were packed into the cavity, the ends of same being tied on the outside with a silk ligature. Patient's temperature, cyanosis and cough still continued. The following day the five strips of gauze were removed and the cavity injected with 100 gm. of 33 per cent. bismuth-vaselin paste. This produced a coughing spell, the patient expectorating a great deal of pus, mixed with the paste. No drainage-tube was inserted into the pleural opening. The injections were repeated daily for one week, and each time the patient emptied the contents of the abscess by coughing out some pus mixed with the yellow paste. At the end of ten days the external wound was entirely closed, symptoms of cough, fever and cyanosis disappeared.

Later History.—Four days after operation patient was sufficiently well to permit of my presenting him before the North Side Branch of the Chicago Medical Society and later at the Milwaukee Medical Society. His general condition now is excellent, his weight having increased from 98 to 124 pounds, and temperature has remained normal since one week subsequent to the operation.

It is not advisable to inject the paste while the patient is under anesthetic, since the pus may be drawn into the trachea and cause aspiration into the other lung.

While I have had opportunity to carry out this method of treating lung abscess in this one case only, the result is so striking and theoretically so plausible that I do not hesitate to recommend this procedure, in suitable cases, to anyone who is familiar with surgery of the chest.

CASE 11.—*Empyema.*—Harold B., aged 8. Family history negative. Measles at 2 years of age. March 28, 1909, present illness began with high fever; diagnosis, lobar pneumonia. Patient not recovering as expected, physician brought him to the hospital April 9.

Physical examination revealed dulness over the entire right chest; left normal; radiograph (Fig. 4) corroborated physical findings. Temperature 100, pulse 120, respiration 32, marked cyanosis and emaciation were the cardinal symptoms.

Operation and Bismuth Treatment.—Operation April 11 by Dr. Carl Beck, consisting of the resection of one inch of the seventh rib. Rubber drain inserted after 350 c.c. of pus escaped. Pus continued to discharge and on the fourth day the rubber drain was removed and 100 grams of a 5 per cent. bismuth-vaselin paste (bismuth subnitrate 5 per cent., vaselin 95 per cent.) were injected into the cavity and a plain sterile gauze dressing applied. On the following day temperature became normal and all previous symptoms were ameliorated. Injection was repeated and six days later the secretion ceased. Sinus closed on the eleventh day after operation and has remained so to date.

Bacteriologic findings before bismuth injection had, as usual, been made, the smear preparation showing an abundance of staphylococci, and, in the culture media, a growth of staphylococci and Friedlander bacillus. Following the first injection a slow growth could be produced. After the second injection we could not produce any growth at all.

CASE 12.—*Empyema.*—M., 2 years old, had a severe attack of pneumonia April 16, 1909, starting with a temperature of 105.8, pulse 136, respiration 48, which, after ten days developed into an empyema of the entire left chest. Resection of one rib by Dr. Carl Beck with introduction of drainage-tube produced only moderate relief. Temperature still ranged from 100 to 102 and respiration from 38 to 48 during the entire week following the operation.

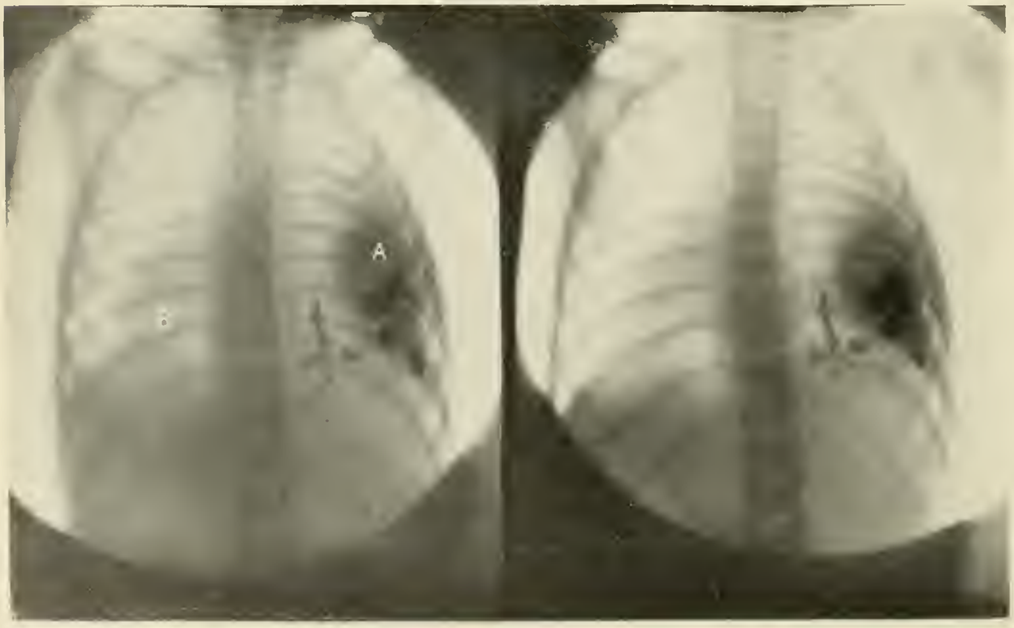
Bismuth Treatment.—On the eighth day after operation (May 3, 1909), an injection of 120 c.c. of a 5 per cent. bismuth-vaselin paste was made, and two days later the same quantity reinjected. Temperature fell to 99.4 (rectal), respiration to 30 within four days, and subsequently became normal, respiration 30. The pus became sterile after the first bismuth injection, but staphylococci reappeared a week later, and for this reason the opening has not been allowed to close. The injections will be continued until the secretion becomes sterile and then the closure of sinus permitted.

The general condition has markedly improved, cough disappeared, no signs of bismuth absorption present.

In the treatment of Cases 11 and 12 we deviated from the usual procedure in such cases in that the drainage tube was removed as early as the fourth day after operation and the cavities filled with a 5 per cent. bismuth paste instead of waiting several weeks for Nature to close it.

While the clinical results in these two cases are satisfactory and that complications need not be anticipated, nevertheless I do not, as yet, advocate this method as a routine procedure until a larger series of cases has proven its advantage over the present methods.

Fig. 4.—Stereoscopic view of empyema filled with bismuth paste four days after operation; healed in two weeks. A indicates 5 per cent. bismuth paste; B, heart dulness.



At any rate, anyone wishing to try this innovation should do so under careful guidance of daily microscopic examination of the secreted pus, and as long as the pus contains micro-organisms the opening should not be allowed to close.

CASE 13.—*Empyema.*—G. E., aged 26, with negative history of tuberculosis, was attacked with a severe type of pneumonia March, 1909. Severe cough, high temperature, lasted for ten days, and instead of usual crisis the patient continued to have fever, from 100 to 103 daily.

Shortness of breath increased and he lost considerably in weight. In this condition, with a temperature of 103, rapid pulse and labored breathing, he came to the city May 15, 1909, and applied to Dr. Wynekoop for treatment, who called me in consultation. Diagnosis of empyema, based on all typical symptoms, was soon reached, and, moreover, corroborated by a stereoradiograph and thoracentesis, whereon an operation was proposed.

Operation and Bismuth Treatment.—On my suggestion the following procedure was employed in this case: May 16, 1909, under anesthetic, a resection of one rib was made and two quarts of thick, greenish, yellow pus were evacuated. Instead of inserting a rubber tube, a quantity of 250 c.c. of 5 per cent. bismuth vaselin paste was at once injected and a plain sterile gauze dressing placed against the incision.

Later History.—Temperature, pulse and respiration became normal within twenty-four hours after operation and remained so to date (May 27). Patient is gaining in weight and strength, eats with great relish and has no difficulty in breathing. The purulent secretion changed into a seropurulent within twenty-four hours, and at the end of the first week only a small quantity of sterile serous discharge escaped into the dressing. At present (two weeks after operation) only a little vaselin escapes from the contracted small opening.

The procedure employed in this case would certainly be an ideal method if we were certain to obtain in every case the same favorable result. One case, however, no matter how brilliant the result may be, is not conclusive, and here, as in Cases 11 and 12, we must produce a large series of similar results before we can safely advocate this procedure as a routine method in treating empyema.

In reviewing the histories of these thirteen cases one can follow the step-like development and the gradual approach to what we aim to make a satisfactory method of treating empyema; a method which would do away with the rubber drain, the everlasting daily dressing, the continued suppuration which causes the pleura to become so much thickened that the expansion of the lung is practically impossible; a method which would cast into eternal oblivion the necessity for such radical, deforming and dangerous operation as the resection of the chest wall.

The factors contributing to the efficacy of this method of treatment of chronic suppurative diseases have been studied by me and published in the "Transactions of the Sixth International Congress on Tuberculosis" and my conclusions since that time have not changed materially.

Further investigations in the pathology and reparative processes are being carried on by my brother, Dr. Carl Beck, and will be published in due time.

CAUSES EFFECTING HEALING PROCESS

1. Bismuth-vaselin paste (proportion one part bismuth and two parts vaselin), when injected into suppurative cavities or sinuses, produces chemotaxis. In other words, it attracts the leucocytes to the parts injected, where the phagocytic action destroys the bacteria present in the walls and channels of the sinuses. A systematic examination of the secretions by smear and preparation, cultures, and frequently by animal inoculation before and after the injections of the paste, have proved to me the bactericidal action of the bismuth subnitrate when brought in contact with living tissues. Tubercle bacilli are no exception, this fact having been discovered in Case 2 and corroborated in Case 3. They are rarely found in the pus from tuberculous sinuses; more often, however, in tuberculous empyema. They lodge in the granulations and walls of abscess cavities. The bismuth paste, coming in contact with the walls containing the bacilli, induces chemotaxis, and the leucocytes thus drawn to the injected region destroy the micro-organisms present. This, to a certain degree, explains the interesting microscopic findings of the morphologic changes and destruction of the bacilli.

2. The chemical action of the bismuth subnitrate in the destruction of the micro-organisms seems to be very slight, as shown by experiments on cultures *in vitro*.

3. Distention of the abscess cavities with the paste and pressure can play only a subordinate part in the therapeutic effect. In some of these empyemas (Cases 6 and 7) only a small quantity was injected into a large cavity containing quantities of pus, and the results were all that could be desired.

4. The exposure of the injected parts to the *x*-ray can, likewise, play only a secondary part in the healing process, as I have received reports from many surgeons who obtained satisfactory results without the use of the *x*-ray. I believe, however, that in tuberculous sinuses from joint disease the application of the *x*-ray often accelerates the healing.

TECHNIC IN CHEST CASES

The technic of bismuth injections employed in abscess cavities in the chest differs somewhat from the one applied in sinuses. In the chest we have to deal with an infected cavity which has a rigid chest wall on one side, and the retracted, but more or less resilient, lung on the other. It is generally believed that if the air could be prevented from rushing into the cavity with each inspiration the lung would expand and fill up the space, but this does not explain why in many cases the abscesses do not heal when this principle is carried out by the suction-pump of Perthes,[31] and in recent tuberculous cases it is not even desirable.

After a radiograph of the cavity has been taken and an examination of the secretion has been made, it is injected with 100 gm. of bismuth paste, Formula 1. Gauze dressings are applied daily until sinus closes. Should temperature rise above 101 F., or the patient complain of severe pressure, the accumulated fluid should be drained off and the opening again allowed to close. If the temperature remains normal and no unpleasant symptoms arise the 100 gm. of paste injected may be left in for absorption, provided no signs of bismuth intoxication arise. Repetition of the injection is necessary only when the bismuth paste has discharged with the pus, and micro-organisms are still found in the secretions. In my early experience I supposed that the cavity had to be overdistended with the paste in order to produce healing, and I introduced as much as the cavity would hold. Such large quantities are not only unnecessary but are also liable to produce bismuth intoxication. Should any signs of this poisoning appear the bismuth must at once be dissolved by warm olive-oil and withdrawn by suction-pump.

It is noteworthy that the tuberculous empyema is far more resistant to any form of treatment than that of pneumococcus or other varieties. Murphy states that a very large percentage of empyema in adults is of the tuberculous form and that these rarely undergo absorption or break into a bronchus.

From personal communication with Dr. Moore, medical superintendent of the Dunning Hospital for Consumptives, an institution which takes care of an average of 400 patients in the progressive stages, I have the information that in the past four years he observed, in 5,000 cases treated, 25 cases of tuberculous empyema, and, whether operated on or not, all of the patients succumbed to the original disease.

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[31] Perthes: Mitt. a. d. Grenzgeb. d. Med. u. Chir., vii, Heft 4, 5.

These tuberculous empyemas are usually preceded by the serofibrinous pleurisy, which, either by frequent tapping or spontaneously, become secondarily infected. Operation is usually resorted to and, as a rule, the subsequent treatment is very tedious and unsatisfactory.

In my series of cases two were proved to be of tuberculous variety, and, while I do not consider the patients perfectly cured, they have so much improved as to permit the resumption of their pursuits in life, one of them having conducted his own campaign for state's attorney and won in the battle, the other taking a position as chauffeur.

Empyemas in children, or those following acute inflammatory condition in adults, give a very much brighter outlook for recovery. In children the drainage is usually rapidly followed by expansion of the lung and spontaneous closure of the sinus, and the majority of cases of the non-tuberculous type in adults will yield to the accepted methods of surgical treatment. A small percentage of cases, however, even of these types, will resist all medical and surgical treatment, and the sinuses keep on discharging pus indefinitely.

The failures are thus explained:

1. As long as the walls lining the pleural cavity are the seat of living micro-organisms, especially tubercle bacilli, an obliteration of the space can not be expected.

2. After suppuration has existed for years and the pleura has become very thick and the lung cicatrized, the expansion of the lung will not be possible.

The requirements therefore are:

A cavity free from micro-organisms and the lung still sufficiently resilient for expansion.

The method here described and employed in the cases enumerated, I believe, possesses to a marked degree the means essential to obliteration of abscess cavities. The introduction of bismuth paste has, as a rule, produced, by a process of local leucocytosis, a sterilization of the secretion, and in most cases softened the indurated pleura sufficiently to allow moderate expansion of the lung and obliteration of the space.

I realize that a series of thirteen cases is too small and the time since the application of this new method too short to admit of formulating fast rules. My aim in thus prematurely bringing the subject before the profession, is to stimulate others to help in working out an ideal method of treating lung abscesses and empyema.

92 State Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. POWERS, BECK, FRIEDRICH, MEYER, AND GREEN AND JANEWAY—A SYMPOSIUM ON THORACIC SURGERY *

Dr. Deforest Willard, Philadelphia: We all know the difficulties of thoracic surgery. We have invaded the abdomen and cranial cavity with comparative impunity and safety. Why? Because the cranial and abdominal cavities contain organs which are not essential to immediate life; but in the thorax are located the lungs and heart, without which no person can live more than a few moments, while the abdominal organs can be incapacitated for work for a long period of time. Therefore, we have approached this region with fear and trepidation. Since the invention of cabinets for positive and negative pressure, and for producing differential pressure, the thorax has become a more hopeful field for the surgeon, and we may yet hope in due time to meet the difficulties now before us with better preparation than heretofore, especially in cases of sudden pneumothorax, which have always been a *bête noir* in surgery. To treat a diseased lung is not so difficult, because it is crippled already, and it is not nearly so dangerous as is an acute pneumothorax. For many years I have been much interested in chest surgery. It has been my hope that we might be able to treat a tuberculous cavity in the lung by opening and drainage. The experiments I performed twenty years ago on dogs and experience since that time on human beings, has convinced me that if there were a single apex cavity it would be a feasible and successful operation, but, unfortunately, in tuberculosis of the lung, there is not, as a rule, a single cavity, but many cavities scattered throughout the lung, and while we could open and drain one, others would remain. In the experiments I performed many years ago, I found great difficulty in preventing leakage from the bronchial tube into the pleural cavity. If I closed the external opening through the walls, speedy death would be the result from this constant leakage of air. The method described by Meyer of crushing the bronchus will certainly be an advantage in preventing such an accident, especially when the bronchus is ligated and sutured afterward. In extirpation and pneumectomy, I am sure that the methods he described will be perfectly possible by means of differential pressure. The size of the opening in the chest wall is also a factor in determining the occurrence of pneumothorax. If we can establish tolerance by means of partial closure, we have gained much. In regard to mediastinal work, the transverse opening employed by Friedrich is by far the most advantageous, and is much better than the vertical incision. Judging from the benefits I have derived in surgery from the use of bismuth paste, in empyema, I feel satisfied that its influence on the diseased pleura will be useful. I am much pleased with Dr. Meyer's aëronautic invention, and we may hope that by means of this and the aëroplane, surgeons will in the future be able to take their patients up into the air a few thousand feet and operate, free from the dirt and dust of the street.

Dr. S. J. Meltzer, New York: The statement frequently made by the followers of the Brauer method, that there is no functional difference between this method and that of Sauerbruch, physiologically, is incorrect. While under the Sauerbruch method the expiration does not differ from that which takes place under normal conditions, the expiration under the Brauer method, that is, the removal of the carbon dioxid, has to take place against the atmospheric pressure plus a pressure of 8 or 10 millimeters of mercury. That is the reason why in operations under overpressure the blood often looks dark.

The slowing of the heart which occurs under distention of the lungs leads to actual stoppage of the heart. This is either a reflex act or is due to a stimulation of the vagus centers in the medulla, by the carbon dioxid. At any rate, it is important to know that the grave situation can be easily relieved by an intravenous injection of atropin. I wish also to refer briefly to a physiologic observation we made in the laboratory at the Rockefeller Institute which promises, we believe, to be of considerable practical importance. We found that under a certain method of insufflation of air, the animal does not require any respiratory movements of its own to maintain its life. In under-pressure or over-pressure, the methods are employed, it is assumed, only to prevent the collapse of the lungs while the respiration is carried on by the animal itself. This assumption, we found, is well founded. If curare is given to an animal breathing under the Brauer method, the animal dies in a few minutes. By our method the animal may be completely curarised and will continue to live for many hours. The method consists in introducing a tube into the trachea as far down as the bifurcation and conducting a continuous stream of air under a pressure of from 10 to 15 millimeters of mercury through this tube. The removal of the air carrying the carbon dioxid takes place through the space between the tube and tracheal wall driven by this pressure instead of against it.

Dr. G. E. Fell, Buffalo, N. Y.: It is natural from the work I did a score of years past that I should be greatly interested in this subject. My apparatus with which I have resuscitated many human beings, who have stopped breathing, is exceedingly simple after it has been studied. With it one may keep up respiration by rhythmically pressing on the piston of the air-valve, making the intervals as long or as short as is desired. In the final closure of the chest cavity, the entire pleural space of the thorax is filled with the lungs by pressing down, the piston keeping up a continuous inflation within reason, holding it as long as desired: the chest cavity is closed air tight, and autorespiration should ensue, all other matters being satisfactory. I believe that positive pressure is the best when properly applied. It is unquestionably too valuable to be pushed aside, and will be utilized on account of its portability much more than the cabinet method. In thoracic surgery, it will permit absolute control of the lung movements, or of inspiration or expiration, the latter being really passive. This was practically proved by the work I did in 1887-1888, and the following decade, the real discovery of practical forced, instrumental respiration on man. The method of using the anesthetic and oxygen with this apparatus is practical and the quantity can be gauged to a nicety. No other apparatus I have heard of compares with it in this respect, and in every other application it has proved its actual value as a means of respiring for human beings. If, as has been done in my experience, we can breathe for a human being for three or four days and nights, and save life, we should be enabled to keep up respiration for surgical purposes at the most when only an hour or so would be required. My demonstrations of its value have been varied, and it has been described here and there in my writings, although then it was not so complete as now. Notwithstanding this, it has not been fully understood by those who have discredited it.

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* The papers of Drs. Friedrich, Meyer, and Janeway and Green appeared in The Journal last week.

Dr. Samuel Robinson, Boston: At the end of two and a half years of experimental surgery, it has been my good fortune within the last three months to visit Marburg, Germany, and I would express my thanks to Professor Friedrich for his courtesy in allowing me to work with Professor Sauerbruch in his clinic. During the last three years I have performed animal operations under positive and negative pressure. I have operated on human beings with positive pressure and have witnessed operations on human beings under negative pressure. I think that I have seen most of the apparatus in this country and in Germany, which are indeed many. The question in the minds of many surgeons to-day is: "Shall I employ pressure difference in my operations on the thorax or not?" Nothing would be more contributory to the solution of the problem than to have a number of surgeons operate on all individuals who present themselves with thoracic disturbances without pressure difference. If any man is convinced that pressure difference is unnecessary and will operate on every one with the same courage with which surgeons are now operating under pressure difference, his results will be the greatest contribution to this branch of surgery. Knowing the accidents that may happen, I personally am not ready to take such risks. To those who have concluded that pressure difference should at least be available in thoracic operations, the question that arises is: Is positive or negative pressure to be preferred? I urge you not to lose unnecessary time in this choice of methods. German physiologists have shown that the negative pressure method is the better imitation of the normal respiration. On the other hand, it has been proved that the results under positive and negative pressure of like value, and the choice of apparatus depends on which is best adapted for your facilities. Many apparatus are portable and best adapted for certain surgeons; other more cumbersome ones are best for hospital use. Our indebtedness to Dr. Meyer for the cabinet which he has constructed has not, I think, been sufficiently emphasized, for although he cannot expect us all to have an apparatus which combines the two methods, he has nevertheless an opportunity to determine whether or not one or the other method is applicable to a certain class of thoracic cases. Kuttner has operated alternately with both methods, but having started an operation with one he cannot change to the other, a possibility which is beautifully carried out in Dr. Meyer's apparatus. A word about empyema. It is safe to say that for the present we shall not all adopt the methods of Dr. Beck or Dr. Murphy, although their results are promising and may eventually become the methods of choice. Until that time arrives, I would emphasize the fact that most of the cases suitable for bismuth injection or thoracoplastic operation result from the neglect of the surgeon who has operated in the first stage, and I urge surgeons to see to it that the lung is brought to the chest wall in the after-treatment of empyema or in accidental pleural injuries. If this is accomplished, this discussion of the proper method of treating old empyema sinuses will no longer be a question for us to consider.

Dr. N. W. Green, New York: Dr. Meyer's paper was especially interesting, where he showed the method of resection of the lung and of dealing with the bronchi. Of course, the closure of the bronchus is the important step in resecting the lung, and Dr. Meyer combats infection from this source, by his angiotribe method. We also have used a similar method, cutting the bronchus with the cautery after pinching it and ligating the four blood-vessels at the hilus of the lung over it. The entire lung can be taken out with ease. We must realize that there is a large field for operative work in the chest, when we consider that the pathologic conditions in the chest are so numerous, and that tuberculous processes in the lung lie dormant for many years. Dr. Willard mentioned that the cavities in the lung may be numerous or multiple. In the ordinary thoracotomy under differential pressure we can open the chest with impunity; we can explore the lung surface, and, in many cases, we can tell whether there is only one diseased spot or many, and be prepared to apply the correct treatment without causing any injury. Dr. Meltzer mentioned the use of atropin. Last year Dr. Schäfer of Edinburgh, Scotland, referred to its use in prevention of shock, and we have found it useful for that purpose in our operative work. A small dose of atropin, from 1/100 to 1/50 of a grain, may be administered a few minutes before beginning the anesthesia. Dr. Fell spoke of over-expansion of the lung. There is not so much danger of this in his work. One can raise the pressure to 60 millimeters while the chest wall is intact, without causing rupture of the lung, but it is a different matter when the lung is outside of the chest cavity. In that case we may do injury. I wish to commend to you the idea of thoracotomy under differential pressure for exploration, either for esophagus involvement or for pulmonary involvement of one form or another. I think that the procedure will probably come into more universal use even as exploratory operations are performed for abdominal disease, after all other means of diagnosis have been employed.

Dr. J. B. Murphy, Chicago: In empyema that does not communicate with a bronchus and that does not communicate by an external sinus with the body surface, what shall we do? Render that cavity sterile without opening it, and permit absorption of the sterile fluid to take place. This can be accomplished first, by simple aspiration and its change in the circulation in the wall of the abscess; second, by the injection into the abscess of some enzyme or irritant that causes polymorphonuclear leucocytosis in the cavity. Pleuritic effusions are not absorbed like many of the acute pus accumulations in other parts of the body that have ceased to destroy, because they have in them no material that converts the albuminoid into absorbable peptones. We can overcome that by injection of sterile trypsin, or better and more easily, by injecting into the pleural cavity a few drams or ounces of a 2 per cent. solution of formalin in glycerin. Eleven years ago, at Denver, I discussed the treatment of pleurisy with effusion in tuberculosis. Professor Friedrich has given us an operation which will enable us to accomplish exactly what Nature does, namely, pulmonary compression for repair of the tuberculous lesion, which we have heretofore tried to prevent by early aspiration of the fluid. He has shown that by excising a portion of the chest wall the lung is permitted to contract or to be compressed during the process of repair; a procedure which is in accordance with our knowledge of the repair of tuberculosis in any part of the body. I showed at the Denver Session that the fluid effusion compresses the lung and favors the processes of repair, and that the nitrogen or air could be used as a substitute for the fluid. When the tuberculous focus is about to penetrate the surface of the lung through the pleura, Nature produces in the pleura an effusion, and that effusion gradually compresses that lung up to one corner and holds it there while the process of repair is going on, and finally removes this by absorption. That effusion is of advantage during the process of repair if the effusion is sterile. When it becomes an empyema, when it becomes septic, then we have in addition the destructive effects of the infection: we have increased temperature and sepsis, which is very detrimental to the patient's general condition and to the process of repair; therefore it must be rendered sterile by aspiration and repeated injections of formalin solution until pus ceases to form. To other operations for removal of lung many years ago, I added experiments to show how the bronchus could be closed, and how a portion of the lung could be excised successfully. This last can be accomplished when a whole lobe is to be removed by dislocating it to the surface and allowing it to adhere and slough off. Furthermore, drainage of a circumscribed cavity of a tuberculous lung by external drainage has to be taken into account in another element—the repair of the tuberculous process after it has been drained is always slow and frequently fails of completion. If I were to lay down a law in the management of empyema, it would be this: No case of pus in the pleural cavity, not connecting with a bronchus, should ever be opened or drained until the surgeon has figured out how he is going to close or obliterate that cavity. It is easy to open the chest wall in empyema, and often impossible to close it.

Dr. Beck has brought into this field, as it appears now, a most valuable aid in the closure of these sinuses. I regret that I have not had any experience in this method. The element of pneumothorax in connection with the surgery of the lung, *per se*, is a very minor one, and positive or negative pressure apparatus will have little value in the surgery of the lung and pleura. It will have a place in the surgery of the esophagus, and in surgery where one has to remove a tumor from the mediastinum, as shown by Professor Friedrich, where one may perhaps open the pleura on both sides. Notwithstanding the air admission on one side, if the mediastinum be immobilized so that it does not vibrate during the operation, one lung can be completely compressed and the surgeon can work with that lung compressed or drawn out of the chest cavity without any inconvenience as respiratory exchange goes on in the other lung. With the mediastinum vibrating there is no respiratory exchange.

Dr. P. C. Hartford, East Palestine, Ohio: Knowing that an actual demonstration would be better than to read a paper, I have the pleasure of showing you a case of empyema cured by Dr. Beck's method of injecting bismuth paste. The little girl was operated on four years ago for empyema. The first operation proved a failure, a sinus remaining. The second operation, performed two years later, was also a failure. I saw the little girl for the first time last October, when she had a large sinus in her side. The first operation was a partial resection of the rib, with drainage four months after the pneumonia had occurred. The second operation was done to heal the old sinus. One injection of the bismuth paste entirely healed the cavity. The little girl has had no rise of temperature and no difficulty whatever since the first injection.

Dr. A. J. Ochsner, Chicago: I consider the use of bismuth paste in the treatment of sinuses and abscesses following operations for empyema as one of the most valuable contributions to surgery during the past five or ten years. In empyema and abscess following empyema, I have not used it as a prophylactic, as suggested by Dr. Beck, but I have used it in patients who had been operated on before this method was introduced, sinuses that had remained open for months or even years; patients who had been operated on by resection of the ribs primarily, and secondarily by Estlander's operation, and in one case I performed a Schede operation after these two operations. Of fourteen patients whom I have treated by this method, and I have two under treatment now, in twelve the sinuses have healed; and I am sure that they would have remained unhealed up to the present time were it not for this method. One feature of the method is that it does not matter whether the bronchus opens into the cavity or not. All physicians know how difficult it was formerly to treat and heal these cases, but with this method it does not matter how extensive the cavity is. I have had several cases in which I have been able to inject 600 or 700 c.c. of bismuth paste, and still the sinuses have healed. Therefore, I wish to impress on you the wisdom of using this bismuth paste in cases of empyema, no matter how bad they are. You will find that in a week or ten days or, perhaps, two weeks, the rise of temperature will disappear, and these patients that go about in a septic condition will no longer be septic. The anemia will begin to disappear, and you will be astonished to note the progress that these patients make.

A word as to the method of application. In speaking with various surgeons, I was impressed with the fact that they imagined that it was a difficult or troublesome problem to treat patients in this way. I take a large glass syringe, put the point or nozzle into the abscess, or if there is a sinus, put a rubber tube into the abscess through the sinus. I heat one part of bismuth and two parts of vaselin to 110 or 120 F., pour the mixture into the cavity until it is full and put a stopper of gauze into the outer opening. If the patient shows irritation, or bismuth poisoning, I put a rubber tube into the cavity, pour in hot olive oil, let the bismuth run out, and the symptoms of poisoning disappear, although in my own cases I have not had to do this. In 2 cases I have encountered in the practice of other surgeons, this procedure had to be carried out.

Dr. Charles A. Powers, Denver: I am impressed by the probable value of this operation of major thoracoplasty in pulmonary tuberculosis which has been brought to us by Professor Friedrich. It is employed by him in practically hopeless cases, and a number of his patients have shown marked improvement. I had the pleasure of witnessing one of these operations in Marburg in 1908, and was impressed by the skill, rapidity and thoroughness with which Professor Friedrich removed all the ribs from the first to the tenth, inclusive, in a young man with a progressive, unilateral cavernous pulmonary tuberculosis. The operation at first thought seems a staggering one, but I believe that there may be much of value in it. The modified pneumatic cabinet of Dr. Willy Meyer marks a definite advance in pulmonary surgery.

Dr. E. G. Beck, Chicago: The point to which I wish to speak now is again to call attention to the fact that there is danger of bismuth poisoning in this method. I do not think that it is necessary to use such large quantities of the paste. In Dr. Hartford's case only 1 ounce was used and the result was a good one. Furthermore, in case there is a blue line on the gums, this does not mean that it is a case of poisoning. I regard that as a favorable sign, because at that time the patients improve most rapidly. If, however, you find ulceration of the gums or pharynx or albumin in the urine, excessive loss of weight or cyanosis, then it is time to remove the paste, but not by scraping. If the cavity be scraped greater absorption is invited and more poisoning. This mistake was made in one case of which I have knowledge, and the patient died. One way to prevent the occurrence of poisoning is to inject warm olive oil into the cavity, leave it there for twenty-four hours, when it will have formed a gray emulsion which can easily be sucked out by a syringe, and the patient will begin to improve from that moment.

Professor Friedrich, Marburg, Germany: The important thing to be learned from this discussion is that we are in a position to treat empyema successfully, as shown by Murphy, Ochsner and Beck. We are getting beyond the point where empyema must be treated by resection of the ribs. Time forbids answering Dr. Powers' question *in extenso*. As to the use of positive and negative pressure, I think we must say that in most intrathoracic procedures these things are unnecessary; on the other hand, some of the successes in lung surgery depend on these measures. We have not advanced so far in lung surgery as we have in abdominal surgery. We do not hesitate to perform an exploratory laparotomy, and it is extremely probable that before long we will do likewise in the case of lung tumors, and it is here that the differential pressure method will be of great usefulness. We can expose the lung, inspect it, palpate it without doing injury, and when we can guarantee that we can employ asepsis as in exploratory laparotomy, greater progress will be insured than I have dared to indicate in my paper. I wish to say that in America I have had an unusual opportunity to see the unexpected and unusual success of animal experimentation, which must be our object if we want to see lung surgery advance. We must resort to procedures that make lung intervention free from danger. If the pulmonary artery to one lobe of the lung is tied, there results a complete atrophy of that lobe without any evidence or manifestation of disease or pathologic change. Six weeks after the tying, which is a very easy procedure, the lobe has atrophied completely and is empty of blood. For the extirpation of a tumor, that knowledge is of the greatest importance.

Dr. Willy Meyer, New York: From what I have seen in operations on dogs and human beings, I fully agree with Professor Friedrich that "when it comes to opening the chest wall in cases in which the pleura and lungs are adherent, we can, of course, operate safely without differential pressure, but if there are no adhesions present, there can be no doubt that the safe operation is that done under differential pressure." If we want to make progress in this field, and we all want to do that, now that the thoracic cavity has been opened to surgery in a safe way, we must recognize the fundamental rule: Operate under differential pressure if there are no adhesions between pulmonal and costal pleura. The gravity of the occurrence of an acute pneumothorax is no bugbear. It makes a great difference whether we operate on a healthy dog or on a diseased human being. If we must operate on the diseased human being, and there are no adhesions present, we can do a safe exploratory thoracotomy under differential pressure; the patient will most probably stand the operation well, provided he stands the anesthesia. If we do the operation without differential pressure, there is a chance that the patient will die in direct consequence of the operation. Therefore, the discoveries of Sauerbruch and Brauer operating under negative or positive differential pressure, are fundamental principles in intrathoracic surgical work. With regard to the preliminary hypodermic use of atropin, I read recently the report of an experimenter, published in The Journal, Jan. 30, 1909, p. 328. Every fowl operated on by these colleagues had died. When atropin was first used, the animals recovered. I have seen in my work on dogs that a hypodermic of atropin reduces the seriousness of major operations. Cancer of the esophagus is the field in which the surgeon can truly help suffering humanity. So far, every patient with cancer of the esophagus must die. In making use of operating under differential pressure, every surgeon of dexterity should now help in solving this problem. We must succeed in saving some of these patients, and I am sure that we will succeed.

With reference to Dr. Willard's humorous remark that with an aëroplane and my cabinet we would soon hear of patients being lifted into the skies and operated on there, I would say that in using my new large chamber we can place the patient up in the clouds, while the surgeon remains on earth. Converting the positive pressure cabinet, which forms a part of the large negative chamber into a negative one by reversing the pump. We produced negative pressure instead of positive, in the small chamber and a still lower negative pressure in the large chamber. Thus, for instance, operated with 744 degrees mercury in the large chamber and 752 in the small one. We simply shifted the atmosphere downward. In other words, my new apparatus makes thoracic work independent with reference to having 760 degrees mercury always represent one factor of the differential pressure. Perhaps this independence may prove of importance in the future when operating on tuberculous lungs. Thus, what Dr. Willard prophesied might happen, has happened already: a surgeon in Philadelphia or New York can operate on a patient who is lifted up into the clouds of the Adirondack Mountains.

Dr. H. H. Janeway, New York: While there can be no question that negative and positive pressure is of advantage, I want to emphasize the fact that intrathoracic operations can be done better when we use artificial respiration than when we do not. In operations on the esophagus, this is true to a still greater degree. The most complicated conditions are made easy, and successful issue is the rule. This is a definite surgical problem that presents itself, and we must not shrink from it. By systematic experiments on animals, and by carefully compiling our observations on human beings, there is no reason why we should not hope some day to find a successful solution of the problem. It certainly is not beyond our powers, but we must observe, study and learn.

THE CLINICAL ESTIMATION OF AMMONIA IN THE URINE BY THE FORMALIN METHOD *

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The great importance of the routine estimation of the urinary ammonia in cases of acidosis is now attracting much attention, and the object of this paper is to report the study of a method the technic of which is so simple as to be available to the average clinical worker with limited laboratory facilities. It is hoped that the more general adoption of the ammonia determination will thus be encouraged. Of the several forms of acidosis always tending to develop symptoms of acid intoxication, those which may occur in diabetes and pregnancy are probably the most important. The chief urinary symptoms are: (1) the presence of the so-called acetone bodies, i. e., acetone, diacetic acid, and, in severe cases, beta-oxybutyric acid; (2) a marked increase in the relative and absolute output of ammonia. The quantitative determination of the acetone bodies, while highly desirable from the standpoints of both prognosis and treatment, is long and difficult. The ammonia, on the other hand, can be readily determined and affords an index not only as to the quantity of acetone bodies excreted, but to the total amount produced: in other words, it points out the degree of acidosis. The clinical determination of ammonia, therefore, is the only procedure readily practicable at present for indicating the danger-line of acid intoxication in diabetes and is of vastly greater significance than the sugar estimation. Emerson[1] says in this connection:

> Patients with much acidosis die of coma unless from some intercurrent disease, and there is no case of true coma yet studied without a previous acidosis. The amount of these (acid) bodies is perhaps better estimated by the ammonia output than by their direct determination, since the symptoms are caused by a withdrawal of the body alkali which the ammonia protects. An increase of ammonia means the presence of at least 10 gm. of oxybutyric acid per day, a marked increase of about 15 gm., 4 gm. of ammonia indicating 16 gm. of the acid. Naunyn considers that over 3 gm. of ammonia per day means danger of coma, and that if 4 gm. per day are excreted coma is sure to result unless alkaline treatment is begun at once.

On an ordinary mixed diet the absolute daily ammonia output is normally about 0.7 gm. This may increase to 8 gm. or even 12 gm. daily in diabetic patients. Simon[2] points out that high absolute values are quite constantly observed in diabetes, in which a daily elimination of from 4 to 5 gm. may be regarded as common. It is generally conceded that the relative increase of ammonia is more significant than variations in the absolute quantity. This is represented by the so-called ammonia quotient, i. e., the ammonia-nitrogen divided by the total nitrogen, and should always be determined whenever possible; it is normally from 3.5 to 5 per cent. In diabetic cases the ammonia quotient may rise to 40 or even 60 per cent. Goodall and Joslin[3] have recently made an extensive and valuable study of the ammonia output in diabetes, emphasizing its great importance. They conclude that quantities of ammonia reaching 5 gm. in twenty-four hours indicate a very severe form of diabetes, which usually proves fatal within a year, and that patients under 40 years of age tolerate an acidosis expressed in terms of 4 to 5 gm. ammonia far better than those above 50 years tolerate an acidosis of 2.5 to 4 gm. ammonia. Williams[4] states that the ammonia quotient may increase to 20 or even 40 per cent. in the pernicious vomiting of pregnancy and is an indication for emptying the uterus. In the case of nervous vomiting, reflex from the pelvis, and in eclampsia it is unchanged. The estimation of total nitrogen is not feasible clinically with existing methods, but, knowing the character of the diet, the absolute ammonia output alone is of very great value. The need for a simple method of estimation is obvious. The vacuum distillation methods of recent years represent great advances and are highly accurate, but they require time and facilities not possessed by the average clinical worker.

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* From the Chemical Laboratory of the U. S. Naval Medical School, Washington, D. C.

[1] Emerson, C. P.: Clinical Diagnosis, 1908, p. 203.

[2] Simon, C. E.: A Manual of Clinical Diagnosis, 1907, p. 416

[3] Goodall, H. W., and Joslin, E. P.: Bost. Med. and Surg. Jour., 1908, clviii, 635.

PRINCIPLE OF THE FORMALIN METHOD

An aqueous solution of an ammonium salt is treated with an excess of formalin and a few drops of phenolphthalein added as the indicator. It is now titrated with one-tenth normal sodium hydroxid, liberating ammonia, which reacts quantitatively with formalin to form hexamethylentetramine, which is neutral to phenolphthalein. The acid radical of the salt set free is titrated with the alkali, thus giving an index to the amount of ammonia present. This reaction has long been known in the literature.

PREVIOUS EXPERIMENTS

Ronchèse[5] first applied this principle to the estimation of ammonia in urine. Ten c.c. of urine were diluted to 50 c.c. with distilled water and titrated to the neutral point, using phenolphthalein as the indicator. Fifteen c.c. of 20 per cent. commercial formalin, made exactly neutral previously with sodium hydroxid, were then added, and the mixture then titrated with one-tenth normal sodium hydroxid. The second reading on the burette was reported as the number of cubic centimeters of decinormal ammonia in the sample. The method was checked by adding known quantities of ammonia to various urinary samples and it was claimed that quantitative recovery was the rule.

Repiton[6] has published a similar procedure in which acetaldehyde was substituted for the formalin; substantially the same claims were made for this process.

Malfatti[7] has recently reported a method essentially the same as the process of Ronchèse, but the degree of accuracy was tested with greater thoroughness. Controls were made with the methods both of Schlosing and Folin;[8] the formalin procedure showing a tendency to higher results. The influence of uric acid, urea, and creatinin on the titration was studied with negative results. No reference, however, was made to Ronchèse's work, and the latter[9] has called attention to this matter in a later article, emphasizing that Malfatti is not entitled to credit for the method.

Mathison[10] has recently modified this method by saturation of the urine with a neutral potassium oxalate before carrying out the titration, with a view to sharpening the end-point. Folin[11] first employed this salt to rule out the disturbing effects of ammonia salts and calcium phosphate in determining the end-point in the titration of urinary acidity, with phenolphthalein as the indicator. Mathison emphasizes the value of this modification. The results were checked by Shaffer's[12] method of vacuum distillation and found to be about 15 per cent. higher by the formalin process. He is unable to explain the discrepancy. Urea, uric acid, and creatinin were added to urine without affecting the ammonia values, thus in agreement with Malfatti's claim that these bodies are not sources of error.

PRESENT EXPERIMENTS

Several months ago I made a large number of titrations with various urinary samples, following the directions of Ronchèse and Malfatti. It was impossible to determine the end-point of the titration with any degree of sharpness, and the method was abandoned in this form. Cochineal and alizarin red were substituted as indicators for phenolphthalein, as they give sharp end-points in the presence of ammonia salts in aqueous distillates. They were abandoned as not sufficiently sensitive, even when the method was applied to chemically pure aqueous solutions of ammonia salts. The use of neutral potassium oxalate, as recommended by Folin, occurred to me in this connection before Mathison's paper appeared. The urine was saturated with the salt; the procedure otherwise was carried out exactly as described by the above authors. The end-point was now brought with a fair degree of sharpness; this improvement was particularly of advantage in deeply colored urines.

The method was applied to aqueous solutions of one-twentieth normal, one-tenth normal, and one-half normal ammonium chlorid with a resultant accuracy between 90 and 95 per cent. Known quanties of this salt were added to urine and recovered within the limits just stated. A series of estimations were carried out and controlled by Shaffer's vacuum distillation method. The data are assembled in the second and fourth columns of the accompanying table. The results of Shaffer's method average 20.33 per cent. higher, while Mathison obtained a corresponding figure of 15 per cent.

THE DETERMINATIONS OF AMMONIA

1 Sample of urine.	2 Formalin method uncleared. %	3 Formalin method cleared with lead. %	4 Shaffer's method. %
1	0.0586	0.0537	0.0507
2	0.0816	0.0705	0.0673
3	0.0782	0.0721	0.0697
4	0.0748	0.0736	0.0694
5	0.0591	0.0544	0.0501
6	0.0450	0.0382	0.0361
7	0.0599	0.0527	0.0499
8	0.0221	0.0162	0.0159
9	0.0629	0.0535	0.0507
10	0.0127	0.0102	0.0104
11	0.0559	0.0527	0.0504
12	0.0501	0.0425	0.0388
13	0.0476	0.0399	0.0354
14	0.0411	0.0348	0.0331
15	0.0642	0.0578	0.0544
16	0.0493	0.0461	0.0459
17	0.0331	0.0297	0.0253
18	0.0546	0.0535	0.0527
19	0.0433	0.0382	0.0367
20	0.0577	0.0534	0.0493
21	0.1470	0.1402	0.1309
22	0.0690	0.0620	0.0595
23	0.0476	0.0428	0.0408
24	0.0535	0.0476	0.0449

The sharpness of the end-point still left much to be desired, and it occurred to me that clearing the urine with subacetate of lead might be of advantage in removing interfering coloring matter before the titration. The excess of lead was removed by neutral potassium oxalate.

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[4] Emerson, C. P.: Clinical Diagnosis, 1908, p. 124.
[5] Ronchèse, A.: Bull. Soc. chim. de France, 1907, Series, i, 900.
[6] Repiton, F.: Compt. rend. Soc. d. biol., 1907, pp. 62, 1065, 1066.
[7] Malfatti, H.: Ztschr. f. anal. Chem., 1908, No. 5, p. 723.
[8] Folin, O.: Am. Jour. Physiol., 1908, ix, 265.
[9] Ronchèse, A.: Bull. Soc. chim. de France, 1908, Series 4, iii, 840.
[10] Mathison, G. C.: Brit. Med. Jour., March 20, 1909, p. 715; Am. Jour. Urol., May, 1909.
[11] Folin, O.: Ztschr. f. Physiol. Chem., 1902, xxxvii, 1.
[12] Shaffer, P.: Am. Jour. Physiol., 1902, viii, 330.

The results were striking. The end-point of the titration was brought out with nearly the sharpness obtained in titrating a watery distillate with cochineal or alizarin red. Many samples after dilution were practically colorless, and in no case was there more than a slight tinge of pigment. Known amounts of ammonia added to the urine were recovered with the same degree of accuracy as without the modification.

The technic of the modified method is as follows:

About 60 c.c. of filtered urine are treated with 3 gm. of basic lead acetate, well stirred, allowed to stand a few minutes and filtered. The filtrate is treated with 2 gm. of neutral potassium oxalate, again well stirred and filtered. Ten c.c. of the clear filtrate are diluted to about 50 c.c. with distilled water and a few drops of 1 per cent. phenolphthalein added. The fluid will be slightly aklaline or acid; more frequently the latter. Fifteen gm. of neutral potassium oxalate are added, thoroughly stirred, and the specimen exactly neutralized with one-tenth normal sodium hydroxid or sulphuric acid; 20 c.c. of 20 per cent. commercial formalin, previously made neutral, are added and the solution again titrated with one-tenth decinormal sodium hydroxid. Every cubic centimeter of one-tenth normal sodium hydroxid corresponds to 0.0017 gm. ammonia. The burette reading of the second titration multiplied by this factor represents the amount of ammonia in 10 c.c. of urine. The quantity is then calculated on the basis of the twenty-four-hour volume.

The technic of this method should recommend itself to practitioners for its simplicity; an estimation can readily be made in duplicate in ten minutes. The accompanying table in Column 2 shows the data by the modified method, which averaged only 6 per cent. higher than the results by the Shaffer method. It is obvious that this difference would be of no clinical importance, for only large quantitative changes in the output of ammonia have significance clinically. Clearing with lead not only improves the end-point, but improves the accuracy of the method by nearly 15 per cent.

Sörensen[13] recently published a paper with an important bearing on the accuracy of the formalin method. He has demonstrated that formalin combines with amido-acids, liberating acid radicals which may be titrated, thus giving a measure as to the amount of amido-acids present. A number of acids, i. e., alanin, leucin, tyrosin, etc., were titrated, and, with the exception of tyrosin, were capable of quantitative determination. Obviously such bodies in the urine would be included in the ammonia determination and thus be a source of error. This, however, could not account for the difference between Columns 3 and 4 of the table, as amido-acids are not removed from the urine by basic lead acetate. Sörensen reports that uric acid reacts with formalin and this body is thrown out by the clearing reagent. Uric acid was estimated in a number of the samples referred to, but the quantity present accounted for only a part of the differences observed between Columns 1 and 2. Hippuric acid, which is not thrown down by clearing, was tested, but does not affect the formalin titration even when added in large amounts.

The important consideration clinically is the extent of the occurrence of amido-acids in the urine. Brugsch and Schittenhelm,[14] in reviewing the subject recently, state that glycocoll is the only amido-acid thus far demonstrated in normal urine and occurs in very slight amounts. Leucin and tyrosin have been shown in the cases of acute yellow atrophy, phosphorus-poisoning and in diabetic coma. Mathison says that it is just in those pathologic conditions when the output of ammonia is high that large quantities of amido-acids are excreted. These bodies replace a portion of urea, so their significance clinically is in the same direction as ammonia. If the formalin method gives the sum of ammonia and amido-acids, the ammonia could be estimated by Shaffer's vacuum distillation method and the amido-acids indirectly determined by difference.

A PLEA FOR THE MORE CAREFUL DIAGNOSIS AND TREATMENT OF FRACTURES OF THE EXTREMITIES *

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As in all other surgical conditions, great advancement has been made in the treatment of fractures. The suspension method of the lower extremities perfected by Hodgen and the ambulatory treatment suggested by Krause, Dollinger and others, have done much not only for the comfort of patients, but unquestionably have saved many an old sufferer from death by pneumonia. The introduction of anesthesia and the certainty of asepsis have reduced the mortality in compound fractures to practically *nil*. The advent of the *x*-ray has made a doubtful diagnosis a certainty and excellent results have been secured by this means in many apparently hopeless cases. It may, therefore, appear strange in the present-day advancement of surgical progress, when technic has reached almost a point of perfection, that one should be pleading for more thoroughness in so important a condition as the treatment of fractures. It is not that this branch of surgery has received less attention, for, thanks to Stimson, Scudder, Allis, Pilcher, Cabot, Hodgen, Whitman, Smith, Kocher, Korsch, Dollinger, Downey, and hundreds of others who have contributed so much to the literature, our technic is nearly perfect, but I have been forcibly impressed by the fact that we are treating to-day more deformed and ununited fractures as secondary conditions than any others in surgery. It strikes me that these bad results are due to one of several conditions; primarily, to our methods of treatment, and, secondarily, to the fact that this particular branch of surgery has not been assigned to its proper domain.

In regard to the first point, is it not a fact that students are taught to treat fractures from the benches? The subject is hurriedly gone over, probably a dozen or more fractures are demonstrated in one lecture, a number of intricate splints are exhibited, and reference is made to plaster of Paris as one of the materials to be used in the manufacture of splints. What is the result? Unless the student is fortunate in securing an interneship in some hospital, he goes out to treat fractures with a vague idea that it means a broken bone, and if he can only put it in position and hold it with some form of apparatus it will unite and that will be the end of it. If he should attempt to use plaster, of which he knows absolutely nothing, he has no means of telling whether it be good or bad, and the chances are that it will not set. The result is a deformed or ununited fracture.

In regard to the second point, there is no question that in this special line of work mechanical skill is required. How many physicians possess this? The orthopedist is the outcome of a demand for the correction of deformities, most of which result from badly treated fractures. The orthopedist is, or should be, a mechanical surgeon; why not, therefore, in this era of specialists let him utilize his skill, not wholly for the correction of deformities, but for their prevention.

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[13] Sörensen: Biochem. Ztschr., 1908, vii, 47.

[14] Brugsch, J., and Schittenhelm, A.: Lehrbuch klinischer Untersuchungsmethoden, 1908, pp. 463, 464 and 465.

* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

No inexperienced physician would attempt to do a laparotomy for some abdominal condition with which he was not familiar, and yet how many would think of referring a simple fracture to a surgeon? In the former case, life might be involved; in the latter, the worst that could happen would be an imperfect result, a crippled limb which the poor patient is convinced was the outcome of his misfortune and not the result of the faulty technic applied.

It is time for every practitioner to realize that, unless he has had some surgical experience and is equipped with an *x*-ray outfit, it is as much his duty, when possible, to refer these patients to properly qualified surgeons as other cases which he does not feel will fare well in his hands.

It is not my purpose to discuss the treatment of fractures, but I am glad to see so many medical men advocating the operative treatment. I see no reason why we should hesitate to expose a fracture at any time we fail to get good apposition. It is time that we should realize that the bony framework of the human body is its most important structure, and if this is injured at any point, or is so much out of place that muscular action is interfered with, we have a hopeless cripple on our hands; and I regret to say that in many instances the crippled condition is due not so much to the cause as to the treatment.

We hear many criticisms of the use of wire and staples in the treatment of ununited fractures, and numerous are the suggestions made to do away with the use of all foreign bodies. I believe that whenever it is possible to reduce a fracture and to hold it in position with a properly fitting splint it should be done, but I also believe that when there is danger of the fragments slipping the best results will be obtained by the use of wire or staples, even if these have to be removed later. My experience is that a staple is less liable to give trouble than wire and is much more efficient. For years I have used staples of different sizes made of piano wire, which can be driven into any bone, and these have never given trouble, unless infection followed, and they are always easy to remove when necessary.

In conclusion, I would suggest that we lay more stress on the importance of this branch of surgery, which furnishes material for more malpractice suits than any other, and is costing railroads and manufactories thousands of dollars annually.

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ABSTRACT OF DISCUSSION

Dr. C. L. Scudder, Boston: The operative treatment of recent closed fractures is a very vital subject, surprisingly suggestive, full of interest to every one. We all believe in the operative treatment of certain fractures, provided the indications are unmistakable. Operating on freshly fractured bone is to-day safe if the operative technic is perfect. Osteitis and necrosis do not commonly follow properly placed direct fixative materials—wire, nails, pegs, plates or screws. Union of the fracture is usually facilitated and not delayed by operation. Damage to the soft parts extensive enough to cause postoperative difficulties may be avoided and is not a menace. The local conditions surrounding recent fracture are quite different from those discovered at the seat of an old fracture.

In our enthusiasm for operative victories we must stop and ask ourselves, are we securing from the non-operative treatment all that we possibly can? When should we employ operative measures? What should be the general indications for operation?

Deficiencies in non-operative treatment, which unquestionably do exist, should be remedied, not by operating more frequently but by exercising greater care in the employment of the fundamental principles recognized the world over as underlying the treatment of all fractures, namely, general anesthesia, traction, counter-traction; pressure, counter-pressure; the exact application of anatomic knowledge; immobilization; the comparative use of the Roentgen ray; massage; the care of joints adjacent to the injury, and, ultimately, the securing approximately anatomic form and perfect function. Whenever and wherever these basic principles are applied intelligently and consistently, the results are uniformly good and the operative margin is then narrow. Bardenheuer, in Germany, has demonstrated the efficiency of non-operative methods. Even though Bardenheuer's details may be too cumbersome for general use, he has proved that results following the consistent employment of non-operative methods are satisfactory. That non-operative measures are efficient in the treatment of the vast majority of fractures has been proved in this country over and over again in hospital and private practice. Many facts in corroboration of this statement have been recently collected by DaCosta and others, and are still being assembled, and are worthy of consideration. I want to dissuade any one from believing that an anatomically perfect result following a fractured bone is absolutely necessary to a functionally useful limb, or is necessary to the individual. Approximate reduction, that is, non-anatomic, is followed by union and by a functionally useful part, and by no apparent deformity to the patient or his non-professional friends.

Stimson recently said regarding this matter: "Irregularities of outline are functionally and cosmetically unimportant in the great majority of cases in which proper non-operative treatment has been used." Anatomic results are ideal and theoretically desirable. Practically, they are unessential. The ideal treatment may not be the most expedient. Operation is often contraindicated chiefly because it is unnecessary. It must be remembered that the results of operative treatment may not be more satisfactory than are the results from non-operative treatment. Operation does not carry with it or imply the guarantee of a perfect anatomic result. The majority of simple or closed fractures can be satisfactorily treated by non-operative methods. The broad indication for operation, in my opinion, on recent closed fractures, in the absence of great damage to soft parts, including vessels and nerves, is the inability to bring fragments into apposition and into good alignment. Let all surgeons bestow as much thought and personal consideration on the non-operative methods in the treatment of fractured bone as the importance of the subject demands, and our non-operative results, good as they are, will improve, and the number of operable cases will increase slowly and only for good and sufficient reasons.

Dr. W. Lemoyne Wills, Los Angeles, Cal.: It was my good fortune four years ago to see Lambotte demonstrate his method for fixation of fractures on a cadaver at the Brussels congress, and to see his convalescent patients at Stuyvensburg Hospital at Antwerp next day. For two years past I have used this method and appliance. I have had seven cases of fracture of femur and two of humerus. Of these cases I have had five simple fractures in mid-thigh and near the knee-joint, varying from thirty hours to two weeks in time from injury to operation, two ununited fractures each six weeks old with large amounts of callus and faulty angulation of fragments. Two fractures of humerus were six weeks and three months old, respectively; the latter was an old comminuted, infected gunshot fracture of the humerus with complete musculospiral paralysis. On this case I put a half-sized apparatus and relieved the pressure on the nerve which was between ends at point of fracture; the patient is making a fine recovery. Absolute fixation is desired most of all. With the Lambotte apparatus the leg can be lifted by the heel, and when union has taken place all foreign material is removed. Patients differ greatly in rapidity of callus formation, usually sufficient has been thrown out to permit safe removal of the apparatus in from four to seven weeks. The sooner the drills are out the better. The drill holes soon close and give no trouble. We all know what unsatisfactory results are obtained by the commonly used closed treatment, and by the suturing and wiring of the fragments, when there may be shortening from one-half to one and a half or two inches. I have shortening, in only one case—one-fourth of an inch—and that because the man disobeyed orders and put weight too soon on a soft callus. After absolute fixation the chief advantages are: the ability to inspect the wound every day; less injury to the periosteum than by any other operative method; and more rapid and normal callus formation and union. The first dressing (removed in twenty-four hours) will be found saturated with serum and blood. I use two or three drains, which are removed in two or three days, leaving the wound perfectly dry. It is better to have the serum and blood out than inside congesting the damaged tissues. This is really an ambulatory method, enabling the patient to be put in a wheeled chair, after ten days, and kept in the open air. Of course, absolute asepsis must be preserved. I have had infection in two cases, but that was due to severe bruising and crushing of muscles at time of injury, and the delay in operation, two weeks having elapsed.

Dr. A. J. Ochsner, Chicago: My ideas on treatment of fractures are pronounced. In certain fractures, like that of the patella, the anatomic conditions are such that the results, even with the best non-operative treatment, must be bad. There are other conditions in which these conditions must be bad, but with the exception of these conditions, if we employ certain definite principles the results must be good. Of course, if we do not teach our assistants that a fracture held by plaster-of Paris in a deformed position is sure to heal in that position, we must expect to get bad results. If we do not teach our assistants the proper use of splints and the proper methods of reduction of fractures we must not look for good results. But f a surgeon with good judgment and with experience in these principles will employ them, the number of cases in which the operative treatment should be employed must be very small.

Dr. Leonard Freeman, Denver: There are two kinds of fractures which seem to demand operation, providing the surroundings are perfect, and the operator is competent. In one kind we are unable to reduce the fragments at all; in the other, although we are able to place the bones in apposition, they have little or no tendency to stay there. I desire to exhibit a clamp which I have devised for holding fractures of the latter class which cannot be controlled by ordinary means. It is not so much the clamp to which I wish to call attention, but rather the method of its application. The clamp is simple: it consists of two steel strips fastened together by screws which can be tightened with a key. (Figs. 1 and 2 and Fig. 3a.) The essential feature is that these strips of steel are ined with soft wood. From two to four long screws, as required, are inserted in the end of the fragments and allowed o project beyond the skin. The screws are then clamped ogether by means of the wood-lined steel strips, the wood holding them firmly and preventing slipping. There is no question as to the effectiveness of the clamp when it is once in place. The problem is to use it in recent fractures without making a large wound and without extensive injury to the issues—in other words, without exposing the patient to the danger of a severe operation. This could readily be done if it were possible to insert the screws into the bone through small ncisions in the skin, adjust the fragments, and then clamp the crews; but any one who attempts to do this without proper pparatus will find that the drill is apt to slip, and that when n effort is made to find the hole with the end of the screw after removing the drill it cannot be done owing to the intervention of the soft parts. Drills cannot be left in place as substitutes for screws, because they do not fit tightly enough. I have overcome this difficulty by using a small steel tube which is provided at one end with sharp teeth. Into this tube is placed an obturator (Fig. 3c) with a blunt point which obscures the teeth and enables one to slip a screw (Fig. 3e) through a small incision in the skin and through the soft parts to the bone. The obturator is then removed and the tube tapped down so that the teeth engage in the periosteum, thus preventing slipping. A drill (Fig. 3d) is then introduced through the tube after taking out the obturator. The drill has an adjustable shoulder so that it will remain central within the tube. A hole is then bored into the bone, the drill is removed, and a screw can easily be introduced, the tube being pulled out over the screw. In this way as many screws as necessary can be employed and left to protrude through small openings in the skin which produce but insignificant scars. This apparatus can be used to great advantage in certain fractures. I have employed it in fracture of the jaw near the angle, where it is difficult to keep the jaw from dropping backward in spite of various uncomfortable splints which have been devised. By using two screws, one in each fragment, and clamping them together on the outside, the jaw is easily and perfectly held in place. Fractures of the clavicle can also be handled in this manner, as can also oblique breaks of the tibia and fractures of the humerus and patella. I do not believe that anything is added to the danger of infection, especially if the screws are placed far enough from the break and if proper asepsis is employed, as they soon become effectually walled off from the surrounding tissues.

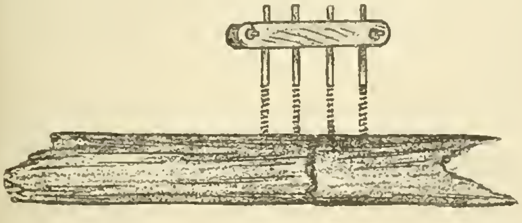
Fig. 1.

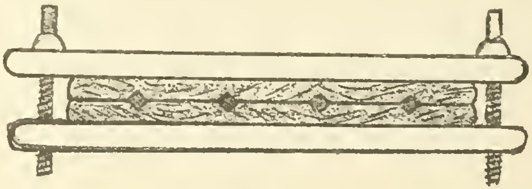
Fig. 2.

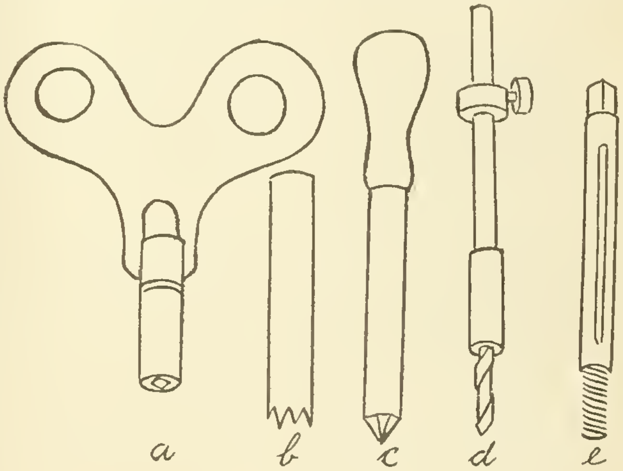

Fig. 3.

Dr. John B. Walker, New York City: I believe that our knowledge of the treatment of fractures in America has not advanced so rapidly as it has in the treatment of abdominal and other conditions. A few years ago a leading London surgeon attempted to ascertain what was the ultimate or end-result in these fracture cases, and he sent out many letters to which he received 400 replies. He found that what was called satisfactory in London was not so regarded in the outlying districts. In the large cities the duration of the treatment of a fracture of the femur was from four to six months, whereas in the outlying districts it was from six to nine months. Since the introduction of the Roentgen ray this matter of the proper treatment of a fracture has become a personal and important one to many surgeons. Last year the largest liability accident insurance company in this country showed that out of 100 suits for damages, 75 per cent. were brought on account of surgical conditions, and the remaining 25 per cent. on account of medical conditions. Of the damage suits brought against surgeons, 75 per cent. were on account of deformity following the treatment of a fracture. Only a year ago Mr. Lynn Thomas, a British surgeon, was sued in a case of fracture of the surgical neck of the humerus. The case passed from one court to another and at the end of a year the damages allowed were over $20,000. As Dr. Ochsner said, the statistics in our large hospitals show that, as a rule, fractures are treated by young men who do not receive any instruction from the surgeons but from previous house officers. In the large New York hospitals, when a fracture of the neck of the femur comes in, for instance, the patient has to stay for twenty-four or forty-eight hours, when he is sent to other hospitals because the hospital wants to get rid of these cases. The result is that these patients come in with much shortening and go out with considerably more shortening.

Dr. J. B. Murphy, Chicago: That the results from the treatment of fractures in the large hospitals are not satisfactory is an admitted fact. This is due to two elements; first, the neglect of these cases by the attending surgeon; and second, the imperfect understanding of the conditions of the individual fracture by the medical profession. Bad results in their order of frequency are, in Colles', in Potts', in every fracture of the neck of the femur, in fractures of the patella and in those of the olecranon. Take, for instance, Colles' fracture. The bad results seen here are not due to the fact that the bones cannot be kept in position, but to the fact that the bones are not properly replaced in over 95 per cent. of the cases. The reduction of a Colles' fracture involves a special technic, one different from that of the reduction of any of the other common fractures of the body. The fracture occurs in a certain line extending from in front upward and backward. The lower fragment is displaced upward on the posterior surface of the radius. The method of reduction is simple, easy, and uniformly neglected. First, place the thumb of the right hand on the distal fragment and put the thumb of the left hand on the proximal fragment, increasing the deformity by pressing both thumbs forward to unlock the fragments. As soon as they are unlocked, place the end of the left thumb on the nail of the right thumb and press the lower fragment forcibly downward, then reverse the pressure by flexing the patient's hand forcibly forward, and the fragments will fall into position easily and will remain there. Afterward, all that is needed is to put on the simplest kind of plaster of Paris support over the wrist. If the deformity does not remain reduced, it is because it has not been reduced properly. If the pain is severe for from twelve to twenty-four hours it indicates that the reduction is not complete.

The types that must come to operation to get good results are, first, fractures of the neck of the femur, not in old people past sixty, but in younger people who do have fractures of the neck of the femur by direct or indirect violence. It is only by inspection and careful analysis of cases and by fixing these fragments that one can reduce the deformity and keep the fragments in apposition. In fractures of the neck of the femur close to the head a very important principle is involved; that is, the presence in the proximal fragment of any osteogenetic cells for the reproduction of the bone from the head side.

The principle of the apparatus exhibited by Dr. Wills and the one by Dr. Freeman, by which one can do the work without coming in contact with the traumatized area, thus avoiding exposure to infection, is an important one and should be utilized on all occasions when the fragments can be apposed satisfactorily. One should not operate immediately after the fracture, because the tissues are then in a condition of least resistance. Operation should be postponed until an effort at regeneration of the traumatized tissues has taken place. One can do an enormous amount of work on the fifth, tenth or fifteenth day without danger of infection that could not be done on the first or second day after the accident. The lymph spaces have become cofferdammed and the new capillaries are developed to the greatest resistance against microbic invasion.

Dr. Charles A. Powers, Denver: I believe that open operation in simple fracture will be performed more often than it has in the past, but also that open operation in simple fractures will be the exception rather than the rule. As I look back over my own results in simple fractures treated without operation I feel that they have generally been satisfactory. I do not think the results in these fractures, when carefully treated by established methods, are notoriously bad. I am entirely in accord with Dr. Scudder. He expressed my position clearly and thoughtfully. Further, Dr. Ochsner is right when he says that on our routine hospital work we are too prone to leave the treatment of these important cases to interns of but little experience. If we pay proper attention to suitable nonoperative management we will have fewer cases which demand operation.

Dr. W. L. Estes, South Bethlehem, Pa.: While I believe that in this matter we should be rather conservative, there are some fractures that, one might say, must almost invariably be treated by the open method. I have come to the conclusion as the result of considerable experience that there are certain localities where certain fractures require an open operation. The first of these is fracture in almost any part of the shaft of the tibia, when the fracture is very oblique, with no shoulder to hold it, making it impossible to keep the fragments in position by any ordinary mechanical means. My observation of the result of other surgeons' work and my own experience has taught me that no splint or mechanical contrivance will accurately reduce and retain these fractures in proper apposition without the open method. In this day of the *x*-ray not only must the usefulness of the limb be thought of, but also the cosmetic effect. The public demands that we treat these fractures of the extremity in a way to retain the appearance as well as the usefulness of the limb. To do this it is necessary that we perform an operation when the condition and surroundings of the patient are favorable. In regard to methods of fixing the fragments in an open operation, it does not matter so much what apparatus we use so long as we do the work under proper asepsis. Either a clamp, or a screw, or a splint, applied directly to the bone, will answer the purpose. I am opposed to any method, however, which will not enable one to see whether the fragments are in apposition. One may think that he has the bones in apposition, and put on a splint, but when the *x*-ray is used he finds, much to his surprise, that there is malposition. Hence the importance of an incision down to the seat of fracture, complete exposure and accurate coaptation of the fragments under the eye and then firm fixation.

Another fracture which should be treated by the open method is fracture of the junction of the upper and middle thirds of the humerus, where the musculospiral nerve is so apt to be injured. The danger of the injury is in proportion to the violence that has been done by the ends of the fractured bone. The nerve may not give any evidence of injury immediately, but within two weeks there may be paralysis. The explanation of this late development is that one end of the displaced fragments may press against the nerve, and the developing callus does the rest. Another fracture which requires the open method is that of the inferior maxilla. These fractures are nearly always compound, and they require drainage as well as accurate replacement and fixation, hence the open method should be employed.

Dr. Rudolph Matas, New Orleans: It does not follow that all fractures are better treated by operative methods or that good results cannot be obtained by bloodless manipulations. Surely practitioners of surgery cannot accept the *x*-ray standards of bone setting as the sole and absolute criteria of successful treatment. We who teach surgery, while fully recognizing the great advances brought about in the treatment of fractures by open methods of reduction and fixation, must remain in sympathy with the view which holds that when a broken bone is set without any visible deformity and is followed by no abnormal disability, such a result must be regarded as a good result—even though the *x*-ray may show some displacement or imperfect apposition of he fragments. Judging by this simple standard, there is no uestion that a vast number, the majority, of fractures of the xtremities can be successfully treated without operation. It s only right that the art of bone-setting by bloodless manipu-ation should be cultivated and encouraged more than ever as n essential part of the surgeon's training. On the other hand, vhen it is evident that reduction is impossible and that leformity with impaired function is unavoidable in any given ase of fracture, there should be no hesitation in resorting at nce to the open treatment, provided all other conditions, ncluding the operator's training, are favorable to the pro-edure. In conclusion, I would ask: What are we to do in perative cases in which a perfect result is obtained, a real abinet-maker's approximation, and yet in which callus totally ails and there is no ossification? This failure of repair which have observed in operative cases, and especially after wiring, reates a serious problem that is not solved by further oper-tion, additional traumatism, nor by Bier's blood injections at he seat of fracture. In these cases, what will accomplish the lesired result? Will orthopedic "walking" braces which do ot constrict the limb, and which permit the systematic appli-ation of massage combined with hot air hyperemia? It is he walking splint, however, that is the most effective, and, in iew of the not infrequent failure of union after operation, I m glad to commend the ambulant orthopedic splint as a eliable treatment for this deplorable condition.

DR. DEFOREST WILLARD, Philadelphia: Surgeons differ videly in their advocacy of operative or non-operative treat-nent in fractures. Dr. Martin called attention to the question f diagnosis. There is at present no reason for failing to know vhether we have succeeded in the replacement of fracture. he Roentgen ray will tell us all this. It is not only neces-ary to reduce the fracture, but to keep it reduced. There are ertainly a large number of simple fractures that do not equire operative treatment, but there are cases in which it is ecessary to resort to operation, *i. e.*, those in which reduction nd retention are impossible and especially delayed union, non-nion, compound fractures and comminuted fractures. Frac-ure patients often come to the hospital and they are not seen y the surgeon at all. They are treated by the house officers; hey are sometimes treated carelessly, and a bad result is sure o follow. We all have reason to know the annoyance that omes from a malpractice suit, and the Roentgen ray is adding o our troubles because while many cases are functionally per-ect, they are not anatomically perfect and a jury is readily nfluenced. The Roentgenogram is only a shadow and not the hing itself. Look at your own shadow as you are walking on he pavement. It is not at all like yourself. In comminuted nd ununited fractures I have tried wires, staples, screws, lates, clamps and everything else. We all know how often ve are obliged afterward to cut down and remove these sub-tances; therefore, whenever it is possible, I use chromicized atgut rather than any other foreign body. Magnuson has hown that metal-headed ivory screws that can be cut off on a evel with the periosteum can be inserted into the bone and oon become a part of it. I believe that the use of such ivory crews will revolutionize the treatment of ununited fractures.

DR. CHARLES E. THOMPSON, Scranton, Pa.: Dr. Martin said hat the fracture might slip, and stopped there. We must not e discouraged because our fractures slip. We must reduce hem again, until we retain them in proper position. r. Ochsner spoke about the bad results obtained in the treat-ent of fractures in the general hospitals, but nothing has een said about the bad results obtained out in the hills by he general practitioners, nor has anything been said about the ause of these bad results. I hope college professors will tell s why these general practitioners cannot be taught to reduce ractures. Of all the delusions and snares, perpetrated on an nsuspecting profession, Buck's extension apparatus is the orst. Dr. Scudder told us something about the reduction of ractures but did not go far enough. If a fracture, say of the mur, becomes displaced after reduction, in my experience the ost common cause of displacement is a muscular spasm ccurring during sleep. If the fragments cannot be retained in direct line I have frequently succeeded in retaining them at an angle, letting that deformity prevail until some union has taken place, when the bone can be very easily set in a straight line. The difficulty of having plaster set and stay set can be obviated by using crinolin sized in starch. If the bone cannot be held in proper position, a slight amount of lateral pressure, such as placing a wedge of cotton or gauze on the inside of the plaster on the third or fourth day after reduction, will hold the bones in perfect apposition. If this method fails, I have in a few cases succeeded by putting on a counter-extension transversely, and holding up the bone in the same direction, where there was a great tendency to displacement in an upward or downward direction. In another case, a compound fracture of the tibia having failed to be retained in position by ordinary methods, I inserted an osteotome, and securing a slight leverage between the ends of the bones, held then in place and had an assistant hold the osteotome in position; I then incorporated osteotome and assistant's hands in the cast. The assistant's hand was removed after the cast was hard, after the patient was put to bed; the osteotome was removed the next day. The result was ideal.

DR. ROBERT F. WEIR, New York City: We have been told, and correctly so, that fractures are hard things to treat. They tell us also that in the hospitals they are badly treated because the juvenile intern does the treating. That is true, but there is another reason which has not been mentioned why there are so many cases of malpractice. Malpractice suits are brought against the physicians who are only occasionally surgeons. If surgeons say that it is hard to treat a fracture, how can the ordinary practitioner expect to succeed in doing so? He does not attempt to do an abdominal operation, but he does not stop at treating a fracture, which we all know is a very hard thing to manage successfully. The majority of cases should be judged not by hospital treatment, not by the treatment given them by the general practitioner, who, with the aid of the misinterpreted x-ray picture, is so frequently sued, but by the outcome of the cases treated by a competent surgeon, cases that the latter treats in his private practice. As I look back on my cases of fracture, I must say that the majority of them have terminated in a very satisfactory manner. I do not mean to say that some of the patients have not had deformities, but the individuals have been able to go about and to use the extremity. The result has been satisfactory and would more than counterbalance the risk of an open operation. A Philadelphia surgeon many years ago remarked that antiseptic surgery is not cock-sure surgery even in the hands of the best men. This is yet true. If I had a fracture of the patella, I certainly would not have my knee-joint opened and the fracture sewn up. I would take my chances the other way and believe that I would come out pretty well. King Edward's patella was treated bloodlessly and wisely.

Infant Mortality—The young of all animals are more susceptible than the adult to the influence of environment and the approach of death. Owing to the long duration of the period of infancy in human beings as compared to that of the lower animals in general, it is obvious that the opportunity of environment to react on our development is enormously increased over that afforded in the case of other living beings. Hence it is inevitable that even under the most favorable circumstances, the deaths of infants will furnish a large contribution to the bills of mortality. But when it can be said of a city, as it can to-day be truly said of Boston, that, "the new-born child within its gates has less chance than a man of 90 of living for a week, less chance of living through a year than a man of four-score," there surely is connoted a prevalence in that city of those causes and conditions which in the long run determine a degeneration of the race. Poverty alone is not responsible. In many poor communities the infant mortality is low. Housing and external environment alone do not produce this evil, for under some of the worst external conditions in the world it is absent. The chief cause of infant mortality is to be found in that component factor of its environment which is more potent than any other of influencing the future development and determining the fate of the new-born babe.—J. M. Connolly in *Hygiene and Physical Education.*

BRAIN TUMOR*

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PHILADELPHIA

During the past year I have had the opportunity to observe a number of cases of brain tumor, certain features of which seem to me worthy of discussion. Especially noteworthy are the importance of gradually developing hemiplegia, the slow appearance of papilledema in certain cases of glioma, and later its remarkably rapid development, the resemblance of tumor of the pons to tumor of the Gasserian ganglion, and the signs of tumor of the occipital lobe, especially the dissociation of the color-sense in tumor of the left occipital lobe.

DIAGNOSIS OF BRAIN TUMOR

The credit for pointing out that progressive hemiplegia without other symptoms is diagnostic of brain tumor seems to belong to R. T. Williamson. In his paper[1] he states that it is well known that when hemiplegia is produced by a tumor in the motor cortex or white matter of one cerebral hemisphere the onset of the paralysis is usually very gradual. Day by day, and week by week, the loss of power becomes more and more marked. It may be weeks, or a few months, before the paralysis is complete. It is not so well known, he states, that progressive hemiplegia of the nature just described is an almost certain sign of brain tumor, even in the absence of optic neuritis, headache, and vomiting (provided there are no indications of cerebral abscess). Williamson reports three cases of brain tumor in which the hemiplegia developed very gradually, and in all three papilledema was absent. In the first case headache and vomiting were present; in the second case these two symptoms were absent for a long period; in the third case they were absent altogether. He refers to a similar case observed by him ten years previously. He expresses his views very clearly: "Provided there are no indications of cerebral abscess, progressive hemiplegia, or hemiplegia of gradual onset, in which weeks or a few months elapse before the paralysis is complete, may be regarded as strong evidence of cerebral tumor, even when optic neuritis is absent, or when optic neuritis, headache, and vomiting are all absent."

I can not refrain from stating that Williamson expresses his opinion somewhat too forcibly. A gradually developing hemiplegia I have seen as a symptom of polioencephalitis. A child recently under my care presented symptoms suggestive of brain tumor. An operation was performed at my request by Dr. Frazier and a portion of the cortex was removed, as at the operation it resembled tumor tissue. It proved to be the seat of polioencephalitis. Six weeks before the child came under my observation the right lower limb began to get weak, and one week later the right upper limb began to grow weak. The hemiparesis became gradually worse. The case I shall probably report in detail, and merely wish to call attention here to the fact that polioencephalitis as well as tumor may cause a gradually developing hemiplegia. The latter lesion is, of course, of much more frequent occurrence than the former.

Souques[2] also has recently written on gradually developing hemiplegia as a sign of tumor.

Cortical meningitis may cause a gradually developing hemiplegia, and the meningitis may be purulent or of other type. I have recently seen a case with Dr. W. G. Shields, Jr., and Dr. J. A. Hearst in which paralysis of the left lower limb, almost confined to the part below the knee, developed one day, and paralysis of the left upper limb and left side of the face did not appear until two days later. An operation by Dr. Edward Martin revealed a purulent meningitis, apparently confined to the region of the center for the lower limb. The paralysis in such a case, however, is likely to be of more rapid development than when caused by tumor.

The gradual development of hemiplegia was present in several of the cases mentioned in this paper. It was especially striking in Case 1, and, indeed, because of it I made the diagnosis of a probable tumor of the brain at my first examination of the patient. A hemiplegia had developed very gradually during a period of about six weeks, and there was at no time a sudden increase in the paralysis. Even within three days of death no changes in the eyegrounds were observed in an examination by Dr. de Schweinitz. A large tumor was found in the optic thalamus and internal capsule, and had undergone cystic degeneration. It had evidently caused no increase of intracranial pressure. Cases such as this and Cases 2 and 3 indicate that the production of papilledema by toxic substances alone in brain tumor is questionable. In all these cases the tumor was large, and yet papilledema did not occur, in two cases and developed only late in the other, probably because there was no great increase of intracranial pressure.

In Case 2 a gradually developing hemiplegia was observed, and yet the tumor did not extend to the internal capsule. Vascular changes in the internal capsule at a distance from the tumor caused the hemiplegia, as determined by the examination of certain sections given by me to Dr. Byrnes for this purpose. The importance of this finding is in the demonstration that a gradually developing hemiplegia in brain tumor does not imply necessarily that the tumor has extended to the internal capsule. The examination of the brain with the clinical notes in mind was a surprise to me, as to the naked eye no implication of the internal capsule could be detected, and the tumor evidently did not extend so far forward from the occipital lobe. Dr. Byrnes[3] has referred to these findings in another paper.

A gradually developing hemiplegia was observed also in Case 4, but the patient was not seen by me until the symptoms were far advanced, and it was uncertain how much reliance could be placed on the statements.

In a case seen by me in consultation with Dr. Babcock a diagnosis of brachial plexus palsy had been made at first, because the palsy seemed at that time to be confined to the upper limb. At the time I saw the patient the lower limb had also become affected, and other symptoms made the diagnosis of tumor a probable one. A cortical tumor was found by Dr. Babcock at operation.

I have in two instances known thrombosis of the middle cerebral artery to cause a gradual increase in the symptoms as seen in tumor, but when thrombosis is the cause the development of the symptoms is likely to be somewhat different. A partial palsy, or other symptoms indicative of brain lesion, may develop within a hort time, and then the symptom-complex may be arested for some time. possibly several weeks, until the hrombus extends to one or more branches of the vessel reviously affected, when additional palsy appears, but sually more rapidly than is seen when a tumor is the ause of the weakness. Occasionally a tumor may proluce a very rapid palsy, as when a hemorrhage impliates the growth or when a glioma has destroyed many f the axis cylinders within the tumor but has left nough for the discharge of function, and suddenly, by dema or other cause, the impaired fibers become insuffiient.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Williamson, R. T.: Practitioner, July-December, 1904, p. 321.

[2] Souques: Rev. neurol., 1908, p. 1250.

[3] Byrnes: Jour. Nerv. and Ment. Dis., March, 1909.

A peculiar symptom, present in Case 3, I have oberved in two other cases of brain tumor, viz., intense unger. Mrs. Y was hungry all the time and had a 'most vigorous appetite," in the words of her friends. n another case a note was made that the patient had voracious appetite. The intense hunger is not conined to tumor cases. The character of the tumor seems o have no bearing in the production of this symptom, or does its location seem to have much importance.

Mrs. Y. (Case 3) also complained of pain and throbing extending down the neck to the shoulders. Pain rom tumor of the brain may be felt in the neck. This eck pain was very pronounced in a case reported by ne some years ago, and in that case the tumor was at he foramen magnum and extended downward on the ord the distance of several cervical segments. Why ain should be felt in the neck from a tumor of the rain is not clearly understood, any more than is the elated symptom of stiffness of the neck observed someimes in cases of brain tumor, as in Cases 1, 2 and 4, in which rigidity of the neck muscles was caused by a umor of the optic thalamus, by a tumor of the occipital obe, and by a tumor of the region posterior to the ptic thalamus. So far as I am able to determine, pain adiating down the neck and stiffness of the neck are ot of localizing value.

The slow development of papilledema in glioma is orthy of comment. It may be absent throughout the isease, even when the tumor is large, as in Case 2, in hich almost the entire occipital lobe of one side was ccupied by a tumor, or in Case 3, in which it develped late, and after the tumor had attained a very rge size. The latter case demonstrated another intersting phenomenon, viz., the occasionally extraordiarily rapid development of papilledema in brain umor, even though it may be late in appearing. This atient was found on March 21 to have normal eyerounds; on April 6 Dr. Thorington noticed for the rst time that the nasal side of each disc had begun o be elevated and to be indistinct in outline, and hat the retinal veins were enlarging. On April 13 e found the swelling of the discs to amount to 7 D., nd on April 18 to 10 D. The case shows how imortant constant observation of the eyegrounds may be hen the symptoms of brain tumor are present, and llustrates the danger of delaying decompression when e signs of increased intracranial pressure appear. It often impossible to make the patient realize that the ght may be put in jeopardy within a few days, and he ay neglect to visit the ophthalmologist, notwithstandg that every effort may have been made to convince im of the danger of this neglect.

Paton[4] has studied the records of 252 cases of brain umor occurring at the National Hospital between the ears 1899 and 1905. He finds that tumors of the deeper portions of the cerebral hemispheres and of the pons are more likely to occur without papilledema. In the subcortical cases the development of papilledema almost invariably corresponded with invasion of the cortex or with marked compression or invasion of the lateral ventricle. The development of papilledema in pontile tumors almost invariably implied the invasion of the cerebellum.

In the discussion of this paper Gunn[4] states that pontile tumors rarely cause papilledema because death occurs early.

The statements quoted from the remarks of Paton conform with the results of my own observations in great measure, but the explanation offered by Gunn for the infrequency of papilledema in cases of pontile tumor is inadequate. I have repeatedly seen tumors causing enormous enlargement of the pons before death occurred, and in Case 3 the tumor of the pons doubtless was enormous before papilledema occurred. The cerebellum was not implicated, and, notwithstanding Paton's statement, papilledema became intense. Likewise, in Case 2, the tumor occupied almost the whole of the occipital lobe, but caused no papilledema, even though it extended to the cortex. Rules are useful, but almost all have exceptions, and what is true of one series of cases is not true of all.

Some years ago Schmidt[5] advanced the view that an increase of the symptoms by lying on a certain side of the body was indicative of the side of the tumor. The sign has seemed to me exceedingly unreliable, and I have been observant of it since the first appearance of Schmidt's paper, but have never been able to obtain any satisfaction from it, and have come to entirely disregard it from a diagnostic point of view. Mrs. Y (Case 3), for example, was obliged to lie on the right side, and when she turned on the left side she complained of feeling sick and as if "everything were going from her." Turning the head to the left while lying down produced nausea. In this case the tumor implicated the entire pons.

In Case 5 the diagnosis had to be made between tumor beginning in the Gasserian ganglion and tumor of the pons. The patient had headache, vomiting, vertigo when headache was present, and diplopia. In my examination I found that he had considerable ataxia, slight nystagmus in looking far to either side, slight, weakness of the left facial distribution, some impairment of hearing in the left ear, and marked paralysis of the left trigeminal nerve (atrophy of the temporal and masseter muscles with diminution but not complete loss of sensation in the distribution of this nerve) and paresis of the left side of the soft palate.

One might readily diagnose a tumor of the pons with these symptoms, but the examination also showed that the voluntary power of the upper and lower limbs on each side, as well as the tendon reflexes of these limbs, was normal. The ocular examination revealed beginning papilledema and paresis of the left external rectus. The deafness of the left ear was attributed to catarrh, as no signs of nerve deafness were detected.

Probably the most striking sign was the pronounced implication of the left trigeminal nerve, so intense as to cause a distinct flattening of the face over the position of the muscles supplied by this nerve; and this would seem to indicate a long-standing implication of the fifth nerve. A tumor of the Gasserian ganglion would explain this sign, as well as the escape of the motor tracts for the lower limbs. The left sixth nerve might easily be caught in its passage through the cranium. Pressure of the tumor on the pons—i. e., on the middle cerebellar peduncle—might explain the nystagmus on lateral movement and the ataxia. A tumor in this position might cause some weakness of the left facial nerve and beginning deafness. I am inclined to think that central deafness at first may be indistinguishable from deafness due to middle-ear trouble, and that we should be careful how we diagnose when deafness is in an early stage. The weakness of the left soft palate was difficult to explain by the supposition of a tumor beginning in the Gasserian ganglion and extending downward sufficiently to implicate the glossopharyngeal nerve, but no less difficult appeared the diagnosis of tumor within the substance of the pons sufficiently large to implicate the fifth, sixth, seventh, eighth, and possibly the ninth and tenth nerves, and yet cause no weakness of the limbs or change in the tendon reflexes. The diagnosis was extremely difficult and could not be made with certainty, and, in the hope that the tumor might be found in the region of the Gasserian ganglion, although pain in the face had not been severe, I requested Dr. Frazier to operate, but the tumor was not detected at the operation. It is indeed remarkable that a tumor so large as that found in this case could occupy a large portion of the pons and yet produce no weakness of the limbs or change of reflexes that could be detected in careful examination directed toward the finding of either of these signs. The explanation is that the growth was a glioma, and, as so often occurs in tumors of this variety, many nerve fibers passed through the tumor without losing their axis cylinders, even though they may have lost their medullary sheaths. Pain in the distribution of the fifth nerve would be more likely to occur in tumor of the Gasserian ganglion.

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[4] Paton and Gunn: Tr. Ophth. Soc. U. Kingdom, 1907-1908, vlii, p. 112.

[5] Schmidt: Wien. klin. Wchnschr., 1898, No. 51.

The case shows clearly that the diagnosis between a tumor upon the pons and one within the pons, if the latter be a glioma, my be extremely difficult or even impossible. A case presenting the same difficulty I studied with Dr. W. A. Bliss in St. Louis somewhat over a year ago.

In my chapter on tumors of the brain, in the book edited by Dr. Posey and myself,[6] I give the symptoms that have been observed in tumors of the occipital lobe. Visual hallucinations are mentioned, and several references are given to cases in which these phenomena occurred. The hallucinations seem to occur in the blind fields, and this statement is also made by Oppenheim.[7] The appearance of homonymous lateral hemianopsia, followed by gradually developing hemiplegia and loss of sensation, all the symptoms being on the same side, is suggestive of tumor, especially if the hemianopsia be accompanied by visual hallucinations. The latter may be absent throughout the course of the disease; thus Claude and Rose[8] have recently reported two cases of tumor of the occipital lobe in which visual hallucinations were not observed. They assume that such hallucinations are caused by irritation of the calcarine cortex, and were absent in their cases because the tumors were in the white matter of the occipital lobe. This seems to be assuming too much, as we have sufficient evidence to show that a lesion need not be confined to, or even be located within, the calcarine cortex to produce visual hallucinations, and this statement is justified by Case 6. I have emphasized this fact also in my chapter referred to above. Claude and Rose refer to the fact that the hemianopsia in tumor of the occipital lobe is seldom complete from the beginning, but, after being partial for a time, may rapidly become complete, so as to suggest a thrombotic lesion. In one of their cases an examination made Jan. 9, 1907, revealed a left homonymous lateral quadrantanopsia. Another examination, made Feb. 24, 1907, showed that the hemianopsia had become complete.

All writers who refer to visual hallucinations in cases of brain tumor, so far as I have been able to study the literature on the subject, speak of the hallucinations as occurring on the side opposite to the tumor. This generally accepted opinion led me to a diagnosis of the wrong occipital lobe in a case seen with Dr. William H. Teller (Case 6). The patient stated positively that he had frequent attacks, in which wriggling bright lights, beginning always in the right field, gradually passed to the center of the field, and disappeared in the left field. These phenomena were accompanied by dimness of vision, beginning also in the right field and disappearing in the left field. Since optic neuritis had occurred he saw black objects looking like snakes, rosettes, and forms of leaves in front of the eyes; occasionally he saw the heads of persons. Believing from these phenomena that the tumor was probably on the side opposite the fields in which the hallucinations first appeared, and therefore in the left occipital lobe, I suggested to Dr. Teller that it would be well to expose the left occipital lobe. The tumor, however, was in the right occipital lobe. It would seem from this case that visual hallucinations may occur in the field on the same side as the tumor, or at least begin in this field. The patient was intelligent, his mind was active, and his statements regarding his visual phenomena were reliable.

The only important signs of tumor in this case were papilledema of high grade and visual hallucinations. Hemianopsia was not present, and the absence of this sign is explained by the examination after death, as the tumor does not appear to have implicated the visual fibers. It seems almost impossible to have made any other localization than that made in this case, unless we can judge from one case that visual subjective phenomena may occur in the field on the same side as the tumor.

Another case seen with Dr. J. T. Rugh more recently lends support to this view. A woman with signs of brain tumor saw flowers and "red, green and bright colors," and dogs, to her right, and on one occasion she saw bird-cages and an open trunk, but it is not certain where she saw these; the flowers and dogs she was sure she saw to the right. Spontaneous pain in the right parieto-occipital region and tenderness to percussion here, normal right patellar reflex and exaggerated left patellar reflex, and some impairment of ability to recognize objects with the left hand, indicated that the lesion was on the right side. The tumor was not found at operation, but the pressure of the right cerebral hemisphere through the opening was enormous.

Lewandowsky[9] refers to the amnesic color-blindness of Wildbrand. This seems to be a sensory aphasia confined to the names of colors. Patients presenting this sign are unable to name colors shown them and to pick out colors named to them. Lewandowsky is uncertain whether this symptom occurs in a pure form, and is nclined to think that the symptom-complex belongs to his dissociation of the color-sense. His patient had sensory aphasia, was word blind and word deaf, but after hese symptoms had almost disappeared the peculiar color-symptoms were detected. He had homonymous right lateral hemianopsia. Like my patient referred to below, the man was not mind-blind. My patient had no lifficulty in recognizing and avoiding objects. Lewanlowsky's patient was unable to name the colors of objects shown to him or to find colors named to him. He could not name the color of an orange or a leaf (my patient could not name the color of blood or of snow). He also could not find the proper colors of obects from samples shown him, as my patient also could not. The disturbance evidently did not depend merely on a speech defect. His patient also did not observe anything peculiar in pictures colored unlike objects occurring in Nature. *He was able to match colors.*

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[6] Posey and Spiller: The Eye and Nervous System, 387.

[7] Oppenheim: Die Geschwülste des Gehirns, ed. 2, p. 120.

[8] Claude and Rose: First Internat. Cong. of Psychiat., Neurol., etc., Amsterdam, Sept. 2-7, 1907.

[9] Lewandowsky: First Internat. Cong. Psychiat., Neurol., etc., Amsterdam, 1907; Monatsschr. f. Psychiat. u. Neurol., 1908, xviii 488.

Lewandowsky believed that a lesion had destroyed the color-center of the left hemisphere, but that the colorcenter of the right hemisphere was preserved. The association of the color-sense not only of the left center but also of the right center was through the left color center, and, this being destroyed, association of color with form was impossible. Whether the left occipital lobe is the more important in every person is not determined, but in all reported cases of cerebral disturbnce of the color sense the left hemisphere has been affected.

It would seem that in this dissociation of the colorense described by Lewandowsky[9] we have a new and important sign of lesion of the left occipital lobe. It is possible that it might occur without other sign of lesion f the occipital lobe, but it is probable that we shall lways find hemiamblyopia, as in my case, or even emianopsia.

A patient in the service of Dr. John H. Musser, whom I had the opportunity to examine, presented this ymptom of color disturbance, which promises to be of alue in diagnosing lesions of the left occipital lobe. It s not my intention to enter into a full description of he case in this place. He had right lateral homonymous emiamblyopia, intense word-blindness, slight wordeafness, and some amnesic aphasia, i. e., he could not lways find the word he desired in speaking. As there was a possibility of tumor, although the lesion was beeved to be thrombosis, I recommended exposure of the eft occipital lobe with the angular gyrus as a center, nd softening of the occipital lobe was found by Dr. Frazier and the diagnosis confirmed by the examination f a small piece of excised tissue. An examination made y me before the operation gave the following results:

The patient could name most objects shown to him, ich as a watch, knife, key, handkerchief, but somemes made mistakes. When shown the picture of a dog colored deep blue or the picture of a donkey colored eep green he found nothing peculiar in these colors, nd said when asked that he had often seen a dog or a onkey of the colors mentioned. He was entirely unable give the name of any color shown him, and when the orrect name of the color was mentioned among others e did not recognize it. He could match colors without e slightest hesitation. He was entirely unable to find color mentioned to him when a variety of colors was laced before him. He was unable to name the color of ny object shown to him, as that of a leaf. He anvered, "I know what all that is, but I can not rememr." When asked what a leaf was he said that he did ot know.

A hasty examination would have led to the conclusion that the patient was color-blind, as he did not remember the color of any object, did not name the colors shown him, did not see any impropriety in the coloring of a dog blue or a donkey green, and yet the preservation of the color-sense was shown by his ability to match colors without the slightest hesitation. He had merely lost the ability to associate color with form; he recognized the form of most familiar objects and matched colors, but was entirely unable to put form and color together. He had what Lewandowsky has described as *Abspaltung des Farbensinnes*, which might be translated as dissociation of the color-sense.

It is usually difficult or impossible to form an opinion of the character of the tumor from the symptoms. As regards the possibility of this, Oppenheim[10] says:

> The symptoms are not essentially modified by the character of the growth, especially when the syphilitic process is left out of consideration. The same symptom-complex may be produced by glioma, sarcoma, solitary tubercle, and other tumors. The glioma sometimes is characterized by apoplectiform attacks, which may occur repeatedly and be associated with a rise of temperature. The vascularization may cause much variation in the intensity of the symptoms. The glioma has a slow growth, excepting the acute attacks caused by hemorrhage and swelling. Remissions are not uncommon.

Ludwig Bruns[11] speaks of the uncertainty in diagnosing the character of the tumor from the symptoms, but he thinks that very acute commencement of symptoms, possibly after slight trauma, in a person previously apparently entirely healthy, is suggestive of glioma. Rapid variation in the intensity of the symptoms and sudden increase in the symptoms are also common in glioma, but occur in other forms of tumor. The diagnosis between glioma and sarcoma especially is difficult.

There is still another way by which we may draw conclusions regarding the presence of glioma: The general symptoms of brain tumor, associated with the signs of a widespread lesion as of the greater part of the pons, with the escape of important fibers situated within the lesion, as those of the pyramidal tract, should be indicative of glioma. In no other form of tumor is the escape of fibers within the tumor so likely to occur. In two of the cases reported in this paper the justification for this view is clearly presented (Cases 3 and 5).

REPORTS OF CASES

CASE 1.—*Patient.*—D. P. (Lab. No. 467) was referred to me Jan. 11, 1909, by Dr. S. W. Gadd. He had been well until six weeks previously. He denied venereal disease, and his wife had not had any miscarriages. A left hemiplegia had developed gradually, there had not been at any time a sudden loss of function, for example he was weaker at the time I saw him than he had been two weeks previously. He had not taken alcohol for twelve months, previous to this time he drank occasionally. He had not had headache, and gave no history of trauma. During the five days previous to his visit to me he had vomited almost every day. He had not had convulsions.

First General Examination.—The notes concerning his condition at my first examination are as follows: "Mentality is good, and he talks fluently. The sight has failed during the past two years. He has slight weakness in the lower left side of face, not in the upper part of face. The tongue is protruded in the median line. The left upper and lower limbs are weak, but he still has considerable power in these limbs. The biceps and triceps tendon reflexes are a little exaggerated on the left side. The patellar reflexes are prompt, and the left is distinctly exaggerated. Ankle clonus is present on the left side, but not on the right side. There is no hemianopsia.

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[10] Oppenheim: Die Geschwülste des Gehirns, ed. 2, p. 221.

[11] Bruns, Ludwig: Die Geschwülste des Nervensystems, ed. 2, p. 260.

Sensations of touch and pain are less acute on the whole left side; in face, upper and lower limbs. He has marked tremor of the right hand. He drags the left foot when walking. He has no hemianopsia."

Second General Examination.—The change that occurred in this patient's condition between January 11 and February 6 was very great. An examination made by me on the latter date gave the following results: "The man is in stupor; he mutters constantly, and makes irrelevant remarks. Hiccough is pronounced. He lies with his head turned to the right and the neck is stiff. The palsy in the lower part of the left side of the face is distinct. The stupor prevents any careful testing of the power of the upper part of the face. It is impossible to get him to protrude the tongue beyond the lips, or to make him move the eyeballs on command. The reaction to light is present in each eye, but feeble. He moves the right upper limb freely. The left upper limb is completely paralyzed, is flaccid, and falls lifeless when elevated. The right upper limb is somewhat spastic. The biceps and triceps tendon reflexes are about normal on each side, although they may be a little prompter on the left side. He seems to feel pin-prick in the left hand. The left lower limb is completely paralyzed, and falls lifeless when elevated. The patellar reflex is about normal on each side. Ankle clonus is not obtained on either side, and the Achilles reflex is weak on the left side. The Babinski reflex is uncertain on each side."

Ocular Examination.—The notes dictated by Dr. de Schweinitz regarding the ocular condition are as follows: "Pupils dilate thoroughly with homatropin. Right disc shows no swelling or edema, outer half has atrophic pallor. No definite signs of previous neuritis. Central vessels are small. The right disc is similar to the left, but of better color. In both maculæ patches of retinochorioiditis."

The man's condition became gradually worse, and he died February 10, at 6 a. m., his temperature, which had been irregular while he was in the hospital, rising to 106 just before death. A tumor was found in the region of the right optic thalamus.

Autopsy.—When the ventricles of the brain were opened after death no excess of fluid was found within them. The right optic thalamus fluctuated as though it contained fluid, and when a horizontal section was made through the cerebral hemisphere a cyst was found in the region of the upper part of the right optic thalamus and inner capsule. Twelve c. c. of cloudy yellow fluid were collected from this cyst. The tumor caused considerable enlargement of the right side of the brain, as shown by a horizontal section through both hemispheres at the level of the upper part of the optic thalamus. At this level it measured 4 cm. from before backwards and transversely. The cyst occupied the entire center of the tumor, leaving a narrow wall of tumor tissue. The growth was well defined from the surrounding tissue to the naked eye, and did not have an infiltrative appearance, nor did it extend into the lateral ventricle, but was separated from it by about 2 cm. of what appeared to be brain tissue.

Histologic Examination.—Under the microscope the tumor had a papillomatous appearance. It was sharply defined from the brain tissue, but extended into it by numerous nests of cells. It was very vascular and many of the vessels were surrounded by a row of cylindrical or somewhat cuboidal cells, each having a nucleus at the end nearer the vessel, the cells resembling the lining cells of the ventricle. The vessels were limited by a row of endothelial cells and separated usually by a space from the surrounding row of columnar cells. The tumor contained much detritus and some fatty granular cells. It had the appearance of adenocarcinoma, and seemed primary.

A squamous-cell carcinoma was found in the esophagus, but it is questionable whether the tumor of the brain could be considered as a metastatic growth from the tumor of the esophagus, especially as it was of a different type of carcinoma, and was solitary in the brain. The necropsy was performed by Dr. Karsner.

A very similar tumor of the brain has been described recently by Kölpin.[12] It was papillomatous and was regarded as an adenocarcinoma. It resembled glandular tissue where the tumor processes were cut transversely. It was sharply defined from the surrounding nervous tissue, but caused no distortion of the tissue about it, so that the growth of the tumor was proportional to the destruction of the nervous tissue. Masses of detritus were found in the center of the tumor, whereas the center of the tumor in my case had become cystic and the tumor had caused enlargement of the hemisphere.

Primary epithelial growths of the brain, Kölpin states, are rare findings. They arise in the ependyma of the ventricles or the lining of the chorioid plexus and have a papillomatous formation. Kölpin refers to a number of reported cases. He believed that the largest of his tumors was the primary growth and that it originated in the ventricular wall, although such a connection could not be positively detected, any more than it could be in my case.

CASE 2.—*Patient.*—M. Sher. (Lab. No. 448) was admitted to the service of Dr. Edward Martin, at the University Hospital, April 23, 1908. I report the case with his permission. The patient's age was 53. The history of his illness was obtained from his wife. He was said to have been kicked by a horse in the head during the summer of 1907, but was not disabled at the time. He had not been sick during the past twenty-eight years, and he had not been a drinking man. He had been complaining occasionally for some months of headache, and his wife had noticed drowsiness, which gradually increased until he stopped work nine weeks previously. At that time he complained of severe headache in the left parietal region and seemed confused. The headache was persistent. During the four weeks previous to admission he had been in bed and was stuporous most of the time, though occasionally rational for short periods. The right arm was said to have become paralyzed four days prior to admission, and the right leg about a week before admission. The paralysis of the lower limb had developed gradually. Further investigation made the duration of the stuporous condition as given doubtful, and it seemed probable that it may have begun only a few days before he entered the hospital. When he entered the hospital he was stuporous all the time.

Ocular Examination.—Dr. Shumway made the following report: "Pupils are equal and respond to light. There is much mucopurulent discharge, obscuring the cornea. He has bilateral incipient cataracts. Retinal veins are full, but not tortuous. There is no blurring of the nerve edges, no neuritis. The eyegrounds show no gross lesions."

General Examination.—An examination by me April 25 gave the following results: "Once when he was told to show his teeth he did so, and the nasolabial fold appeared to be as deep on one side as on the other. When the face is pricked with a pin on either side the corner of the mouth is drawn up, and there is no distinct evidence of facial palsy. He has a tendency to repeat in a whisper what is said to him. Pin-prick evidently causes pain in the face. Tactile sensation can not be tested anywhere because of the mental state. He partially understands what is said to him. The neck muscles are distinctly rigid. The right upper limb appears to be completely paralyzed; pricking with a pin in this limb causes some movement of the left upper limb, but none of the right upper limb, and the pricking is not correctly localized. The right upper limb seems to have impaired sensation. The biceps and triceps reflexes are about normal in the left upper limb, but somewhat exaggerated in the right upper limb. Testing with a feeding-cup seems to indicate that the man has right hemianopsia. The patellar reflex is much diminished on the left side and is normal on the right side. The Achilles-tendon reflex is prompt on each side. The right lower limb seems to be completely paralyzed. Pin-prick causes no movement of this limb, but probably causes some sensation of pain, as the man moves his left limbs as though he were in discomfort, and yet pain sensation appears to be diminished in the right lower limb. The Babinski reflex is not obtained on the right side, the toes not being moved in either direction; it is probably present, though somewhat uncertain on the left side." Leucocytes were 12,400.

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[12] Kölpin: Arch. f. Psychiat., xlv, No. 2, p. 595.

Course of Disease.—The important features of this case were a gradually developing right hemiplegia, probably right hypalgesia, right hemianopsia, rigidity of the neck, a temperature that varied from 100 to 101, and the absence of ocular changes. Dr. Martin performed an exploratory operation April 28. Nothing abnormal was found. The right upper limb moved in response to electrical stimulation in the motor area. The man died April 30.

Autopsy.—A tumor occupied the greater part of the lower half of the left occipital lobe. It extended almost to the inner capsule and had the appearance of an angioglioma.

Case 3.—*Patient.*—Mrs. Y., aged 45 (Lab. No. 449), was seen by me March 23, 1908, in consultation with Dr. J. Thorington, by whose courtesy I report the case. Dr. Thorington sent the patient to me with the diagnosis of brain tumor, a diagnosis that seemed to me correct after an examination. My notes as taken from my case book are as follows:

General Examination.—"Mrs. Y. . . . has been complaining of vertigo about one year. When in bed she is obliged to lie on the right side; when she turns on the left side she feels 'sick and as though everything were going from her.' Her weight has decreased from 155 pounds to 121 pounds. Turning of the head to the left while lying down produces nausea. She vomits often in the morning. She has had pain in the muscles of the neck, and often a throbbing sensation in the frontal and occipital regions, especially when bending over. She is hungry all the time, and has a 'most vigorous appetite.' The menses are regular. The throbbing in the back of the neck is very severe and extends down the neck to the shoulders. She can not read unless the print is very large. She complains of kicking and jerking in her lower limbs, and can not lie down in the daytime because of this, and is kept awake at night by it. All symptoms began a little more than a year ago. The pain in the head is slight when she is sitting very still. She chokes when eating and swallowing, but if her attention is diverted she has no difficulty of this kind. She has three children, all healthy, and has not had any miscarriages. She complains of numbness all over both sides of the face, the numbness began on the left side of the face. The roof of the mouth also is numb. She has not had any pain in the face. She staggers on the street like a drunken person. Her behavior at times appears childish. The right pupil is a little larger than the left and both react to light, accommodation and convergence. She has marked nystagmus in looking to the right, and less in looking to the left, none in looking upward or downward. The nasolabial fold is slightly less distinct on the right side, when the face is at rest, but in showing the teeth or in drawing up either corner of the mouth separately, there is weakness of the left side in the whole distribution of the facial nerve. The right masseter is stronger than the left. Touch and pain sensations are normal in each side of the face. She has marked diminution of the conjunctival and corneal reflexes on the left side. She hears the voice and watch well on each side. The tongue when protruded sometimes deviates to the right, sometimes to the left, or is in the median line. The soft palate moves normally. The finger-to-nose test shows very little if any ataxia. The grasp of each hand is good. There is no impairment of voluntary movements in either upper limb. The biceps and triceps reflexes are exaggerated in each upper limb. Touch and pain sensations are normal in the hands and feet. Voluntary power is normal in the lower limbs. The patellar reflex is exaggerated on each side. The Achilles reflex is a little exaggerated on each side and about equally. There seems to be a slight Babinski reflex on each side, but it is uncertain. She has no ankle clonus. She sways very distinctly with the eyes open, and more so with the eyes closed, and during my examination she falls frequently toward the right. The gait is ataxic, and more so with the eyes closed." She presented on one occasion adiadokokinesis in the right hand.

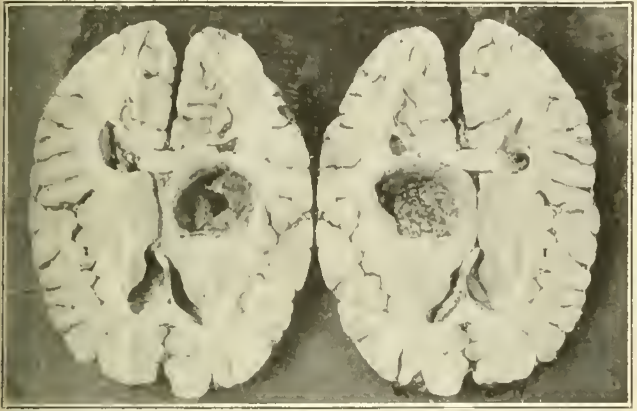

Fig. 1.—Case 1. Adenocarcinoma of the right optic thalamus and adjoining region.

Ocular Examinations.—A letter from Dr. J. Thorington, dated March 21, 1903, stated: "The ophthalmoscope does not reveal any pathologic changes at this time. The eyegrounds are apparently normal and the discs are not elevated. Vision in each eye is normal, and the refraction + 1.25 sphere, together with presbyopia." On April 7, 1908, Dr. Thorington wrote: "Yesterday and today I noticed that the nasal side of each disc has commenced to be elevated and indistinct in outline; the retinal veins are enlarging and becoming tortuous." Dr. Thorington reported that the swelling of the discs reached 7 D. on April 13 and 10 D. on April 18. Operation was considered, but as nothing more than palliation could be offered the relatives declined to have an operation. Death occurred May 4, 1908.

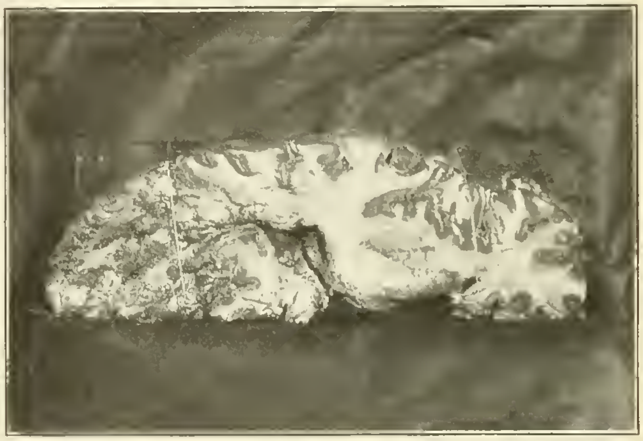

Fig. 2.—Case 2. Glioma of the left occipital lobe.

Autopsy.—A glioma occupied the whole of the pons. The left optic thalamus and adjacent region were much larger than the corresponding area of the right hemisphere. The lateral ventricles, especially the left, were distended. A microscopic section from the tumor of the pons stained by the Weigert method, showed few nerve fibers. The anterior pyramids were well stained by the same method.

Case 4.—*Patient.*—D. T. (Lab. No. 422) was admitted to the Philadelphia General Hospital July 12, 1907.

History.—The patient had used alcohol, absinthe and tobacco to excess, but denied having contracted any venereal disease. He had been a clerk for twenty-five years. His symptoms began about ten months before his admission. He suddenly lost consciousness about thirty minutes, and six days later he had a similar attack which lasted three days. He could not describe these attacks more fully, but stated that he had had only two. He had had constant headache since the beginning of his symptoms, and it had varied in intensity, and was confined to the frontal region. He had been gradually losing power in his right upper and lower limbs, and his general vigor was impaired; he had lost his appetite and was unable to use his mental faculties as well as formerly.

First Examination.—His gait on admission was slightly hemiplegic, and he dragged the right toes. Sway was increased by closing the eyes. The pupils were unequal, the left being slightly larger. Response to light and convergence was preserved. There appeared to be some weakness of the right side of the face in showing the teeth. Both upper limbs were weak, the right more so. There was slight tremor in both hands. The biceps and triceps reflexes were prompt on both sides. The right patellar reflex was slightly exaggerated, and ankle clonus was present on the right side. The speech was slurring, and test words were pronounced with some difficulty. His memory was poor, and he was easily confused. Soon after he entered the hospital he acted queerly, was dazed, attempted to disrobe in public, and did not know how to put on his clothing.

Second Examination.—Dr. Weisenburg, examining the man Sept. 18, 1907, noted that the right lower limb was contracted, and that the right upper limb was spastic. Right partial hemianopsia, and right hemihypesthesia were present.

Third Examination.—The man was examined by me Jan. 1, 1908. He was very stuporous, talked voluntarily, but irrationally. He heard when spoken to, but did not reply correctly. He had rigidity of the neck. The upper limbs were very rigid, especially the left. The upper limbs were adducted on the chest, with the forearms flexed on the arms, the left more than the right. The left palpebral fissure was larger than the right. The nasolabial fold was smoothed out on the left side. The biceps and triceps reflexes were restrained by the spasticity of the limbs. Although there was no distinct conjugate deviation, he had a tendency to turn his head to the right, but the eyeballs did not deviate. The legs were kept flexed on the thighs, the right as much as the left. They could be extended to an obtuse angle with the thighs. The spasticity was great and equal in the two lower limbs. Ankle clonus was persistent on both sides. Involuntary twitching occurred in the lower limbs.

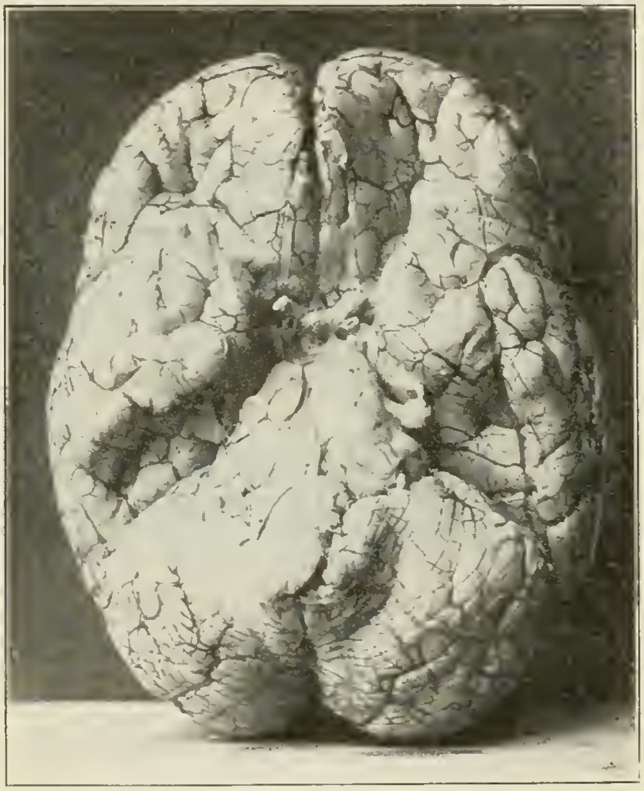

Fig. 3.—Case 3. Glioma occupying the entire pons.

Course of Disease.—At the time he came under my observation the symptom-complex was bilateral, and as much pronounced on one side as on the other. The history stated that the hemiplegia had developed gradually, but the left side seems soon to have become affected. Unfortunately no examination of the eyes was made; at least no record was made of any examination. It probably would not have revealed papilledema. The condition became gradually worse and the man died Feb. 2, 1908.

Autopsy.—The right optic thalamus was much larger than the left, and the enlargement was uniform. The left was concave slightly on its inner side to accommodate the enlarged right optic thalamus. The tissue posterior to the right optic thalamus had distinctly the appearance of a glioma, and the tumor was fairly well defined, especially where it projected as a rounded mass into the posterior horn of the lateral ventricle. No limitation could be placed to the anterior border of the tumor.

Case 5.—*Patient.*—R. F. (Lab. No. 452) came into the University Hospital, July 23, 1908, referred by Dr. Rice. His age was 25. The notes taken at that time are as follows:

History.—"About nine months ago he began to have trouble with his eyes, his vision appearing indistinct and blurred. The disturbance has increased and for three or four months he has been seing double. The eyes ache a great deal. Shortly after the beginning of the visual disturbance he noticed that his lower limbs were unsteady, and the difficulty in walking has increased. Walking in the dark is especially difficult. During the winter he began to have severe headaches. At first these were daily, but they have become less frequent, until now he has them every three or four days. The severity of the headache has increased. The headache usually begins in the morning and lasts most of the day. He frequently vomits when he has a headache. The vomiting is not projectile, and he is nauseated when he vomits. Two or three months ago his speech became thick. He is dizzy when he has a headache if he attempts to move about. He is becoming a little deaf. He has never had convulsions, but a few times he has had a shaking of the left forearm. He has had some difficulty in passing the urine, but no disturbances of the bowels. He has not had any numbness. He has lost flesh. He denies venereal disease."

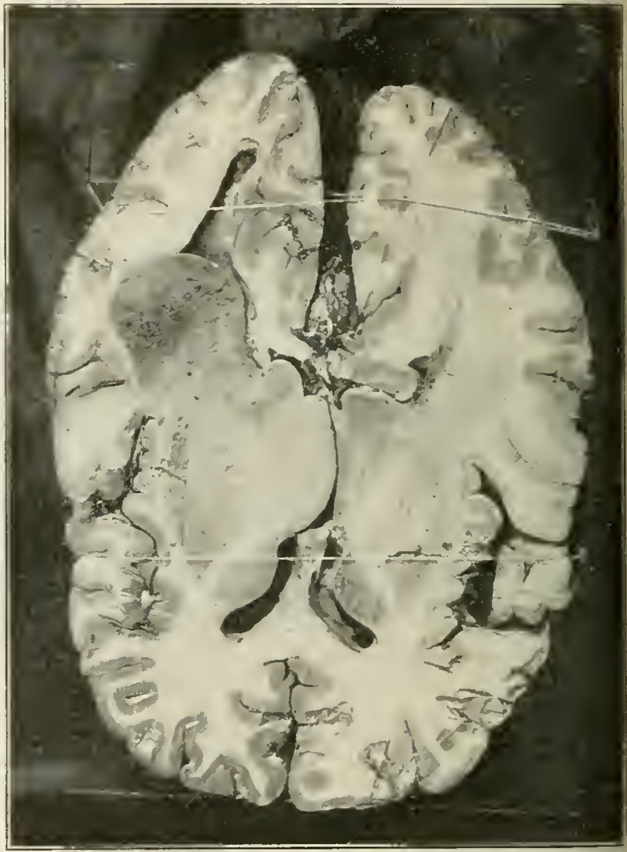

Fig. 4.—Case 4. Glioma in the region posterior to the right optic thalamus.

Examination.—This, made by me July 27, 1908, gave the following results: "In walking he staggers with the eyes open r closed, and the tendency seems to be to go more to the left. is face has a smoothed-out appearance, like the face in resis. He wrinkles his forehead well and about equally on e two sides, although possibly there may be a little weakness the upper distribution of the seventh nerve of the left side. he left eyelids can be opened more easily when closed in sisting passive motion; the left corner of the mouth is a little eakened both in showing the teeth and in drawing up the rners of the mouth separately. The tongue is protruded ightly toward the right. He has slight lateral nystagmus in oking to the extreme right or left. The hearing of the voice nd of the watch is distinctly impaired in the left ear, but the earing may be imperfect also in the right ear. The left side the face in the region of the temporal and masseter muscles flattened as though these muscles were much atrophied. In iting there is no contraction in either the left temporal or ft masseter muscle, and the man says that his teeth do not uch on the left side. The left soft palate is paretic. Tactile nd pain sensations are diminished in the distribution of the ft fifth nerve, but not lost. The left conjunctiva and cornea re almost anesthetic. The grasp of the right hand is about ual to that of the left, and is fair. The biceps and triceps flexes are about equal, possibly a little prompter on the ght side. Tactile and pain sensations are probably a little minished in the left hand, but this is questionable. The teller reflexes are about normal. He has a slight Romberg gn. The Achilles-tendon reflex is prompt on each side, and out equal on the two sides. The voluntary power in the wer limbs is about normal." The patient stated at this amination that he had had a "touch like" sensation in the ft side of the face, but only when he touched the face, and he d never had any pain in the face. On another occasion it as stated that the right pupil was slightly larger than the ft, both eyes reacted to light and in accommodation, but the sponse seemed to be slower in the right eye. In testing taste ere seemed to be no impairment to sweet or bitter substances. he recognition of objects in the hands and the sense of posi-on were intact. A report from the eye dispensary stated at there was beginning papillitis, more advanced in the right e. The fields were concentrically contracted. The left ex-rnal rectus was paretic. The reaction of the left seventh nerve as tested by Dr. McConnell was normal to the galvanic current. The left fifth showed a quantitative but no qualitative change. The left side of the larynx was found to move less freely than the right side. The deafness of the left ear was attributed to catarrh, and Dr. Butler, in Dr. Randall's clinic, was unable to find any signs of nerve deafness.

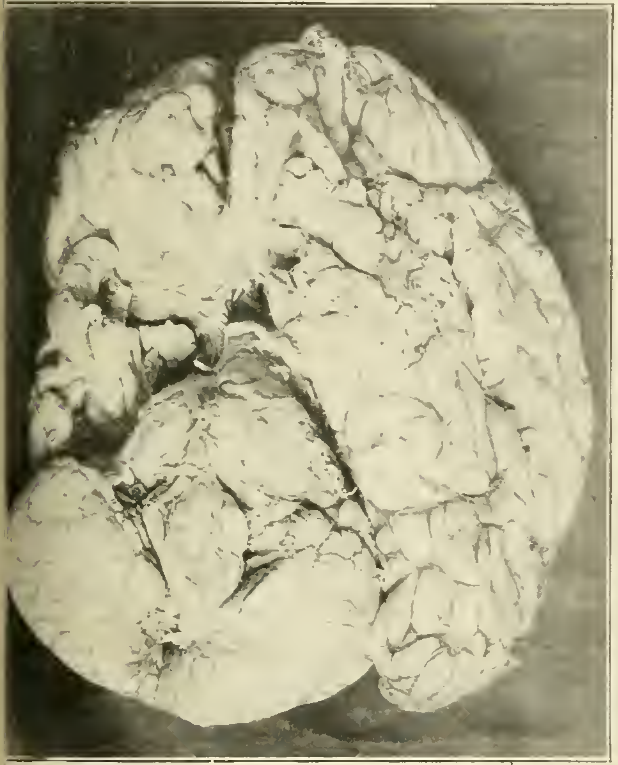

Fig. 5.—Case 5. Glioma of the left half of the pons and left lf of the medulla oblongata.

An operation was performed by Dr. Frazier in the hope that a tumor in the region of the Gasserian ganglion might be found, although such a finding might be doubtful. Decomposition might be of benefit, and save the sight. It was the only chance offered to the patient for relief, and proved to be ineffectual.

Autopsy.—A tumor occupied the entire left half of the pons, the right half appearing normal to the naked eye. It involved the entire left half of the medulla oblongata, causing much enlargement corresponding to the great increase in size of the left half of the pons. The right half of the medulla oblongata appeared to be normal to the naked eye. The left cerebral peduncle was not enlarged. No tumor was found in the left Gasserian ganglion, and this ganglion seemed to be in good condition. A microscopic section of the medulla oblongata showed that the tumor invaded the right side. Nerve fibers were found in all parts of the section, but the tissue was rarefied as though the nerve fibers were pushed apart by the infiltrating glioma.

Case 6.—*Patient.*—G. D. (Lab. No. 450), aged 50, was a patient of Dr. W. H. Teller, with whom I saw the case in consultation and by whose courtesy I report it. Syphilis was denied. The notes obtained March 18, 1908, are as follows:

History.—"Fifteen months previously while sitting on the porch he suddenly became aware of some visual disturbance, but was not unconscious, he could not see plainly, could not hold a pencil properly, could not say the words he desired to say; he was able to walk, he vomited, had severe pain over the entire head, slept badly the following night, but the next day he returned to work. He has not had any vomiting since that time. During the past three weeks he has seen objects before his eyes resembling snakes."

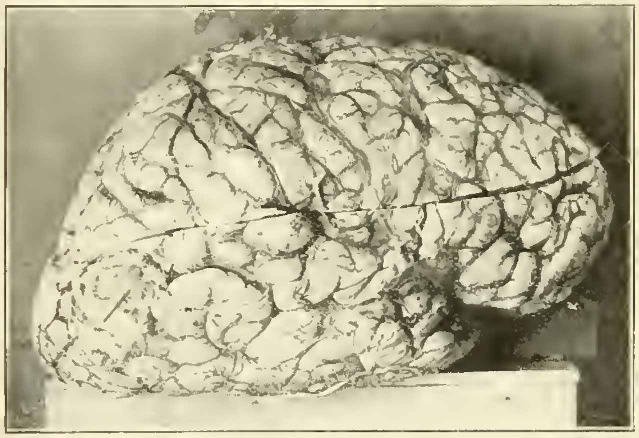

Fig. 6.—Case 6. Glioma of the right occipital lobe, indicated by a line.

First General Examination.—"Pupils are equal; the reaction to light and in convergence is preserved; there is no nystagmus; no disturbance of tactile or pain sensation in the face. The patient can wrinkle the forehead, close the eyelids and draw up the corners of the mouth well on each side; the tongue is protruded in the median line; he hears the voice distinctly in each ear. The finger-to-nose test shows no incoordination; the power is good in both upper extremities, as is also sensation for touch and pain. The patient recognizes objects in either hand with the eyes closed, and has no impairment of the sense of position. The triceps and biceps reflexes are normal. The station and gait are normal with eyes open or closed. The patellar tendon reflexes are prompter than normal. The Achilles-tendon reflexes are prompt. Babinski's sign is not obtained. Sensation in the lower limbs is normal."

Second General Examination.—Notes taken on April 23, 1908, are as follows: "The right external rectus is weak.

There is no hemianopsia, no anesthesia of the conjunctiva, no weakness in the facial distribution of either side. Touch and pain sensations are normal in the face. Masseter and temporal muscles contract well on each side. Tongue is normal. Hearing of voice and watch is good in each ear. There is no area of tenderness of the scalp, no stiffness of the neck. The power of each upper limb is good. A slight Romberg sign is obtained at this examination. He has had frequent attacks in which wriggling bright lights, beginning always in the right field, gradually passed to the center of the field, and disappeared in the left half of the field; these attacks were with dimness of vision, beginning also in the right field and disappearing in the left field. Since he has had optic neuritis he has seen black objects like snakes, rosettes, and forms of leaves in front of the eyes, and sometimes he sees the heads of persons." In other respects the examination gave much the same results as obtained at the previous examination.

Ocular Examination.—Iridic reflex to light is slow, prompt in convergence. There is limitation in outward excursion in both eyes, especially to the right. No limitation in upward movement. Pupils: O. D. 2½ mm. O. S. 2¾ mm. Vision O. D. 10/20, O. S. 10/40. Marked papilledema, periphery 2D., center 7D. No hemianopsia. Fields are greatly contracted.

Operation.—Dr. Teller operated, as we hoped to find a tumor in the left occipital lobe, or at least produce a decompression that would benefit the patient. No tumor was found at the operation.

Autopsy.—A tumor measuring 3 cm. in length and 2 cm. from above downward was found in the lower part of the right occipital lobe. Microscopically it had the appearance of a glioma.

I am indebted to Dr. Alfred Reginald Allen for the photographs.

4409 Pine Street.

EXTENSIVE GLIOMATOUS TUMOR INVOLVING THE CEREBELLUM AND THE POSTERIOR PORTIONS OF THE MEDULLA, PONS AND CEREBRAL PEDUNCLE AND THE POSTERIOR LIMB OF ONE INTERNAL CAPSULE *

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PHILADELPHIA

Gliomatous tumors growing in the cerebellum are usually confined to it and only rarely do they extend into the adjoining parts. The following case is reported by itself because of the extraordinary growth of the tumor, which involved practically all parts of the cerebellum, but especially the inferior vermis, in an irregular manner all of the cerebellar peduncles, the posterior portions of the medulla oblongata, pons and cerebral peduncle, to a limited extent the posterior part of the optic thalamus and the posterior limb of the left internal capsule. The duration of the symptoms was about two years. The patient was under constant observation and the progress of the case was carefully observed, and some interesting observations were made in the progress of the symptomatology, the tumor evidently involving the cerebellum first and then growing into the cerebral peduncle and the medulla and then gradually implicating the posterior part of the pons. The growth was not properly diagnosed, but it was thought that there was a cerebellar tumor and an operation was performed over the right hemisphere. A part of it was removed for microscopic study. Definite cerebellar symptoms followed this removal.

REPORT OF THE CASE

Patient.—R., painter, aged 46. His family history was unimportant with the exception that both his father and mother died of Bright's disease. The patient had the usual diseases of childhood. He used tobacco moderately and alcohol to excess. He was a married man and had four living sons. There was no history of syphilis.

History.—The patient had been complaining for two years, his first symptom being headache, which was especially centered over the right parietal and occipital bones and back of the head. He was, however, able to work for a year, that is, until March, 1907, and then irregularly for about four months, ceasing then entirely. From this time until his death, which occurred in May, 1908, or about one year after the greater intensity of symptoms, he was under observation either in the dispensary or hospital. The headache was constant and of a dull character, being very great at times, increased by movement and not made better on lying down. A few months after the onset of the intense headaches, he began to be dizzy, describing the sensation as if he were rotating around the object at which he was looking. This dizziness became so intense that from the first he was compelled to have assistance in going up and down stairs and in walking, his gait being like that of a drunken person. Soon after this he began to be occasionally nauseated in the morning, this being accompanied by vomiting, later becoming more marked. In a short time he began to complain of general weakness, insomnia and of nervousness, and then noticed that he had some difficulty in talking, which consisted in an increasing thickness and slurring in his enunciation, being worse at times.

Anteoperative Examinations.—When he first came under observation at the dispensary he complained only of the general symptoms of headache, nausea, vomiting and dizziness with general nervousness, and walked like a drunken person. The indistinctness and slurring in his speech soon developed and he complained of weakness in his vision, especially on the right side, and then began to see double, one object being above the other. At the same time there was a drooping of the right upper lid. Examination discovered only a general increase of the reflexes and weakness in looking to the right and no incoordination. There was at first no choked disc, but subsequent examinations made by L. Webster Fox demonstrated an increasing optic neuritis which was equally marked in both eyes, the height of the swelling reaching 7 diopters. The patient was then admitted to the Medico-Chirurgical Hospital under the care of Charles S. Potts. Examination demonstrated a distinct drunken, ataxic gait, the patient staggering more to the right. Station was also uncertain. The power in the upper and lower limbs seemed to be normal, the grip measuring by the dynamometer 90 in both hands. The tendon reflexes in the upper limbs were normal; in the lower slightly increased. There was no ankle clonus or Babinski on either side. Sensation was not disturbed. The finger-to-nose and heel-to-knee tests showed some ataxia, especially on the right side. There was no weakness of the muscles of the back. The cranial nerves were normal with the exception that there was some diminution of hearing, especially on the left side, and there was drooping of the right upper lid, with weakness in the right sixth and inferior oblique. The pupils were normal and there was no disturbance in their reactions. There was nystagmus on looking to the left and upward. Speech was thick and indistinct.

Operation.—A decompressive operation was performed over the right cerebellar area. The right cerebellar lobe was cut and tissue removed for microscopic examination, but nothing was found. The patient made an uninterrupted surgical recovery; his optic neuritis gradually subsided; although at first there were some hemorrhages, his headache, dizziness and nausea became less and slightly improved.

Postoperative Examinations.—Examination made by me about three weeks after the operation demonstrated that the patient's headache subsided at first but soon became more marked and about equally so on both sides of the head in the posterior portion. The nausea and vomiting were less after the operation. The dizziness subsided for the first three weeks and then became as marked as before. This was not present when the patient was in a recumbent position or when sitting, but when he suddenly turned his head to the right he had a sensation of swimming or lightness of the head which was not of a definite character. Turning the eyes in any direction also produced the dizziness. When he stood up the dizziness, especially of self, was extreme, and he also had a sensation as if objects in front of him were swimming. A more definite description of the dizziness could not be obtained.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

* From the Laboratory of Neuropathology, Medico-Chirurgical College.

The pupils were larger than normal, irregular in their outline, and their reactions both to light and to distance were sluggish. He always saw double, objects being one above the other, and he generally kept his left eye closed so as to avoid the diplopia. Nystagmus was present very slightly on looking straight ahead, but was mostly marked in looking to the right and to a less extent to the left and then upward and downward. Convergence was normally performed in looking downward and in the median line, but in looking straight ahead and upward not so well, but the attempt at convergence was not lost. There was a weakness of the right external rectus and right inferior oblique.

The patient could wrinkle his brow well on both sides, the folds being equally marked, but the right brow was distinctly weak. There was a marked drooping of the right lower eyelid and corner of the mouth, and the right orbicularis palpebrarum was weak. The right masseters and temporals did not contract as well as the left and when the jaw was opened it deviated to the right. Sensation for touch and pain over the distribution of the right fifth nerve was diminished. Smell was not altered and taste could not be tested. Hearing was diminished on both sides. Throat examination demonstrated sluggish movements of the soft palate and some weakness of the vocal cords on both sides. His speech was thick, indistinct and difficult to understand.

At first the patient had no paralysis, but when examined by me, he had a distinct weakness in the right upper and ower limb, this consisting in a diminished grip and resistance. The left limbs seemed normal in power. The tendon reflexes of both the upper and lower limbs were prompt and equally so. There was no ankle clonus or Babinski on either side, plantar irritation causing no movement of the large toes. The patient stated that he could feel touch and pain better on the eft side of the body than on the right. This was also true or bone sensation.

The head was held in the median line and the protrusion of the hernia in the right cerebellar area was becoming more marked. When the patient sat up in bed the incoordination of the body could be easily noticed; he swayed in any direction, but especially to the right. He could not stand up himself, and when not supported he would fall, especially to the right. He could not walk alone, but with aid he had a drunken, ataxic gait, more marked to the right side.

There was distinct hemiasynergia and ataxia in the right upper and lower limbs, this not being influenced by closure of the eyes. There was very little ataxia in the left upper and ower limbs. There was no disturbance of the senses of position, movement, localization or pressure.

Later History.—From this time on until his death, May 5, 1908, about six months after the operation, the patient was chair-ridden. He gradually became more stupid mentally and t was with difficulty that he could be made to understand, owing partially to his stupidity and then again to the fact hat his hearing became very bad, being worse on the left side. When sitting up in his chair he would have to be supported on all sides, otherwise he would fall in a heap. He could not voluntarily sit up and if left free for a moment his body would immediately fall. He had a habit of sitting with his head bent to the right, the chin near his shoulder, the whole right side of the body drooping. His headache became ess, but his dizziness grew more marked, and while at first his was not present when lying quietly, toward the latter end of his life, even when in this position with his eyes closed he had a sensation of self moving to and fro. He preferred to lie on his left side because he said this made him feel somewhat easier. The nausea and vomiting subsided.

Gradually there developed a prominence of the right eyeball. The patient would constantly keep his left eye shut, so as to avoid seeing double, and when he opened his eye there was a constant to-and-fro jerking of his eyeballs. His pupils became very large and their reactions both to light and movement were ultimately lost. It was with difficulty toward the last that he could be prevailed on to move his eyeballs or perform any movement. The weakness in the distribution of the right seventh nerve became more marked, especially in the lower part, and the right fifth nerve was involved both in its motor and sensory portion. The tongue could not be protruded more than beyond the lips; its movements were weak and it deviated to the right. The patient's speech became increasingly thick and indistinct. His eating became impaired because it was difficult for him to chew and he could not swallow readily, choking quite frequently. During the two months before his death there was constantly dribbling of saliva and his speech became unintelligible.

The weakness in his right upper and lower limbs became more marked and toward the end there was also some weakness in the left side, especially of the lower limb. The ataxia became gradually more distinct and the asynergic movements were earlier and more quickly demonstrated in the right limbs. There was also ataxia in the left limbs. It was especially noticeable that as long as the mentality was fairly good the tonicity in the lower limbs was about normal, but with the decrease of his mental power the ataxia became more marked and there was present a considerable lack of tone. Toward the end he voided urine involuntarily.

Observations were made on his respiration and pulse for about a month before his death, but no changes were noticed.

Macroscopic Postmortem Examination.—The brain was removed the following day. The right lateral lobe of the cerebellum was soft, this being the point of the operation. From gross examination before cutting, no enlargement was found of the peduncles, pons or cerebellum.

Microscopic Examination.—Sections were made of the cerebellum, medulla, pons, cerebral peduncles, of different portions of the brain and the spinal cord. An infiltrating gliomatous tumor was found, this implicating both lateral lobes of the cerebellum, especialy the left, and practically all parts of the vermis. The growth involved all the cerebellar peduncles in an irreguar manner, the posterior portion of the medulla almost as low down as the pyramidal decussation, the posterior part of the pons and cerebral peduncles, especially around the aqueduct of Sylvius, extending toward the cerebrum into the optic thalamus and involving the extreme posterior portion of the posterior limb of the internal capsule on the left side.

The growth was rich in cells; some nuclei were larger than others, being round, oval or spindle-shaped. They stained darkly and were granular. By the ordinary acid stains little intercellular substances could be seen where the cells were dense, but in other parts fibers could be made out, especially on the border of the growth. In parts, especially around the aqueduct of Sylvius, the vermis and the left lateral cerebellum, the cells were very dense and packed tightly together. There was no definite border to the growth, as tumor cells could be detected considerable distance away from the main mass. The vessels within the growth were thickened and had undergone in places hyaline degeneration.

Cerebellum: The size of the cerebellum was not increased. In practically all portions of the vermis, but especially in the inferior lobe, the cellular infiltration was intense. The left lateral lobe was infiltrated more than the right and infiltration was greater in the parts around the intrinsic nuclei and became less as the cortex was approached, but tumor cells could be seen in all portions.

Medulla: Sections of the medulla showed a broadening of the anteroposterior diameter. There was no degeneration of the motor fibers on either side. The growth involved the parts around the fourth ventricle. On the right it was considerably larger and infiltrated the nucleus cuneatus and gracilis and partially the restiform body. It implicated also the nuclei of the eighth, ninth, tenth and twelfth nerves and to some extent the nucleus ambiguus. The nerve cells, however, of these nuclei were not altogether destroyed, as here and there cells could be seen. The intramedullary portions of the twelfth, ninth and tenth, and eighth nerves were not degenerated, although tumor cells infiltrated parts of the fibers. On the left side, the infiltration was less, but here also the twelfth, ninth and tenth, and eighth nerves were partially involved, as were also the nucleus cuneatus and gracilis.

Pons: Sections made of all parts showed a broadening of the anteroposterior diameter, this becoming greater as the upper part was approached, the greatest broadening adjoining the cerebral peduncles. The growth was centered around and especially in front of the aqueduct of Sylvius, distorting it out of shape. Both sides were equally involved. The nuclei of the fifth nerves on both sides were implicated, especially the right. The nuclei of the sixth and seventh nerves were also involved, although all of the cells were not destroyed. The intramedullary portions of the fifth, sixth and seventh nerves were infiltrated in parts with tumor cells, but were not degenerated. Tumor cells could be found in the median fillet and to some extent in the anterior motor fibers. The posterior corpora quadrigemini, the superior cerebellar peduncles and the nuclei of the fourth nerves were almost totally replaced by tumor cells.

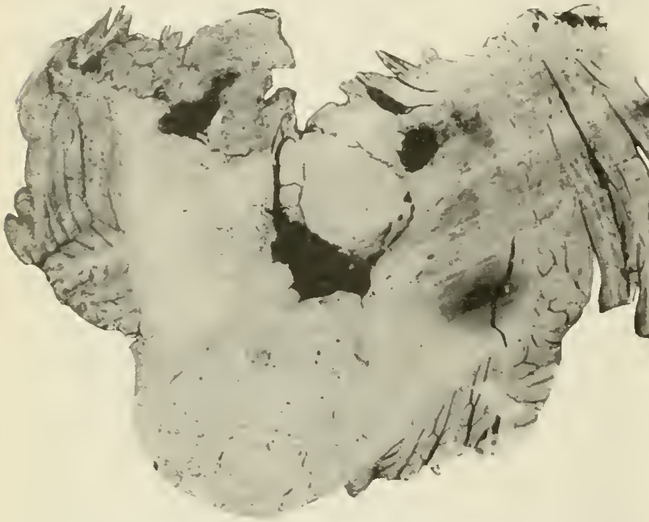

Fig. 1.—Section (actual size) cut through pons, middle cerebral peduncles and cerebellum. At the left, the site of the cerebellar operation can be seen. The tumor involves both cerebellar lobes, the left more so, all of the vermis and the posterior part of the pons. The left middle cerebellar peduncle is more involved than the right.

Cerebral Peduncles: There was no degeneration in the foot of the cerebral peduncles. The growth in this area involved the parts around the aqueduct of Sylvius, partially destroying the nuclei of the third nerves and the commissural fibers between them. The posterior part of the intramedullary fibers of both third nerves were implicated in the tumor. Both anterior and posterior corpora quadrigemina were involved, as were also the red nuclei, this being especially true on the right. Tumor cells could be found in practically all parts of the section. The antero-posterior diameter of the peduncle was increased.

Optic Thalamus and Internal Capsule: Some tumor cells could be seen in the posterior part of the thalamus and the growth involved the posterior portion of the internal capsule on the left side.

Cranial Nerves: Sections of the cranial nerves, with the exception of the first, showed some degeneration of the fibers. The right third and fifth nerves were more involved than the left, but in the other cranial nerves the degeneration was equal.

Spinal Cord: Sections were taken from the cervical, thoracic and lumbar cord and showed no degeneration. The nerve cells were normal and the anterior and posterior roots were intact and showed no degeneration.

Evidently the first symptoms observed were those referred to the cerebellum, such as headache, which was soon followed by nausea, vomiting, and a cerebellar gait in which the staggering was more to the right; then dizziness which was first described as if the patient were revolving around the object at which he was looking. He then began to have some difficulty in talking and in swallowing, and about the same time vision became impaired, although repeated ophthalmoscopic examinations did not demonstrate any choked disc, and it was not until about a year after the beginning of the headache that the neuritis made its appearance, rising then to 7 diopters. About the same time he began to see double, seeing one object above the other, and had drooping of the right upper lid. Examination demonstrated very little ataxia of the right upper and lower limbs, although the ataxia in walking was extreme. The patient also had a diminution of hearing on the right side. Because of the pressure symptoms, the cerebellar gait, more to the right, weakness of the right third nerve and the diminution of hearing on the left side, with difficulty in eating and talking, it was thought that he had possibly a cerebellar tumor, but the diagnosis was not clear because of the multiple cranial involvement on both sides.

An operation was performed over the right cerebellar hemisphere in which part of the right cerebellar hemisphere was removed and a whole group of symptoms developed directly after the surgical recovery. While before the operation there was not much ataxia and weakness in the right upper and lower limbs, this was marked afterward, and from then on until the patient's death, about five months later, the weakness progressed and the ataxia not only involved the right upper and lower limbs, but to some extent the left limbs. It was also noticeable that while before the operation there was no ataxia of the trunk muscles and apparently no weakness, afterward the patient could not sit up, but fell immediately in a heap and especially to the right. The reflexes were unaltered. For a short time he was able to walk, but his gait was distinctly ataxic and he staggered much more to the right. Alternate flexion and extension and other movements of the right upper and lower limbs were decidedly more incoordinate directly after the operation.

It is interesting to note that while clinically the preponderant cerebellar symptoms were on the right side, pathologically the left cerebellar involvement was greater, and that the vermis was more involved than either lateral lobe. It is probable, then, that the greater right cerebellar symptoms can be ascribed to the direct injury to the right lateral hemisphere at the time of the operation.

This is an interesting experiment on a human being and shows that the right cerebellar lobe controls coordination chiefly of the right limbs and also to some extent has an influence on muscular power. This has been demonstrated by other observers and has also been reported by me in a previous paper.[1] It is, however, interesting to note that while the ataxia and weakness developed in the right limbs, there was very little atonia and this did not make its appearance until the patient became stupid mentally.

The headache, nausea, vomiting and choked disc diminished gradually after the operation, but the dizziness became much more intense. While at first he felt as if he were revolving around an object, he now developed a constant dizziness which finally prevented him from sitting up. At first he only had this when moving his head or eyes, but later it was also present when lying quietly. He described the dizziness as a sensation of swaying or swimming either of self or of objects.

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[1] Weisenburg, T. H.: Diagnosis of Tumors and Other Lesions in the Cerebello-Pontile Angle, THE JOURNAL A. M. A., 1908, l. 1251

In this case, as in others of mine, no deductions could be made from the type of the dizziness as to the location of the lesion. For a short time after the operation it was greater when looking to the right, but soon was equally marked in moving the head in any direction.

As the tumor involved successive portions of the cerebral peduncle, pons and medulla, some interesting symptoms were observed. At first the pupils were normal in size and reactions, but gradually they became larger and rregular, and their reactions to light and movement of he eyeballs became first impaired and then lost, the contraction of the pupils to convergence being retained ongest. He developed palsy of the right sixth nerve and drooping of the right upper lid and weakness of the right inferior oblique. There were at first some nystagmoid jerkings in looking to the right and upward, but this may have been due to the weakness of the ocular muscles. Gradually the nystagmus increased, being always greater when looking to the right, less so to the left, and then upward and downward. Toward the later end of his life the patient constantly kept his left eye closed because he saw double and there was a contant to-and-fro jerking movement of the eyeballs. At irst convergence was normal in looking downward, omewhat impaired when looking straight ahead and more so when looking up. As the disease increased conergence became lost entirely, although for a long time he attempt at convergence was retained. It was also noiceable that he developed a protrusion of the right eyeball.

The above symptoms are referable to involvement of he oculomotor nuclei and are of extreme interest. It is presumable that the tumor grew slowly and that gradully the nuclei became diseased. While the growth involved all of the third nuclei many of the cells escaped nd the absence of the total implication of the ocular muscles can be explained on this basis. It is interesting to observe that the reaction of the pupils to convergence was lost last. This is due perhaps to the fact that the converging movement is the strongest of the ocular movements and that greater musculature is involved, ut it is probable, as I have already suggested,[2] that conergence has a distinct cortical center which is apart rom associated ocular movements in any direction, and that just as there can be a paralysis of associated ocular movement upward, downward, to the right or left beuse of a lesion in the posterior part of the pons and rus, so there can be failure of convergence in similar irections. In the present case convergence was at first lost upward, impaired when looking straight ahead, and ormal when looking downward. This I have observed also in other cases.

Nystagmus is fairly constant as a cerebellar symptom, though often I have found difficulty in differentiating etween such nystagmus and that due to weakness of cular muscles. The tendency is to describe any sort of erking movements of the eyeballs as nystagmus, but I m inclined to differentiate and to ascribe cerebellar nystagmus only to that type in which there are to-and-fro or oscillatory movements irrespective of movement of the eyes, although they may be slightly increased by deviation. The so-called nystagmoid jerkings which are obtained only on looking to the right or left are in most instances due to a weakness of ocular muscles and it very often happens that this may be the first symptom of a succeeding paralysis of ocular nerves.

The protrusion of the eyeball is interesting and is difficult to explain. It has been observed in tumors in practically all parts of the cerebrum and cerebellum and no adequate explanation has as yet been offered.

Both the anterior and posterior corpora quadrigemina were implicated by the tumor growth, but it is difficult to ascribe any definite symptoms to such involvement. Lesions of the anterior corpora quadrigemina supposedly give disturbances of vision, but because of the presence of optic neuritis no deductions can be made. It is supposed that in the posterior corpora quadrigemina the central auditory fibers ascend to the temporal lobe. It was notable that there was disturbance of hearing very early, and while at first it was greater on the left side, it became markedly involved on both. Tests for hearing showed central deafness, but it is difficult to tell whether a lesion of the corpora quadrigemina caused the disturbance of hearing, inasmuch as both eighth nerves were partially diseased and their nuclei were also somewhat involved by the tumor.

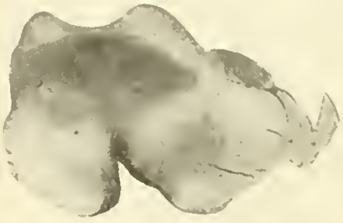
Fig. 2.

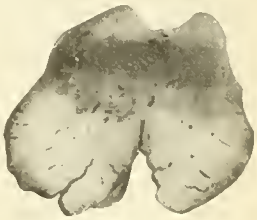
Fig. 3.

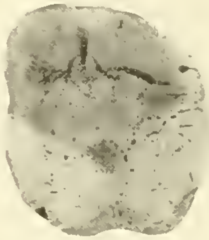
Fig. 4.

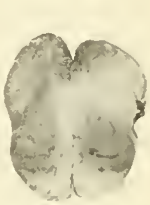
Fig. 5.

Figs. 2, 3, 4 and 5.—The cerebral peduncle, pons and medulla (actual size). Antero-posterior diameter in each is increased and the tumor mass can be seen around the aqueduct of Sylvius and the fourth ventricle in the medulla, staining darkly.

While the growth involved the nucleus of the right fifth to considerable degree and to some extent the left, only the right masseter, temporal and pterygoids were weak.

At first the right facial nerve was involved in its whole distribution; that is, the patient was not able to show his teeth or wink his eye as well as he should, but later the weakness in the upper part of the face disappeared and there remained only the central type of facial palsy. This is difficult to explain, for, while Oppenheim[3] has described in tumors of the pons a weakness first of the central type which finally became peripheral, here we have just the opposite condition, in which at first the upper part of the face was involved as well as the lower, and later there was recovery of movement in the brow. Pathologically both nuclei were involved, the right distinctly more so, but not all of the cells were diseased, and it is possible that the recovery of power in the upper distribution can be explained by the fact that not all the cells were diseased and also that the cerebral fibers were not implicated.

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[2] Weisenburg, T. H.: Conjugate Deviation of the Eyes and Head and Disorders of the Associated Ocular Movements in Tumors nd Other Lesions of the Cerebrum, The Journal A. M. A., March 3, 1907, xlviii, 1003, 1095.

[3] Oppenheim: Lehrbuch der Nervenkrankheiten, ed. 3.

Examination demonstrated a weakness in the palate and vocal cords; and all through his disease, but especially toward the end, the patient had difficulty in eating, talking and swallowing and dribbling of saliva. All these symptoms can be explained by the involvement of the nuclei in the medulla, although here, as in other nuclei, many of the cells escaped and there was not the weakness that was to be expected from the extent of the pathologic implication. It is also noticeable that there was no disturbance in respiration or in the action of the pulse. Records were kept daily for about a month before his death and observations were taken three times a day regularly.

The patient had some sensory symptoms, being able to appreciate objects better on the left than on the right. It must be remembered, however, that there was considerable involvement of the nucleus cuneatus and gracilis and parts of the median fillet in the pons.

No symptoms can be ascribed to the implication of the posterior limb of the internal capsule and the optic thalamus.

2030 Chestnut street.

ABSTRACT OF DISCUSSION

ON PAPERS BY DRS. SPILLER AND WEISENBURG

Dr. Max Nonne, Hamburg, Germany: It has been the generally received impression that the pulse rate in cerebellar tumors is lowered; but as I doubted by my own experiences the accuracy of this view, I spoke with some of the leading neurologists of Germany, asking their opinions on this subject; replies showed conclusively that, notwithstanding the traditional holding in this regard, the fact is that the pulse is as a rule normal in these cases, or if there is any change it is more often in the direction of acceleration. I should be very glad to learn the experience of American neurologists in this respect. The statements regarding it accord with my own experience.

I should like to call attention to one point in the diagnosis of tumors of the hypophysis, which for some reason has not been touched on, and that is the feminism which is often found in these cases. The voice resembles that of a woman or of an eunuch; the beard falls out, the hair on the genitalia disappears, the penis becomes shrunken and incapable of erection, while the testicles waste away. These symptoms are pointed out by all French and German authors as being of common occurrence in the cases in which the gland itself has been removed, and I have observed such a case clinically and microscopically. I should like a statement of the experience of American neurologists with reference to these symptoms.

Dr. B. Sachs, New York: Evidently Dr. Nonne's experience tallies well with the experience of the majority of us here. As for the occurrence of feminism of which he speaks in case of tumor of the pituitary body, I think we have seen less of it here than is recorded in Germany and France. But in one of the cases which I saw of hypophysis tumor there was distinctly that appearance presented. I believe every one would be struck with such noticeable symptoms as the disappearance of pubic hair, wasting of the genitalia, etc., and that the symptoms would surely have been recorded if present. Far from failing to make a diagnosis of tumor of the hypophysis, one may sometimes make the diagnosis of tumor of this gland when the tumor is elsewhere in the brain; I had an instance of that sort not long ago illustrating this point; a woman was brought into my hospital service when she was near death from brain tumor. She presented all the symptoms that we ordinarily associate with hypophysis tumor, including even a double exophthalmos and some changes indicating an acromegalic condition. An attempt was made to save what little vision was possible by an exploratory operation, but the woman was in poor condition and proved to be one of the few who succumb even to an exploratory operation. We found that the tumor did not involve the hypophysis, but was in the parietal region. So that in rare instances all hypophyseal symptoms may be considered to be secondary symptoms due to pressure on the hypophysis instead of being indicative of a tumor actually involving the substance of the hypophysis.

In connection with the subject of optic neuritis or papillary edema there are unquestionably some conditions difficult to explain. It is difficult to explain why in some cases the optic neuritis appears so early and in others so late, and the condition appears most variable in connection with gliomata. In a patient who was under my direct observation for six years and on whom I had an autopsy performed, during five and one-half years of that period of observation there had not been the slightest trace of any optic neuritis. This was not only the conclusion arising from my own examination, but a most competent oculist repeatedly examined the patient and never found a single trace of optic neuritis. Yet when this man died, having had his tumor for six years and with convulsive seizures as the only symptoms of the tumor, it was found that he had a glioma almost completely filling one hemisphere, and yet no optic neuritis had occurred. The only explanation one can give of those cases is that under slow conditions of growth certain parts of the brain, possibly the optic nerve and the chiasm, accommodate themselves readily to increasing pressure, and the disturbance of function is therefore not so great nor the anatomic distortion so great as one would suppose it likely to be.

In reference to Dr. Weisenburg's point as to whether there is a possibility of making a differential diagnosis between nystagmus due to cerebellar symptoms and nystagmus resulting from insufficiency of the oculomotor muscles: I think there is a difference. First, the nystagmus I have seen in connection with oculomotor palsies has not seemed to me to be quite so rhythmical as that peculiar and rather rapid nystagmus which occurs in connection with lesions of the cerebellum and which have now learned to associate altogether with an involvement o the dentate nucleus. When I see that peculiar form of nystagmus I naturally conclude that it indicates involvement of the dentate nucleus. We note not only the rapidity and regularity of movement, but also the fact that it seems to be associated with either movement in one direction or another rather than a movement that would seem to imply a defective use of one set of muscles or the other. But I think that this is merely a personal impression, and I should be glad to know whethe others have been able to make any further differentiation.

Dr. Julius Grinker, Chicago: In line with Dr. Nonne's observation of feminism in hypophysis tumor, I am reminded o a case of acromegaly, probably due to tumor of the hypophysis in which feminism was a conspicuous feature. In that case there was also infantilism. The patient was a man of 30 with sexual organs of infantile dimensions. The psychical make-up was strongly feminine in type. I had one case in which, among other localizing signs, ataxia was present on the side in which the tumor was found. In that case there were, besides hypotonicity and adiocokinesis, signs which are mentioned as no frequently occurring in cerebellar tumor, but when present ar considered of diagnostic value.

Dr. Theodore Diller, Pittsburg, Pa.: I believe that it i the generally accepted view that in tumors of the cerebellum optic neuritis occurs much more frequently and constantly than it does in tumors of the cerebrum. Recently, through the courtesy of my colleague, Dr. Mayer, I saw a patient unde his care who exhibited symptoms of cerebellar tumor, projectil vomiting and marked cerebellar gait, but optic neuritis wa absent. Dr. Mayer felt convinced that there was a tumor, an operation was done and a tumor the size of a hulled walnu was found. I ought perhaps to qualify my statement tha there was no optic neuritis. There was a slight suspicio merely in one eye which the oculist thought might not be incompatible with a normal fundus.

DR. FRANK WOODBURY, Philadelphia: What is the opinion of Drs. Spiller and Weisenburg of the relative frequency of the auditory phenomena in these cerebral tumors? Are auditory phenomena, such as tinnitus and hallucinations of hearing, common as compared with the ocular manifestations? In a case I studied a number of years ago the tinnitus was the most annoying and persistent symptom. The patient also had choked disc and optic neuritis with impaired vision and constant headache, but these symptoms were not so marked as the tinnitus, which the patient described as similar to blowing off steam from an engine, and declared it intolerable. At the postmortem a large growth was found behind the optic thalamus and projecting into the ventricle. It was decided that it was sarcoma and had followed a violent blow on the head some years before.

DR. JAMES D. PUTNAM, Boston: I think it would be the experience of all of us that the pulse is oftener fast than slow, although the contrary is occasionally seen, especially in tumors of rapid growth. With regard to the matter of the ataxia on one side in cerebellar cases, I recall an interesting confirmation of that fact, when the question was not of a tumor, but of an abscess of one side of the cerebellum: the ataxia was practically confined to one arm. I recall a case in which the pons at autopsy was found to be so soft that the greater part of it could be almost poured out, and yet within a few months the patient had been walking about the room and using both arms and legs fairly well.

DR. HUGH T. PATRICK, Chicago: I should like to confirm the opinion of Dr. Putnam that the rapid pulse in tumor is more frequent than the slow, except in rare instances. In fact, the other symptoms of tumor are so numerous and well pronounced that the pulse rate as a symptom of tumor may be neglected.

DR. D'ORSAY HECHT, Chicago: Almost all the references in regard to feminism in tumors of the hypophysis are to be found in the French and German literature. We have not recorded many observations on this point, although isolated case reports appear in some recent American contributions. Failure to include this phenomenon in my paper was rather a sin of commission for lack of time than one of omission.

DR. M. ALLEN STARR, New York: I can confirm the statement of Dr. Nonne that slow pulse is a rather rare symptom in these cases. I can also confirm the existence of hemiataxia on the side of the tumor in three cases of cerebellar tumor that have come to autopsy and in which that symptom had been very marked. In a case which I saw with Dr. Herman Knapp of New York, in which for several months before her death the ataxia of the woman had been extreme on one side while it was not so on the other, the tumor was found on the side of the ataxia. I have seen confirmed feminism in two cases of hypophysis tumor accompanied by acromegaly. One patient was exhibited before the New York Neurological Society some years ago; the man, who had all the typical symptoms of acromegaly, confided to me subsequently (although he did not wish it known) that his sexual organs had practically withered and that he had lost his pubic hair. His mental type was markedly changed. I watched him for seven or eight years, and his make-up at the end of that time was wholly different from that at the beginning of the disease and would conform entirely to the term used by Dr. Nonne.

I have come to the conclusion (and I think it can be borne out by autopsy records) that the existence of choked disc is wholly dependent on the existence of an effusion into the ventricles of the brain. If there is effusion of fluid into the ventricles and generally a hydrocephalic condition there will be choked disc; without this effusion it will not be present. I have in mind a case of an intimate friend of mine, a boy who grew up with me, and whose mental characteristics I knew intimately, whom I watched through the course of a brain tumor for four years, in whom the diagnostic points of brain tumor were absent. The question was for a long time considered whether he had paresis. At the autopsy, which I made myself, it developed that the right frontal lobe up to the ascending frontal convolution, was a mass of glioma. Yet that man had absolutely no choked disc up to the day of his death. He had occasional convulsions; he had no paralysis; there were many mental symptoms present. I have recently seen a patient with a rather extensive glioma of the occipital lobe involving the same distribution shown in one of the specimens passed, in which there was absolutely no choked disc whatever. The tumor, however, had not encroached on the posterior horn of the ventricle, and there was no distention of the ventricle. I think those of us who see many cases of brain tumor at autopsy will agree that if a tumor does not touch the ventricle, when it is a tumor of the hemisphere, or if it is located in such position as not to displace the cerebral axis, so as to cause stasis of fluid in the ventricles, it may exist for a long time without choked disc; but a very small tumor in such location as to interfere with the free exchange of fluid in the ventricles, for instance, underneath the corpora quadrigemina, will cause choked disc to appear early. The early appearance of choked disc is because the tumor interferes with the free passage of fluid through the ventricles and downward.

A point with regard to the diagnosis of the variety of tumor: I agree that in glioma there may be a preservation of many of the functions of the brain, although the glioma lies in a situation where one would expect them to be suspended. One common characteristic of glioma, as distinguished particularly from the harder tumors, is the great variability in the degree of the symptoms. These may be affected by applications of heat to the head or by hot foot baths. The variability of symptoms may be explained by the difference in the degree of the congestion of the tumor; we know that glioma is a very vascular tumor. Deafness on both sides is to my mind very rare indeed in any form of brain disease. I have one case to which I have already alluded, in New York, of bilateral sudden deafness from lesion of the pons, but I still believe it to be a unique case.

DR. WILLIAM G. SPILLER, Philadelphia: We in America also believe, with Dr. Nonne, that papilledema is a very common sign of brain tumor; but occasionally and perhaps more frequently in glioma than in any other form of tumor, papilledema may entirely fail even to the last stage. The existence of the ataxia on the side of the tumor of the posterior cranial fossa has been demonstrated by numerous cases. The same is true of any lesion in this region.

A case was referred to in the discussion in which the symptoms lasted a very short time. A few years ago I saw a case with Dr. J. W. McConnell in which the first symptom of tumor developed six weeks before the man died. A glioma was found occupying almost one entire cerebral hemisphere.

Nystagmus caused by lesion of the third nucleus, to which Dr. Weisenburg has referred, is probably indistinguishable from that caused by a lesion of the cerebellum, owing to the close connection of the parts; but if the lesion be in the third nerve nystagmus so produced should be distinguished from that caused by a lesion of the cerebellum, as is that caused by a lesion in the sixth nerve when weakness but not complete paralysis of the right abducent muscle exists. The patient looks toward the right, but his eyeballs return because of the weakness, and repeated innervation of the weak muscle causes a jerky movement of the eyeballs resembling nystagmus.

DR. T. H. WEISENBURG, Philadelphia: I have not observed alterations in the pulse rate as a frequent symptom in brain tumor. In the case just reported in which there was great pressure, there being choked disc of 7 diopters, and in which the nuclei of the ninth and tenth nerves were partially involved, there were no variations of the pulse and respiration, although observations were made three times a day for a month before death. I have repeatedly had difficulty in differentiating nystagmus due to an ocular lesion from what I consider pure cerebellar nystagmus. In discuss this in my paper and think that often a greater nystagmus is described when looking to one side, it being ascribed to the fact that the lesion is on that side, when it is really a symptom of weakness of an ocular muscle.

In the present case there were no auditory hallucinations, but it is not at all infrequent to have such symptoms in cerebello-pontile tumors, especially in those which grow from the eighth nerve. I know of no reported cases in which auditory symptoms occurred as the result of involvement of the central auditory fibers.

THE ANTIBODIES IN TUBERCULOSIS AND THEIR RELATION TO TUBERCULIN INOCULATION AND VACCINATION [*]

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AND

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CHICAGO

The antibodies of tuberculous patients have been studied by a number of investigators. Arloing discovered a means of obtaining a fluid homogeneous culture of tubercle bacilli. This rendered it possible for him, with Courmont,[1] to study the blood and exudates of tuberculous individuals for their agglutinating action on tubercle bacilli. They found that the serum of many tuberculous patients and the fluid in a large percentage of the cases of pleuritic exudation due to tuberculosis agglutinated tubercle bacilli. This test is termed the serum reaction for tuberculosis. It is said by Courmont to agree quite closely also in positive results with the tuberculin reactions obtained from individuals apparently not tuberculous.

Koch[2] studied the agglutinins of tuberculous serums by a modification of the Arloing[3] technic. He believed that a parallelism existed between the agglutinin content of the blood and immunity in tuberculosis.

Jürgens,[4] on the other hand, investigated the blood of tuberculous patients recovering spontaneously. He was unable to trace any association between their improvement and their quota of agglutinins.

After the discovery by Bordet and Gengou[5] of an indirect method for demonstrating the presence of antibodies by a process known as complement fixation, they applied this principle to the study of antibodies in the blood of guinea-pigs that had been inoculated with killed human tubercle bacilli. They employed an emulsion of tubercle bacilli as antigen and found that the serums of the inoculated animals contained an antibody that would unite with antigen and bind complement.

These complement-binding antibodies were investigated both in animals and in man by Wassermann and Bruck,[6] who used a modification of the Bordet method. They examined extracts of tuberculous tissue both from guinea-pigs and from man and were able to demonstrate that these extracts contained both tuberculin and an antibody, to which they gave the name antituberculin. They examined the blood of tuberculous patients and in 13 of them, who had not received tuberculin inoculations, were unable to find any complement-binding antibodies. On the other hand, they reported that the blood of eleven tuberculous patients who were being treated with tuberculin contained antituberculin.

They observed that the first series of patients reacted strongly to tuberculin injections, but that the second failed to do so. They attributed the occurrence of the reaction in the first instance to the fact that there were no antibodies in the blood, and that as a consequence the tuberculin was attracted into the focus by the antituberculin existing there free: that as a result of these uniting, complement was taken up, and hyperemia, cell infiltration and softening of the focus resulted; and that as a result of this union the general reaction and local changes of the part occurred. They believed that where antibodies existed in the blood the injected tuberculin was neutralized and no reaction followed.

This theory of Wassermann and Bruck's as to the general and local reaction in the tuberculin inoculation did not seem to be fully sustained by the experimental evidence advanced by them, and was soon attacked by Weil and Nakayama.[7] The latter authors maintained that it was inconsistent that tuberculin antibodies and tuberculin should exist separately in a tuberculous focus at the same time with the former in such quantities as to attract circulating tuberculin. This contention alone, however, could not have great weight, because, as Wassermann pointed out, it is possible to find antigen and corresponding antibodies in the blood at the same time. Weil and Nakayama investigated the tuberculous organ extract as to antituberculin, and stated that they believed the complement-binding observed under these circumstances was due to a summation of less than inhibiting quantities each of tuberculin and tuberculous organ extract.

A substantiation of this latter point, which could but greatly compromise the value of the experimental proof deduced by Wassermann and Bruck in support of their theory, was soon forthcoming in the publication of Morgenroth and Rabinowitsch.[8] They reported that they were unable to find antituberculin in the blood of cases of tuberculosis treated with tuberculin; they were unable to note any difference between normal and tuberculous organ extracts as to their anticomplement action. They referred to the inhibiting action of Koch's old tuberculin alone. They agreed with Weil and Nakayama[7] as to the summation of a non-specific inhibition of hemolysis by organ extract and tuberculin. In view of their negative experimental findings, and from an elaborate argument, based on theoretical grounds, they believed the theory of Wassermann and Bruck as to the action of tuberculin to be unfounded.

Lüdke,[9] on the other hand, reported finding antituberculin in tuberculous organ extract, also in the serums of seventeen out of thirty-one cases of tuberculosis treated by tuberculin. He noted that those who had antibodies in their blood showed no or very slight reaction to tuberculin injections, while those who failed to show antibodies gave a marked reaction. He examined eight tuberculous patients before and after tuberculin treatment, and was able to demonstrate antibodies in seven of them, only after tuberculin treatment had been used. He noted, also, that he found antituberculin in few patients who had not had specific treatment. The results of his experiments were practically the same as those of Wassermann's and Bruck's.

Citron[10] examined a number of cases treated with tuberculin. In 6 of these, antibodies were not found and 5 of them reacted to tuberculin; of 8 cases, with the blood of which he obtained the complement-binding reaction, 6 failed to react to tuberculin. He and Wassermann had also observed antibodies in a case that had not received tuberculin treatment. Confirming Wassermann and Bruck's investigations, he concludes that antituberculin is, as a rule, not demonstrable in the serum of tuberculous patients, but that occasionally, owing to unknown causes, it may be found; that those patients who are treated systematically with tuberculin and who lose in the course of their treatment their original reaction for tuberculin, regularly show antibodies in their blood, on account of which he attributes the absence of reaction to tuberculin injections; that antibodies almost always fail in the serums of those tuberculous patients who still react to tuberculin; that in the latter cases the tuberculin that enters the circulation is abstracted from it by the antibodies present in the diseased focus, on account of which the local and general reaction result.

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[*] Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Courmont: Lancet, London, 1908, ii, 1740.

[2] Koch: Deutsch. med. Wchnschr., 1901, xxvii, 829.

[3] Arloing: Compt. rend. Acad. d. sc., 1898, cxxvi, 1398

[4] Jürgens: Ztschr. f. exper. Path. u. Therap., 1905, i, 569-602.

[5] Bordet and Gengou: Compt. rend. Acad. d sc., 1903, cxxxvi, 351.

[6] Wassermann and Bruck: München. med Wchnschr., 1906, liii, 2396.

[7] Weil and Nakayama: München. med. Wchnschr., 1906, liii, 1001.

[8] Morgenroth and Rabinowitsch: Deutsch. med. Wchnschr., 1907, xxxiii, 705.

[9] Lüdke: München med. Wchnschr., 1908, lv, 783, 856.

[10] Citron: Deutsch. med. Wchnschr., 1907, xxxiii, 1165.

Christian and Rosenblat[11] have studied this question in animals. They observed that the serums of animals that had been immunized with tuberculin or infected with tuberculosis agglutinated tubercle bacilli. Under these conditions, however, they failed to find antituberculin. If the tuberculous guinea-pigs were injected with tuberculin, antibodies appeared in their blood; such guinea-pigs were found to be less resistant than those that had not been treated. If tuberculin injections were begun on the second day after infection, the pigs lived a couple of months longer than the control animals. They refer this lowered resistance in late employment of tuberculin injections to a negative phase and suggest that where it is possible, as it is in man, to bring them through to a positive phase, healing of the tuberculosis might result. They believe with Wassermann that the antituberculin bodies are produced in tuberculous tissue. In support of this they cite experiments in which many of the tuberculous glands of infected guinea-pigs were removed and thereafter a disappearance of antituberculin from the blood was observed.

Engel and Bauer[12] were unable to demonstrate complement-binding antibodies in the blood of tuberculous children before inoculations with tuberculin. With tuberculin treatment the antibodies were found quite uniformly increasing with the immunity of the child against larger doses of tuberculin.

Weil and Strauss[13] examined by the complement-deviation reaction the bloods of thirty-three patients with pulmonary tuberculosis who had been treated with tuberculin for several months. They concluded that the presence of antibodies in the blood did not go hand in hand with the disappearance of the tuberculin reaction, but, on the contrary, were most frequently found in those who reacted strongly to tuberculin injections. At the same time they did not believe that the hypersensitiveness to tuberculin was attributable to those antibodies. They believe that antibodies are present in tuberculosis because of the existence of a hypersensitiveness, anaphylaxis, and not because the latter is due to antibodies. They consider that the action of tuberculin, instead of being cleared up by the theory of Wassermann or by the bacteriolytic theory of Wolff-Eisner,[14] remains an unexplained phenomenon.

The hypersensitiveness to tuberculin, as exhibited by the skin reaction of Pirquet, was investigated by Czastka with relation to the complement-binding antibody content of the blood. Twenty tuberculous patients were examined, fourteen of whom had not been treated with tuberculin. In four of the latter antituberculin was found, three of these giving the tuberculin skin reaction. Seven of the remaining fourteen cases gave a positive Pirquet reaction. Of the seven patients treated with tuberculin, three showed antibodies in the blood. Two of these gave a positive Pirquet reaction on first vaccination, the third patient reacting slightly after the second vaccination. Of the other four cases not showing antibodies, three gave a positive result.

Czastka[15] concluded that complement-binding antibodies did not bear any relation to tuberculin treatment, or to the Pirquet reaction; that in view of the uncertainty that bacteriolysins exist against tubercle bacilli, and especially against heated bacterial fragments, the bacteriolytic theory of Wolff-Eisner was unfounded. Wolff-Eisner and Ascher observed that the majority of the tuberculous patients they examined showed complement deviation, and that it was impossible to trace any close relation between this and the results of the skin and conjunctival reactions. They questioned the specificity of the complement-binding reaction in tuberculosis, having found it in other infections.

Cohn[16] noted an absence of antibodies in the early stage of tuberculosis in 14 cases, but obtained a complement deviation reaction in 15 of 53 cases in the second and third stages of tuberculosis which had not been treated with tuberculin. He was unable to demonstrate tuberculin in the blood of patients with miliary tuberculosis, as reported by Lüdke and Bruck. He did not observe any relation to exist between the presence or absence of antibodies in the blood and the reaction of the patient either to tuberculin treatment or to general or local reactions from tuberculin.

In view of the evident uncertainties and the failure of agreement in the results presented by various observers concerning the complement-binding antibody and its relation to tuberculin reactions and tuberculin therapy, and recognizing the importance of the establishment of such a relationship, if possible, we examined a number of cases of tuberculosis with a view to investigating the complement-binding antibody content of the blood of patients who had not and of those who had received tuberculin inoculations and also to see if these antibodies bore any relation to the results of the tuberculin skin reaction. We have also ascertained the opsonic content of the blood in some of these cases with a view to determining its relation to the complement-deviation antibody and likewise its relation to the skin reaction.

The bacteriolytic theory of Wolff-Eisner concerning the skin and conjunctival reactions appears to be unsupported by any experimental evidence. Zieler[17] has recently shown that old tuberculin which has been completely freed from all tubercle bacilli fragments, provided any had existed in it, gives a stronger reaction, if any difference can be noted, than the old tuberculin not so treated. Also these reactions were obtained from material separated by dialysis from tubercle bacilli emulsion. Zieler found that the histologic changes of the skin in the Pirquet reaction were practically the same as those that follow infection with tubercle bacilli.

The technic employed in applying the complement-deviation reaction for antibodies in tuberculosis is the same as that used in demonstrating the complement-binding substances in syphilis, except that in tuberculosis old tuberculin, an emulsion of tubercle bacilli, or an extract of a tuberculous organ is used as antigen. Koch's old tuberculin is the most frequently used and apparently is the most satisfactory. The inhibiting properties of old tuberculin alone are very pronounced. On this point Morgenroth and Rabinowitsch lay much stress. We found, also, that sometimes small quantities of tuberculin would inhibit hemolysis. Cohn also has observed that smaller quantities sometimes inhibited more than larger in the test and mentions this as an argument against the contention of Weil and Nakayama that a positive specific complement-deviation reaction may occur through a summation of two non-specific inhibiting substances. The old tuberculin[18] employed by us in our examinations had to be used in smaller quantities than those reported by many authors. We found that 0.2 c.c. and sometimes 0.1 c.c. of old tuberculin strongly inhibted hemolysis, necessitating reduction of the amounts to 0.05, 0.025 and 0.0125 c.c.

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[11] **Christian and Rosenblat**: München. med. Wchnschr., 1908, lv, 2032.

[12] **Engel and Bauer**: München. med. Wchnschr., 1908, lv, 2273.

[13] **Weil and Strauss**: Wien. klin. Wchnschr., 1908, xxi, 1058.

[14] **Wolff-Eisner and Ascher**: Wien. klin. Wchnschr., 1908, xxi, 1299.

[15] **Czastka**: Wien. klin. Wchnschr., 1908, xxi, 877.

[16] **Cohn**: Berl. klin. Wchnschr., 1908, xlv, 1309.

[17] **Zieler**: München. med. Wchnschr., 1908, lv, 1685.

Tuberculous serums, as well as the serums of many normal and diseased individuals, sometimes inhibit hemolysis alone, which likewise often requires the amount of serum used to be reduced; on the other hand, occasionally a larger quantity of serum may not exert this inhibiting action because of its possessing amboceptor for sheep's corpuscles.

The protocol of an examination of a tuberculous serum giving a positive reaction would read as follows:

Antigen.	Serum.	Guinea-Pig Serum.	Rabbit Serum.	Sheep Corpuscles Emulsion, 5 Per Cent.	Result Hemolysis.
0.05	0.1	0.1	0.002	1	No
0.05	0.2	0.1	0.002	1	No
0.025	0.1	0.1	0.002	1	No
0.025	0.2	0.1	0.002	1	No
0.05	...	0.1	0.002	1	Yes
0.025	...	0.1	0.002	1	Yes
.....	0.4	0.1	0.002	1	Yes

In each test, control serums of normal individuals are included and put through the same series of examinations as the tuberculous serums. We have not infrequently seen a considerable binding of complement with a serum from an apparent normal.

The cases herewith reported were cases of pulmonary tuberculosis in the second and third stages.

TABLE OF COMPLEMENT-DEVIATION REACTIONS IN TUBERCULOSIS

Case. No.	Complement Deviation Test.	Opsonic Index.	Pirquet Reaction.	Treatment Tuberculin. T. R.
38	+	1.32	+	Yes
39	..	0.56	+	Yes
40	..	0.17	+	Yes
42	..	0.73	..	Yes
43	+	0.51	+	Yes
44	+	0.76	+	Yes
51	+	0.8	..	Yes
45	..	0.99	..	No
46	+	0.76	..	No
47	+	0.88	..	No
71	+	0.98	+	No
72	..	0.69	+	No
73	..	0.3	+	No

Of five cases of tuberculous joint and bone disease, two gave a positive complement-deviation reaction. None of the patients received tuberculin. The patients who were being treated with tuberculin were examined on the day they received their injections. As they were receiving injections twice a week the blood examinations would come on a day that would correspond to a high tide of immunity in the opsonic sense. This point is of importance, as we have learned from a study of opsonins that in the interim of inoculations a negative and positive phase, with regard to index can usually be made out, and various antibodies usually increase at the same time. All but five of the patients examined by us had pulmonary tuberculosis. It is not always possible in such cases to secure from inoculations the negative and positive undulations, because of the factor of auto-inoculations. In the few cases in which we made a single record it will be observed that in only one was the index found above normal. In regard to the complement-binding antibodies of the blood of patients treated with tuberculin and those not so treated, we found that 4 out of 7 who were treated with tuberculin and 3 out of 6 who were not receiving tuberculin gave the reaction. Of the tuberculin-treated cases, three of four that gave the complement-deviation test gave a positive Pirquet reaction, and in one of the latter the opsonic index was above normal. Of the untreated cases, one of the three that had complement-binding antibodies gave a positive skin reaction. Of three of the untreated cases that did not show antibodies, two gave a positive skin test.

CONCLUSIONS

As a result of our work, we believe the following conclusions justified:

No relation exists (first) between the complement-binding antibody and tuberculin inoculations and vaccinations; (second) between the complement-binding antibody and the opsonic index; or (third) between the opsonic index and the tuberculin skin reaction.

Not only have our examinations failed to show any relation between tuberculin antibodies and tuberculin reactions and inoculations, but, on account of observing occasionally an inhibition of hemolysis with normal serums, we are strongly inclined to believe that the complement-binding reaction is not specific for tuberculosis.

72 Madison Street—882 West Madison Street.

OLIVE-OIL FOR POSTANESTHETIC NAUSEA *

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It has been shown in work soon to be published that fats and other ether-soluble substances, when introduced into the alimentary tract of individuals subjected to ether anesthesia, are capable of restoring to the blood certain properties which are inhibited by the action of the drug, viz.: those concerned with the phenomena of phagocytosis. With the idea in mind that other effects of ether, such as nausea and vomiting—whether these be due to a local irritating action of the drug on the gastric mucosa or to a more general action elsewhere—might also be influenced by the introduction of a fat, such as olive-oil, into the stomach, in a series of cases, patients were given olive-oil by mouth immediately after partial restoration of consciousness following an ether anesthesia. Up to this time thirty patients in all have been treated in this manner. The results have been striking. In certain of the cases nausea failed to occur at any time. In a second group in which nausea had begun prior to the administration of the oil it was immediately checked by this treatment. In only one of the thirty cases was nausea observed after giving the oil. In this case consciousness had been regained, and nausea and vomiting had set in. One ounce (30 c.c.) of olive-oil was then given by mouth. Almost immediately the patient remarked on the "soothing" sensation produced by the oil. Nausea and vomiting ceased and remained absent for ten hours, at the end of which time there was a return of the symptoms in a mild form. The cases chosen were all simple, so-called "clean," surgical cases in which the probability was strong that such nausea as might occur would be due entirely to the anesthesia and not to any other cause, such as bacterial intoxication, extensive injury to the peritoneum, etc. The duration of anesthesia varied from half an hour to an hour and a half. The open drop method was employed in all cases.

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[18] The old tuberculin was received from the experimental department of Parke, Davis and Company.

* A Preliminary Report from the Department of Surgery, Rush Medical College.

It should be emphasized that it has been found necessary to use an olive oil of high grade of purity. Oil that has become rancid through exposure to air or that contains a considerable amount of free fatty acids liberated by a process of sterilization should not be employed. Squibb's olive oil has been used in these experiments.

Whether or not ether anesthesia causes nausea and vomiting by a local action of swallowed or excreted ether on the gastric mucosa or, as is more generally accepted, through its action primarily on the central nervous system, cannot be discussed at length in this report. Nevertheless, it is interesting to note in this connection that in those cases in which nausea and vomiting had already set in relief was experienced immediately after swallowing the oil, a fact which supports the idea of a local irritation. In the single case in which nausea recurred it was at a time when all the oil should have passed from the stomach into the bowel.

Up to this time no observations have been made on nausea and vomiting following anesthesia with chloroform or other anesthetics.

1801 Monroe Street.

THE NATURE OF THE VIRUS OF EPIDEMIC POLIOMYELITIS *

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In our previous articles[1] on the transmission of epidemic poliomyelitis to monkeys, we have left undiscussed the nature of the virus responsible for producing the disease. From the beginning, our attention has been directed toward the solution of that fundamental question, but the results of our studies were, until recently, wholly of a negative nature. We failed utterly to discover bacteria, either in film preparations or in cultures, that could account for the disease; and, since among our long series of propagations of the virus in monkeys not one animal showed, in the lesions, the cocci described by some previous investigators and we had failed to obtain any such bacteria from the human material studied by us, we felt that they could be excluded from consideration.

We have, up to this time, made a very painstaking study of film preparations and sections prepared from two specimens of human spinal cord and many specimens of the spinal cord and brain (and other viscera) obtained from monkeys, prepared and stained in the most various ways, but without finding either bacterial or protozoal parasites that could account for the infection.

The readiness with which epidemic poliomyelitis can be transmitted to monkeys and the failure to find visible and stainable parasites in the lesions of the spontaneous and experimental disease led to another line of investigation. It is known, for example, that the viruses of vaccinia and rabies, neither of which has been certainly demonstrated in films or sections of tissues or cultivated artificially, withstand very well the action of glycerin, while bacteria withstand it far less well. The bacteria mechanically admixed with the virus of vaccinia can be destroyed by glycerination.

We have, therefore, suspended in glycerin the comminuted spinal cords of monkeys affected with poliomyelitis, and, after an interval of days, we have inoculated the glycerinated virus into normal monkeys. In the experiment to be reported, the cord of Moneky 40, of the second generation of virus K, was kept in glycerin for seven days, after which, the glycerin having been washed away with salt solution, and the suspended tissue recovered by centrifugalization, it was inoculated intracerebrally into Monkey 35. This latter animal developed paralysis on the tenth day after inoculation and showed the characteristic lesions of epidemic polimyelitis in the spinal cord and brain.

In order to determine whether this effect was produced by the living virus or by an adherent toxic body, the cord of Monkey 35 was injected into Monkey 58, which developed paralysis eleven days after the inoculation. The lesions in the latter monkey were also characteristic.

The next series of experiments was planned to determine the probable size of the organism producing epidemic poliomyelitis, so far as this could be accomplished by the use of mechanical filters. The experiment to be related briefly was made with the cord of Monkey 56, which succumbed to the fifth generation of virus K. The cord was triturated with sterile quartz sand, mixed with salt solution, thoroughly shaken and pressed through a Berkefeld filter. The clear and sterile filtrate was injected intracerebrally into Monkey 68, which developed paralysis on the seventh day following the inoculation.

From the foregoing experiments, taken in conjunction with the negative results of bacteriologic and histologic examinations, it would appear that the infecting agent of epidemic poliomyelitis belongs to the class of the minute and filterable viruses that have not thus far been demonstrated with certainty under the microscope.

Since the publication of our last note, the fact has been determined that the virus of poliomyelitis can be transferred to the central nervous system by way of the subcutaneous tissues in monkeys. The two viruses have now each been passed through six series of animals.

105 East Sixty-second Street.

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* From the Laboratories of the Rockefeller Institute for Medical Research, New York.

[1] The Transmission of Acute Poliomyelitis to Monkeys, The Journal A. M. A., Nov. 13, 1909, liii, 1639; Dec. 4, 1909, liii, 1913.

REPORT OF CASE OF PRIMARY TUBERCULOUS INFECTION THROUGH INTESTINE WITHOUT INTESTINAL LESION

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The almost innumerable observations and researches on the various phases of tuberculosis, more particularly in recent years, have gradually but surely led to the conclusion that not only is infection primarily contracted through the alimentary system far more frequently than was previously supposed; but a number of competent observers have expressed a positive opinion that the danger from ingestion of the bacilli is even greater than by inhalation, and that many apparently primary tuberculous processes in the lungs or elsewhere in the body are in a large percentage of instances in reality but the manifestation of an infection occurring through the intestinal tract.

Clinically such conclusions are based largely on the frequent occurrence of intestinal lesions in artificially fed infants, but the direct proof of this route of infection naturally rests on animal experiments.

Chauveau,[1] who was the first to demonstrate the infectivity of the human bacillus for cattle clearly proved this method of infection, as did later Nocard,[2] Tjaden[3] and Cipollina,[4] by using kittens, young pigs and monkeys as well as cattle in their feeding experiments.

The still further disputed question of whether a lesion of the intestinal mucosa is necessary for infection by this channel has also been approached in a similar manner. Dorbroklonski[5] introduced cultures of tubercle bacilli into the stomach of normal guinea-pigs, and from a most careful microscopic as well as macroscopic examination of the entire digestive tract concluded that living bacilli were capable of passing through the perfectly normal intestinal mucosa of guinea-pigs and that no lesion of any description was necessary. Similarly Ravenel[6] was able to recover virulent bacilli from the chyle of previously healthy dogs fed with cultures mixed with melted butter as early as three and one-half to four hours after feeding.

From these and various similar experiments it would appear undoubtedly that not only is the intestine frequently the portal of entrance for the bacilli, but that in the lower animals, at least, infection may occur through a perfectly normal intestinal mucous membrane.

In man, however, this is particularly difficult to demonstrate because at autopsy there is most frequently present either, on the one hand, an advanced stage of the disease with multiplicity of lesions which makes it impossible to detect with certainty the primary source of infection or, on the other hand, a rapidly fatal process confined to the lungs alone.

The findings in the present case noted in a routine post-mortem examination under circumstances which rendered a particularly careful examination of the parts affected necessary are of interest from the fact that, while the conditions noted arose in a wholly natural manner, they resemble those produced in the experiments quoted and bear closely on the results.

Subject of Examination.—This was a colored man, aged 32, a patient of the State Hospital at Trenton for three years previous to his death. He was a general paretic, dull, stupid and much deteriorated, and untidy and filthy in his habits. He was placed in a ward occupied by other negroes, many of whom were similar in general behavior. His mental condition and habits offered excellent opportunity for infection by the intestinal tract. His last illness was cardiac weakness from chronic myocarditis. There was no loss of weight or other suggestion of any constitutional disorder.

Autopsy.—Examination of the thorax showed the pericardium and pleuræ to be normal. The heart muscle was the seat of atrophic and interstitial changes. The lungs were both considerably engorged and the dependent parts showed some partial lobular consolidation. No nodules, pleural scars or thickenings were present. There was no macroscopic indications of tuberculosis and the peribronchial glands were not unusual. The general abdominal cavity was likewise negative. Both the parietal and visceral peritoneum was free from adhesions or exudate. The liver and kidneys were affected with early interstitial changes.

The pancreas, adrenals, bladder and prostate showed nothing abnormal.

For the reason that, at the time the autopsy was made, an outbreak of typhoid fever was feared in the institution, an unsuspected case having been discovered at autopsy shortly before, special attention was given to the intestinal tract, spleen and mesenteric lymph-glands. The latter in the region of the lower three feet of the ileum were greatly enlarged, about six or eight of the glands being as large as walnuts; others were about the size of a pea, and a few similarly enlarged glands were found at the root of the mesentery.

Typhoid was immediately suspected, although the spleen was quite small and firm, and the intestine was most closely examined, both externally and internally, for any variety of lesions.

Practically nothing was found. The mucosa of the duodenum, jejunum and large intestine showed indefinite areas of blood stasis only.

The mucosa of the ileum was smooth and pale throughout; there was not the slightest indications of injection, erosion, ulceration or enlargement of Peyer's patches or solitary follicles. The serous coat everywhere appeared normal.

A careful examination of a smear preparation from an enlarged mesenteric gland showed tubercle bacilli in limited numbers and a large part of the ileum opposite the affected lymphatics was saved for microscopic examination. The other organs, including the brain, heart, lungs, kidneys, pancreas, adrenals, and lymph-nodes, were examined microscopically.

Cultures on agar were taken from the liver, spleen, bile and mesenteric glands; colon bacilli only were found.

Microscopic examination of the pancreas, adrenals, liver and kidneys showed no lesion of importance in connection with the special findings. There was a moderate grade of chronic interstitial overgrowth in liver and kidneys, but no indication of tubercle formation.

Sections from all of the more suspicious looking areas of the lungs showed merely an engorgement and edema with a moderate cellular alveolar exudate; an early simple broncho-pneumonia incidental to the cardiac condition without any special characteristics.

A satisfactory examination of the intestine was possible, the autopsy being performed only two and one-half hours after death. Extended examination of sections from the ileum at different levels along the lower third, including the entire circumference, showed the mucous membrane to be the seat of early post-mortem alteration, but entirely free from erosion or ulceration. No indication of infiltration or hyperplasia was found in the submucous lymphoid tissue or follicles. The intestinal findings were pronounced negative only after prolonged search.

Two organs contained tuberculous lesions, the spleen and mesenteric glands. In the latter the process was fairly well advanced, the largest glands showing massive central coagulation necrosis with very little unaffected tissue remaining; the smaller glands showed numerous giant cells and scattered solitary tubercles in which tubercle bacilli were demonstrable after alcohol fixation.

The spleen, though macroscopically negative, showed a condition somewhat similar to that in the more slightly affected lymph-nodes, though even less advanced.

Scattered through the pulp were fairly numerous incipient tuberculous foci, represented by small collections of epithelioid cells, with an occasional giant cell or minute area of necrosis. The number of lesions was considerably greater proportionately than the apparent age of even the more advanced individual tubercles. The lesions in the spleen suggested a very recent but rather severe infection. As before indicated, no lesions in any way suspicious of tuberculosis were found elsewhere.

Notwithstanding the fact that no lesions, tuberculous or otherwise, were found in the intestine, the case is regarded as one of primary infection through this organ.

It is realized that tuberculosis of the mesenteric glands *per se* is not necessarily an indication that the channel of infection was the intestine, and that these are not only frequently but commonly infected in processes of a general nature.

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[1] Chauveau: Compt. rend. et mém. du Cong. p. l'étude de la tuberc. chez l'homme et chez les animaux, Paris, 1891, p. 51.

[2] Nocard: Schweiz. Arch. f. Thierh., September, 1902.

[3] Tjaden: Centralbl. f. Bakteriol., February, 1903.

[4] Cipollina: Berl. klin. Wchnschr., Feb. 23, 1903.

[5] Dobroklonski: Arch. de méd. expér. et d'anat. path., Paris, 1893, Series 7, ii, 253.

[6] Ravenel: Pub. Health Reports and Papers, Am. Pub. Health Assn. Columbus, 1904, xxix, 404.

On the other hand, it is certainly a recognized characteristic of tuberculous infection generally that involvement of the regional lymphatics is the best guide to the original point of infection; and this applies more particularly to cases such as the present, in which the infection is recent and the areas limited.

This view is based not merely on human autopsy findings, which in themselves are sufficiently numerous to support the view, but on exact experimental methods as well.

Among the investigations in human subjects may be mentioned the work of Heller,[7] who, in order to approach the question of primary intestinal tuberculosis, examined the bodies of 714 persons dead of diphtheria, and based his opinion that about 31 per cent. of the tuberculosis found was primarily intestinal on the tuberculous condition of the mesenteric glands.

On the experimental side, among others, are the works of Tjaden[8] and Schottelius,[9] who in all their animals fed with tuberculous material found a marked tuberculous mesenteric adenitis as well as larger lesions of the lungs, pleura and other viscera.

Schroeder and Cotton[10] considered that the mesenteric tuberculosis found in a calf subcutaneously inoculated with tubercle bacilli (a severe tuberculous bacteriemia) was due either to direct transmission of infection from the seat of inoculation or from bacilli coughed up from the lung and swallowed. In this animal the lungs were heavily infected.

If in the examples quoted the conclusions relative to intestinal and mesenteric lymph-gland infections can be accepted, certainly in the present case, in which no tuberculous foci, however small, were found either in lungs, bronchial glands or other organs which might create doubt, the assertion that the infection entered through the unaltered intestinal mucosa and first manifested itself in the regional lymphatics may be accepted, the only alternative being that the case was of the type of *typho-bacillose* of Landouzy,[11] which from both the clinical history and post-mortem findings seems extremely unlikely.

Two points are worthy of emphasis:

1. An unquestionable instance of primary tuberculous infection through the intestine in an adult individual, as shown by the marked foci in the regional lymphatics.
2. The passage of active tubercle bacilli through an intestinal mucosa which to both macroscopic and microscopic examination showed no trace of a demonstrable lesion.

The presence of multiple additional foci in the spleen indicates the manner in which the infection was progressing; had the disease been allowed to continue its course it would have doubtless terminated in a diffuse miliary tuberculosis without definite suggestion of the primary source of infection. But, as previously stated, the purely accidental discovery of the condition at the exact stage when of sufficient duration to make perfectly clear the process without obscuring the true significance gives to the case the definiteness of experimental observations along similar lines, and offers a demonstrable proof and natural illustration of what must be of frequent occurrence, though seldom capable of so direct demonstration, in man.

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[7] Heller: München. med. Wchnschr., April 15, 1902.
[8] Tjaden: Deutsch. Vrtljschr. f. öff. Gsndhtspflg., xxxiv, No. 3.
[9] Schottelius: München. med. Wchnschr., Sept. 30, 1902.
[10] Schroeder and Cotton: Bull. 93, Bureau of Animal Industry.
[11] Landouzy: International Congress of Tuberculosis, Washington, D. C., 1908; abstr. in The Journal A. M. A., Oct. 17, 1908, li, 1359.

RECENT FINDINGS REGARDING THE DISTURBING ELEMENTS IN MILK FOR INFANTS *

FRANK C. NEFF, M.D.
KANSAS CITY, MO.

The editions for 1909 of Holt's "Pediatrics" in this country and of Still's "Diseases of Children" in England, together with the current literature, give no evidence, so far as I can find, of any change in the commonly accepted opinion that it is the excess and the inadaptability of the casein in cow's milk and the low percentage of fat that cause the chief inherent difficulties in the administration of milk. Likewise there is no change from the belief that the sugar of cow's milk creates no disturbance, especially if the percentage be increased by the addition of cane-sugar or milk-sugar to a point approximating the amount contained in human milk. Koplik refers to the fact that the salts of cow's milk, chiefly lime and potassium, are not well assimilated, fully 34 per cent. being excreted.

So the recent studies in Germany must be regarded as revolutionary, and perhaps evolutionary, since they regard the casein of cow's milk as perfectly harmless and place the responsibility for the digestive difficulties on the salts, sugar and in some conditions the fat (the latter being the chief cause in the exudative diathesis and those diseases described as "dyspepsie" and "decomposition.") During the last few years Professor Finkelstein and his colleagues, Myer and Rosenstern, have been carrying on investigations at the Berlin Kinderasyl, probably the largest hospital for infants in the world, studying the metabolism and pathology of infant-feeding. Their findings are, in the main, accepted by most of the pediatrists of Germany, and have been confirmed by some of the other investigators. It is to the kindness of those in charge at the Kinderasyl that I am indebted for the privilege of seeing the work being done on this subject.

REGARDING THE SALTS OF COW'S MILK

The salts of cow's milk which are of importance are sodium, calcium, potassium and magnesium chlorids, and they are three and one-half times as abundant as in human milk. In contradistinction to the salts in human milk, they frequently act as a direct poison to the child, even when reduced to the same or lower percentage found in breast-milk. Sodium chlorid in physiologic solution has been proved by Finkelstein to be a poison to sucklings when given internally. Intravenous injection of the same causes fever, acting, it is supposed, directly on the heat centers. The salts of cow's milk have been proved experimentally to react badly on the baby on account of the antagonism between the sodium and the calcium. The salts of the milk most easily taken care of by the infant are the calcium chlorid and magnesium chlorid in combination. The potassium chlorid and the sodium chlorid are antagonistic. Infants of suckling age react more to salts than older children. If sodium chlorid is given a clinical reaction occurs, marked by a slight rise in weight, while with the calcium chlorid a decrease in weight occurs. If 100 grams sodium chlorid solution is given internally the temperature goes up to 104 F. in from four to six hours. The calcium salts alone give a subnormal temperature, but when combined with sodium chlorid a rise of temperature results, and is thought to be from an antagonistic combination of the sodium and calcium which is unfitted to the child's digestion and acts as a poison. Sixty per cent. of the bottle-fed infants in Germany have a tendency to convulsions, a condition called spasmophilia. This is manifested by an oversensitiveness in the electrical reactions, an overexcitability to the open cathode pole. When the infant reacts to less than five milliampères, the pathologic condition of spasmophilia exists. Experiments with the various elements of cow's milk have been made. When casein or fat or sugar alone are given, no electrical overexcitability appears, but when the salts of the milk are fed the infant reacts to less than five milliampères. Other manifestations of spasmophilia appear in the salt-susceptible infant, such as the facial phenomenon (Chvostek's) and Trousseau's symptom of spastic contraction of the hand, all of which disappear when the food is salt-free.

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* Read before the Jackson County Medical Society, Oct. 19, 1909.

SUGAR DISTURBANCE

A distinct clinical type of infantile disturbance has been investigated and described by Finkelstein[1] under the name of sugar intoxication. The condition is not an intestinal infection, but depends on the presence in the food of the sugar of cow's milk and its intolerance by certain infants. The elimination of the sugar causes the disappearance of the symptoms and a return to health. The sicker the child the less sugar required, it has been shown experimentally, to cause the acute condition. Infants suffering from the various stages of intestinal and nutritional disturbances leading up to marasmus are more susceptible to sugar intoxication, and they react with an elevation of temperature when sugar alone or milk containing sugar is given. The other symptoms are made constantly worse, and we find the infant presenting the following:

1. A general appearance of collapse.
2. A sort of coma, lasting a minute, resembling in some ways a meningitis. The child pays no attention to surroundings and sleeps all of the time, appearing benumbed.
3. A sudden drop in the weight.
4. Fever. This is always present, irregular, but comes up suddenly as high as 104 to 105.8 F.
5. A leucocytosis of from 25,000 to 60,000.
6. Sugar always present in the urine. It is an alimentary glycosuria, due to inability of the blood to oxidize the sugar.
7. Changes in the character of respiration. It becomes coma-like, irregular, but with a characteristic lengthening.
8. Diarrhea with green fermented stools, as many as eight daily.
9. Albumin in urine. There is no acidosis or butyric acid, as is found in diabetes. The sugar acts in these cases as a direct intestinal poison and as the cause of the series of symptoms.

The administration of weak tea and water and the withdrawal of all sugar will cause a prompt disappearance in twenty-four hours of all the symptoms in the milder cases, the severer cases requiring longer; then small feedings of breast-milk should be given for fourteen days, or, if the child is bottle-fed, no sugar should be given until the end of that period. Malt-sugar is found to be better tolerated in these cases than cane-sugar. Milk-sugar is the least tolerated, and in general has the least influence on body growth.

SUMMARY

The following points are proved:

1. The salts of cow's milk have a pathologic influence on the infant, causing a condition of spasmophilia or tendency to convulsions, which may go to a spasm of the glottis, tetany or an eclampsia. The treatment consists simply in feeding for a period with a salt-free diet.

2. The sugar of cow's milk is not tolerated by some infants, acting as a poison and causing a distinct symptomatology, a condition called sugar intoxication, which disappears promptly on the elimination of sugar from the food. It is also associated at times with those disturbances, the most extreme of which is marasmus, in which the infant has an intolerance for fat. The hunger-cure is practiced in these conditions, either the sugar or the fat or both being eliminated from the milk until the symptoms have improved.

532 Altman Building.

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[1] Monographs by Finkelstein and his assistants may be found in the Berlin Jahrbuch für Kinderheilkunde during the past two years.

SODIUM NITRITE IN BRONCHIAL ASTHMA

GEORGE EDWARD BARNES, B.A., M.D.
HERKIMER, N. Y.

Few pictures of human suffering have so stirred up the pity and despair of the physician and demonstrated a single shortcoming of therapeutics as have obstinate attacks of bronchial asthma. What a boon to both patient and doctor would be a drug to relieve the spasm of the bronchial muscles! The narcotic agents used for this purpose—morphin and chloral—are not suitable for frequent use and are not always reliable. Potassium iodid is not often efficient. The ordinary antispasmodics are impotent. Inhalation of the smoke of potassium nitrate, stramonium, etc., often fail to bring relief and are detrimental because they irritate the bronchial mucous membrane. Amyl nitrite and nitroglycerin often give some relief, but their effect is fugacious.

I recently attended a patient who had been afflicted with asthma for forty-six years. His last attack was complicated with a coryza and trachitis and a very severe laryngitis. I treated the combined conditions for about ten days with various drugs and produced some improvement in the inflammations, but scarcely any improvement in the breathing. It then occurred to me to try sodium nitrite. I administered one grain of it by mouth, and in about half an hour the dyspnea diminished and the radial artery, which had been contracted, became somewhat relaxed. Two hours after the first dose the patient received another grain, and in about half an hour he was breathing naturally and the pulse was soft. Thereafter the patient took one grain of the sodium nitrite about every two and one-half or three hours for two days, and then the intervals were gradually increased until, after about a week, he limited the use of the medicine to one dose at bedtime, and thus continued it for several days. As soon as the sodium nitrite relieved the spasm I began to treat the patient's nervous system. The asthma did not recur, but the laryngitis long persisted.

Another recent case of bronchial asthma occurred in a man 64 years of age who had had the disease since youth. When called, I found the patient sitting bent far forward, his elbows resting on his knees. Every act of respiration was performed with the greatest muscular effort and by a slight rhythmical raising and lowering of the body. The patient's face expressed helplessness and weariness from effort, lack of sleep and the impossibility of eating. His pulse was tense. He had been taking medicines without the slightest benefit. I gave him one grain of sodium nitrite and after about half an hour there was slight improvement. One hour after the first dose I gave a second one. and about half an hour after it the patient was very much relieved. He continued to wheeze slightly, but he could breathe with considerable ease and could rest against the back of his chair. He began to yawn and soon fell asleep. He continued for a few days to take one grain of the drug every two or two and one-half hours and enjoyed comfort about the house and on the street. I saw him a week after my first call and he told me that he was taking occasional doses of the drug. He then passed from my observation. I gave him also constitutional treatment, for asthma is primarily a nervous affection which may be started by numerous stimuli of discomfort.

In the severe cases of asthma the initial dose of sodium nitrite should probably be two grains by mouth. The drug may be given hypodermically when dyspnea is severe. It is a remedy of marked action on unstriped muscle and should be given with discretion. The limit of dosage is indicated usually by a feeling of distention of the head and then headache.

RECURRENT VOMITING WITH ACETONURIA

REPORT OF TWO CASES

THOMAS J. BURRAGE, A.M., M.D.
PORTLAND, ME.

The occurrence of two cases of recurrent vomiting in members of the same family, a brother and sister, is my apology for offering the following report:

Case 1.—The elder of the patients is a boy of 7, rather small, as his parents are, but active and vigorous, though of a distinctly neurotic disposition. He was delivered at term by instruments, and nursed for six weeks with poor success. From that time on he passed through the hands of various physicians, who tried in vain to find a suitable milk modification. During this time he was constantly subject to vomiting, colic and indigestion. Measles and whooping-cough have been his only other sicknesses. The mother, who is a keen observer, thinks that the child has always had this type of vomiting, because of its severity and associated prostration. It was not until the boy was in his fifth year, however, that acetone and diacetic acid were first demonstrated in the urine, and a correct diagnosis established. Since this time the patient has been seen in some ten attacks, though he has had many others, and at these times acetone has always been detected on the breath and in the urine. Recurrence has taken place in from five weeks to five months, and attacks have usually lasted four or five days, being attended by almost constant vomiting, marked emaciation, and prostration. During the last nine months he has had only three attacks, but one in the summer, of marked severity, was accompanied by considerable hematemesis. As the child grows older, attacks are becoming less frequent and according to the usual progress of such cases, should cease within a year or more.

Case 2.—The sister of the first patient is now 3 years and [illegible] months old, and is of the same type as her brother—small, thin, active, and neurotic. She was born without instruments and nursed for nine months, with occasional substitute cow's milk feedings. She suffered less from vomiting and indigestion than her brother did, but experienced considerable difficulty when put on cow's milk entirely. It was then found that her capacity for fat was decidedly limited, and it was a number of months before she could take whole milk. Like her brother, she has had measles and whooping-cough. At about a year and a half she had her first attack of severe vomiting, which was accompanied by acetonuria. Since then she has had four recurrences, all associated with prostration, moderate emaciation, and the presence of acetone and diacetic acid in the urine. It is noticeable that these attacks are not as yet so severe as those of her brother, though it is possible that they may be as the child grows older. During the last recurrence, which was of recent date, the vomiting was of only moderate severity, but more stupor than usual developed, and delirium, lasting for about an hour, made its first appearance. In prognosticating the future of this case, it would seem probable that the child will follow a course similar to that of her brother, inasmuch as ordinary methods of treatment, diet, and hygiene seem to have little effect on the course of the disease.

139 Park Street.

Therapeutics

CHOREA

The condition to which this name is applied is so little understood that Dr. George Montague Swift's discussion of it in the *American Journal of the Medical Sciences*, for September, 1909, should attract special attention. He declares chorea, i. e., incoordinate, involuntary muscular movements, to be a symptom and not a disease. Also asserts that large doses of arsenic are dangerous. Swift has seen from the arsenical treatment of chorea hemorrhage from the stomach, hemorrhage from the kidneys, severe irritation of the conjunctivæ, and neuritis. It is no uncommon thing to see tedious gastrointestinal inflammation and albuminuria, showing kidney irritation, from large doses of arsenic. Serious anemia can also be caused by pushing arsenic, and neuritis, even general multiple neuritis, may be caused by the misuse of this drug.

Swift believes chorea to be a symptom of several kinds of cerebral irritations, and he divides the causes, in children, into two principal classes. In Class 1 the symptom of chorea is caused by too great mental and physical activity, and consequently mental tire. In Class 2 the cause of the symptom of chorea is an infection.

Class 1 is probably the larger class, and the muscle contractions and incoordinate movements are a symptom of debility caused perhaps by a severe illness, or more frequently by overwork in school or at home, in the endeavor of parents to push their young girls, especially, to acquire quickly various accomplishments, added perhaps to the fad of the age for an undue amount of physical exercise. In other words, the young girls, and the boys also, have but few periods of rest, and hasten, as do business men and society women, from one appointment and occupation, pleasure, exercise or function to another, as rapidly as possible. Even in the home something is doing every minute. Soon these poor tired children begin to eat insufficiently, do not sleep well, and become anemic and chlorotic.

Even very young children, babies, have too much done for them, are amused too much, talked to too much, played with too much, and, as Swift says, are walked too much. The result is nervous exhaustion. There may be tantrums and explosions of temper, but all represent brain and nerve tire, and the choreic movements are but symptoms of this condition.

Swift puts such patients "to bed in a quiet room, relieves their anxieties," aids sleep, if necessary, and "stuffs" the patients with nutritious food. He administers iron, bone marrow, fats, and cod-liver oil, if advisable. If the choreic movements are sufficient to cause restlessness and prevent the child from sleeping, he gives, temporarily, sedatives, as "bromids, codein, and trional or veronal" sodium. Just as soon, however, as there is some improvement he sends the patient into the country or to the seashore for fresh air and quiet.

There is no question of the advantage of the fresh air and rest cure for these patients; in fact, it is often best to move them, even though quite ill, and the seashore and the sea breezes are probably better than country air for them. All the various addenda to the rest cure for neurasthenia should be taken advantage of as soon as possible, viz.: warm, non-stimulating baths, massage, and later graded simple physical exercises.

Swift's second class of causes of choreic movements is the class due to infections, which may be "rheumatic, malarial, pneumococcic, or typhoid." He well says that since there are probably several varieties of germs which cause rheumatic affections, there are probably several varieties of these rheumatic germs that cause a development of choreic movements. Such infections, especially the rheumatic infections, predispose to endocarditis and even pericarditis. These infections may cause sufficient anemia, malnutrition and irritation of the nervous centers to account for the muscle contractions. The endocarditis develops slowly in these cases and should be carefully watched for, and Swift thinks that a weakened heart from these infections can become suddenly dilated by any severe muscle exercise, and even by a severe nervous strain, as by a tantrum.

In these patients, of course, rest in bed is imperative. The medicinal treatment depends on the germ that is infecting the patient. All channels of entrance of infection should be removed as soon as possible, such as "diseased tonsils, postnasal adenoids, and decayed and decaying teeth." Gastrointestinal fermentation should be prevented.

It is probable that the germs that cause rheumatism and the chorea of infection may enter the blood not only through the tonsils, but often through the intestines, and the drugs found most advantageous in stopping the disease of rheumatism and the so-called disease of chorea, such as salicylic acid in the first instance and arsenic in the second instance, are those that act as intestinal antiseptics, and many times apparently a course of chorea may be shortened with salicylates as well as with arsenic, and with much greater safety.

The seriousness of chorea in its ability to injure and change the mental health of the child, even perhaps impairing its future, should cause parents and physicians to be ever on the alert to forestall the incidence of the condition. All brain tire should be prevented, and the moment that a child is found not to sleep well, not to eat well, and to become pale should be the moment that rest and proper treatment is inaugurated.

The severe form of chorea, so-called chorea major, in which the movements are so constant as to exhaust the patient and to cause death, is probably due to septic conditions and malignant endocarditis. Fortunately this form of chorea is rare. The child must be given rest, even if it requires very large doses of chloral, and the other treatment is that of septic poisoning. The blood should be examined for bacteria, and if possible the proper antitoxin administered.

PULMONARY TUBERCULOSIS

In spite of all that has been said on the subject of diagnosing and treating this disease in its incipiency, the statistics of sanatoria for tuberculosis, and the continued frequency with which patients, who have been neglected, come to the lung specialist, call for continued comment and discussion.

Not more than one-third, and often less than one-fourth, of patients received at sanatoria have the disease in its incipiency. This is statistical proof of either a lack of diagnosis or the desire of physicians to make the attempt to cure patients outside of an institution. As most of these institutions are charitable, and therefore are expected to treat and care for patients only who need charity, the hardship on the physician from sending a patient to an institution, as soon as he discovers that the patient has the disease, cannot be great.

It is not the purpose of this article to urge that a patient be sent to an institution who can pay his physician for his services, who can be at rest more or less constantly in the open air in a location removed from a city's dust and smoke, who can receive the proper kind of food and who will not be fretted by household worries and ill-judged and tiresome visits from friends. It is the object of this article to urge that when all these advantages cannot be offered a patient, he be sent to an institution equipped and properly located for the treatment of this disease, and be sent to such an institution before his lungs have become seriously affected.

The advantages of a sanatorium in the treatment of this disease, from the standpoint of rest alone, are just as great as are the "rest" advantages in a sanatorium for the treatment of neurasthenia.

When 50 per cent. of all patients received at the best sanatoria, even including those in the more advanced stages, have the disease arrested and are able to return to their occupations and usual life, and when from 75 to 80 per cent. of incipient pulmonary tuberculosis patients are able to leave institutions with the disease arrested and able to work, there can be little excuse for not sending patients with incipient tuberculosis to sanatoria.

No one will assert but that a certain number of these patients will have a recurrence of the disease, but the fact that the disease is arrested at all in such a large number of patients, when properly treated in sanatoria is little less than miraculous when the disease is viewed from the standpoint of even twenty-five years ago.

It is not necessary to enumerate the early signs and symptoms of pulmonary tuberculosis, but a few suggestions expressed by Dr. Henry F. Stoll, of Hartford, Conn. (*Yale Medical Journal*, March, 1909) will be of value.

A patient who shows debility, unless a satisfactory diagnosis of the cause is immediately made, should not be dismissed without a thorough physical examination, which, as Stoll says, will take at least from 30 to 45 minutes. If such a patient comes during a busy office hour, a special appointment should be made for him.

Stoll reminds us that:

"1. Patients with incipient tuberculosis do not usually look ill.

"2. A complete history is often of more value than a physical examination.

"3. The absence of physical signs and the failure to find tubercle bacilli in the sputum do not in themselves exclude tuberculosis.

"4. Pulmonary hemorrhage in a young adult, even without symptoms or physical signs, and with normal temperature and pulse, should always be considered to be due to tuberculosis, until it can be proved to be due to some other cause."

Many times the tuberculin skin test will clear up an otherwise doubtful case.

New and Nonofficial Remedies

Since the publication of the book "New and Nonofficial Remedies, 1909," the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections to aid in the revision of the matter before publication in the book are asked for.

The Council desires physicians to understand that the acceptance of an article does not necessarily mean recommendation, but that so far as known it complies with the rules adopted by the Council.

W. A. PUCKNER, Secretary.

DIGITALEIN CRUDE.—Digitaleinum Crudum.—Digitalein rude is a mixture of glucosides from digitalis purpurea prepared according to the process of Schmiedeberg, containing ligitoxin, digitalin and digitalein.

Commercial digitalein is an amorphous, yellowish-white, bitter powder, soluble in water and absolute alcohol, insoluble in chloroform and ether. The aqueous solution foams on shaking. The solution yields a precipitate on addition of lead acetate, ammonia water or tannic acid.

Actions and Uses.—Digitalein acts on the heart like digitalis. It is a diuretic.

Its uses are the same as those of digitalis.

Dosage.—0.001 to 0.002 Gm. (1/60 to 1/30 grain) two or hree times a day.

SUPRARENALIN.—(See N. N. R., 1909.)

Suprarenalin Inhalant.—A 1:1000 solution of suprarenalin in n aromatized oil, containing approximately 10 per cent. of alcohol.
Manufactured by Armour & Co., Chicago.

BILE SALTS—(See N. N. R., 1909.)

Proprietary Preparations:

BILEIN—Sodii glyco-taurocholas bovis—Abbott.—Bilein is name given to a mixture of the essential salts of the bile.

Actions, Uses and Dosage.—See Bile Salts, N. N. R., 1909.

Manufactured by the Abbott Alkaloidal Co., Chicago. U. S. Trademark No. 44 140.
Bilein Pills, 1/4 grain.—Each pill contains bilein 0.015 Gm. (1/4 grain).
Bilein Pills, 1/8 grain.—Each pill contains bilein 0.008 Gm. 1/8 grain).
Bilein Pills, 1/12 grain.—Each pill contains bilein 0.006 Gm. (1/12 grain).
Prepared by Abbott Alkaloidal Co., Chicago.

IODONE OIL—Oleum Iodoni.—Iodone oil is a 2 per cent. olution of iodone crystals (See Iodone Surgical Dressing and Dusting Powder) in a mixture of alcohol, castor oil, and coton seed oil. It is said to yield about 1 per cent. of iodine, lowly liberated on prolonged contact with moisture and to ontain about 20 per cent. alcohol.

Iodone oil is prepared by dissolving Iodone crystals in the mixture of alcohol and oils to which sufficient iodine has been added to overcome the decomposing effects of the solvent on iodone.

It is a clear dark reddish-brown oily liquid, having a specific gravity of about 0.912 at 25° C. (78° F.) and a faint alcohol-like odor.

When shaken with chloroform and water the chloroform acquires a violet color, which is decolorized by shaking with a solution of sodium thiosulphate.

If 5 Cc. of the oil is dissolved in 15 Cc. of chloroform and treated as under iodone ointment, considerable time being allowed during the titration for the complete liberation of the iodine (at least twenty-four hours), about 1 per cent. iodine, calculated from the volume of volumetric sodium thiosulphate solution, should be indicated.

Actions and Uses.—Iodone oil has the germicidal and altertive actions due to the iodine which is liberated on contact with moisture.

It is said to be useful in all catarrhal affections of mucous membranes, hay fever, etc.

Dosage.—Its employment should be regulated on the basis of ts liberating 1 per cent. of iodine on contact with moisture. t may be applied as a spray or on pledgets of cotton or ampons. It can be injected hypodermically into tuberculous oints, etc.

Manufactured by the Henry C. Blair Co., Philadelphia, Pa. No atents or trademarks.

IODONE OINTMENT—Unguentum Iodoni.—Iodone ointment is a mixture of iodone crystals with petrolatum, said to contain about 4 per cent. of iodone and to yield about 2 per cent. of available iodine slowly liberated on contact with moisture.

Iodone ointment is a dark green unctuous mass, having the consistency of petrolatum and a faint iodine-like odor.

A small amount dissolved in chloroform in a test tube and shaken with water should impart to the chloroform a violet color, which is destroyed by addition of sodium thiosulphate solution.

If 2 to 3 Gm. of iodone ointment is weighed and dissolved in 15 Cc. of chloroform; 30 Cc. of water added and shaken frequently during one hour; the mixture titrated with tenth-normal sodium thiosulphate solution using starch as indicator, not less than 2 per cent. of iodine should be indicated.

Actions and Uses.—Iodone ointment has germicidal, alterative and stimulant powers due to the iodine liberated.

It is said to be useful in all conditions in which the local use of iodine in ointment form is indicated.

Dosage.—Its employment should be regulated on the basis of the liberation of 2 per cent. of available iodine on contact with moisture.

Manufactured by the Henry C. Blair Co., Philadelphia, Pa. No patents or trademarks.

BISMUTH BETA-NAPHTHOLATE — Bismuthi Beta-Naphtholas.—Bismuth beta-naphtholate is the bismuth salt of beta-naphthol.

Bismuth beta-naphtholate occurs in the form of a brownish or grayish powder without odor, almost tasteless and insoluble in water. It is slightly soluble in alcohol.

1 to 2 Gm. bismuth beta-naphtholate is shaken in a separator during one hour with 25 Cc. chlorform and 25 Cc. concentrated hydrochloric acid, and then 50 Cc. water added and again shaken. The chloroform solution drawn off and the acid mixture extracted with three more portions of 10 Cc. chloroform and the combined extracts evaporated and dried to constant weight over sulphuric acid, a residue should remain weighing at least 15 per cent. of the material used, and should respond to tests of identity for beta-naphthol.

The acid solution from which the naphthol has been extracted is transferred to a beaker, diluted to 200 Cc., heated to boiling, ammonia water added till turbidity appears, then sufficient hydrochloric acid to clear up the turbidity and then 50 Cc. of 10 per cent. ammonium phosphate solution is added to the boiling liquid. The precipitate is allowed to subside, the clear liquid decanted through a tared porcelain Gooch crucible, the precipitate washed with hot water by decantation and finally transferred completely to the crucible. The precipitate and crucible are dried, placed in a nickel crucible, and exposed to the full heat of a bunsen flame till the weight is constant. The weight of the resulting bismuth phosphate multiplied by 0.6869 should yield a figure (representing bismuth, Bi) equal to not less than 60 per cent. of the material taken.

1 to 2 Gm. bismuth beta-naphtholate is weighed to a small asbestos plugged percolating tube, 5 Cc. chloroform added, mixed by means of a glass rod, and allowed to percolate into a tared dish. When the liquid ceases to drop, a further portion of 5 Cc. of chloroform is poured into the percolator and also allowed to percolate into the tared dish. The stem of the percolator is washed with a little chloroform, and the combined washings and the percolates allowed to evaporate spontaneously and the residue brought to constant weight over sulphuric acid. The residue should not exceed 1 per cent. of the material taken.

Actions and Uses.—Bismuth beta-naphtholate is decomposed into its constituents in the intestines, where it exerts the effects of bismuth salts and of beta-naphthol. Hence it is used in catarrhal and fermentative gastroenteric disorders, such as gastritis, dysentery, diarrhea, etc.

Dosage.—For children 0.1 to 0.3 Gm. (1½ to 5 grains) and for adults 1.5 to 5 Gm. (22 to 75 grains) daily.

A mixture of beta-naphtholate with acacia should be avoided as a viscid precipitate rapidly becoming hard is likely to be formed.

Proprietary Preparation:

ORPHOL.—A name given to bismuth beta-naphtholate.

Manufactured by the Chemische Fabrik von Heyden, Radebuel near Dresden, Germany (Schering and Glatz, New York). U. S. patent No. 51635. U. S. trademark No. 27482.
Orphol Tablets.—Each tablet contains orphol, 0.3 Gm. (5 grains).

Non-Proprietary Preparation:

Bismuth Beta-Naphtholate.—P-W-R.
Manufactured by the Powers-Weightman-Rosengarten Co., Philadelphia.

ARTICLES ACCEPTED FOR N. N. R. APPENDIX

Manhattan Eye Salve Co., Owensboro, Ky.

Compound Yellow Oxide and Adrenalin Ointment (M. E. S. Co.)—An ointment said to contain yellow oxide of mercury 1 per cent., solution of adrenalin chloride 5 per cent., menthol 0.04 per cent., phenol 0.2 per cent., hydrous wool fat 25 per cent., white petrolatum sufficient to make 100 per cent.

Cocaine and Adrenalin Ointment (M. E. S. Co.)—An ointment said to contain cocaine hydrochloride 2 per cent., solution of adrenalin chloride 17 per cent., hydrous wool fat 25 per cent., white petrolatum sufficient to make 100 per cent.

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[*For other information see second page following reading matter*]

SATURDAY, DECEMBER 18, 1909

AN ANTIVIVISECTION EXHIBITION

An antivivisection exhibition has been on view for two weeks at a busy point on Fifth Avenue, New York. Most of the exhibits belong to the American Antivivisection Society of Philadelphia. These exhibits were displayed in Philadelphia last spring and again at Atlantic City last summer. The American Antivivisection Society plans to make the show permanent and to send it extensively through the country (to Washington, Chicago, Los Angeles, and other cities) to "educate" people regarding the "horrors" of the laboratory use of animals. This program renders desirable a consideration of the features of the display and their significance.

The center of agitation in the exhibition is an array of animal holders. Various forms of this apparatus are displayed, some of them prominently in the front windows, to attract the attention of the passing crowd. There are six stuffed dogs, among them a lap-dog and other pets, fastened in distressful positions in the holders. An attendant informs the visitors that animals are thus fastened down in laboratories. She is careful to make no mention of anesthesia.

Any sympathy roused by the dead dogs in the holders is intensified by the paintings and prints on the walls, representing dogs fastened and gagged in various positions of torture. When an attendant was informed that one of the pictures could not possibly represent a conscious dog, since the dog, free to struggle, was evidently not struggling, she replied: "Doubtless the dog is curarized, and, though in great pain, is unable to move." When informed that the dog must be dead, because a curarized animal cannot breathe, and this animal was not receiving artificial respiration, she was without further resource.

An attendant, when asked why the head-holders were used, declared that their purpose was to break the jaws of the dogs. Why apparatus was used to break the jaws of dogs, she did not know.

Besides the dogs fastened in holders there is another dog, an attractive little terrier, stuffed in a sitting posture, with a tracheotomy wound in the neck, painted red. This dog is introduced as a victim of vivisection. None of the conditions of the operation could be learned. Probably, if the animal was operated on before death, it was completely anesthetized during the operation, and passed from anesthesia to its place in the exhibit, but the visitor is permitted to draw quite different inferences.

A stuffed fish resting on a board, a stuffed pigeon fastened to a support, an enormously overstuffed cat gagged and strapped to a holder, complete this "revelation" of methods of handling animals.

Near by, however, over a row of gas-burners, is an oven in which lies a stuffed rabbit, its mouth widely opened, as if gasping for its last breath. An attendant informs the visitor that this oven is used in laboratories to roast animals alive and, as they die, to study "nerve action and the circulation." The oven is an ordinary incinerator used in laboratories to burn waste and refuse!

The remaining features of the exhibit are on the walls. There are two entirely fanciful pictures of Pawlow dogs, representing them, quite falsely, as wasted, miserable creatures, sick unto death. There are eleven characteristically malicious and untruthful cartoons from *Life*. There is an enlarged illustration from Cyon's "Methodik" (Plate xv) showing a dissection of the salivary glands, and below it is stated: "This agonizing and hideous mutilation is performed without anesthetics," a falsehood. There is an oil painting of a rabbit stretched as if crucified, with a nail driven through each foot; from each wound blood is flowing, a picture to harrow the heart of the onlooker. What possible reference has this to any laboratory procedure? Another painting represents a dog strapped and gagged, but evidently struggling, while two men, armed with knives, gaze at the bloody gaping wound in its abdomen, with glee on their faces.

Such is the travesty on medical research presented to the public by the antivivisectionists. The untruth of the details has been stated, but the wickedly suggestive implications which make the very atmosphere of the display cannot be adequately described. The fundamental evil of the exhibition is the presentation of a false alternative. The picture of a dog bringing succor, and of another dog bound to a holder, entitled, "The Way They Treat Us" and "The Way We Treat Them," sums up the situation. If that were all, nobody would hesitate on which side to stand. It is no wonder that nearly fifty portraits of poets, novelists, statesmen, artists and clergymen, whose words express their objections to cruelty, have been collected to adorn the walls of this exhibition. Every decent man is opposed to cruelty. But that is not the question. It would be as fair to set up a picture of Grenfell stabbing his faithful dogs to death, labelled "Is This the Way to Treat Your Pets?" as it is to represent medical research as this grotesque show represents it. Grenfell killed his dogs to save his life, and every man with common sense commends his bravery, resourcefulness and proper sense of values.

The high purpose of medical research and its beneficent results for human welfare—the compelling motives of that investigation which utilizes animals, and the care taken for the comfort and health of the animals, in aboratories—these conditions, which alone give meaning and possibility to medical investigation, are kept arefully in the dark.

The visitors at the exhibition are mainly women, hough many children, some quite young, have been seen gazing at the horrifying sights. The attendants are vomen—women who have never seen the inside of a aboratory of medical research, and who let their morbid maginings take the place of facts. They move about mong the visitors making insinuating remarks and stating falsehoods with an easy assumption of knowledge hey have never possessed. They show an instrument-maker's catalogue to prove the truth of their representaions—again with no mention of anesthetics. A catalogue of the instruments used in surgical operations on nan could be used with the same sly suggestion of torure. As the visitors leave, the attendants hand them irculars containing garbled statements, misleading quotations, and reiterated falsehoods, the untruth of which has been often pointed out. Thus the exhibition s untrue in its representations, evil in its implications, nd altogether harmful in its possible effects.

When the exhibition was at Atlantic City last summer he Philadelphia *Ledger* was moved to state editorially:

"It is really a serious concern that a number of good vomen, or others, should devote their labors to harrying he nerves of the crowd and inciting them to ignorant ostility against the humane studies which have done o much for the service of mankind. The public exhibiion of an anatomic museum would be in any case an ffense against taste and decorum: when it is employed or misrepresentation and obscurantism and for the propgation of false sentiment, prejudice and intolerance, t is proper to speak of it only with the most serious ondemnation.

"Utterly preposterous as the 'chamber of horrors' on he Boardwalk must appear to all who know anything of he subject it pretends to illustrate, it yet has its serious spect, as an attempt to play on ignorant emotion and o create a false sentiment in support of an unscientific, nreasonable, inhumane effort to impose indiscriminaing and injurious restrictions on the acquisition of nowledge that is for the advantage of all living reatures."

When a lay paper takes such a stand as that, it is igh time that members of the medical profession waken to the harm that the opponents of research are oing. The public is being educated, but the ignorant re being led by the ignorant. If medical investigation s not to be seriously hampered in this country, those ho do not know must be led by those who do, and must e taught to see the importance to the general welfare of e efforts which are being made in the medical laboraories, with the help of lower animals, to penetrate the ysteries of disease and death that confront mankind on ery side.

THE BIOLOGIC RELATIONSHIPS OF THE BACTERIA

Discussions of the affinities of bacteria with other organisms, their phylogenetic relations to the higher plants and animals and the principles of classification within the group itself have often resulted in much uncertainty and difference of opinion. While it cannot be said that general agreement on these topics has yet been reached, there is no doubt that recent investigations into the physiology of bacteria have effectually disposed of some speculations once current. The position which bacteria occupy with reference to other groups of living organisms is to-day better defined than ever before.

The value of morphologic characters as a basis for determining bacterial relationships is evidently not so great as that of the physiologic manifestations of these organisms. This is so, not only because external structural characters are not easily studied in organisms that lie close on the borders of invisibility, but because internal—that is, physiologic or, perhaps more exactly, chemical—qualities are the more fundamental. The outer form is determined by the internal constitution and not the reverse. For these reasons some of the most recent attempts to classify bacteria and to establish their relationships to other forms of life have been based on physiologic grounds. Reference has already been made[1] to the excellent monograph of the Winslows on the classification of the micrococci. These authors essayed to bring order into the welter of genera, species and varieties that long existed in this important group of bacteria and they adopted for this purpose chiefly physiologic distinctions. The same principles have been more recently utilized by Jensen in his ambitious attempt to construct a "natural"—that is to say, genealogical—classification of bacteria.[2] Jensen very properly takes advantage of the significant discoveries of the last few years regarding the physiologic activities of certain bacteria. Three chief groups are distinguished:

1. Bacteria which are like the green plants in requiring neither organic carbon nor organic nitrogen. These are the so-called autotrophic bacteria, which possess the remarkable property of being able to build up both carbohydrates and protein out of carbon dioxid and inorganic salts.

2. Bacteria which need organic carbon compounds, but can dispense with organic nitrogen. These organisms can synthesize protein out of carbohydrates (or organic acids) and ammonia, nitrogen or nitrates.

3. Bacteria which are like the animals in requiring both organic carbon and organic nitrogen compounds. This group cannot bring about either protein or carbohydrate synthesis out of inorganic substances.

These fundamental subdivisions serve to illustrate the method followed by Jensen in drawing up his outline of a natural system of bacterial classification. It is sufficient to say that the other groupings suggested by this author are equally logical and are based on recent physiologic studies. Some conclusions of general interest may be noted. The mode of nutrition of the first-mentioned—autotrophic—group of bacteria points to them as being in all probability the first living organisms to appear on the earth's surface. Both plants and animals originated from such a parent stock, Jensen's opinion being that the animals—flagellates—were first to appear. At all events, bacteria probably gave rise, on the one side, to the protozoa, on the other to the blue-green algæ.

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[1] The Classification of Bacteria, The Journal A. M. A., Jan. 23, 1909, lii, 309.

[2] Jensen: Centralbl. f. Bakteriol., II., 1909, xxii, 305.

The nutritional requirements of the second and third groups, as above specified, indicate that these bacteria are phylogenetically younger than the first group. By the same mode of reasoning, the carbohydrate-fermenting organisms are older than the typical bacteria of nitrogenous putrefaction, and, to carry it still further, the lactose-fermenting varieties are of more recent origin than those related varieties which are not able to attack this carbohydrate, since lactose became available as a food-substance only with the relatively late advent of mammals. Again, the gelatin-liquefying species have developed, as a rule, out of the related non-liquefying species, since protein decomposition, which is itself one of the later acquisitions of micro-organisms, is facilitated by the secretion of proteolytic enzymes. The parasitic bacteria are naturally of more recent origin than the related saprophytic forms. Jensen finally constructs a very interesting genealogical tree which makes plain the relationships of the bacteria to the *Protozoa* and the *Cyanophyceæ* (blue-green algæ), shows a possible connection through the *Actinomycetes* with the *Eumycetes* (molds), and gives also a good conception of the physiologic relations between existing groups of bacteria.

Any attempt to bring the hazy realm of micro-organic life into orderly relation with the better-known macroscopic living world must be welcomed. Jensen's very interesting and ingenious effort has a value, possibly only provisional, but not to be overlooked for the present.

OLD MEXICAN MEDICINE

American historians, especially W. H. Prescott and H. H. Bancroft, have called attention to the fact that medicine reached a very high development among the Mexicans before the coming of Cortés. Their hospitals were well arranged, numerous, and existed in nearly every part of the country; and the traditions of treatment and the observations made on patients raised the art of healing to a high plane. The knowledge of plants was extensive, and even the science of diagnosis was notably developed. Women as well as men practiced medicine, and the department of women's diseases was exclusively in their hands. Indeed, medical traditions were so advanced as to make students of the history of medicine doubt whether such a high development of medical art and science could have been attained among a people apart from the great stream of medical tradition in Europe. There are records of cases in which European physicians failed and Mexican practitioners were successful. Cortés and his men were so well treated, both for wounds and for ailments of various kinds, that the former is said to have asked the Spanish government not to allow physicians of the Old World to come to Mexico.

A recent work by A. Gerste[1] on the medicine and botany of the ancient Mexicans gives very interesting information on this subject. The profession of medicine in Mexico, as in other countries—notably Ireland—was a family inheritance; and the secret medical formulas used by the Aztecs were transmitted from father to son. Their remedies were mainly herbal and of many different classes—antidotes, diuretics, depuratives, emetics, emollients, febrifuges, laxatives, purgatives and vermifuges. The seeds of a certain plant, not now to be readily identified, were used to make an intoxicating liquor that was given for anesthetic purposes to patients on whom an operation was about to be performed. Sahagun describes a solution which the Mexicans applied t wounds to make them heal rapidly and smoothly, and which, in Gerste's opinion, had the effect of an antiseptic. The Mexicans used a number of means t arrest hemorrhage, among them a stone applied to th back of the neck to stop bleeding of the nose. The used their remedies in many forms, as decoctions, infusions, oils, unguents and plasters; and certain gums an resins were used as electuaries. Hydrotherapy was considerably resorted to, and vapor baths were commonl employed.

As a consequence of the interest of the Aztecs i medical botany, botanical science was much farthe advanced among them than might be expected. Gerst does not hesitate to say that their botanical knowledg was far ahead of that of the European world of thei time. Their classification of plants was superior t that in use in Europe. Several centuries before th genius of Linnæus substituted for long descripti terms the concise designation by means of a generi name and a specific epithet, the Aztecs had a botanica nomenclature resembling this in some particulars an distinctly superior to that of contemporary Europ Besides they laid the foundation of geographic botan which is usually supposed to be of much more recen origin and traced the influence of temperature an elevation on plants in a scientific way. Their knowledge was imperfect, but showed many signs of fin powers of observation and abundant research.

The Duc de Loubat, at whose expense these note have been published in their present form, has place the world of letters under renewed obligations, for in recent years he has shown himself an intelligent and beneficent patron of history and literature by the republication of many important documents relating to America.

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[1] Gerste, A.: Notes sur la médecine et la botanique des ancien Mexicains, Rome, Imprimerie Polyglotte, Vatican, 1909.

THE PRESENT STATUS OF THE ARMY MEDICAL CORPS

But a few years ago the matter of maintaining the personnel of the Medical Corps of the Army at the authorized quota was a subject of grave concern to the Surgeon-General's office. Numerically, the corps, as authorized by Congress, only distantly approached the real needs of the service, and the slow influx of young men was such that the vacancies annually occurring were by no means filled by the applicants accepted at the annual examinations. For instance in the year 1907 there were sixty-four applicants, of whom ten were accepted for the Army Medical School in October, and subsequently commissioned as first lieutenants in June, 1908. The vacancies occurring from October, 1906, to October, 1907, totaled eleven. It is thus seen that the vacancies naturally occurring exceeded the new admissions to the corps during that year. In May, 1908, an examination of fifty-eight candidates gave nine qualified men. In August, 1908, four months after the passage of the reorganization bill, the figures became one hundred and twenty-eight for applicants and twenty-five for accepted candidates. There had been but a brief season in which to bring before the medical profession of the country the greatly increased advantages carried with a commission in the Medical Corps by virtue of the act passed last year, which reorganized the body and provided substantial increases in pay and promotion. In the period between October, 1908, and the same month of this year, the knowledge of the signal improvement worked by the new legislation was more widely diffused and the result is striking. The change is manifest in the number of applicants and accepted candidates, and when the later figures are compared with those of previous years it is evident that the recruitment of the corps is vigorously healthy. The records show that in January and July, 1909, two hundred and seventy candidates were examined and fifty-seven accepted, and the attendance at the Army Medical School in Washington this year is fifty-eight as compared to ten in 1907 and thirty-three in 1908.

Evidently there has been an awakening among the young medical men to a better understanding of the desirable features of an army medical officer's career. Pay and promotion are now on such a scale as to justify any young physician in considering the career, and in recent years resignation after admission is almost unknown, which shows that, when once identified, practically all are willing to remain.

There is now opportunity for scientific work and it is possible for any member of the corps, who has the necessary capabilities, to rise to the plane of Sternberg, Reed, Carroll, Gorgas and many others in the field of preventive medicine, and every incentive is given the internist, surgeon and bacteriologist in his chosen work.

The Army Medical Corps was never so full of promise to young men, and appreciation of its great opportunities was never so manifest as at this time. A significant feature of the situation at present is the fact that so many applicants are drawn from the staffs of the larger hospitals in the country. The course of instruction at the Army Medical School, including, as it does, special training in bacteriology, sanitary chemistry, tropical medicine, military surgery and hygiene, supplies a postgraduate opportunity of exceptional character and the result has been one of great uplift in the professional equipment of the medical officer. The fact that the student officer is paid over $200 a month while in attendance at the school impresses one that the government is earnest in its effort to develop the Medical Department of the Army.

IMPURE DRINKING WATER ON LAKE VESSELS

The Public Health and Marine-Hospital Service for some time has made a study of the spread of typhoid fever by railroads and steamships. The opportunities for the investigation of typhoid dissemination by means of the railroads have not been good, but through the system of marine hospitals it has been possible for the service to study typhoid in certain of its relations to ships. These studies have shown that the typhoid rate is higher among sailors than among men of the same age-periods in the ports made by the sailors. In addition, there has occasionally been an opportunity of studying an epidemic of typhoid among a group of people who were passengers on shipboard at the time of probable infection.

As there have been found good reasons for believing that ships were in some measure spreaders of typhoid among their crews and passengers, it is evident that there is some hygienic error on ships, either in construction or custom, or both. The very palpable errors in both construction and custom are set forth in Dr. Cobb's article in this issue on "Water Contamination Aboard Ship and Its Prevention."

Properly kept storage tanks for drinking water are not an unreasonable requirement, and can be demanded under present powers of the Department of Commerce and Labor. This should and must be done.

In addition to the large number of men who constitute the crews, there are the great multitudes who are passengers whose rights and interests must be conserved. Boats which ply on polluted streams should be compelled to use distilled water; those which ply on fresh water lakes would find it preferable to fill their tanks by special tubes after the ship has gone far enough from shore to secure pure water. Obviously ships plying fresh waters must be made by government to change their drinking-water methods. Polluted fresh water is no more fit to be sucked up through sea-cocks for drinking purposes than is salt water.

There is another phase of the relation of ships to the spread of typhoid which is even more important than that investigated by Dr. Cobb, and that is the disposal of sewage by the ship. At some lake ports it is possible for boats to pour out feces and slops right over the intake of the city's water supply. The psychology of approaching disembarkation crowds the toilet rooms just as the boat is passing the cribs. A large volume of excreta is deposited in the water near the intake. The cure for this situation may lie along any one of three lines: 1. Passenger vessels can require that all toilet rooms be kept locked in certain locations—to be determined in each case. This is the custom at present in vogue on the railroads, and has the advantage of having had its feasibility demonstrated. 2. Ships could be built with holding tanks for slops and sewage—these to be discharged after the ship is well away from intakes. This method would cause less inconvenience to the passengers and is, of course, preferable. 3. The third plan is that suggested by Surgeon Young and Major Judson,[1] namely, to designate certain areas about the cribs as quarantine anchorages which must be avoided by shipping.

The very necessary measures for the control of this noxious situation could easily be interpreted to rest with the Department of Commerce and Labor, the Treasury Department or the War Department. Different bureaus in the first two that might easily find legal warrant for control are those of navigation or the Public Health and Marine-Hospital Service. At any rate, all will agree that the situation demands prompt and effective action by some live government official.

A PLAGUE FOCUS IN CALIFORNIA

Plague foci, permanent in character, have been recognized for years as existing in China, northern India and South Africa. There seems little doubt that another such menacing center of fixed character has developed in California, thus making the fourth of the world's plague foci. In all these foci, or plague centers, the disease is kept in existence through rodents of one variety or another, is mildly epizootic in character and only rarely, under ordinary circumstances, is conveyed to human beings. But it is now thoroughly proved that from these permanent incubation districts the disease is conveyed to man through the intermediary, first of the rat and then of the flea. The reports on plague in California published in THE JOURNAL[2] over a year ago strongly hinted at the fact that a well-distributed infection of ground-squirrels probably existed; the recent work of the United States Public Health and Marine-Hospital Service in charge of Passed Assistant Surgeon W. Colby Rucker, and described by the latter in THE JOURNAL[3] last week, leaves no room for doubt. The work was in an entirely new field of preventive medicine and has been done against the great physical odds of long distances, wild country and burning summer heat; yet in spite of this the reports already presented show that Dr. Rucker has reduced what was formerly only a brilliant hypothesis to a certainty demonstrated in its smallest detail. Plague-infected squirrels have now been found in Contra Costa, Alameda, Santa Clara, San Benito, Santa Cruz, San Joaquin, Stanislaus, Merced and Santa Barbara counties—an area of about five thousand square miles. The eradication of squirrel plague by the extermination of ground-squirrels in such an enormous area is a task so stupendous as to be apparently impossible. Nor is the existence of plague in squirrels without menace to the human inhabitants of the infected area. Within the last few months three cases of human plague have occurred in Alameda County, and in each instance it has been proved that the disease was received from ground-squirrels. In twelve counties of the state, scouting parties are at work, the present object of the United States Public Health and Marine-Hospital Service being to determine, if possible, the extent of the territory infected; in all of this work the California State Board of Health is actively cooperating. It seems hardly necessary to call attention to the very grave menace to the entire country in the existence of this plague focus; it is not a mere local danger, but a national one. It is undoubtedly true that a severe epidemic of human plague could scarcely occur in a vermin-free population; but it is equally true that the infection may be conveyed at any time to any part of the United States, and in very densely populated centers the people are not always vermin-free. The existing facts present a problem both large and of grave import.

THE CURE-ALL IN ANCIENT ERIN

In the little volume on "The Antient Medicine of Erin," issued by Burroughs, Wellcome and Company, there is a paragraph on the announcement of a remedy in Ireland, about a thousand years ago, which ought to make the advertising managers of the nostrums of to-day feel that they are the feeble offspring of a degenerate age. This ancient Hibernian cure-all was claimed to be a preservative from death, a restorative for the living, a compensation for the want of sinews, a remedy for the tongue-tied (under which term were included all those suffering from defects of speech, from true aphasia to stuttering), a cure for swelling in the head, for wounds by iron, or of burning by fire or of the bite of the hound. It further prevented "the lassitude of old age, cured the decline" (by which the Irish have always designated consumption), the rupture of the blood-vessels (mentioned immediately after consumption because of the tendency to hemorrhage), took away "the virulence of the festering sore and the fever of the blood and even the poignancy of grief." The promise was that "he to whom it shall be applied shall be made whole"; and the announcement concludes: "Extolled be the elixir of life, bequeathed by Dianceeht to the people, by which everything to which it is applied is made whole." In comprehensiveness of claims, that certainly leaves little room for improvement. We wonder if some of the credulous in those days did not try the stuff on leaky roofs and ragged clothes.

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[1] First Report of the Lake Michigan Water Commission, Urbana, Ill., 1909.

[2] Dec. 14, 1908, p. 2000; Sept. 19, 1908, p. 1010.

[3] THE JOURNAL A. M. A., Dec. 11, 1909, p. 1995.

Medical News

COLORADO

Tag Day in Denver.—The Hospital Saturday and Sunday Tag Day in Denver netted $5,000.

Personal.—Dr. John H. Larson has succeeded Dr. Joseph W. Gothard, resigned, as health officer of Palisades.——Dr. Charles E. Holden, Longmont, is reported to be seriously ill in Orange, Cal.

New Dormitories for State Hospital.—The State Hospital for Insane, Pueblo, is to have three new dormitories, each of which will have accommodation for 75 patients. Two of these buildings will be for women and one for men, and they will cost $50,000 each.

State Antituberculosis Association Formed.—The Colorado Association for the Prevention and Cure of Tuberculosis has recently been organized with headquarters in the Capitol Building, Denver. The organization will endeavor to have tuberculous persons registered, and will teach means of prevention of tuberculosis by continual agitation through the press and through lectures to the public. A tuberculosis exhibit, which has been held for two weeks in Denver, has recently closed.

ILLINOIS

Medical Staff Elects Officers.—The medical staff of the Graham Hospital, Canton, has organized with the following officers: President, Dr. Willis T. Zeigler; vice-president, Dr. Martha A. Richardson, and secretary, Dr. James E. Colman.

Asks for Larger Hospital.—President Busse of the board of commissioners of Cook county, in his annual report, points out the urgent need of a larger hospital. The present hospital, with a capacity of 1,300 patients, has cared for 1,700, the daily average for the year being 1,451. The new hospital should be large enough to accommodate 2,500 patients.

Victory for Pure Food.—Judge J. Otis Humphrey of the federal court, on December 10, is said to have decided that fifty cases of preserved eggs, shipped by the W. H. Hippolite Company, St. Louis, and seized in Peoria last March by government inspectors, were injurious to health and that the seizure was justified. Attorneys for the defense filed an appeal to the United State Appellate Court. Dr. Harvey W. Wiley, Washington, D. C., testified that two pounds of boric acid were used for one hundred eggs.

Personal.—Dr. August F. Bechtold, New Athens, who has been ill with tetanus in St. Elizabeth's Hospital, Belleville, is reported to be out of danger.——Dr. Charles B. Fry, Mattoon, before leaving for Biloxi, Miss., was presented with a diamond stud and Elk charm by the local employees of the Illinois Central Railroad.——Dr. William L. Secor and family, La-Grange, left for Florida December 6, where they will spend the winter. Dr. Secor has been made physician-in-chief of the new Ponce de Leon Sanitarium, St. Petersburg.——Dr. Jesse D. Dickinson, Galva, underwent a second operation at Cottage Hospital, Galesburg, November 22.

District Society Meeting.—The thirty-sixth annual meeting of the North Central Illinois Medical Association was held in Streator, December 7 and 8, and the following officers were elected: President, Dr. Franklin A. Turner, Sandwich; vice-presidents, Drs. Alfred E. Owens, Princeton, and Thomas W. Burrows, Ottawa; secretary-treasurer, Dr. George A. Dicus, Streator (reelected), and censors, Drs. John C. White, Seatonville, Charles A. E. LeSage, Dixon, Joseph I. Knoblauch, Metamora, John M. Kaiser, Somonauk, and Alonzo B. Middleton, Pontiac. Life memberships were conferred on Drs. Charles C. Cook, Mendota, Alfred E. Owens, Princeton, Thomas H. Stetler, Paw Paw, and Benjamin F. Landis, Tiskilwa.

Chicago

Sanatorium for Tuberculous Chicagoans.—A number of Chicago physicians and citizens have inaugurated a movement to purchase the Valmore Ranch near Las Vegas, N. M., and establish a tuberculosis sanatorium for patients of moderate means who may be able to do some work and will be paid for that work. Dr. E. Fletcher Ingals is at the head of the organization and a considerable amount has already been promised for the enterprise

The Fenger Memorial.—The directors of the Fenger Memorial Association have decided to set aside $400 for 1910 to aid in medical investigation. Application with necessary details should be sent to the secretary, Dr. Ludvig Hektoen, 1743 West Harrison street, not later than February 1, 1910. This appropriation is part of the income of the Fenger Memorial Fund, which was created by subscriptions in honor of Dr. Christian Fenger of Chicago, who died in 1902, and the income is used to further medical investigation.

KENTUCKY

Tuberculin Test for Cattle.—The executive committee of the State Board of Health, meeting with the government experts, who have been making tuberculin tests of the cattle of Kentucky, announces that of 1,703 cattle subjected to the tuberculin test, 16 per cent. were found to be diseased.

City Hospital Condemned.—The November grand jury of Jefferson county considers the management of the county institutions creditable. Praises are given the Blind Asylum and the Lakeland State Hospital; the County Poor House was condemned as unfit to harbor the two dozen inmates; the bakery, dairy, and dining room of the Home for the Aged and Infirm were condemned, and the following report was made on the Louisville City Hospital:

> It is perhaps superfluous to say that this condition is a hundred-fold worse at the City Hospital. The venerable building, crumbling to decay, after serving to shelter three generations of the city's sick disabled and unfortunate, is kept as clean as possible, and its inmates cared for with as much comfort as the building will permit. The development of modern hospital design and practice has left Louisville's facilities so far in the lurch that the institution has become a reproach and a disgrace to the community. That it makes better provisions for its malefactors in its jails than for the poor unfortunates huddled in its superannuated hospital bespeaks not a city of progress, as its great seal proudly boasts, but marks Louisville in this respect which should be its chief concern, as the city that has stood still. Efforts to remodel and renovate a hospital which has been in use nearly three-quarters of a century would be as impossible as they would be absurd. Entire replacement of the buildings is imperative, and further postponement of this drastic remedy will be a disgrace to the community.

The mayor of the city has stated that he favors the construction of a new city hospital to cost a million dollars and will urge the voters to endorse the proposition before the next legislature.

MARYLAND

Hospital Organized.—At a meeting held in South Baltimore, presided over by the mayor of the city, with Dr. John R. Abercrombie as secretary, the South Baltimore Hospital was organized and many contributions were received.

Advocates Inspection of Meats.—At a conference, held in Hagerstown Dec. 9, by county health officers and others for the consideration of a state law for the inspection of meat, Dr. Marshall L. Price, Baltimore, secretary of the State Board of Health, presented the draft of a bill, which was held to be too stringent. He was asked to modify and present it again. All present favored the creation of the office of state meat inspector.

MASSACHUSETTS

Sentenced for Manslaughter.—Frank L. Hill, an "herb doctor" of Fall River, who pleaded guilty to manslaughter in connection with the death of Amelie St. John of Woonsocket, R. I., is said to have been sentenced on Nov. 17 to imprisonment for not less than seven or more than ten years in the state's prison.

More Land for Hospital.—The trustees of the Boston State Hospital, with the approval of the governor and council, have purchased a site on Fenwood Road, containing about 90,000 square feet, near the Harvard Medical School, on which a hospital will be erected for the first care and observation of mental patients and the study and clinical treatment of mental diseases.

Personal.—Dr. Myles Standish, Boston, has been appointed Williams professor of ophthalmology in Harvard Medical School.——Dr. George L. Richards has been elected president of the Fall River Antituberculosis Society, and Drs. Joseph A. Barre and Henry A. Rosa, Fall River, and Edward W. Burt, Westport, directors.——Dr. Carl E. Meyer, Chicopee, has been appointed a medical inspector of schools.——Dr. Walter Channing has been elected a vice-president of the Brookline Antituberculosis Society.——Dr. John A. Gordon, Quincy, has been appointed vice-president of the Antituberculosis committee of Quincy, and Drs. T. Ramon Burke, Nathaniel S. Hunting, Willis J. Middleton, Daniel B. Reardon, and John T. Reynolds have been elected members of the board of directors.

NEW YORK

Hospital Site for Buffalo.—Mayor J. N. Adam announced at a meeting of the Tuberculosis Hospital Commission that he intends to buy the Perryville site for the hospital. This site includes 293 acres and the price is $19,650.

County Tuberculosis Hospitals.—Ulster County plans to take over the day and night camp for consumptives established last summer by the local committee on tuberculosis of the State Charities Aid Association and to convert it into a permanent hospital. Similar action has been taken recently by the counties of Monroe, Ontario and Schenectady. Like action is expected soon by the supervisors in some twenty other counties.

State Board Seeks to Prevent Blindness.—A special committee of the New York Association for the Blind which was appointed to investigate the causes of preventable blindness and to cooperate with physicians in seeking measures of prevention, reports that the committee has found that about one-half of all blindness is due to preventable causes and about one-third of the blindness of children is caused by ophthalmia neonatorum. This committee has united with the State Commisioner of Health in enforcing the use of a 1 per cent. solution of silver nitrate. The State Commissioner of Health will endeavor to provide this solution through local health officers to any physician or midwife applying for it. It has been enacted that birth certificates be returned within thirty-six hours instead of ten days as hithertofore.

New York City

Personal.—Dr. and Mrs. Alexander McLane Hamilton sailed for Europe on December 8.——Dr. Daisy M. Orleman Robinson has been elected a member of the Société francaise de dermatologie et de syphiligraphie. Dr. Robinson is the first woman member of this society.——Dr. Walter H. Kerby has succeeded Dr. John P. Schneble as house surgeon of St. Mary's Hospital, Jamaica.

For Cancer Research.—George Crocker, who died on December 4, left property valued at about $1,500,000 to Columbia University, the proceeds of the sale of said property to be used in the prosecution of researches as to the cause, prevention and cure of cancer, and in case the progress of science should at any time make such researches no longer necessary, the fund to be applied to other researches in medicine and surgery as may be determined by the trustees. The fund is at no time to be used for the erection of a building; hence the acquisition of this fund will lay on Columbia University the responsibility of providing a suitable building for this kind of work.

New Hospitals.—Work will soon be begun on the new Bradford Street Hospital which has just received an appropriation of $77,000 from the city. This institution will take the place of a reception hospital and will relieve the Kings County Hospital, which is overcrowded. The entire cost of the building will be $350,000, and it is intended that it will serve as a model in erecting other city hospitals.——The Staten Island Tuberculosis Hospital was already in great part completed when the city gave an appropriation of $1,350,000 recently. One million dollars had already been appropriated. The building can now be completed and will furnish accommodations for one thousand patients.

Buffalo

Personal.—Dr. Joseph Burke has been appointed surgeon of the Sisters Hospital. Dr. Marshall Clinton has succeeded Dr. William Phelps as attending surgeon at the Buffalo General Hospital.

New County Hospital.—The board of supervisors of Erie county have appropriated $500,000 for the erection of a new county hospital. Further effort is being made for an appropriation of $200,000 for a building for the segregation and treatment of advanced cases of tuberculosis.

Municipal Tuberculosis Hospital.—The Municipal Hospital Commission has selected a site for the hospital at Perrysburg, at an elevation of 1,500 feet. The cost of the site is $19,200, and Mayor Adam has announced that he will pay for it and present it to the city. The hospital will be named the Adam Memorial Hospital, and the buildings are expected to cost about $200,000.

OHIO

Personal.—Dr. Robert Ingraham has been elected a member of the board of education of Cincinnati.—— Dr. Louis Schwab, mayor-elect of Cincinnati, has decided to continue to serve on the city hospital medical board until the first of the year.

The McDowell Centenary.—On December 9, under the auspices of the McDowell Medical Society, a banquet was given at the Hotel Alms in honor of the centenary of the first ovariotomy performed by Dr. Ephraim McDowell on Mrs. Crawford, in Danville, Ky., Dec. 9, 1809. More than 150 physicians, many from Kentucky and neighboring states, were present. Dr. Louis Schwab was toastmaster. Dr. S. Cary Swartsel responded to the toast, "Ephraim McDowell," and gave a history of the life of Dr. McDowell, stating that he was born in Virginia, Nov. 11, 1771; married a daughter of the governor of that state; moved to Kentucky, but returned to Virginia to study medicine, and later studied in Edinburgh under Dr. John Bell; located in Danville, Ky., in 1795, where the operation which made his name famous, was performed. The woman lived for 40 years after the operation. Dr. McDowell died at Danville in 1830. A high tribute was paid to Dr. McDowell's services to humanity and to the medical profession. Dr. Fayette Dunlap, Danville, Ky., responded to the toast, "Pioneer Days in the Blue Grass," Dr. Rufus B. Ball, Cincinnati, on "Ephraim McDowell's Influence on Ligatures in Abdominal Surgery," and Dr. John H. Landis, Cincinnati, on "Modern Medical Martyrs." Remarks were also made by Judge McDowell, grandson of Dr. McDowell, and by Dr. Powell, both of Danville, Ky.

PENNSYLVANIA

Medical Club Election.—At the annual meeting of the Oil City Medical Club, December 2, Dr. Fanny Davis was elected president; Dr. John L. Hadley, vice-president; Dr. Sylvester W. Sellew, secretary, and Dr. Frank B. Jackson, treasurer.

Personal.—Dr. Evelyn Dickinson has resigned as second assistant resident physician of the women's department of the Norristown State Hospital for the Insane.——Dr. Charles C. Eicher, McKees Rocks, has been elected president and Dr. J. Donald Iams, Sheridan, treasurer of the Chartiers Branch of the Allegheny County Medical Society, which is taking the postgraduate course suggested by the American Medical Association.

Work at State Tuberculosis Dispensaries.—The State Department of Health has now 114 tuberculosis dispensaries in the commonwealth, new ones having been recently opened at Nanticoke and Brownsville. At present more than 11,000 patients are being treated at these dispensaries. Trained nurses are visiting the homes of the patients, instructing them how to care for themselves, and the other members of the household how to guard against infection. For the month ending October 20, the nurses made 10,338 visits, and during the ten months ending October 20, 76,794 visits were made and 471 patients were discharged from the dispensaries with the disease arrested.

Medical Staff Election.—The Ohio Valley Hospital, McKee's Rocks, at its annual meeting, December 6, elected the following staff for the coming year: Surgery, Dr. Charles G. Eicher, McKees Rocks, chief of staff, and Drs. Joseph G. Steedle and George R. Wycoff, both of McKees Rocks; medicine, Drs. Albert H. Burket, McKees Rocks, R. Hanover, J. Donald Iams, Sheridan, and Dr. Charles B. Keebler, McKees Rocks; and assistants, Drs. J. W. Burkett and William C. Minnich, McKees Rocks; eye, ear, nose and throat, Dr. George W. Beane; genitourinary diseases, Dr. John A. Hawkins, Pittsburg; diseases of children, Dr. George S. Bubb; obstetrics, Dr. John A. Williams, Sheridanville, and neurology, Dr. Christopher C. Hersman, Pittsburg.

State Charity Organization Meeting.—The first Pennsylvania Conference of Charities and Correction was held in Harrisburg, December 6 and 7. Governor Stuart presided at the opening meeting and the address of welcome was delivered by Mayor E. S. Meals. Addresses were also made by F. H. Nibecker of Glen Mills, chairman of the committee on organization, and Francis J. Torrance of Pittsburg, president of the State Board of Charities. At the morning session, P. R. Lee, general secretary of the Philadelphia section for organized charity, spoke on "Needy Families, Their Care and Treatment by Organized Charity." Dr. E. R. Walters, director of Health and Charities of Pittsburg, spoke on "Public Treatment of Needy Families." Papers were also read by Dr. James M. Murdock of the State Institution for Feeble-Minded at Polk, Dr. Henry M. Weeks of the state institution at Spring City, Dr. Frank J. Woodbury of the State Board of Charities, Monsignor J. W. Turner of the Archdiocese of Philadelphia, Professor David Emmert, Huntingdon, and Mrs. J. L. Anderson, Pittsburg. On Wednesday a permanent state organization was formed.

Philadelphia

Charitable Bequests.—A provisional bequest from an estate valued at $57,500, to the Home of the Merciful Saviour for Crippled Children, was contained in the will of the late Marie

A. Brolesky.——The will of the late Catherine Boyle bequeaths $5,000 to St. Mary's Hospital.

Councils Vote to Buy Poor House Site.—On December 8, the city councils voted to purchase the land between State Road and Holmesburg Avenue and the Delaware river, adjoining the House of Correction, as a site of the proposed new home for the city's indigent. The tract comprises about forty-seven acres and the price to be paid will be about $50,000.

Gift to Jefferson.—Mrs. Henry C. Chapman has presented to the Jefferson Medical College all the laboratory apparatus and equipment used there by her husband, the late Dr. Henry C. Chapman, who was professor of the institutes of medicine and medical jurisprudence in that institution for twenty-nine years. The gift is said to be worth more than $20,000.

Surgeon General in Philadelphia.—Brigadier General George H. Torney, Surgeon General U. S. Army, made a visit to Philadelphia December 6. He was the guest of honor at a dinner at the Union League Club, made an address before the Northwestern Medical Society on "The Experiences of a Doctor in the Army," and was given a reception at the Southern Club in the evening.

Library for Jefferson Alumni.—The College Library of the Jefferson Medical College has a good working library of over 4,000 volumes in the college building in use by the students of the Jefferson Medical College. The alumni of this institution are invited to use the library whenever they are in the city. The library is open practically from 9 in the morning until 5 in the afternoon. It will be found on the first floor of the college building, Tenth and Walnut streets.

Honor Memory of Daring Physician.—A memorial tablet to Dr. Francis Kinloch Huger, of the class of 1797 of the University of Pennsylvania, the work of Dr. R. Tait McKenzie, was unveiled Nov. 5 by Miss Elizabeth Huger, a great granddaughter of Dr. Huger. Dr. J. William White made the presentation speech, and the memorial was accepted on behalf of the university by Dr. Wharton Sinkler. The tablet commemorates the daring attempt of Dr. Huger to rescue Marquis de Lafayette from the fortress of Olmutz, Austria, in 1794.

Personal.—Dr. Guy Hinsdale sailed for Europe, December 11. ——Dr. John M. Swan has been elected associate professor of clinical medicine in the Medico-Chirurgical College.——Dr. Harry Hudson has been elected chief of the orthopedic department of Jefferson Hospital and associate in orthopedic surgery in Jefferson Medical College.——Dr. Joseph Evans has been appointed professor of clinical medicine and medical adviser of students in the University of Wisconsin, Madison.——Dr. J. Frank Meade sustained a loss of about $800 by fire November 16.

Jefferson Hospital Clinical Society.—At a meeting of members of the staff of Jefferson Hospital, December 8, plans were made to form a scientific society to be known as the Clinical Society of Jefferson Hospital. The aim of the society is to encourage members of the hospital staff in research work and the compilation of scientific papers. The society is to meet the fourth Friday night of each month and the meeting for organization will be held on Jan. 28, 1910. The subject for discussion for that time will be "Pulmonary Embolism Following Abdominal Operations."

Plans New Hospital.—Plans have been drawn by Henry L. Reinhold and Lynn H. Boyer for a new building for the Roosevelt Hospital, 710 North Fifth street, the present quarters being inadequate for the demands of the river front and factory territory tributary to it. The new building will be four stories in height, with a frontage of forty feet and a depth of 125 feet, and will accommodate 150 patients. At present, with but fifty beds, the hospital is constantly filled. Since obtaining its charter as a general hospital in 1905, more than 1,700 patients have been admitted to the house and 17,000 have been treated in the dispensary.

Associations Elect Officers.—The annual banquet of the Medical Examiners' Association of Philadelphia was held December 9. Dr. John G. Clark, the retiring president, was toastmaster, and the following officers were elected: President, Dr. Samuel G. Walker; vice-president, Dr. Samuel H. Brown; secretary, Dr. Norris S. McDowell, and treasurer, Dr. George D. Morton.——The West Philadelphia Medical Society held its annual meeting and banquet December 6. The following officers were elected: President, Dr. Sherman F. Gilpin; vice-president, Dr. Hiram L. Lutz; secretary, Dr. Henry G. Munson; financial secretary, Dr. William M. Miller; and treasurer, Dr. Edmund L. Graf.

Baby Alliance Plans Campaign.—The Baby Alliance was formed last May, under the auspices of the Department of Health and Charities, the Board of Education and civic associations of women. The object of this body is to educate mothers in the elementary laws of hygiene and to establish milk stations, providing pure milk. A committee of seven met in Director Neff's office in City Hall and heard a paper read by Dr. Frank N. Yeager, infant mortality specialist of the city. He showed by statistics gathered by himself that one-half of the infant deaths were of babies of less than one year and that these deaths might easily have been prevented by better knowledge on the part of mothers.

Jonnesco in Philadelphia.—Dr. Thomas Jonnesco, dean of the medical faculty of the University of Bucharest, Roumania, visited Philadelphia, December 13, 14 and 15. He demonstrated his method of spinal anesthesia at Dr. Charles S. Frazier's clinic at the Hospital of the University of Pennsylvania and also of the clinic of Dr. Edward Martin at the same institution. He also gave an illustrated lecture at the University Hospital. On Tuesday at 1 o'clock he outlined his method and gave a demonstration at Dr. E. E. Montgomery's at the Jefferson Hospital and on Wednesday he gave a lecture and demonstration at Dr. W. L. Rodman's clinic at the Medico-Chirurgical Hospital. A dinner was given in his honor by Dr. Charles S. Frazier on Tuesday evening.

WISCONSIN

Lay Medical Journal.—It is announced that Dr. Julia Riddle, Oshkosh, has been elected editor in chief of a new monthly publication to be known as *The Layman's Medical Journal*, having for its object the eradication of preventable diseases. The collaborators on the staff are Drs. Anna B. Corr, Juneau, M. Adeline Riddle, Oshkosh, Belle P. Nair, Fort Atkinson, Johanna M. Droppers, Milwaukee, and Evelyn C. Hoehne, Milwaukee.

Personal.—Dr. Mazyck P. Ravenel, professor of bacteriology in the University of Wisconsin, Madison, has been elected a director of the Madison Antituberculosis Society, and has been appointed official reporter for the International Medical Congress at Buenos Aires, Argentina, in May next, where he will have charge of the tuberculosis program.——Dr. Thomas C. Phillips, Milwaukee, has been made dean and professor of ophthalmology and otology in the Wisconsin College of Physicians and Surgeons.——Dr. Peter B. Stewart, Chetek, is convalescent after a severe attack of pneumonia.——Dr. Wilson H. Van Dusen, Lancaster, who has been ill for several weeks, slipped and fell on a sidewalk Nov. 26, breaking his right arm. ——Dr. Henry T. Brogan, West Allis, has been appointed physician of Milwaukee county.——Dr. L. Rock Sleyster, Appleton, has been appointed physician of the state penitentiary.——Dr. George E. Knauf, Sheboygan, has been elected physician of Sheboygan county.——Dr. Susan Jones, Racine, has been elected secretary of the local society for the prevention of tuberculosis.

GENERAL NEWS AND COMMENT

Society Meetings.—The Missouri and North Arkansas Railway Surgeons Association was organized at Leslie, Mo., Nov. 3, with the following officers: President, Dr. Cyrus F. Crosby, Heber, Ark.; vice-presidents, Drs. T. D. S. McCall, Neosho, Mo., Samuel C. Daniel, Marshall, Ark.; and H. L. White, Rondo, Ark.; secretary, Dr. J. Oliver Cotton, Leslie, Ark., and treasurer, Dr. Asbury J. Vance, Harrison, Ark.——The following officers have been elected by the New England Pediatric Society: President, Dr. Charles P. Putnam, Boston; vice-president, Dr. Philip S. Potter, North Adams, Mass.; secretary-treasurer, Dr. Fritz B. Talbot, Boston, and councilors, Drs. John L. Morse, Arthur H. Wentworth, and Henry I. Bowditch, all of Boston.

The Health of the Army.—The report of the Surgeon General of the Army for the fiscal year just closed shows the lowest ratio of sick admissions on record, 575.47 per 1,000. The constantly non-effective rate for the enlisted strength of the army was 42.68 per 1,000 as compared with 46.17 for 1907 and 49.79 for 1906. The total admission rate was 1188.03 as compared with 1218.26 for 1907 and 1706.33 for 1906. The deaths from all causes were 414, of which 235 were due to diseases, the death-rate being 3.48 per 1,000 as compared with 3.44 for the preceding year. The highest death rates were from tuberculosis, pneumonia, and typhoid fever. The anti-typhoid vaccination test in the hospital corps has been found so successful that the surgeon general recommends the extension of the vaccination to include volunteers from all organizations to be detailed for duty outside of the United States and among troops to be ordered for special practice or maneuvers. He recommends that a medical officer be attached to the Militia Division to assist in the organization of the medical department of the militia and that the state authorities be required to equip a field hospital with its ambulance company for each three regiments in addition to regimental medical service.

The Health of the Navy.—The annual report of the Surgeon General of the Navy shows the relation of the different causes of death in the Navy and Marine Corps for the past fiscal year. Drowning heads the list with 47 of the 305 deaths, tuberculosis comes next with 30, pneumonia follows with 24, heart disease with 21, and nephritis with 15. Of the 26,350 sick admissions, 3,015 were due to venereal diseases, 2,631 to tonsillitis, 2,319 to wounds, and 1,677 to suppurative skin diseases. The ratio of admissions and readmissions per 1,000 of the strength for the year was 611.05 as against 630.08 for the previous year, and 649.65 for the decade from 1897 to 1906. The cigarette-tobacco bag is suggested as possibly playing an important part in the transmission of mumps, as the invariable habit of those who use tobacco in this form is to close the sack by pulling the puckering string with the teeth; thus the user of the sack by touching the saliva-soaked bag string may infect himself. Mumps occupies seventh place in the sick admissions, with 1,392, exceeding even the rate for bronchial and rheumatic affections. The insufficiency of the medical force is shown by the fact that less than 248 medical officers are available for the care of the 52,913 officers and men of the Navy and Marine Corps, or 1 to 254. Discontinuance of fresh milk as a part of the Navy ration is recommended, and the use of the Elliott ear protector against injuries by gun-fire is also recommended. Mention is made of the fact that among candidates for enlistment from the northwest, or those born in or long residents of the extreme northwest, thyroid enlargement of varying degrees, is found. The proposal to accept unusual period of watches on deck and in engine rooms for officers on board ship, in lieu of the physical tests of walking and riding does not meet with the approvel of the surgeon general, who believes that such tests will be an index of the moral stamina rather than the physical fitness of the officer.

FOREIGN

Nobel Prize Goes to Kocher of Berne.—The prize for medical research was this year conferred on Theodor Kocher of Berne, where he has been professor of surgery since 1872. He was born at Berne, Aug. 25, 1841, and is thus 68 years old. His fame rests mainly on his research on the physiology and pathology of the thyroid gland, although he is eminent as a surgeon and his "Manual of Surgery" is a classic text-book. His discovery of the cachexia that follows total removal of the thyroid was announced in 1883, and his work on the thyroid and parathyroids has inspired an immense amount of research in all lands. Among his latest works are some on transplantation of the thyroid, the blood picture in exophthalmic goiter, cancer of the thyroid, curability of gastric cancer, hypophysic and other tumors, and means to prevent and cure cretinism.——The professor of chemistry at Leipsic, W. Ostwald, received the chemistry prize, while the physics prize was divided between Marconi of wireless telegraphy fame and F. Braun, professor of physics at Strasburg. Switzerland, Germany, Italy, Sweden and France are represented in the recipients of the five prizes this year. The prize in medicine has been awarded in turn during the nine years since the foundation of the Nobel prizes to von Behring, Ross, Finsen, Pawlow, Koch, Golgi and Ramon y Cajal, Laveran, Ehrlich and Metchnikoff, and, finally Kocher, thus honoring eight different countries. Germany has had three recipients; France and Russia both claim Metchnikoff.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Dec. 4, 1909.

A Historical Room at a College Museum

A special room has been added to the museum of the Royal College of Surgeons containing various exhibits of historical interest. The exhibits form a most interesting collection and include the body of a woman embalmed by Dr. Cruikshank and William Hunter in 1775; the mummified body of a boy who died from plague in 1665, which was found in the crypt of St. Botolph's Old Church; the skin of the heads of three Macas Indians from Ecuador so preserved that while contracted to the size of a doll's head they yet retain the features of living individuals; a collection of boots, shoes and gloves worn by the Irish giant O'Brien; pieces of human skin found nailed to the doors of Worcester Cathedral and the churches of Hadstock and Copford in Essex; a chain and belt used for securing lunatics; a cast of the head of Deeming, the murderer who was hanged at Newgate in 1892; and an electrical machine used by a surgeon named Birch about 1775, with a manuscript by his sister describing the cures said to have been effected with the machine.

Sleeping Sickness in Uganda

An important paper has been communicated to the Royal Society, the joint work of Col. Sir David Bruce, Capt. A. E. Hamerton, Capt. H. R. Bateman and Capt. F. P. Mackie, who constituted the sleeping sickness commission of the society recently sent to Uganda to investigate. The policy during the last two years of clearing the shores and islands of Lake Victoria of their inhabitants has been carried out. No native has been allowed to live or work within two miles of the shore except at a few cleared landing places, and within the last few months all the islands in the lake have been emptied of their population. Until recently it was believed that the tsetse fly, which conveys the disease, retains its infectivity for forty-eight hours, and therefore that it would be possible with safety to clear an island of its infected population one day and restock it with healthy natives a few days later. But it has now been found by experiment that the fly retains its infectivity up to eighty days and it seems probable that once infected a fly harbors the trypanosomes for the rest of its life. It therefore became important to discover how long the flies on the lake shore remained infective after the native population had been removed. Flies were collected at a cleared landing place which was used as a market by the inhabitants of one of the islands, who were highly infected with sleeping-sickness. This constituted a danger to the healthy natives of the mainland who had come to the market from places beyond the area of the disease. The landing was therefore cleared of undergrowth and in a short time the flies disappeared. As the result of many experiments it was concluded that the flies remained infective at least two years after the natives had been removed. This long duration of infectivity can be accounted for only by two theories—long life of the fly or the infection along the lake shore of birds and mammals which become a reservoir of the disease. At present the former theory has not been proved or disproved and of the latter there is no experimental proof.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Dec. 3, 1909.

Discussion in the Chamber of Deputies on Depopulation

Apropos of the discussion of that portion of the budget of the ministry of the interior relating to the protection of young children, M. Gauthier of Clagny called the attention of the Chamber of Deputies to the serious question of depopulation. The alarming figures on this subject for the first semester of the present year were given in THE JOURNAL (Nov. 4, 1909, liii, 1833). The Neo-Malthusian League is spreading among women the idea that they have the right to avoid maternity. Since 1887 another league, also intended to promote depopulation, has been working through pamphlets, prospectuses, journals and lectures. There is also a class of criminals who, under the shelter of the league, send to families manuals of debauchery and pornography. In closing M. Gauthier referred to President Roosevelt's epigram that a nation in which the men are unwilling to make war and the women are unwilling to bear children is a nation stricken at the heart. M. Briand, the prime minister, replied that orders had been given that the authors of these shameful works should be severely prosecuted. He believed that the existing laws were sufficient for the purpose, but if not, he should not hesitate to demand more rigorous ones.

Code for the Protection of Young Children

The prefect of police of Paris has just caused a pamphlet to be issued in which are found all the laws, ordinances, and national and municipal instructions which bear on young children. This code for the protection of childhood will be sent to all the municipalities under the jurisdiction of the Paris prefecture, to the medical inspectors, and to the visiting inspectors of children boarded out. In this code will be found all the documents in regard to the obligations imposed on wet-nurses and care-takers, local commissions and medical inspectors of crèches. To this will be added the elementary advice, on the hygiene of infancy, in regard to natural, mixed and artificial feeding, published for mothers and nurses by the Academy of Medicine. The *Oeuvre de protection des enfants du premier âge* gives inestimable service in Paris. Thanks to its incessant efforts, the mortality of children boarded out under its control in the department of the Seine has been only 4.96 per cent. during 1908, while the average of infant mortality during the same year reached the truly frightful figure of 15 per cent. One may moreover form an estimate of the progress made by this organization from the fact that in 1907 the mortality of its nurslings was 5.15 per cent. and in 1900 8.7 per cent.

Repression of the Renting of Children for Begging

It is not rare to see in the streets of Paris beggars who in order to excite the pity of passers-by, carry in their arms during all seasons and at all hours, young children, most frequently lent or rented by irresponsible parents. Believing hat this exploitation of infancy affects the health of young children unfavorably, the prefect of the police has just given severe orders for the repression of the criminal practices of hose who rent children. After a rapid inquiry to determine the origin of such children, the agents of the police will send he children to an asylum of the public charities (*Assistance Publique*) and moreover the unworthy parents will be prosecuted before the courts.

The Period of Rest for Pregnant and Lying-in Women

A law has just been passed guaranteeing the positions of employed women during pregnancy and lying-in. According o this law, an employer who breaks a contract of employment because of the suspension of work by a woman during he eight consecutive weeks in the period which precedes and ollows child-birth is liable for damages to the woman, provided that the latter shall have warned her employer of the eason of her absence.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Nov. 24, 1909.

Personal

Professor v. Franqué, the gynecologist of Giessen, has efused a call to Göttingen as successor to Professor Runge, eceased.—Dr. Treutlein, privatdocent at Würzburg, who has or some years been general director of the public health epartment of the Republic of Bolivia, has left for political easons and has returned to Würzburg as instructor in naval, military and tropical hygiene.——Professor Bernstein, director f the physiologic institute at Halle, will celebrate his sevntieth birthday, December 8.——Professor Schirmer, head of he eye clinic at Strasburg, has resigned. This is somewhat urprising as Schirmer is only 45.

Motherhood Insurance

The plan for insurance of women about to become mothers, which has been undertaken under private auspices in Baden, as been noticed in a previous letter. The proposal to make his a government undertaking applying to the whole empire as little prospect of success as the necessary annual expense f \$70,000,000 (280,000,000 marks) would be more than the overnment would be justified in expending in the present tate of its finances. Besides it is believed that sufficient elief for women and nurslings is afforded by the recent legisation in favor of women workers and by the proposed impeial insurance law.

Alcohol and Crime

An investigation into the relations between alcoholic intoxcation and crime has been ordered by the Bavarian department of justice, confined at first to cases of serious offences gainst the criminal law. The investigation is to begin with an. 1, 1910. Those cases are to be included in which the rime was committed under the influence of intoxicants, or which can be traced to the habitual use of alcohol.

Limitation of Foreign Students at Strasburg Medical Clinics

Of late years the number of foreign female auditors (*hositantinnen*) at the clinics has increased so considerably that he native students feel themselves placed at the disadvantage y the preemption of the best places and have made complaint ccordingly. It has been settled that women who are not matriculants shall be allowed in future to visit the clinics as uditors only under condition that they can show evidence of sufficient previous education. This evidence must be furished by the presentation of a certificate that the individual s prepared for the regular study of medicine in a university r institution of equal grade in his own country. Exceptions re to be allowed for such auditors as take only special medcal lectures, but are not pursuing a regular medical course.

Change of Physican at Lahmann's Sanatorium

At the end of next year Prof. v. Düring, director of the well nown Lahmann's sanatorium, "The White Stag," at Dresen, will resign his position. What reasons have induced him o give up so desirable a place are not known; probably ome trouble with the proprietors has arisen, as is usual, ecause the medical interest has conflicted with the commercial interest of the proprietors of the sanatorium. Simar conditions are seen in other institutions, especially in rehmer's sanatorium at Görbersdorf, which is managed by the heirs of the renowned founder of the physical-dietetic treatment of consumption. Since the death of Brehmer, the medical management of the institution is changed almost annually. That the interests of the patients must suffer with such frequent change of physicians is readily understood. Prof. v. Düring is essentially a dermatologist. In this specialty he was professor for many years at the military school at Constantinople in the service of the Turkish government and won great distinction in this position. For this reason he received the title of pasha from the former sultan. From Constantinople he was called to Kiel a few years ago as professor extraordinary of dermatology. A short time thereafter he gave up his position and after the death of Lahmann he undertook the direction of his sanatorium. His assistants also leave the institution with him.

Typhoid Bacillus Carriers

In a small epidemic of fourteen cases of typhoid fever in Westphalia it was ascertained that the germs of the disease were introduced with the milk that was furnished by a dealer in the place in whose family there was found a bacillus carrier who had probably harbored bacilli in his intestine since an attack of typhoid which he experienced nine years before. In another village of Westphalia a cook who had typhoid twenty years ago has communicated the disease in the course of time to members of the family of almost all the persons in whose service she has been and has been responsible for at least twenty-four such cases.

Pharmacology

[Contribution from the Chemical Laboratory of the American Medical Association]

BISMUTH BETA-NAPHTHOLATE

W. A. Puckner and W. S. Hilpert

Uniformity in composition of medicines, official in the U. S. Pharmacopœia, is secured by the method of preparation or the tests of purity and strength for which that book provides. As a rule there are no standards of purity or strength for substances that are not included in the Pharmacopœia, with the result that substances nominally supposed to be identical frequently are found to vary in composition not only with the brand, but often with different batches of the same brand. The Council on Pharmacy and Chemistry aims to establish standards for these articles, so as to insure the uniformity of unofficial remedies and to overcome this stumbling block to therapeutic accuracy and efficiency. It is in connection with this line of work that the examinations of different brands of bismuth beta-naphtholate, about to be described, were made. The results are published for the specific purpose of showing the need of such control of unofficial articles.

One of the incidental results of these examinations is to show that even different specimens of what is supposed to be the same product, may differ widely in composition. It is especially interesting in this particular case, because the firm whose product is shown to have possessed such lack of uniformity is the one that holds patents which are claimed to give it the exclusive right to make this product. It sells the preparation under a protected (trade-marked) name, and curiously enough it maintained that other preparations of bismuth beta-naphtholate which appeared on the market shortly after this protected preparation was introduced were "crude toxic and irritant imitations which are mere mechanical mixtures of bismuth salts and naphthol."

THE DRUG ITSELF

Bismuth beta-naphtholate is practically insoluble in water and is only slightly soluble in dilute acids. It is, therefore, not materially changed in the stomach. The intestinal fluids, however, are said to decompose it into its constituents and according to the literature on the subject when thus acted on the bismuth exerts an astringent action, while the naphthol acts as an antiseptic. The composition of bismuth betanaptholate has not been definitely determined; the following chemical formulas are variously assigned to it: $C_{10}H_7O(BiO)$ (Schmidt's Pharm. Chemie.); $Bi_2O_2(OH)C_{10}H_7O$ (National Dispensatory; Merck's Index; British Codex; Chemische Fabrik von Heyden; Hager's Handbuch der Pharm. Praxis); and $Bi(C_{10}H_7O)_3.3H_2O$ (U. S. Dispensatory).

The composition of bismuth salts varies so that it is probable that a bismuth beta-naphtholate of definite composition can only be made with great difficulty. However, since the therapeutic value of this preparation must depend on the bismuth and on the "combined naphthol" contents, it is important that the substance used by physicians should be of fairly uniform composition. Its therapeutic value is said to depend largely on its freedom from uncombined or free naphthol and the product should, therefore, be relatively free from this constituent. With the object of determining the uniformity of composition of bismuth beta-naphtholate, as it is now available, the various products found on the market were analyzed, to determine their bismuth and free and "combined naphthol" contents.

LABORATORY FINDINGS

Bismuth beta-naphtholate is found on the market in powder and in tablet form. The powder is light-brown or grayish-brown, without odor and practically tasteless, insoluble in water and only partially so in alcohol. Strong acids decompose it into its components which by proper manipulation can be separated and estimated.

Several specimens, both of tablets and powder, of different brands were obtained, some from the manufacturers and others on the open market. In appearance the tablets were practically alike, but the powder form varied from a light grayish color through a pinkish-brown to dark brown. Experiments were made to determine the bismuth and combined naphthol contents by decomposing the bismuth beta-naphtholate and separating the constituents. Since bismuth beta-naphtholate is insoluble in chloroform, substances other than bismuth beta-naphtholate, including free naphthol were estimated by direct extraction of the specimens with chloroform or ether. The results of these estimations[1] are given in the following table:

Brand.	Bismuth.	"Total Naphthol."	Sol. in Chloroform or Ether.
Orphol (Chemische Fabrik von Heyden).			
Specimen 1 (tablets)*	67.12	10.57	3.85
Specimen 2 (tablets)	61.05	21.58	0.40
Specimen 3 (powder)	69.08	21.50	18.46
Specimen 4 (powder)	68.21	24.05	0.40
Bismuth Beta-Naphtholate (H. K. Mulford Co.).			
Specimen 1 (tablets)	56.47	6.89	4.89
Specimen 2 (tablets)	51.27	18.84	3.21
Bismuth Beta-Naphtholate (Powers-Weightman-Rosengarten Co.)			
Specimen 1 (powder)	75.30	15.56	0.19
Specimen 2 (powder)	75.07	15.56	0.33

* The percentages given were calculated on the assumption that the tablets contained the amount of substance claimed.

A noticeable lack of uniformity among the products is disclosed by the table. Thus the bismuth content ranges from 51.27 per cent. in a specimen of one brand to 75.30 per cent. in another brand. This alone certainly shows the necessity of some control and regulation in the manufacture of the products. Among the specimens of a single brand we find the bismuth varying from 61.05 to 69.08 per cent., a condition which should not exist and which by care in preparation can be avoided.

A similar variation exists in the naphthol content which ranged from 6.89 to 21.58 per cent. It was found that the specimens varied not only in the quantity of actual naphthol present but also in the composition of what was supposed to be naphthol. The material which was extracted weighed and recorded as "total" or "combined naphthol" should represent the content of beta-naphthol. Some specimens examined failed to respond to the usual tests for beta-naphthol. The same may be said of the so-called "free naphthol," or more correctly, "ether- and chloroform-soluble matter." As indicated by the solubility in chloroform or in ether the various products were found to contain from 0.19 per cent. to about 18.46 per cent. soluble matter.

It is noteworthy that the products of the same brand, manufactured under the same patent, bearing the same trademarked name on identical labels—should vary from 61 to 69 per cent. in the bismuth content, from 11 to 24 per cent. in naphthol content, and from 0.40 to 18.0 per cent. in matter soluble in chloroform. If such a condition exists in a product so identified and protected what may not be expected of products for which no claims of uniformity are made or implied, by patents or trademarks? As a means of comparison of the compositions of the different brands examined the following summary is given:

SUMMARY OF FINDINGS

Bismuth Beta-Naphtholate (Powers-Weightman-Rosengarten Co.).—The most important features shown by the analysis of this product are high bismuth content and practical freedom from free naphthol. The two specimens of this brand examined—one purchased on the open market and the other submitted by the company — were found to be almost identical, as is shown by the table. Specimen 1 contained 75.30 per cent. bismuth, 15.56 per cent. naphthol, and 0.19 per cent. free naphthol; specimen 2 contained 75.07 per cent. bismuth, 15.56 per cent. naphthol, and 0.33 per cent. free naphthol. This brand contained the highest percentage of bismuth and the lowest content of free naphthol of any examined.

Orphol (Chemische Fabrik von Heyden).—The specimens of Orphol examined may well be specified as "old" and "new" Orphol. The "old" specimens were obtained and analyzed some time ago, while the "new" specimens were obtained only recently. Among the old specimens, that is those received and examined some time ago, the bismuth content averaged about 68 per cent., the matter recorded as "total naphthol" about 16 per cent., and the chloroform-soluble matter about 11 per cent., the highest content of the latter found in any brand. The so-called naphthol of these old specimens in many cases failed to respond to the usual tests for naphthol, and exhibited none of the physical properties of naphthol, so that it was concluded that the greater part of the naphthol used in the preparation of the product had in some way, by oxidation or nitration probably been converted into decomposition products, and so no longer gave naphthol reactions. In other words, naphthol, as such, was not present in the preparation.

The chloroform-soluble material consisted of not free naphthol but was chiefly a bismuth organic compound, which also gave none of the free naphthol reactions. This constituent was found in quantities as high as 18 per cent., and just to that extent the product was contaminated and made uncertain.

These specimens, considering their composition, could hardly be called bismuth beta-naphtholate in spite of the patent rights and trade-marked name, and they stand out as an example of the kind of product that may be expected while no control in the manufacture is demanded. A specimen of Orphol tablets examined some time ago was found to contain 67.12 per cent. bismuth, 10.57 per cent. "naphthol," and 3.85 per cent. chloroform soluble matter. A specimen examined more recently contained about 61 per cent. bismuth, 21.6 per cent. naphthol, and from 0.3 to 0.4 per cent. chloroform soluble matter. Although the new tablets show a somewhat diminished bismuth content, the naphthol has been materially increased and free naphthol practically eliminated, showing on the whole an improvement over the older tablets.

The most recent specimen of Orphol examined contains 68.21 per cent. bismuth, 24.05 per cent. naphthol, and 0.40 per cent. chloroform soluble matter. A comparison of this analysis with estimations made on specimens some time ago indicates the extent to which the product has been improved. The combined naphthol, which is important for the proper therapeutic action of the product is well above the average and the free naphthol which is a very objectionable ingredient is now almost entirely eliminated, to the benefit of the profession and the credit of the manufacturers.

Bismuth Beta-Naphtholate Tablets. (H. K. Mulford Co.).—A specimen of these tablets was examined some time ago and the bismuth beta-naphtholate was found to contain 56.47 per cent. bismuth, 6.89 per cent. naphthol, and 4.89 per cent. chloroform soluble matter. A more recent product was examined and found to contain 51.27 per cent. bismuth, 18.84 per cent. combined naphthol and 3.21 per cent. chloroform soluble matter. Here again attention is called to the endeavor and partial success in the improvement of the product. Although the new tablets have a slightly lower bismuth content, the total naphthol has been appreciably increased, while a certain amount of the undesirable free naphthol has been eliminated.

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[1] The analytical details are contained in a paper presented to the scientific section of the American Pharmaceutical Association, 1909, and will appear in the printed proceedings of that body and also in the Annual Report of the Laboratory of the American Medical Association.

A STANDARD NEEDED AND RECOMMENDED

The above summary of the results of analysis for the various products and specimens brings out more distinctly the necessity of a standard for the control of the future manufacture of bismuth beta-naphtholate, insuring a product on which physicians can rely for uniform effects.

To establish a standard for bismuth beta-naphtholate, both the highest possible and the highest available purity must be considered. It would be useless to set a standard which could not be conformed to and yet one must be chosen which will eliminate the poorer and more variable products. For bismuth beta-naphtholate the following standard is recommended:

Bismuth beta-naphtholate should contain not less than 60 per cent. bismuth, 15 per cent. total naphthol, which should respond to tests for beta-naphthol, nor more than 1 per cent. of ether- or chloroform-soluble matter, when analyzed according to the methods of analysis employed in this investigation.

PHARMACOPEIAL REVISION

Report of the Therapeutic Committee of the British Medical Association

The report of the therapeutic committee of the British Medical Association on the revision of the British Pharmacopeia (supplement to the *British Medical Journal*, 1908, ii, 319) is of interest to American physicians because it clearly indicates that on the question of scope or content of the Pharmacopeia, the one question that is of prime importance to the physician, medical men are not only capable of outlining rational general principles but are also able to give, in detail, reasons that will appeal to thinking men, quite regardless of whether the latter have any special knowledge of medicines.

The general principles adopted by the committee on therapeutics to guide them in determining on the proposed additions and deletions are as follows:

"1. Crude drugs which contain an active ingredient possessing all the desirable actions of the crude drug might be replaced by this active ingredient if it can be obtained commercially and its identification and purity ensured. If such an active principle is official, the crude drug might be deleted. For example, jaborandi leaves, coca leaves, elaterium and many crude drugs yielding only volatile oils might be deleted.

"2. Drugs and their preparations possessing no obvious and serviceable action should be deleted, e. g., arnica rhizome, cusparі bark, hemidesmus root, lupulin, mezereon bark, serpentary rhizome.

"3. Unnecessary duplication of the preparations of a drug should be avoided. Thus one 1 per cent. solution of a morphine salt, or one solid extract of belladonna, is sufficient.

"4. Purely diluent preparations of a drug should, as far as possible, be avoided, e. g., solutions of potassium permanganate, almond mixture.

"5. Substances which do not require to be defined officially for the protection of the practitioner, or the vendor or purchaser, e. g., prunes, figs, brandy, sherry, might be omitted.

"6. Substances of no therapeutic importance, which are used only in the making of preparations and are not contained in the final products, should be deleted or transferred to an appendix, e. g., benzol, solution of iron persulphate."

These principles show very clearly that the therapeutic committee of the British Medical Association has in view a Pharmacopeia intended to serve the best interests of members of our profession, an aim that should be self-evident but one which is commonly overlooked in considering what the Pharmacopeia should be.

These principles also indicate that the problems that are confronting British physicians are in no way different from those that we must contend with in the revision of our Pharmacopeia; and they further suggest that if the real purposes of the Pharmacopeia could be kept steadfastly in mind the problems of its revision would be enormously simplified.

While the therapeutic committee of the British Medical Association does not specifically state that the true therapeutic value of a substance should be the sole criterion for admission, the principles as stated show the trend of opinion. In curious contrast to this evidenced thought is the sentiment, altogether too freely adopted in our own country, that the extent of use of a substance be considered as the sole justification for admission to or retention in the Pharmacopeia. Unfortunately the degree of popularity which a preparation enjoys frequently stands in no relation to its real value or even to its reputation among the leading clinical authorities, at least so far as this country is concerned.

The *British Medical Journal*, commenting editorially on the report of the therapeutic committee, points out that, while several recommendations for the omission of drugs from the future editions of the British Pharmacopeia may seem somewhat drastic, they are nevertheless fully justified by the general principles adopted as a guide for the committee.

Altogether the suggested deletions number about one hundred and include many articles and preparations which in former times were very familiar, but which in the light of more accurate knowledge and greater experience are known to be unnecessary or valueless. Other articles like prunes, figs and brandy are recommended for omission because they are not usually prescribed as such and require no official descriptions, being commercial products that vary in quality and price. Altogether it is quite apparent that the therapeutic committee has given much thought to the work. The report should be read by all who are directly interested in the question of pharmacopeial revision.

A perusal of the list of articles recommended for admission is to the advantage of our own Pharmacopeia, since most of these articles are now official in the U. S. Pharmacopeia. The proposed admissions include: extract of malt, ethyl chlorid, methyl salicylate, guaiacol, solution of formaldehyd, chloralamid, hexamethylenamin, solution of cresol and soap, and antidiphtheric serum; also the following unofficial articles: aspirin, or acetyl salicylic acid, a suprarenal preparation, veronal, a soluble preparation of theobromin, orthoform, a less toxic substitute for cocain, and some articles of minor importance.

We in this country have made at least a good beginning in connection with the coming revision of our Pharmacopeia, as is shown by the reports of the several section committees (The Journal A. M. A., Sept. 4, 1909, p. 791). In an editorial (Oct. 30, 1909, p. 1491) we stated that the methods pursued concerning admissions by the last committee on revision were not such as to appeal to the medical profession, too little pains having been taken to determine how well founded were the wishes represented as favoring admissions. It will be well, therefore, to see that in the forthcoming revision of the Pharmacopeia such methods are followed as will secure a representation of the practices of progressive medical men.

With the report of the therapeutic committee of the British Medical Association as an illustration of the practical possibilities, with the reports of the section committees of the American Medical Association as a demonstration of the feasibility of doing even more efficient work, and with the admirable scheme for revision suggested by Torald Sollmann (The Journal, Nov. 6, 1909, p. 1543) as a practicable solution of pharmacopeial revision problems to look forward to, it would appear as though the way for securing a better and more representative book for the medical practitioner was clearly outlined. It remains for members of the medical profession to say whether they will have a Pharmacopeia representing the foremost thought in therapeutics, or one which is practically valueless for this purpose.

As medical men we must not lose sight of the fact that the shortcomings of the Pharmacopeia, so far as scope and content are concerned, are in reality a measure of our own neglect of a plain duty, and that unless all classes of medical practitioners are willing to take an active interest in the matter of pharmacopeial revision it will be difficult indeed to avoid the odium that must attach itself to us should the forthcoming ninth edition of the U. S. Pharmacopeia fail to reflect adequately the best, and only the best pharmacal therapy in American medicine.

COLLARGOL

Report of the Council on Pharmacy and Chemistry

The following recommendation was submitted to the Council:

A letter from Dr. S. Solis Cohen to the Editor of The Journal has been transmitted to the Council. In this letter Dr. Cohen states that his communication to the chairman of the collargol commission should have been published with the Council's rejoinder to Schering & Glatz's reply, which appeared in The Journal, July 10, 1909. In view of Dr. Cohen's request, it is recommended that publication of his letter of dissent to the majority's findings be authorized.

The recommendation having been adopted, the letter of Dr. S. Solis Cohen is here published.

W. A. Puckner, Secretary.

Philadelphia, May 3, 1909.

Dr. W. A. Puckner, Chicago, Ill.

My Dear Dr. Puckner:—I have received your letter of April 30, enclosing copy of Schering & Glatz's report and of Dr. Edsall's explanatory note.

I still feel that the committee made a mistake in not permitting Messrs. Schering & Glatz to be heard before deciding on a report, although this error was in a measure corrected by submitting to them the proposed report and receiving their written comment on it before publication.

The explanatory note involves reaffirmation of a number of points of fact, theory and attitude concerning which I differed with the majority of the committee, and I am therefore unable to give it my unreserved approval. As an instance of what I believe to be hypercriticism on the part of the committee, I would cite that portion of the explanatory note relating to the Hocheisen quotation. The fact remains that Hocheisen used the word "wertvolles," and Schering & Glatz admit that they should have translated it "valuable" instead of "invaluable." The committee shows that what Hocheisen really said was: "Hence collargol is no specific, but is an aid in suitable cases," and that further on, after having described types of unsuitable cases, he adds: "Used according to these principles, collargol injections constitute a valuable measure in cases of puerperal sepsis." Messrs. Schering & Glatz now condense this into: "Collargol is a valuable aid in cases of puerperal sepsis."

It seems to me that both Messrs. Schering & Glatz and the committee are in part at fault. That is to say, Messrs. Schering & Glatz should quote exactly what an author says, with his limitations and in his exact language. They are not justified in leaving out the limiting phrase, "Used according to these principles;" they are not justified in leaving out the limiting phrase, "no specific." On the other hand, it must be admitted that the opinion of the author in this particular instance has been substantially represented in the revised phrase, and that to magnify the importance of the incident is to leave the judicial attitude and approach that of the prosecutor.

My own opinion remains as before, that Messrs. Schering & Glatz claim too much, and that the majority of the committee doubts too much; that collargol is worthy of admittance to the list of recognized nonofficial remedies, and that Messrs. Schering & Glatz should be required to revise their advertising matter in such a way as to give the exact words of every author cited; and that all the limitations and qualifications which an author throws around his opinion should be quoted. On the other hand, they are perfectly justified in quoting experiments and conclusions, clinical observations and recommendations, of investigators and of clinicians who may have formed a favorable opinion concerning the drug or who may have established to their own satisfaction any chemical, clinical or pharmacologic fact concerning it. The evidence being submitted, the reader can draw his own conclusions as to its trustworthiness and authority. It would be manifestly unfair to set up for advertising matter a standard which is not required of text-books, namely, infallibility in observation and logic.

To avoid misunderstanding, however, I would, in conclusion, emphasize again my agreement with the majority of the committee that quotations must be exact, *verbatim et literatim*, and that statements of the results of experimental observations must be made in such a way as to convey the exact facts, and not in so partial a manner that, however innocently, they may mislead readers not familiar with the details of laboratory work.

It is time to stop bandying words in this matter, and come to an agreement and conclusion honorable to all concerned and worthy of the issue. Solomon Solis Cohen.

Correspondence

Transmission of Bovine Tuberculosis to Human Beings

To the Editor:—It behooves one who writes history to be very sure of his facts. When one attempts to correct history already written, the necessity for accuracy is still more important. These thoughts have been forced on me through the reading of the article by Dr. H. L. K. Shaw in The Journal for Nov. 27, 1909, on the "Transmission of Bovine Tuberculosis to Children." It has seldom been my misfortune to read a so-called scientific paper with such glaring inaccuracies of statement. Dr. Shaw is evidently very anxious to support Koch in his errors through thick and thin, and evinces an ardor which would be better served by greater accuracy.

To begin with, the conclusions he attributes to Koch at the British Congress for Tuberculosis in 1901 are those given by him in 1908 in Washington, after Koch's errors had been shown up by the work of numerous scientists in various parts of the world. Dr. Shaw complains that Koch has been persistently misquoted, but he seems to have fallen into the bad habit himself. What Koch really said in London in 1901 is as follows:

1. "Human tuberculosis differs from bovine and cannot be transmitted to cattle."

2. "Though the important question whether man is susceptible to bovine tuberculosis at all is not yet absolutely decided, and will not admit of absolute decision to-day or to-morrow, one is, nevertheless, already at liberty to say that if such a susceptibility really exists the infection of human beings is but a very rare occurrence. I should estimate the extent of infection by the milk and flesh of tuberculous cattle, and the butter made of this milk, is hardly greater than that of hereditary transmission, and, therefore, do not deem it advisable to take any measures against it."

No one can read these conclusions without believing that Koch intended to make the practical statement that there was no danger to mankind from tuberculosis of cattle, and very properly this impression has become wide-spread with the laity and the profession.

Koch's conclusions in 1908 are as follows:

1. "The tubercle bacilli of bovine tuberculosis are different from those of human tuberculosis."

2. "Human beings may be infected by bovine tubercle bacilli, but serious diseases from this cause occur very rarely."

3. "Preventive measures against tuberculosis should therefore be directed primarily against the propagation of human tubercle bacilli."

As Dr. Shaw seems to be ignorant of what Koch said in 1901, it is not to be expected that he would appreciate the difference between Koch's attitude at that time and at present. In 1901 Koch questioned the possibility of transmission of bovine tuberculosis to man in any form; in 1908 he limited his contention to pulmonary consumption (The Journal A. M. A., Conference in Camera on Human and Bovine Tuberculosis, Oct. 10, 1908, p. 1262). The stand now taken is entirely different from the former, and Koch has skilfully raised an academic discussion which has befogged the main question, and diverted the attention of some persons from his former blunder.

At the so-called "conference in camera," to which Dr. Shaw refers, there were not many present who could report cases of pulmonary tuberculosis due to the bovine bacillus. It must be remembered, however, that this point had never before been raised, and the great majority of those who had studied the question were interested solely in refuting Koch's statement regarding the problematical danger to mankind from tuberculosis of cattle. It is easy to say offhand, as Dr. Shaw does, that "the possibility of contamination had not been fully guarded against" by the English Royal Commission and by Professor Arloing, but this does not prove it. Koch's contention in this case was mere quibbling. It must be remembered also that the German commission in its first report gives one instance of miliary tuberculosis in which the bovine bacillus was found in the lung. Koch declined to accept this case as one of pulmonary tuberculosis due to bovine bacillus, and Dr. Theobald Smith in his attempts to support Koch, found it necessary to explain that these were not cases of pulmonary consumption, because the patient died before open lesions could form. The difference between ordinary pulmonary consumption and miliary tuberculosis is of course known to every medical student, but certainly this case reported by the German commission should be ranked among those of pulmonary tuberculosis due to the bovine bacillus.

Dr. Shaw also makes the statement that, in 1905, I asserted "that the majority of cases of tuberculosis of children were of alimentary origin and due to the bovine bacillus." Again Dr. Shaw is guilty of misquotation. I have never in public or private, in writing or by spoken word made such a statement, nor have I believed it. It may be cruel to ask that Dr. Shaw will read carefully what I have written on this subject, but I certainly have the right to ask this when he professes to quote me.

Dr. Shaw refers to the case of an infant in which, he says, a long chain of circumstantial evidence convicted a cow of being the origin of the disease. When the cow was slaughtered, however, no tuberculosis could be found. It is not strange that the cow did not transmit tuberculosis to this child since it was free of the disease itself. It is hard to understand just what Dr. Shaw wishes to show by this case. Only two conclusions are justified. First, the test may have been at fault; but, second, and more important still, it points to the unreliability of clinical evidence in determining this question.

Dr. Shaw speaks further of a circular letter sent out to members of the American Pediatric Society and leading pathologists. I wish to protest here against any such method of deciding this question. Without wishing to belittle the ability of any of these men, I hold that the question is one that can be determined only by accurate laboratory investigation. Only pathologists and bacteriologists who have made a careful study of this question are competent to express an opinion on it. I grant to every one, of course, the right to read and draw conclusions as to the weight of evidence on one side or the other. Laboratory investigations have shown beyond question that bovine tuberculosis is transmissible to human beings, and that the lesions produced do not differ in any way from those caused by the human bacillus.

Dr. Shaw speaks of the sensational articles "magnifying the great danger of bovine tuberculosis," and quotes Dr. Bensel as deprecating "the spread of alarm in the minds of the public in regard to the danger of tuberculosis from milk." If Dr. Bensel has made any investigations which render him competent to exprés such an opinion, they have escaped my observation. It may be injurious to have the public believe that milk is the chief cause of tuberculosis in human beings, but when the work of Dr. Park in the city of New York shows that 200, and possibly 300 children die from bovine tuberculosis every year in that city, it seems high time that the profession and public in general should recognize bovine tuberculosis as a serious menace to human health.

Dr. Shaw, while trying to belittle the results of the English Royal Commission, failed to quote the work of the German Imperial Commission, which in fairness he should have given. This commission in 84 cases of tuberculosis in children found that 21, or exactly 25 per cent., showed the bovine type of bacillus, figures which correspond very closely to those given by the English commission.

I would not be understood as belittling the importance of all measures of prevention. I admit freely, as I always have, that as far as our present evidence goes, man is the greatest source of danger to man. I have not, as Dr. Shaw intimates, changed my position on this one particle. Those who are actively engaged in supporting Koch in his blunders, and trying to belittle the importance of bovine tuberculosis as a menace to human health, are, it seems to me, criminally responsible.

I have felt the necessity of speaking plainly in writing this letter, because in the recent and most important suit against the city of Milwaukee brought to prevent the enforcement of its ordinance in regard to bovine tuberculosis, Dr. Shaw's testimony has been made much of by the plaintiffs. I think I have shown that he has misquoted liberally, and if his conclusions have been drawn from such careless reading, they must of course be of no value.

Mazyck P. Ravenel, Madison, Wis.

The preceding letter was submitted to Dr. Shaw, who replies as follows:

To the Editor:—Permit me to thank you for this opportunity of replying to Dr. Ravenel's rather bitter attack on my scientific integrity. The main criticism is that I have been inaccurate in the presentation of my quotations. Although I made use of over thirty references Dr. Ravenel challenges but two. The first is that I endeavored to mislead my readers in the matter of Koch's conclusions before the British Congress of Tuberculosis in 1901. My authority and quotation are taken from Professor Koch's address before a joint meeting of Sections I and VII of the International Congress on Tuberculosis last fall and published in full in The Journal, Oct. 10, 1908, p. 1256. At the beginning of the address Koch states: "The results of these experiments have led me to the conclusions which I first communicated to the British Congress of Tuberculosis in 1901. They are, in substance, as follows: 1. The tubercle bacilli of bovine tuberculosis are different from those of human tuberculosis. 2. Human beings may be infected by bovine tubercle bacilli but serious diseases from this cause occur very rarely. 3. Preventive measures against tuberculosis should therefore be directed primarily against the propagation of human tubercle bacilli." While these conclusions appear in the 1908 address, yet Koch himself distinctly says they were his 1901 conclusions and that he had not changed from them in 1908.

The second accusation of misquotation is in regard to a statement attributed to Dr. Ravenel himself. If Dr. Ravenel has been misquoted and misrepresented, I offer my sincere apology. My quotation was made honestly and taken in good faith from the sworn and personally corrected testimony of Professor Adami of Montreal in certiorari proceedings in a suit between the Board of Health of Montclair, N. J., and the Borden Condensed Milk Co. This testimony is a matter of public record and accessible to Dr. Ravenel.

As I have been accused of careless and dishonest reading, I would like to call attention to just one statement in Dr. Ravenel's letter. He quotes me as saying that "it is easy to say the possibility of contamination had not been fully guarded against by the English Royal Commission and by Professor Arloing." If the reader will refer to my article on page 1807 he will find no such statement regarding the English Commission. The criticism in regard to Professor Arloing's case was not made "offhand" by me, but by Koch and Theobald Smith. (See The Journal, Oct. 10, 1908, p. 1263.)

The value of everything in this world lies in its true perspective. We must look at the facts in a calm, judicial and temperate manner. It is unfortunate that any bitterness or partisanship should be shown in seeking for the exact truth in a subject so vital to mankind. I, as a medical practitioner, have had my attention called almost exclusively to the medical side of the question; while Dr. Ravenel, in his laboratory work, has probably given almost his entire attention to bovine infection. It is the old story of the shield. I see the gold side while Dr. Ravenel has seen only the silver side. Human infection causes 98.5 per cent. of fatal tuberculosis and bovine tuberculosis causes 1.5 per cent. I have never denied that tuberculous cattle are a menace to public health. I do maintain and insist, however, that we must not in any way minimize the very great and real danger of human contagion and magnify too much the relatively unimportant danger of infection from bovine tuberculosis.

The possible motive of Dr. Ravenel lies both in the concluding paragraph of his letter and in the final paragraph of an address delivered before the American Association of Medical Milk Commissions in Chicago in 1908, which I quote, as follows: "Our statements must be definite and strong. We have the most abundant scientific evidence on which to take our stand, and there will always be those who from one motive or another try to belittle the importance of this question. Such people should not be handled too gently."

Henry L. K. Shaw, Albany, N. Y.

Miscellany

Impressions of America.—N. Guleke, privat-docent of surgery at Strasburg, was given a traveling scholarship last spring and spent nearly three months in the United States studying the work and equipment of various surgeons, part of his report appearing in the *Münchener med. Wochenschrift* during November. He concludes with the statement that the old saying of the Americans: "We have the big buildings, but over in Germany you have the big men," has ceased to be true. America is producing such big men that the stream of disciples no longer sets exclusively toward Europe; there is a counter-stream which is bound to increase year by year, and the more active the interchange the more rapid the progress all around. He expresses amazement at the luxury of some of the hospitals, but missed in some of them the special room for changing the dressings, which is regarded as indispensable in German hospitals. The American trained nurse is lauded. The almost constant good results with ether in the hands of the Americans explains, he says, why new methods of anesthesia do not take in this country as in Europe. Guleke also expresses surprise at the slowness with which the American surgeons operate, their aim evidently being to refrain from everything that might injure or lower the vitality of any of the tissues in the slightest degree beyond what is absolutely necessary—especially their minutely painstaking measures for hemostasis. He was impressed also with the smallness of the incisions and the lack of retractors used during operations. He comments on the prompt decision for operation which permits surgical interference during the early stages of gastric ulcer or gall-stone disease when in Europe the case would still be for some time longer in the hands of the internists. He also remarks on the comparative disregard of the present status, attention being directed mainly to the anamnesis. In his description of the various operations he witnessed by Crile, Cushing, Meyer, Robinson, Ochsner, Elsberg, the Mayos, and others, he repeatedly emphasizes the perfection of the technic and asepsis. He says of the Atlantic City meeting of the A. M. A., which he attended, that it sems to correspond in every respect to the German *Naturforscher* congresses. The zeal with which the members sat through the entire sessions without signs of fatigue also impressed him; it was so contrary to the custom in the German surgical congresses where members get up and leave during an address. The courtesy in the discussions, etc., also impressed him, and the hearty applause for especially noted members.

A Note on the Faradic Stimulation of the Postcentral Gyrus in Conscious Patients.—The recent work of Sherrington and Grünbaum in accurately delineating the confines of the so-called motor area in the ape by a method of unipolar faradization have greatly revised our idea of cortical localization and led to a confirmation of the results for man by similar stimulation of the cerebral cortex in anesthetized patients. A further unique step, however, has been taken by Harvey Cushing (*Brain*, 1909, xxxii, 44) when he stimulated the postcentral gyrus of the cerebral cortex of two patients in a conscious state, during a "second-stage" operation. The two patients were "afflicted with epileptic attacks inaugurated in each instance by a sensory aura in the right hand." Primary anesthesia and ⅛ gr. of morphin were administered only for the scalp incision and to remove the bone flap. In each case "the patient composedly and promptly recovered from the temporary narcotic effect of the drug," and no pain was experienced during the remainder of the operation. The patients eagerly assisted in the experiments of cortical localization and responded, telling the sensation felt on stimulation of the cerebral cortex. The purpose of the paper is "to record solely the physiologic aspects of these observations, although their surgical aspects are possibly of even greater importance; for if it will be possible in the future to pick out with an electrode areas of the brain from which the sensory aura of a focal convulsion has originated, we shall have advanced a long way toward the possible operative localization of subcortical irritative lesions of the immediate postcentral field. . . . In both of the patients the situation of the central fissure was determined by obtaining characteristic motor responses from the precentral gyrus, these motor responses being attended by no sensation other than that of the forced change of position which accompanies similar movements elicited by stimulation of a peripheral nerve. On the other hand, in both of these patients stimulation of the postcentral convolution gave definite sensory impressions which were likened in one case to a sensation of numbness, and in the other to definite tactual impulses. In both of the patients, furthermore, stimulation of the outlying convolutions gave no response whatever, either of a subjective sensation or of active movement."

The Occurrence of Remissions and Recovery in Tuberculous Meningitis.—There exists among the majority of the medical profession the greatest skepticism with regard to the diagnosis of cases of tuberculous meningitis in which there were remissions of symptoms or in which recovery occurred. Alfred E. Martin (*Brain*, 1909, part 126, xxxii, 209) made a careful analysis of the reports of the London and Vienna hospitals, which show that in 2,166 cases diagnosed as tuberculous meningitis, only 22 patients, or about 1 per cent., were discharged from the hospital cured or relieved, though these figures, Martin says, are perhaps a little too high. A critical review of the literature is also given, and many of the reported cases of remission and of recovery are considered doubtful. Some space is devoted to differential diagnosis and to "methods of confirming the diagnosis," in which are emphasized, that it is impossible to accept a diagnosis of tuberculous meningitis as certain if it is based solely on the clinical symptoms, though the possibility may be very great; and the importance of the complete lumbar puncture method of diagnosis. One of Martin's conclusions is that "undoubtedly long remissions and even recoveries do occur in tuberculous meningitis. Recoveries are possibly more frequent than has been believed, since no fewer than twenty undoubted cases have been recorded since 1894, while other cases of recovery have been published in which the same definite proof of the nature of the disease has not been afforded, but some of which probably were true cases of tuberculous meningitis. In these cases either the resistance of the individual is so much greater than usual that the disease is checked early in its course, or the virulence of the bacilli is so much less than usual that the lesions in the meninges become localized and later undergo a fibrous change. The lesions in the meninges may at a later period form the focus of a fresh infection, which usually terminates fatally, and consequently the prognosis in these cases must be guarded. No treatment up to the present has been discovered which has any specific effect in promoting the favorable termination of the disease."

Poisoning from Illuminating Gas.—A. Robin's advice is to keep the patient seated instead of reclining, thus reducing the congestion in the head, sprinkle with cold water, and rub the legs vigorously while keeping up artificial respiration; possibly traction of the tongue (Laborde) will be sufficient. Venesection should be done as promptly as possible, withdrawing about 500 gm., nearly 15 ounces, of blood. As soon as this has been done, apply cupping to the base of the lungs, front and rear, at the side and at the back of the neck. The patient should then be made to inhale oxygen; "he can never be given enough, nor can it be kept up long enough." A purgative enema should then be given, possibly 15 gm. each of sodium sulphate and senna in 500 gm. water. In one case in which all these measures failed, he finally succeeded by intravenous infusion of 500 gm. of physiologic salt solution. The neuralgias which are liable to develop later should not be treated with the usual drugs as the latter have a more or less toxic action on the red corpuscles; morphin should be the main reliance. Any paralysis developing should be combated with electricity and massage, anemia with sulphur baths and iron. His article is summarized in the *Gazette Méd. Belge*, 1909, xxii, 79.

The Influence of Hot Baths on Pulse Frequency, Blood-Pressure, Body Temperature, Breathing Volume and Alveolar Tension in Man.—The physiologic effects of hot and cold baths on the normal, healthy human individual were demonstrated by Leonard Hill and Martin Flack (*Jour. Physiol.*, 1909, xxxviii, 441). The tabulated results afford a ready reference of the principal physiologic effects of hot and cold baths.

uch results should be taken into account in the consideraion of the indication or contraindication of hot or cold baths 1 clinical cases. It is shown "that immersion up to the neck 1 a hot bath (110-105 F.) raises the mouth, axilla and ectal temperature up to 102.5-104.6 F. in fifteen or thiry inutes. This rise of temperature is accompanied by greatly icreased pulse frequency (up to 160), and lowered bloodressure (down to 60), and loss of the mechanism which ompensates for the influence of gravity on the circulation. he rise of body temperature is also accompanied in every se but one by greatly increased breathing frequency and olume (even up to 50 liters), accompanied by a notable fall f carbon dioxid tension (down to 3.07), and corresponding se in oxygen tension of the alveolar air. Owing to the ashing-out effect of and increased oxygenation produced by his heat dyspnea, a student is able to hold his breath after hot bath two and a half times as long as normally. A old shower constricts the skin and lowers the axillary and outh temperatures to normal or subnormal, but not the ectal temperature; it lowers the pulse frequency, increases s fulness, raises the blood-pressure and stops the faintness. he breathing volume and alveolar tensions return to normal fter the shower."

A Constant Bursa in Relation with the Bundle of His.—E. J. urran (*Anatomischer Anzeiger*, Sept. 1, 1909, xxxv, 89) from study of human, calves' and sheeps' hearts points out the llowing new facts and considerations concerning the auricuventricular bundle of His. There is a bursa of lubricating echanism in constant relation with the auriculoventricular undle, in view of which the possibility of bursitis must be onsidered in connection with certain cardiac symptoms, and ith conditions met with in acute febrile diseases, such as ute rheumatism, endocarditis, etc. The bursa is capable of cilitating the extension of any endocardial process along e course of the conducting system, on account of its anatomal relationship with the endocardium, and of the fact that ven small twigs of the auriculoventricular bundle which lie nmediately under the endocardium are surrounded with llular tissue, the spaces of which are continuous with the ain bursa. The existence of the bursa tends to prove either at the auriculoventricular bundle does not contract at all, r that it contracts in a different way and at a different time om the contraction of the ventricle. The striking gross semblance of the reticulum in the calves' and sheep's hearts a nerve ganglion, and its connection with all parts of both uricles through three large trunks and a number of small wigs and not, as was once thought, merely arising in the ght auricle only, is very evident when it is carefully disected out. These connections point to the possibility of the ontraction wave either beginning in the reticulum and proeding through its branches to all parts of both auricles, or its coming from all parts of both auricles to meet at the ticulum. In this case there would be a probability of each uricle controlling the time of contraction of the correspondg ventricle, and the meeting at the reticulum of the various undles of fibers from both auricles and proceeding thence to e ventricles as the auriculoventricular bundle, would merely ean an economy of space.

The Relationship Between the Thyroid and Parathyroids.—. Halpenny and F. D. Thompson (*Anat. Anz.*, 1909, xxxiv, 376) ade a study of the parathyroids of the dog after extirpaon of the thyroids, and found that to all intents and puroses the parathyroids become converted into thyroid tissue fter such an operation. "The most noticeable feature about e thyroid tissue which has developed from parathyroid is e irregular shape of the vesicles, but the appearance thus resented is strikingly similar to that which is found in the yroid gland after parathyroidectomy." Aside from the esicles, there is found tissue in the normal thyroid which ems identical with that of the parathyroids, and "there ems to be no escape from the conclusion that in mammals e thyroid and parathyroid tissues are related to each other, nd that the connections are not only physiologic, but anaomic." There being no symptoms after removal of the thyoids, when the parathyroids are left behind, a second operaon, in which the parathyroids were removed, was performed. "After removal of the altered parathyroids, the animal showed practically no symptoms for a month, but after this period it developed tremors, became restless and idiotic, and suffered from conjunctivitis, loss of hair and eczema. Death occurred forty-four days after the second operation, and there was no typical tetany at any time."

Classification of Sputum Findings.—I. G. Gabrilowitsch proposes as an improvement on the present methods of classification the following four groups as sufficiently accurate to class the ordinary run of cases: 1. From 1 to 10 bacilli in entire preparation. 2. From 1 to 10 bacilli in each field. 3. More than 10 bacilli in each field. 4. Multitudes of bacilli in each field. In his communication in the *Russki Vrach*, 1909, viii, 298, he shows how the outcome in large numbers of cases corresponded to the above grouping, and that more minute classification is superfluous.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

STOVAIN—NOT A NEW ANESTHETIC

To the Editor:—Please refer me to the literature on the new anesthetic, stovain. F. T. BASCOM, Rochester, N. Y.

ANSWER.—Stovain is not in any proper sense a new anesthetic; it was discovered by Fourneau and the discovery was presented in his name to the Academy of Sciences by Haller in February, 1904. It has a considerable literature. References to the modification of spinal anesthesia suggested by T. Jonnesco are given in THE JOURNAL, Nov. 27, 1909, p. 1831. Newspaper accounts have generally misrepresented the character of Jonnesco's modification and have designated him as the discoverer of stovain and frequently have omitted reference to his use of strychnin as an adjuvant. A full description of stovain can be found in New and Nonofficial Remedies, p. 123.

Below are given references to some of the articles on the use of stovain which have appeared in English or which have been abstracted in THE JOURNAL. An exhaustive list of the literature on the subject would require too much space.

Coakley, C. G.: Report on the Use of Stovain, *Med. News*, New York, April 15, 1905.

Schiff: Stovain as a Local Anesthetic, *Deutsch. med. Wchnschr.*, Aug. 31, 1905; abstr. in THE JOURNAL A. M. A., Oct. 14, 1905, p. 1209.

Trautenroth: Intoxication from Stovain, *Deutsch. med. Wchnschr.*, 1906, xxxii, No. 7; abstr. in THE JOURNAL A. M. A., April 14, 1906, p. 1147.

Munchmeyer, O.: Spinal Stovain Anesthesia, *Beitr. z. klin. Chir.*, August, 1908, lix; abstr. in THE JOURNAL A. M. A., Oct. 10, 1908, p. 1287.

Willis, C. S., and Wallace, D.: Ten Cases of Spinal Anesthesia, *Australasian Med. Gaz.*, Nov. 20, 1907.

Torrance, G.: Stovain Spinal Anesthesia, with over 5,500 Cases from the Literature, *Surg., Gynec. and Obst.*, December, 1907.

Duncan, H. R.: Six Cases of Stovain Spinal Anesthesia, *Intercolonial Med. Jour. of Australasia*, November, 1907.

McGavin, L. H.: Fifty Cases of Stovain Analgesia by the Intraspinal Injection, *Lancet*, London, April 11, 1908.

Newman, A.: Spinal Anesthesia, *California State Jour. Med.*, March, 1908; abstr. in THE JOURNAL A. M. A., May 16, 1908, p. 1653.

Hardouin, P.: Deaths after Spinal Stovain Anesthesia, *Arch. générales de chir.*, Aug. 25, 1908; abstr. in THE JOURNAL A. M. A., Oct. 3, 1908, p. 1191.

Spielmeyer, W.: Modification in Nervous System after Stovain Anesthesia, *München. med. Wchnschr.*, Aug. 4, 1908; abstr. in THE JOURNAL A. M. A., Sept. 12, 1908, p. 955.

Sabadini: 679 Operations Performed under Spinal Anesthesia (Cocain or Stovain) by Tuffier's Method, *Lancet*, London, Oct. 24, 1908.

DIVISION OF FEES

To the Editor:—Please refer me to articles in discussion of or decisions of medical societies on the question of division of fees as applied to ordinary consultant practice. T. H., Toledo, Ohio.

ANSWER.—The following references may be consulted:

Saunders, Bacon: Division of Fees and Giving Commissions, Texas State Jour. of Med., January, 1909; abstr. in THE JOURNAL A. M. A., Oct. 31, 1908, p. 1536.

Queries and Minor Notes: Etiquette as to Fee for Substitute Obstetrician, The Journal A. M. A., Oct. 5, 1907, p. 1206.

Discussion, Southwestern Tri-State Med. Association of Texas, Oklahoma and Indian Territory, Nov. 8-9, 1905; abstr. in The Journal A. M. A., Dec. 2, 1905, p. 1755.

Queries and Minor Notes: Fees of Attending Physician and Consultant who Operates, The Journal A. M. A., Aug. 12, 1905, p. 479.

Fee-Splitting in the French Courts; abstr. in The Journal A. M. A., Aug. 1, 1903, p. 321 (from *Progrès Médical*).

Editorial: Dichotomy, or the Division of Fees, The Journal A. M. A., Feb. 28, 1903, p. 590; June 20, 1903, p. 1729.

Brown, R.: Fee Division, *California State Jour. Med.*, April 1909.

Larkin, J. C.: Dichotomy, *Ohio State Med. Jour.*, July, 1907.

Earle, C. B.: Should there be a Division of Fees? *Jour. South Carolina Med. Assn.*, Dec. 21, 1906.

McKee, E. S.: Division of Fees, *St. Louis Med. Review*, July 14, 1906.

HEROIN HYDROCHLORID AND OPIUM

To the Editor:—Please state the relative value of heroin hydrochlorid and opium. How much opium does one grain of heroin represent? H. G. Heaney, Corpus Christi, Tex.

Answer.—Heroin hydrochlorid is described in New and Nonofficial Remedies, pp. 95-97. It will be noted that this description shows that heroin is not a native constituent of opium, but is a synthetic derivative of morphin. We cannot state therefore just how much opium one grain represents but can give only the relative dosage, the dose of heroin being from 0.0025 to 0.005 gm. (1/24 to 1/12 grain), while the average dose of opium is 0.06 gm. (1 grain).

The Public Service

Medical Department of the Army

Changes for the week ended Dec. 11, 1909:

Eastman, William R., capt., granted leave of absence for 2 months, when relieved from duty in the Philippines Division.

Baker, Frank C., major, granted leave of absence for 20 days.

Ruffner, Ernest L., Hallovan, Paul S., Phalen, James H., Billingslea, Charles C., capts., med. corps; and Sievers, Robert E., Koyle, Fred T., Myers, William H., 1st lieuts., M .R. C., relieved from duty in Philippines Division, March 15, 1910, and directed on arrival at San Francisco, to report to the Adjutant General of the Army for further orders.

Pipes, Henry F., capt., ordered to New York and Chicago, to study the manufacture and manipulation of the *x*-ray machine.

O'Connor, Roderic P., capt., granted leave of absence for 1 month, with permission to apply for an extension of 1 month.

Kendall, William P., major, granted 14 days' leave of absence.

Harris, H. S. T., lieut. col., detached member of examining board at San Francisco, for duty only during examinations of Captains John A. Murtagh, William H. Brooks and Robert M. Thornburgh, for promotion.

Murtagh, John A., capt., ordered to Fort Leavenworth, Kan., for duty.

O'Connor, R. P., capt., ordered to Fort Screven, Ga., for duty.

Smith, Herbert M., capt., ordered to Fort Casey, Wash., for duty.

Brechemin, Louis, Jr., capt., ordered to Army General Hospital, San Francisco, Cal., for duty.

Holmes, Thomas G., 1st lieut., M. R. C., order for honorable discharge revoked; will proceed at the expiration of his present leave of absence to Fort Sheridan, Ill., for duty.

Stuckey, Harrison W., 1st lieut., M. R. C., ordered to proceed to Fort Adams, R. I., for temporary duty.

Little, William L., capt., ordered to Fort Hood, N. Y., for temporary duty.

Kennedy, James M., major, granted 30 days' leave of absence.

Sweazey, Verge E., capt., relieved from treatment at the Walter Reed Army General Hospital, and from further duty at Plattsburg Barracks, N. Y., and ordered to the Army and Navy General Hospital, Hot Springs, Ark., for duty.

Kress, Clarence C., 1st lieut., M. R. C., resignation accepted by the President to take effect Feb. 11, 1910.

Laflamme, Frank L. K., dental surgeon, ordered to Rock Id. Arsenal, Ill., for temporary duty.

Medical Corps of the Navy

Changes for the week ended Dec. 11, 1909:

Nash, F. S., medical inspector, commissioned medical inspector from Nov. 20, 1909.

Minter, J. M., P. A. surgeon, commissioned passed assistant surgeon from Aug. 1, 1909.

Price, A. F., medical director, placed on the retired list from Dec. 13, 1909.

Public Health and Marine-Hospital Service

Changes for the fourteen days ended Dec. 8, 1909:

Cofer, L. E., asst.-surgeon-general, directed to proceed to Ellis Island and Staten Island, N. Y., on special temporary duty.

Irwin, Fairfax, surgeon, leave granted for 1 month from Nov. 22, 1909, amended to read from November 26.

Carter, H. R., surgeon, granted 10 days' leave of absence from Nov. 25, 1909, on account of sickness.

Wasdin, Eugene, surgeon, granted 1 month's leave of absence from Nov. 22, 1909, on account of sickness.

White, J. H., surgeon, granted 10 days' leave of absence from Dec. 1, 1909.

McMullen, John, P. A. surgeon, granted 7 days' leave of absence from Nov. 23, 1909, under paragraph 191, Service Regulations.

von Ezdorf, R. H., and Amesse, J. W., P. A. surgeons, detailed to represent the Service at the Fourth International Sanitary Convention of American Republics, to be held in San Jose, Costa Rica, Dec. 25, 1909, to January 2, 1910.

Foster, M. H., P. A. surgeon, leave of absence granted for 15 days, en route, amended to read 6 days from November 12, 1909.

Billings, W. C., and Gwyn, M. K., P. A. surgeons, detailed as members of a Revenue-Cutter Service Retiring Board to meet at Arundel Cove, Md., Dec. 9, 1909.

Robinson, D. E., P. A. surgeon, granted 28 days' leave of absence from Nov. 9, 1909, on account of sickness.

McClintic, T. B., P. A. surgeon, granted 6 days' leave of absence from Nov. 19, 1909, under paragraph 191, Service Regulations.

Schereschewsky, J. W., P. A. surgeon, directed to report at Bureau on special temporary duty.

Ebersole, R. E., P. A. surgeon, leave of absence granted for 2 months from Aug. 12, 1909, amended to read 1 month and 29 days from Aug. 25, 1909.

Robertson, H. McG., P. A surgeon, granted 4 days' leave of absence from December 4, 1909.

Sweet, Ernest A., P. A. surgeon, granted 10 days' leave of absence from Nov. 25, 1909.

Marshall, E. R., asst.-surgeon, granted 1 month's leave of absence from Dec. 10, 1909.

Bailey, C. A., acting asst.-surgeon, granted 20 days' leave of absence from Dec. 12, 1909.

Deerhake, Wm. A., acting asst.-surgeon, granted 2 days' leave of absence in November, 1909, under paragraph 210, Service Regulations.

Schwartz, Louis, acting asst.-surgeon, granted 2 days' leave of absence, Nov. 24 and 30, 1909, without pay.

Wakefield, H. C., acting asst.-surgeon, granted 7 days' leave of absence from Nov. 22, 1909, under paragraph 210, Service Regulations.

BOARD CONVENED

Board of medical officers convened to meet at San Francisco, Cal., Dec. 1, 1909, for the purpose of examining an alien. Detail for the board: Passed Assistant Surgeon W. W. King, chairman; Passed Assistant Surgeon F. E. Trotter; Assistant Surgeon R. A. C. Wollenberg, recorder.

Health Reports

The following have been reported to the Public Health Service, during the week ended Dec. 3, 1909:

SMALLPOX—UNITED STATES

Alabama: Montgomery, Nov. 13-20, 12 cases; Birmingham, 1 case.
District of Columbia: Washington, Nov. 13-20, 1 case.
Florida: Jacksonville, Nov. 13-20, 1 case.
Georgia: Macon, Nov. 15-28, 5 cases.
Indiana: Muncie, Nov. 13-20, 2 cases.
Kansas: Kansas City, Nov. 13-20, 3 cases.
North Dakota: Grand Forks County, Sept. 1-30, 2 cases.
Utah, Oct. 1-31, 117 cases, 1 death, in 8 counties.
Washington: Spokane, Nov. 6-13, 1 case.
Wisconsin: La Crosse, Nov. 13-20, 1 case.

SMALLPOX—INSULAR

Philippine Islands: Manila, Oct. 9-23, 2 cases.

SMALLPOX—FOREIGN

Brazil: Bahia, Oct. 15-22, 15 cases, 10 deaths; Para, Oct. 23-30, 1 case, 1 death; Pernambuco, Sept. 1-15, 20 deaths.
China: Amoy, Oct. 9-16, 1 death.
Egypt: Suez, Oct. 14-Nov. 4, 1 case, 2 deaths.
India: Madras, Oct. 9-15, 1 death.
Italy, general, Nov. 1-14, 82 deaths; Naples, Nov. 7-14, 20 cases, 7 deaths.
Mexico: Mexico City, Oct. 2-9, 4 deaths; Oct. 16-23, 2 deaths; Monterey, Oct. 14-21, 1 death.
Persia: Guilan, province, Oct. 4, present; Mazanderan, present.
Russia: Libau, Nov. 1-7, 2 cases, 1 death; Riga, Aug. 1-31, 18 cases, 12 deaths; Sept. 1-30, 11 cases, 3 deaths.
Spain: Almeria, Oct. 1-31, 3 deaths; Madrid, 103 deaths.

YELLOW FEVER

Brazil: Bahia, Oct. 15-22, 1 case, 1 death; Manaos, Oct. 16-23, 1 death; Para, Oct. 23-Nov. 6, 8 cases, 7 deaths.
Ecuador: Guayaquil, Oct. 9-23, 6 deaths; Venezuela: La Guaira, Oct. 27-Nov. 6, 5 cases, 2 deaths, in vicinity.

CHOLERA—INSULAR

Philippine Islands: Manila, Oct. 9-16, 15 cases, 12 deaths; Oct. 16-23, 18 cases, 18 deaths; Provinces, Oct. 9-16, 308 cases, 240 deaths; Oct. 16-23, 256 cases, 202 deaths.

PLAGUE—FOREIGN

China: Amoy, Oct. 8-23, 49 deaths.
Germany: Andreischken, Nov. 7-13, 2 cases; Heydekrug, district, Nov. 18, 1 case.
India: Bombay, Oct. 12-19, 4 deaths; Madras, Oct. 9-15, 1 death.
Japan: Kobe, Oct. 30-Nov. 6, 1 case, 1 death.; Moji, Oct. 6-13, 2 cases, 2 deaths; Wakamatsu, Oct. 23-30, 2 cases, 2 deaths.

PLAGUE

Brazil: Bahia, Oct. 14-22, 10 cases, 6 deaths; Pernambuco, Sept. 1-15, 1 death.
China: Amoy, Oct. 9-23, 77 deaths.
India, general, Oct 9-16, 4,815 cases, 3,992 deaths; Bombay, Oct. 12-26, 24 deaths.
Japan: Kobe, Oct. 16-Nov. 6, 67 cases, 50 deaths; Osaka, Nov. 10, 1 case.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

LABAMA: Montgomery, January 11. Chairman, Dr. W. H. Sanders.

RIZONA: Phoenix, January 3-4. Sec., Dr. Ancil Martin.

OLORADO: State Capitol, Denver, January 4. Sec., Dr. S. D. Van-Meter, 1723 Tremont Place.

ISTRICT OF COLUMBIA: Washington, January 10. Sec., Dr. George C. Ober, 210 B Street., S. E.

LINOIS: Coliseum Annex, Chicago, January 19-21. Sec., Dr. J. A. Egan, Springfield.

NDIANA: Room 120, State House, Indianapolis, January 11. Sec., Dr. W. T. Gott.

INNESOTA: State University, Minneapolis, January 4. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.

EW HAMPSHIRE: State Library Bldg., Concord, January 4-5. Regent, Mr. H. C. Morrison.

ORTH DAKOTA: Grand Forks, January 4-6. Sec., Dr. H. M. Wheeler.

KLAHOMA: Ione Hotel, Guthrie, January 11. Sec., Dr. Frank P. Davis, Enid.

HODE ISLAND: Room 313, State House, Providence, January 6-7. Sec., Dr. Gardner T. Swarts.

UTH DAKOTA: Sioux Falls, January 12-13. Sec., Dr. F. W. Freyberg, Mitchell.

TAH: State Building, Salt Lake City, January 3. Sec., Dr. G. F Harding, 310 Templeton Bldg.

ERMONT: Montpelier, January 11-13. Sec., Dr. W. Scott Nay, Underhill.

ASHINGTON: Spokane, January 4. Sec., Dr. J. Clinton McFadden, 503-5 People's Bank Bldg., Seattle.

ISCONSIN: Milwaukee, January 11. Sec., Dr. John M. Beffel, 3200 Clybourn Street.

Georgia Homeopathic July Report

Dr. R. E. Hinman, secretary of the Homeopathic Board of edical Examiners of Georgia, reports the written examation held at Atlanta, July 19, 1909. The number of subcts examined in was 12; total number of questions asked, 20; percentage required to pass, 75. Only one candidate, a aduate of Gate City Medical College, 1908, was examined, d he failed, with a grade of 68.8 per cent.

Colorado October Report

Dr. S. D. Van Meter, secretary of the Colorado State Board Medical Examiners, reports the written examination held Denver, Oct. 5, 1909. The number of subjects examined in as 8; total number of questions asked, 80; percentage quired to pass, 75. Seventeen applicants were examined, of hom 12 passed, including 1 osteopath, and 5 failed. Fortye candidates were registered on presentation of satisfactory edentials, including state licenses. The following colleges ere represented:

College	Year Grad.	Per Cent.
PASSED		
niversity of Colorado	(1909)	80.7, 85.3
enver College of Physicians and Surgeons	(1909)	76.6, 77.1, 79.7
enver and Gross College of Medicine	(1908) 76.4; (1909)	77.3, 77.7, 78.5, 80.
ouisville Medical College	(1906)	75.4
FAILED		
enver College of Physicians and Surgeons	(1909)	56.7
aryland Medical College	(1905)	66.8
arnes Medical College	(1906)	66
incoln Medical College	(1908)	68.5
eharry Medical College	(1907)	52

LICENSED ON CREDENTIALS

College.	Year Grad.	State Licenses.
ale Medical School	(1898)	Connecticut
ush Medical College	(1890)	Wisconsin
orthwestern University Medical School	(1901)	Indiana
ennett Medical College	(1894)	Nebraska
oll. of Phys. and Surg., Chicago (1891) (1902)	(1905)	Illinois
merican Medical Missionary College	(1901)	Illinois
ahnemann Medical College and Hospital, Chicago	(1892) (1889) Iowa; (1889)	Maine
niversity of Iowa, Homeopathic College	(1909)	Iowa
eokuk Medical College, College of Physicians and Surgeons	(1905) Illinois; (1906)	Iowa
rake University, College of Medicine	(1894) Missouri; (1901)	Iowa
niversity of Iowa, College of Medicine	(1890)	Penna.
ospital College of Medicine, Louisville	(1898)	Illinois
ouisville Medical College	(1890) Alabama; (1890) Virginia; (1894)	Kansas
ulane University of Louisiana	(1903)	Alabama
altimore Medical College	(1896) Vermont; (1899)	Ohio
Johns Hopkins University	(1906)	New York
College of Physicians and Surgeons, Baltimore	(1902)	Kansas
Missouri Medical College	(1881) Oklahoma; (1888) Arkansas; (1891)	Missouri
Marion Sims College of Medicine	(1897)	Illinois
Univ. Med. Coll., Kansas City (1903) Oklahoma;	(1907)	New Mexico
Barnes Medical College	(1899)	Illinois
St. Louis University	(1905) Kansas; (1908)	Illinois
New York Homeopathic Med. Coll. and Hosp.	(1893)	Penna.
Bellevue Hospital Medical College	(1883)	Nebraska
University of Buffalo	(1902)	New York
North Carolina Medical College	(1905)	N. Carolina
Western Reserve University	(1888)	Utah
Medical College of Ohio	(1895)	Ohio
Columbus Medical College	(1879)	Ohio
Medico-Chirurgical College, Philadelphia	(1896)	Penna.
Western Pennsylvania Medical College	(1906)	Penna.
University of the South	(1900)	New Mexico

District of Columbia April, July and October Reports

Dr. George C. Ober, secretary of the Board of Medical Supervisors of the District of Columbia, reports the written examinations held at Washington, April 13-16, July 13-16, and October 12-15, 1909. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75.

At the examination held April 13-16, the total number of candidates examined was 12, of whom 7 passed and 5 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
George Washington University	(1907)	76.3, 80.4
Howard University	(1908)	77.9, 78
College of Physicians and Surgeons, Chicago	(1908)	75.1
Atlantic Medical College	(1908)	80.4
Cornell University Medical College	(1907)	89.3
FAILED		
George Washington University	(1908)	70
Howard University	(1902)	73.8
Baltimore Medical College	(1907)	*† 5.8
College of Physicians and Surgeons, Baltimore	(1908)	62.9
University of Pennsylvania	(1894)	56.4

At the examination held July 13-16, the total number of candidates examined was 22, of whom 13 passed and 9 failed. The report for one candidate is not complete. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
George Washington University	(1908) 82.4, 82.7; (1909)	75.6, 76.8, 79.9, 81.2, 82.4, 83.1, 83.1.
Howard University	(1908)	87.2
Georgetown University	(1909)	75
University of Michigan, College of Medicine	(1898)	78
Jefferson Medical College	(1894)	77.3
FAILED		
George Washington University	(1908) 4.9,* 65.9,** 69.1,† 69.3; (1909)	71.5.
Howard University	(1906) 65.5;† (1909)	72.7
Maryland Medical College	(1907)	65.2
Baltimore Medical College	(1907)	‡66.3

At the examination held October 12-15, the total number of candidates examined was 23, of whom 19 passed and 4 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Howard University	(1902) 87.7; (1908) 76.9, 76.9, 78.3; (1909)	81.1.
George Washington University	(1907) 75, 83.3; (1908) 89; (1909)	78.9, 80.6, 81.1, 86.7.
University of Maryland	(1907)	87.1
Johns Hopkins University	(1907)	86.7
Baltimore Medical College	(1907)	75
Syracuse University	(1906)	81.7
University of Pennsylvania	(1899)	78.1
Woman's Medical College of Pennsylvania	(1909)	84.2
Hahnemann Medical College of Philadelphia	(1909)	88.6
FAILED		
George Washington University	(1908)	**66.5
Georgetown University	(1909)	71
Howard University	(1906) 71.1;‡ (1909)	61.3

* Completed one branch only.
** Second Examination.
† Third Examination.
‡ Fourth Examination.

Illinois June and July Reports

Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examinations held in Chicago, June 16-18, and July 20-22, 1909. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75.

At the examination held June 16-18, the total number of candidates examined was 291, of whom 263 passed, 27 failed, and 1 withdrew. The following colleges were represented:

College	Year Grad.	Total No. Examined.
PASSED		
George Washington University	(1908)	1
Bennett Medical College	(1909)	18
Chicago College of Medicine and Surgery	(1909)	29
College of Medicine and Surgery, Chicago	(1909)	2
Hahnemann Medical College and Hospital, Chicago	(1907) (8, 1909)	9
Hering Medical College	(1909)	6
Illinois Medical College	(1909)	8
Jenner Medical College	(1909)	5
National Medical University	(1909)	1
Northwestern University Medical School	(1909)	92
College of Physicians and Surgeons, Chicago	(1909)	43
Reliance Medical College	(1909)	8
Rush Medical College	(1906) (29, 1909)	30
Medical College of Indiana	(1896)	1
University of Louisville	(1909)	5
University of Nashville	(1909)	1
University of Toronto, Ontario	(1893)	1
University of Dorpat, Russia	(1887) (1903)	2
University of Edinburgh, Scotland	(1893)	1
FAILED		
Bennett Medical College	(1909)	5
Chicago College of Medicine and Surgery	(1909)	1
Northwestern University Medical School	(1909)	2
College of Physicians and Surgeons, Chicago	(1909)	4
Reliance Medical College	(1909)	4
Hahnemann Medical College and Hosp., Chicago	(1909)	1
Harvey Medical College, Chicago	(1898)*	1
Kansas City Homeopathic Medical College	(1891)	1
Hospital College of Medicine, Louisville	(1904)**	1
University of Louisville	(1908) (2, 1909)	3
Meharry Medical College	(1909)	1
University of Tennessee	(1901)	1
University of Paris, France	(1892)	1
University of Dorpat, Russia	(1896)	1

At the examination held July 20-22, the total number of candidates examined was 107, of whom 83 passed and 24 failed. The following colleges were represented:

College	Year Grad.	Total No. Exam'd.
PASSED		
Yale Medical College	(1909)	1
Bennett Medical College	(1909)	4
Chicago Coll. of Med. and Surg.	(2, 1908) (14, 1909)	16
College of Medicine and Surgery, Chicago	(1909)	1
Hahnemann Med. Coll. and Hosp., Chicago	(1907) (2, 1909)	3
Illinois Medical College	(1909)	3
Jenner Medical College	(2, 1908) (4, 1909)	6
National Medical University	(1908)	1
Northwestern University Medical School	(1909)	12
College of Physicians and Surgeons, Chicago	(1909)	14
Reliance Medical College	(1909)	4
Rush Medical College	(1909)	10
Keokuk Medical College, College of Phys. and Surg.	(1907)	1
University of Louisville	(1909)	1
Johns Hopkins University	(1909)	1
Maryland Medical College	(1909)	1
St. Louis College of Physicians and Surgeons	(1909)	2
Queen's University, Kingston, Ontario	(1909)	1
University of Nashville	(1909)	1
FAILED		
Bennett Medical College, Chicago	(1909)	3
Hahnemann Med. Coll. and Hosp, Chicago	(1908)* (1908)	2
Illinois Medical College	(1908)† (1909)	2
Jenner Medical College	(1907)* (1908) (3, 1909)	5
National Medical University, Chicago	(1907)† (1909)	2
College of Physicians and Surgeons, Chicago	(1909)	1
Keokuk Medical College, College of Phys. and Surg.	(1908)*	1
Kentucky School of Medicine	(1902)	1
Barnes Medical College	(1908)‡	1
St. Louis Coll. of Phys. and Surg.	(1906)** (3, 1909)*	4
University Medical College, Kansas City	(1897)	1
Meharry Medical College	(1909)	1

* Second examination.
** Third examination.
† Fourth examination.
‡ Fifth examination.

Marriages

Harry X. Cline, M.D., to Miss Grace Goodall, both of Marion, Ill., December 7.

Isadore Cohn, M.D., to Miss Millie Siegmund, both of New York City, November 24.

H. Hastings Wyman, M.D., Jr., to Miss Ada Miller, both of Aiken, S. C., November 25.

Augustus Stout Hunt, M.D., to Miss Tossie Mains, both of Jerseyville, Ill., December 8.

Callie A. Rennoe, M.D., to Miss Veronica Starr, both of South Bend, Ind., October 28.

John Henry Ohly, M.D., to Miss Helen Hallowell, both of New York City, November 27.

Melvin John Rowe, M.D., Kalamazoo, Mich., to Miss Derthick of Ionia, Mich., November 25.

Henry Alan Naylor, M.D., Pikesville, Md., to Miss Louise Requardt, at Baltimore, December 3.

John Jacob Rudin, M.D., Galesville, Ill., to Miss Jessie M. Nash, of Mansfield, Ill., November 13.

Royale Hamilton Fowler, M.D., to Miss Lillie Marshall, both of Brooklyn, N. Y., November 24.

Douglas C. Ramsey, M.D., Mount Vernon, Ind., to Miss Rose Shellen, of Evansville, Ind., December 1.

Robert C. Kirkwood, M.D., Boykins, Va., to Miss Rose Eleanor Phasey, of Norfolk, November 18.

John W. Turley, M.D., Desloge, Mo., to Miss Lillian Boyd, of Esther, Mo., at St. Louis, November 18.

Henry Frost Hooker, M.D., Danville, Ill., to Miss Nellie McGrath, of Green Bay, Wis., November 25.

James Alexander Harvey, M.D., to Miss Regina Jones, both of Chicago, at New York City, November 30.

Harry P. Shugerman, M.D., U. S. Army, to Miss Eleanor C. Grubb, at Port McHenry, Md., November 8.

Thomas Barnes Futcher, M.D., Baltimore, to Miss G. Marjorie Howard, of Montreal, Que., November 24.

Henry L. Brown, M.D., U. S. Army, to Miss Florella Fredrika Lightbourne, of Key West, Fla., November 13.

George Oliver Sharrett, M.D., Cumberland, Md., to Miss Eva Gertrude Basford, at Baltimore, November 24.

Allen Henry Wright, M.D., Stamford, Vt., to Miss Charlotte Frances Park, of Waterloo, N. Y., November 17.

John L. Conover, M.D., to Miss Hattie Eaton, both of North Crandon, Wis., at Menominee, Mich., November 23.

Hugo Abraham Freund, M.D., Detroit, Mich., to Miss Hortense Goldsmith, of Ligonier, Ind., at Detroit, November 9.

Michael J. Shaughnessy, M.D., Wabasha, Minn., to Miss Mae C. O'Brien, of South Framingham, Mass., November 23.

Abraham Nowell Creadick, M.D., Portland, Ore., to Miss Emma Greenwood DeBow, of Philadelphia, Pa., November 23.

William Ellicott Tyson, M.D., Detroit, Mich., to Miss Elizabeth McPherson Weems, at Washington, D. C., November 27.

Thomas Rollins Marshall, M.D., Richmond, Va., to Miss Sue Seddon Taliaferro Wellford, of Gloucester county, Va., at Richmond, November 23.

Deaths

Andrew Caldwell Mailer, M.D. Rush Medical College, Chicago, 1878; Bellevue Hospital Medical College, New York City, 1882; a member of the American Medical Association and National Association of Railway Surgeons; past president of the Fox River Valley Medical Society; local surgeon of the Chicago, Milwaukee and St. Paul Railway at DePere, Wis.; for several years superintendent of the public schools of the city and president of the school board; a member of the state senate from the second district in 1897 and 1899, and twice mayor of DePere; died at his home, December 3, from tuberculosis, aged 56.

William H. Sheets, M.D. Cincinnati College of Medicine and Surgery, 1862; a member of the Indiana State Medical Association; assistant surgeon U. S. Army throughout the Civil War; secretary of the Clark County, Ind., Board of Health; a member of the Jeffersonville Board of Health for twenty years, and formerly ten years city health officer; at one time physician to the Indiana State Prison, South Jeffersonville, and for several years a member of the local pension board; a licensed minister of the Methodist Episcopal church; died at his home, December 1, from tuberculosis, aged 76.

George Zigler Bretz, D.D.S., 1851; M.D. Long Island College Hospital, Brooklyn, N. Y., 1864; major and surgeon in the One Hundred and First Pennsylvania Volunteer Infantry; afterward post surgeon of the Naval Hospital, Plymouth, N. C.; assistant surgeon of the Seventh Pennsylvania Volunteer Cavalry during the Civil War; for five years adjunct surgeon to the Long Island College Hospital; health inspector of Brooklyn, N. Y.; and formerly a member of the Medical Society of the County of Kings; was found asphyxiated by gas in his room in Brooklyn, December 4, aged 84.

Colin Charles Sewell, M.D. University of Edinburgh, Scotland, 1864; McGill University, 1869; M.R.C.P., Edinburgh; colonel and surgeon to the Royal Canadian Artillery, retired, with active service during the Riel rebellion in 1885; principal medical officer of the Quebec District; a governor of the College of Physicians and Surgeons, Quebec; died at his home in Quebec, December 1, from pneumonia, aged 68. He was given a military funeral and the pallbearers were selected from the officers of the permanent and volunteer corps.

Milton Smith Pixley, M.D. Miami Medical College, Cincinnati, 1866; a member of the Ohio State Medical Association; hospital steward of the Ninety-first Ohio Volunteer Infantry during the Civil War; formerly city physician and a member of the city council and school board of Portsmouth, Ohio; one of the organizers of the Hempstead Academy of Medicine; and secretary of the Scioto County Medical Society; died at his home in Portsmouth, November 29, from cancer, aged 67.

Erasmus Darwin Leavitt, M.D. Harvard Medical School, Boston, 1870; formerly a member of the American Medical Association; a member and first president of the Montana State Medical Association; a pioneer physician of Montana; member of the first two legislatures of the state, and formerly president of the State Board of Medical Examiners; died at his home in Butte, November 30, from carcinoma of the liver, aged 78.

Thomas Griswold Comstock, M.D. Washington University, St. Louis, 1849; Doctor of Midwifery and Master in Obstetrics; Imperial Royal University of Vienna, Austria, 1856; Hahnemann Medical College, Philadelphia, 1851; consulting physician to the St. Louis Free Hospital, and president of the medical staff; physician to the Good Samaritan Hospital; died at his home in St. Louis, December 1, from nephritis, aged 84.

John Perkins Furniss, M.D. New Orleans School of Medicine, 1866; a member of the American Medical Association; a member of the State Board of Censors and Medical Examination; assistant surgeon in the Confederate Service from 1862 to 1865; grand senior life councilor of the Medical Association of the State of Alabama; died at his home in Selma, December 3, aged 68.

Samuel Brightwell Smallwood, M.D. New York University, New York City, 1864; a member of the Medical Society of the State of New York; of Astoria, Long Island City, N. Y.; a member of the consulting board of the New York Eye and Ear Hospital; died in the Post-Graduate Hospital, New York City, November 28, after an operation for ptomaine poisoning, aged 69.

Robert Paine Wendell, M.D. Georgetown University, Washington, D. C., 1892; of Aberdeen, Miss.; a member of the American Medical Association; local surgeon for the Frisco System; was shot, beaten and stabbed to death, November 28, in a hotel in Aberdeen, by a patient who was suffering from alcoholic mania, aged 42.

Frederick Bostock Webb., M.D. University College of Medicine, Richmond, Va., 1901; a member of the Medical Society of Virginia; for several years a missionary in China; since 1902, physician in charge of the Roanoke City Smallpox Hospital; died in the Relay Sanatorium, near Baltimore, December 3, aged 43.

Levin Gillis Owings, M.D. University of Maryland, Baltimore, 1900; of Glenelg, Md.; formerly a member of the American Medical Association; a member of the Medical and Chirurgical Faculty of Maryland; died at the home of his father in Roxbury Mills, November 30, from tuberculosis, aged 33.

Hiram W. Gordon, M.D. University of Pennsylvania, Philadelphia, 1858; formerly a member of the American Medical Association; a member of the Medical Society of Virginia; died at his home in Madison, April, 1908, from cerebral embolism, due to valvular disease of the heart, aged 76.

Pierre A. Banker, M.D. New York Homeopathic Medical College, New York City, 1879; a member of the American Medical Association; excise commissioner-elect of Elizabeth, N. J.; a veteran of the Civil War; died suddenly at his home in Elizabeth, December 2, from angina pectoris, aged 63.

Sophia Presley, M.D. Womans Medical College of Pennsylvania, Philadelphia, 1879; a member of the Medical Society of New Jersey; formerly instructor in surgery in her alma mater; died suddenly at her home in Camden, November 28, from heart disease, aged 65.

David Bennett, M.D. Bellevue Hospital Medical College, New York City, 1866; formerly of Richmond and Lexington, Ky.; at one time president of the National Exchange Bank of Lexington; died in a private sanitarium at Atlanta, Ga., December 2, from gastritis, aged 68.

Junius L. Mann, M.D. Medical College of the State of South Carolina, Charleston, 1901; of Anderson, S. C.; a member of the South Carolina Medical Association; died suddenly at the home of his father in West Union, S. C., November 29, from heart disease, aged 31.

Frank Hickman Matlack, M.D. University of Pennsylvania, Philadelphia, 1872; a member of the Medical Society of the State of Pennsylvania; for twenty years a practitioner of Turtle Creek; died at his home in East End, Pittsburg, November 30, aged 67.

George LeHouillier (license, Mo., 1897); a member of the Florrisant, Mo., Board of Health; for many years house physician to the Loretto Academy and St. Stanislaus Seminary; died at his home, November 25, from rheumatic endocarditis, aged 51.

Henry C. Crowder, M.D. Rush Medical College, Chicago, 1874; a member of the American Medical Association; local surgeon of the Southern Pacific Railway at Tracy, Cal.; died at his home in that city, November 28, from heart disease, aged 65.

Joseph C. Grant, M.D. Kentucky School of Medicine, Louisville, 1896; formerly of Lena, Wis.; a member of the American Medical Association; died at the home of his sister in Livingston Manor, N. Y., November 28, from influenza, aged 40.

Lycurgus Thomas, M.D. University of Tennessee, Nashville, 1907; physician in charge of the Woodward Iron Works, Dolomite, Ala.; died in the city Hospital, Bessemer, Ala., November 25, from typhoid fever, aged 25.

William J. Laird, M.D. College of Physicians and Surgeons, Chicago, 1896; formerly surgeon for the Bay de Noc Company, at Nahma, Mich.; died in Englewood, Chicago, November 15, from pulmonary tuberculosis, aged 45.

Harry Milton Davison, M.D. Western Pennsylvania Medical College, Pittsburg, 1897; formerly of Franklin, Pa.; died at his home in York, Pa., November 22, from acute mania, said to have been due to alcoholism, aged 38.

Franklin Hinkle, M.D. University of Pennsylvania, Philadelphia, 1846; a member of the American Medical Association; assistant surgeon during the Civil War; died at his home in Columbia, Pa., December 2, aged 85.

Stephen Dudley Harrell, M.D. Medical College of the State of South Carolina, Charleston, 1889; a member of the South Carolina Medical Association; died at his home in Lamar, November 29, aged 48.

William E. King, M.D. University of Tennessee, Nashville, 1898; of Lafayette, Tenn.; while riding through the public square of that place, November 27, was shot and instantly killed, aged about 40.

William Augustine Daniel, M.D. Savannah (Ga.) Medical College; a Confederate veteran; died at his home in Jacksonville, Fla., April 7, from chronic hepatitis, due to malarial toxemia, aged 74.

John Clinton Barnes (license, years of practice, Ill., 1877); for forty-four years an eclectic practitioner of Illinois; died in a hotel in Arcola, November 23, from acute nephritis, aged 74.

Micajah Quincy Holt, M.D. Jefferson Medical College, Philadelphia, 1849; of Wakefield, Va.; died in Newport News, Va., November 6, from cirrhosis of the liver, aged 83.

Thomas B. Hicks, M.D. Cleveland (Ohio) Medical College, 1872; died at his home in New Haven, Ill., December 3, from injuries inflicted by an insane patient, aged 68.

Isabella M. Wilson, M.D. New York Medical College and Hospital for Women, 1894; died at her home in Middletown, N. Y., November 30, from pneumonia, aged 58.

Wiley Van Buren Turner, M.D. University of Nashville and Vanderbilt University, Nashville, 1860; died at his home in Greenway, Ark., November 26, aged 75.

Thomas Jefferson Glines, M.D. Dartmouth Medical School, Hanover, N. H., 1853; an eclectic practitioner of Hebron, N. Y.; died at his home recently, aged 82.

Thomas A. White, M.D. Medical College of Indiana, Indianapolis, 1881; died suddenly at his home in Noblesville, Ind., December 3, from asthma, aged 61.

Oscar Green Cbamblee, M.D. University of Nashville, Tenn., 1907; of North Birmingham, Ala.; died November 28, at a hospital in Birmingham, aged 26.

Joseph A. Pujos, M.D. Tulane University, New Orleans, 1896; formerly of Schriever, La.; died at his home in Thibodeaux, November 30, aged 47.

John Odie Grove, M.D. University of the South, Sewanee, Tenn., 1904; died at his home in Bradenville, Pa., November 25, from pneumonia, aged 32.

Edward Ayres Russell, M.D. Kentucky School of Medicine, Louisville, 1893; of Butler, Pa.; died in Cambridge Springs, Ohio, November 29, aged 40.

John C. Miller, M.D. Kentucky School of Medicine, Louisville, 1907; of Weeletka, Okla.; was shot and killed near that place, August 25, aged 29.

Donald A. MacPherson, M.D. Long Island College Hospital, Brooklyn, 1895; died at his home in Brooklyn, November 30, from pneumonia, aged 43.

George W. Nyce, M.D. Pennsylvania Medical College, Gettysburg, 1857; died at his home in Cohoes, N. Y., November 19, from paralysis, aged 74.

James Walker Evans, M.D. Missouri Medical College, St. Louis, 1868; died at his home in Kirkwood, Mo., November 22, from diabetes, aged 63.

John Calvin Cochran, M.D. Barnes Medical College, St. Louis, 1901; of Burkett, Texas; died suddenly in Coleman, Texas, November 23, aged 53.

John A. Fitzpatrick (license, Ill., 1880); of Lemont, Ill.; died in St. Joseph's Hospital, Joliet, Ill., December 1, from hemorrhage, aged 55.

Garnet P. Hyndman, M.D. Michigan College of Medicine and Surgery, Detroit, 1896; died at his home in Minot, N. D., recently, aged 37.

Charles Oscar Hawkins, M.D. New York University, New York City, 1873; of Brooklyn, N. Y.; died in Hoboken, N. J., October 3.

Thomas J. Meek (license, Miss.); died at his home near Courtland, Miss., September 27, from cirrhosis of the liver, aged 55.

Robert S. Brice, M.D. Kentucky School of Medicine, Louisville, 1882; died at his home in Keota, Iowa, November 23, aged 75.

David Zimbleman, M.D. Russia; died at his home in New York City, November 5, from heart disease, aged 32.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

The Duty of the State to the Sick

The following extract from the *Bulletin of the North Carolina Board of Health* for October, is not only of interest as showing the attitude of the health authorities in the South regarding Mr. Rockefeller's gift of $1,000,000 for the extermination of the hookworm disease but also contains several points which may be of value to those interested in the campaign for better health conditions in other states:

ONE MILLION DOLLARS' WORTH OF STOCK IN PUBLIC HEALTH

On the 26th of October a man whom all the world recognizes as one of the shrewdest business men that ever lived decided to invest one million dollars in public health.

This unprecedented investment should suggest to the public mind several interesting and significant inquiries: *First*, did Mr. Rockefeller put a million dollars in something that will not bring the desired returns? *Second*, did Mr. Rockefeller invest one million dollars in something theoretical, something nothing more than the dream of an idealist, something impracticable? Did this shrewd, calculating business man, for once, disregard all precedent and invest this sum of money without thoroughly investigating the value of his investment? Judging from his letter, he did not, for in this letter he says: "For many months my representatives have been inquiring into the nature and prevalence of "hookworm disease" and considering plans for mitigating its evils. I have delayed action in this matter only until *the facts as to the extent of the disease could be verified and the effectiveness of its cure and prevention demonstrated*." (The italics are ours.) It is therefore apparent that Mr. Rockefeller did not take any one's word for the loss of health and life from hookworm and the practicability of its cure. He made his own investigation, and arrived at results that justified this reckless (?) investor in putting up one million dollars for the sanitary war against hookworm.

Now, scientists have for several years been claiming just what Mr. Rockefeller "verified" and "demonstrated," and, on these claims they have urged state governments to appropriate money for the preservation of such a cheap thing as human health and life. On the other hand, state governments, judging from their appropriations for different purposes, have considered it better business to spend the state's money on trees, plants, animals, birds, etc., as is well illustrated by the following story:

The Young Mother and the Fat Hog—Not a Fable; Simply Straight Goods

One time a little mother, who was only twenty-five years old, began to feel tired all the time. Her appetite had failed her for weeks before the tired feeling came. Her three little girls, once a joy in her life, became a burden to her. It was "Mamma," "Mamma," all day long. She never had noticed these appeals until the tired feeling came. The little mother also had red spots on her cheeks and a slight dry cough. One day, when dragging herself around, forcing her weary body to work, she felt a slight but sharp pain in her chest, her head grew dizzy and suddenly her mouth filled with blood. The hemorrhage was not severe, but it left her very weak. The doctor she had consulted for her cough and tired feeling prescribed bitters made of alcohol, water and gentian. This gave her false strength for a while, for it checked out her little reserve. When the hemorrhage occurred, she and all her neighbors knew she had consumption, and the doctor should have known it and told her months before.

Now she wrote to the State Board of Health and said: "I am told that consumption in its early stages can be cured by outdoor life, continued rest, and plenty of plain, good food. I do not want to die. I want to live and raise my children to make them good citizens. Where can I go to get well?" The reply was: "The great Christian State of Indiana has not yet risen to the mighty economy of saving the lives of little mothers from consumption. At present, the only place where you can go is a grave. However, the state will care for your children in an orphan asylum after you are dead, and then in a few years, a special officer will be paid to find a home for them. But save your life—never. That is a cranky idea;" for a member on the floor of the Sixty-first Assembly said so. "Besides," said he, "it isn't business. The state can't afford it." So the little mother died of the preventable and curable disease, the home was broken up, and the children were taken to the orphan asylum.

A big fat hog one morning found he had a pain in his belly. He squealed loudly and the farmer came out of his house to see what was the matter. "He's got the hog cholery," said the hird man. So the farmer telegraphed Secretary Wilson of the U. S. Agricultural Department (who said the other day he had 3,000 experts in animal and plant diseases), and the reply was: "Cert., I'll send you a man right away." Sure enough, the man came. He said he was a D.V.S. and he was, too. He had a government syringe and a bottle of government medicine in his handbag, and he went for the hog. It got well. It wasn't cranky for the government to do this, and it could afford the expense, for the hog could be turned into ham, sausage, lard and bacon. Anybody, even a fool, can see it would be cranky for the state to save the life of a little mother, and it could not afford it, either.

Moral: Be a hog and be worth saving.

(The background of this story is laid in Indiana, but its truth applies with equal force to our own state. For while Indiana is spending $43,500 annually on her public health, North Carolina is spending the extravagant sum of $8,500 annually on our public health.)

Now, from what has been said, it is very evident that there exists a very great difference of opinion between John D. Rockefeller and the average state government as to the value of public health. Either one or the other has made a big mistake, and if the oil king has made a bad business move, it is about his first one. Whatever many people may think of his business methods, it would be rather difficult to find a sensible person who questions his business sense.

It is believed this gift will serve its chief purpose, not in the eradication of hookworm, which it will to a large extent accomplish, but as a demonstration to state governments of the value of human health and life. And when that good day arrives, legislatures will investigate and verify the unanimous conclusion of scientists and statisticians, namely, that our country is losing 250,000 lives or their equivalent, $400,000,000 from sickness every year. Then in a great sanitary war against preventable disease, state governments will honor John D. Rockefeller by following his lead.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and iterature to any county society desiring to take up the course.]

Fourth Month—Fourth Weekly Meeting

Treatment of Pelvic Inflammation

Non-Surgical: General: Local, douche, tampon, massage, etc.

Surgical: Routes of Operation.—Abdominal section, technic of removal of appendages, of salpingo-oöphorectomy. Technic in (a) pus cases, (b) in adhesions, (c) in hemorrhage, (d) in intestinal opening. Indications and technic in abdominal hysterectomy.

Vaginal Section: Indications for (a) posterior, (b) anterior vaginal section. Technic of vaginal hysterectomy by (a) ligature, (b) forci-pressure. Indications for vaginal incision and drainage. Relative advantages and disadvantages of abdominal and vaginal routes.

Monthly Meeting

Diagnosis and Treatment of Tuberculous Salpingitis.
Indications and Contraindications for Curettage.
Diagnosis of Pelvic Inflammation.

Fifth Month—First Weekly Meeting

General Subject for the Month: Diseases of the Stomach, Intestines and Pancreas

Anatomy

Surface Anatomy: Stomach, cardiac and pyloric orifices, curvatures. Small intestine. Large intestine. Cecum and appendix, ascending, transverse and descending colon, sigmoid. Pancreas.

Gross and Microscopic Anatomy: Stomach. Important relations. Structure, serous, muscular, submucous and mucous coats. Glands, cardiac and pyloric. Blood-vessels, lymphatics and nerves. Small intestine. Duodenum, jejuno-ileum, length, relations, limits, diameters, mesenteric attachments, blood-vessels, nerves and lymphatics. Structure, serous, muscular, submucous and mucous coats. Valvulæ conniventes, villi crypts of Lieberkühn, Brunner's glands, lymph follicles. Large intestine. Portions, length, diameters, mesentery. Characteristics, bands, sacculations, appendices, epiploicæ. Difference in structure from small intestine. Blood-vessels, lymphatics, nerves. Pancreas. Location, length, size, portions, ducts, microscopic structure, blood-vessels, lymphatics.

Physiology of Digestion

Mastication and Salivary Digestion

Gastric Digestion: Effect of pepsin and hydrochloric acid, of rennin. Effect on other foods. Absorption from stomach. Movements of the stomach.*

Intestinal Digestion: Pancreatic secretion, composition, three enzymes, secretin and mechanism of pancreatic secretion, enterokinase, effect of each enzyme in digestion. Succus entericus, enzymes present and functions of each. Intestinal movements, peristaltic and pendular. Absorption from intestine of carbohydrates, of fats, of proteins. Digestion and absorption in large intestines.

REFERENCE BOOKS FOR THE FIFTH MONTH

Hemmeter: Diseases of the Stomach and Intestines.
Boas: Diseases of the Stomach; of the Intestines.
Einhorn: Diseases of the Stomach and Intestines.
Nothnagel's Practice.
Opie: Diseases of the Pancreas.
Billings: Diseases of the Digestive Tract.

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* Howell: Physiology, 2d Edition, p. 661.

Society Proceedings

COMING MEETINGS

American Physiological Society, Washington, D. C., December 28-30.
Medical Society of State of New York, Albany, January 25.
Western Surgical and Gynecological Assn., Omaha, December 20-21.

AMERICAN ACADEMY OF MEDICINE

Third Mid-Year Meeting held at New Haven, Conn., Nov. 11-12, 1909

CONFERENCE ON PREVENTION OF INFANT MORTALITY

(Continued from page 2028)

The Relation of Syphilis to Infant Mortality

Dr. Richard A. Urquhart, Baltimore: Of all the grave consequences following on this one of the modern plagues, none are so serious as those of heredity. The high rate of infant mortality among the children of such parents is its greatest social danger. Many others, fortunate or unfortunate enough to survive its first effects, grow into a weakling childhood and manhood, a misery to themselves and a public charge. Few greater problems offer themselves to the philanthropist, to the social worker, the teacher and the state. The false position assumed toward social diseases by the authorities and the consequent ignorance of the far-reaching effect of such diseases is an everlasting disgrace to our modern civilization. It is high time that physicians, knowing its perils, force on the powers that be the right of the public to protection, as in the case of any other contagious disease. The details of the required laws and methods of making them efficient will work themselves out. It is not merely prohibiting a fool from his folly; frequently the innocent suffer; the state has to support weaklings, and racial degeneracy results.

DISCUSSION

Dr. Helen C. Putnam, Providence, R. I.: Syphilis should be placed among the reportable diseases.

Dr. R. A. Urquhart: In view of the dread of publicity felt by persons suffering from syphilis, there is danger that they would not seek medical aid, and the result would be worse than if there were no report.

Dr. J. Morton Howell, Dayton, Ohio: One solution of the problem would be the introduction of courses of lectures by the medical inspectors into the curricula of boys in high schools.

The Curative Powers in Human Milk

Dr. J. Madison Taylor, Philadelphia: Scientific substitute infant feeding, primarily a boon, often proves a peril. Physicians are lulled into a false sense of security and too readily allow mothers to omit breast-feeding. Mothers, both rich and poor, too often assume that it is just as well to use the bottle, thus imperiling life and health, and especially right constitutional development. Sifting the evidence emphasizes (1) the well-known but inadequately realized fact that breast-feeding is of paramount value, not only as a food, but as contributing to prevention and cure of infectious and other diseases; and (2) the testimony from physiology as to the curative powers residing in the autoprotective qualities of the serum of milk, especially human milk.

Excessive Child-Bearing as a Factor in Infant Mortality

Dr. Alice Hamilton, Chicago: This paper embodies the results of a statistical study of 160 families with regard to the number of children born and the number who died at birth, in infancy or in early childhood. The families selected were almost all from the poorer wage-earning class, the parents being foreign born in all but 3 per cent. Families with 6 children and over were placed in one group, those with 4 children and less than 4 in another group. The percentage of child mortality in the first group was over two and one-half times that in the second group. As the nationality, economic standing, mode of life and knowledge of infant hygiene was the same for the two groups, the explanation of this great mortality in the larger families lies probably in the insufficient care given to the over-numerous children and in the exhaustion of the mothers through excessive child-bearing. Grouped according to nationalities, the Jews show the lowest child death-rate, with the American-born next; the Italians the highest and the Germans, Irish and Slavs ranging in between in the order named.

DISCUSSION

Dr. T. Smith, Worcester, Mass.: I have made a study of the mortality among the wives of college graduates, Yale and Harvard graduates, going back 200 years, and have found that 33 per cent. died before they were 35 years old. I discovered also, in tracing out the records of some of the old New England families for a number of generations, that the large families seemed to tend to be extinguished by the fourth or fifth generation. For example, in one family, there were 20 children; 8 by the first wife and 12 by the second, but there are now no living descendants except through one son. In a second family of 10 children, the mother died at the age of 40. Of the 10 children, the 3 youngest were invalids; 2 lived to the age of 30; 8 married. Of these marriages there are only 3 descendants surviving.

The Waste of Infant Life

Dr. Edward T. Devine, New York: It is sufficiently obvious that the enormous waste of infant life is a social problem of fundamental importance. Just how enormous the waste is we cannot exactly determine. It begins with the abortions and miscarriages which have been estimated to be the end of one pregnancy out of every five. It includes next the children born dead, though at full term, which happens, as nearly as we can tell, in about one case in twenty-eight. And the total is made up by the great numbers of babies born alive who die before they reach the age of 1 year. In New York one-seventh of all the babies born die before they are a year old, and their deaths make up between one-fifth and one-fourth of the total mortality. An encouraging decrease can be seen in New York in the last forty years. Between the decades 1866-75 and 1896-1905 the infant death-rate decreased 43 per cent., while the general death-rate decreased only 26 per cent. In spite of this decrease it is the opinion of the medical experts that a large part of the infant deaths which now take place are preventable. The social economist adopts the medical expert's opinion, and it is his part to devise means for preventing that part of the preventable waste which is due to adverse social conditions. "Prevention of infant mortality" is the subject of the conference, but that is not the ultimate object. The phrase is symbolic, suggestive, for the important thing is not merely to prevent babies from dying, but to keep them well and increase their strength, to give them the best possible beginnings for their lives. The efforts which give promise of the best and quickest returns are those which will decrease the proportion of premature and immature babies born, and will increase the proportion who are fed properly through their first year.

The Relation of Race to Infant Mortality

Dr. Richard C. Cabot, Boston: This paper embodies the results of an examination of the vital statistics of Boston. Three thousand two hundred and ninety certificates of the board of health were studied for three wards of the city—one almost entirely Jewish, a second almost entirely Italian and a third almost entirely Irish. Excluding premature births and stillbirths, the infectious, diarrheal and digestive diseases make up about one-half of the total figures and the stillborn cases one-fifth; the premature and stillborn combined, about one-third. The mortality from pneumonia and tuberculosis represented more than two-thirds of the total mortality from all the infectious diseases reported to the board of health. In spite of the fact that the Jewish race is not supposed to be especially prone to alcoholism and syphilis, it was found that the proportion of stillbirths in Jewish families was 64 per 1,000 births; Italian, 41 per 1,000; Americans and Irish, lower. In birth accidents and in digestive diseases, the figures for the Jewish race were in the lead. The mortality from digestive diseases, excluding infectious diseases, was 54 per 1,000 births among the Jewish families; 35 per 1,000 among the Irish; 31 among Italians and 29 among Americans.

A Program for the Reduction of Infant Mortality in New York City

Mr. Robert W. Bruère, general agent of the New York Association for Improving the Conditions of the Poor: The problem of infant mortality in New York City is primarily a problem of poverty. This statement is based on the records of the New York Department of Health. The evolution of the campaign against infant mortality among the poor is illustrated by the work of the New York Association for Improving the Condition of the Poor. There are fresh-air pleasure parties at Sea Breeze, Coney Island. Sea Breeze has been partially changed from a picnic ground into a summer convalescent home and school for mothers. Summer district work has been started at Junior Sea Breeze in the heart of the city. All-year-round follow-up work has been inaugurated in connection with children's dispensaries, and infants' milk depots have been established by the New York Milk Committee. Impure milk and low wages are factors in determining the infant death-rate.

In view of the fact that 46 per cent. of the workers in New York receive less than $10 a week or $300 *per annum*, less than the sum given in the report of the Committee on the Standard of Living prepared by the New York Conference of Charities and Corrections and published by the Sage Foundation, as necessary to keep body and soul together, there should be a system of compulsory sick insurance, similar to that in practice in Germany. This insurance should be contributory; part provided out of the general taxation, and to a lesser extent out of the premiums paid by policy holders. The insurance should be compulsory for all persons with incomes less than $1,000 a year.

Educational Responsibilities of a Milk Depot

Dr. Ira S. Wile, New York: The educational possibilities of a milk depot are the only limits to its educational responsibility. Its possibility is that of making milk depots unnecessary institutions. Its function should not be merely to supply a milk for infant feeding, but at least to teach mothers why it is supplied. Its responsibility is three-fold: to the infant, to the family, to the community. To the child the responsibility of the milk depot lies in attempting to supply a proper milk, i. e., its own mother's milk. An index of the value of a depot lies in the number of nursing mothers visiting it; not in the amount of modified milk sold. At each depot there should be a museum to exhibit all that relates to child hygiene from the prenatal period to the school period. To the family the depot is responsible for teaching the whole household how to keep the children well—not merely how to avoid letting them die. There should be classes for "little mothers" and expectant mothers, as well as for mothers with children. Toward the community the depot has the responsibility of developing mothers capable of bringing up their children to maturity, and of destroying the possible element of truth in the statement that children grow up in spite of their parents, not by means of them.

The Responsibilities of General Relief Agencies in Prevention of Infant Mortality

Mr. Sherman C. Kingsley, superintendent of the United Charities of Chicago: The particular responsibility of relief agencies lies in the fact that their work is in the very homes where babies die in largest numbers. Our philanthropy and our municipal housekeeping ought to be brought to this test: Do they furnish conditions that are right for the baby? Where the white hearse goes most often, there you will find the weakest places in your municipal housekeeping. The charity organization society, or similar agency, is the natural agency to arouse public interest in the question of infant mortality in a city where it has received scanty attention. In such a place it will probably run afoul of the question of registration of births, of general insanitary conditions, of the problem of desertion, of the problem of the registration of midwives. There are also certain pressing and immediate responsibilities resting on charitable organizations in connection with their own special work: they should not send pregnant women to wash and scrub; they should make possible a reasonable period of convalescence after the baby is born; they should see to it that the family lives in rooms consistent with health for the baby; they should not encourage a mother to wean her baby in order to go back to work; they should see to it that the mother herself is properly nourished; they should continue the visits of the nurse until the mother has profited by her instructions; they should be more patient in winning the confidence of the foreign mothers and teaching them. The conclusion of the whole matter may be suggested in the homely annals of one baby who died: begotten of a father who deserted before the baby came; born in an insanitary, three-room tenement house; attended by a midwife, who was unlicensed and ignorant; unrecorded in the city's book of births; suffered on account of feeding which was in accordance with the traditions of its mother and because she had to earn a living; died without ever having had a drink of water; furnished with a funeral that further impoverished the family.

Results of Philanthropic Experiments in Increasing and Decreasing Infant Mortality

Dr. Woods Hutchinson, New York: The progress of civilization has markedly diminished infant mortality, but not at so great a rate as other mortality. The institutional treatment of infants is almost entirely a failure. There is no place like home for growing live children. The chief causes of infant mortality are poverty with its children, ignorance and dirt. The cure is higher wages and shorter hours. Cheap food is usually deficient in nutritive value. Nursing mothers and children must have expensive foods. Any effort helping mothers to work instead of nursing their babies is a mistake. Prizes for large families are a mistake. The death-rate is high in families too large to be properly cared for.

Institutional Prevention of Infant Mortality

Mr. Homer Folks, secretary of the New York State Charities Aid Association: In institutions for providing a home for presumably well infants, mortality has always tended to be very high. Of 28,436 babies received at the St. Petersburgh Foundling Hospital, 24,272 died, 85 per cent. In such institutions mortality has been reduced, but is still excessively high, not more than 50 per cent. surviving among the best institutions. This is not from neglect. Artificial feeding kills babies in infant homes. Babies and their mothers should be kept together. Hospitals for sick babies are necessary and valuable.

Providing Situations for and Otherwise Assisting Homeless Mothers with Their Infants

Miss Mary R. Mason, agent of the Committee on Assisting and Providing Situations for Mothers with Infants, New York City: The death-rate is frequently from 90 to 100 per cent. when babies are separated from their mothers. Agencies find it entirely practicable to place women with babies in domestic service, chiefly in the country or small towns, with wholesome environment. Increasing stringency in the domestic service market increases desirable opportunities. The Philadelphia Society, 1908, placed 609 mothers. In 15 years the New York Agency has provided over 7,000 situations. Statistics are difficult to present, as the situation is usually only temporary (until father obtains work, or families are reconciled; many widowed or unmarried marry). In three years (1900-1902) of the mothers kept track of, four-fifths of the babies lived and were in good condition; one-fifth died or were in poor condition. Agencies need closer cooperation with maternity hospitals to induce mothers to keep, not abandon their babies; more temporary homes; more places for training incompetent mothers. The plan of keeping mothers and babies together is susceptible of much wider application.

DISCUSSION

Mr. E. D. Solenberger, Philadelphia, approved of the placing-out system, but recommended that a most careful and discriminating examination be made by the hospital physician of mother and child before sending out to a situation; and emphasized the need for greater cooperation between hospitals and similar institutions and the child-placing organizations. Statements of physicians and their recommendations as to the character of the work women were fitted to do, would be accepted by employers as authoritative, and would prevent them from giving too heavy manual work to women physically unable to perform such duties. Hospitals, on the other hand, would be more willing to care for a woman through a longer period of convalescence, knowing that the child-placing association would at the end of the time have a situation ready for the woman.

Dr. J. H. Mason Knox, Jr., Baltimore, commended the placing-out system, but said that in view of the fact that a great many children are still being cared for in institutions legislation should be enacted which should secure adequate care, the necessary amount of air space and a sufficient number of attendants for the children now in institutions. He took exception to the statement that practically all infant mortality in institutions was due to artificial feeding. That this is only partially true, he said, is shown by the fact that among the wealthier classes only a small proportion of the artificially fed babies die when they have the proper food and the necessary care. There are hundreds of asylums in our large cities which are practically death traps, not primarily because they are asylums, but because they fail to do their whole duty to the child. Inadequate care, too few nurses, in many instances an inefficient nurse maid in charge of 20 or 30 babies, instead of a trained nurse caring for 3 babies; insufficient air space, large wards with 30 or 40 babies in one room, instead of 3 or 4 babies in separate quarters, he declared to be responsible for some of the excessive mortality in institutions. These are conditions, he said, not theories, and since there is no chance that institutional care can for the present be disregarded, he urged the insistence on remedial legislation by states and health departments to make the care more adequate to the recognized needs of the child.

The Care of Infants Apart from Their Mothers

Dr. Charles P. Putnam, Boston: Foundling Hospitals are charitable in aim. The Massachusetts Infant Asylum may be used as an object lesson. For ten years it cared for all the state babies. One-half of the first 300 died. Babies are received no matter how ill. More complete investigation and cooperation by paid officers makes more admissions and sicker babies. Of the first 1,000 cases, 530 were legitimate, 470 were illegitimate and 69 were taken for adoption. No babies have been taken for adoption during the past 30 years. Of the first 1,000, 21 mothers deserted, but in the last 500 there were only 2 possible desertions. Of the first 2,000, 377 babies given away in adoption. Now the policy is quite opposite. Only those are admitted who do not properly belong elsewhere. The boarding-out system now requires the whole time of two trained nurses. Mothers are required to visit frequently. Parents and others must pay. 1. If mothers cannot be kept with babies, their interest must be kept with them. 2. This keeps as mothers' babies many that otherwise would be thrown on the public. 3. Many mothers who would have lost a bond to society now retain it.

The Care of Infants Who Must be Separated from Their Mothers Because of Some Especial Need on the Part of the Child

Dr. Emelyn Lincoln Coolidge, New York: It is a serious matter to separate a mother and her child, especially if the baby is breast-fed; but sometimes this is necessary if the mother is too poor and ignorant to care for the baby at home. Babies' hospitals are valuable for the treatment of infants who are very ill with some acute disease. If a baby cannot be nursed by its own mother and there is difficulty in feeding it artificially, it would be well to board the child with a reliable wet nurse who is under the control of a babies' hospital. Babies sick or well need individual treatment, as well as scientific and skilful care. There should be enough nurses in every hospital for babies so that they will have time to hold the patients, at least occasionally, giving them the individual attention which is many times their salvation. The patients in a babies' hospital should not only be looked on as "interesting cases," but as babies absolutely dependent on conscientious and tender care. Physicians and nurses who are to have the care of infants need special training in this particular branch of medicine. Those who graduate from a general hospital or college are not competent to assume the care of sick infants without first devoting considerable time to conscientious study of the diseases of infancy and childhood. In a babies' hospital small wards are desirable, ten or twelve beds in each ward being about the right number. If contagion then breaks out the ward may be isolated and the disease checked at the start. Plenty of fresh air and sunlight must fill all the wards.

DISCUSSION

Dr. H. J. Gerstenberger, Cleveland: An effort should be made in every city to have a babies' hospital, which should serve also as a school for the training of physicians, nurses and midwives, and which should offer post-graduate courses and furnish opportunity for research work.

Dr. J. H. Mason Knox, Jr., Baltimore: I do not consider a preliminary examination of a child before admission to a ward sufficient; the plan of many hospitals of keeping a baby in a retention room, under careful supervision, for forty-eight or seventy-two hours before admitting to the general ward, is a more effective precautionary measure than the preliminary examination alone. In the placing-out system, there is great need for careful examination of mother and child before sending out to situations or into homes. In one case a family was persuaded to take a child which was supposed to be perfectly healthy. As a result, syphilis was contracted by two members of the family which befriended the child. Owing to the difficulty in diagnosing the disease in very young infants, until the lapse of six weeks or two months at least, the placing-out system, while excellent, should not go into effect until after a certain length of time, and not until the most careful laboratory and clinical diagnosis had been made. Speaking of the work of the milk stations, the importance should be emphasized of having not only trained nurses, but of having nurses especially trained in the care of children who would give their entire time, in connection with the work of the milk station, to babies and young children, and to the instruction of the mothers.

Mrs. Mary Kincaid, New York, outlined the work of the *Delineator* in forming mothers' conferences, first in New York, and then throughout the country.

Dr. Albert Hale, Bureau of American Republics, Washington, spoke of the methods by which the infant mortality in Buenos Aires, Argentina, has been reduced to such an extent that the city has one of the lowest infant death-rates in the world. The reduction was brought about largely by means of reforms instituted by the municipality, among them the control of the milk supply, the control of the water supply and the installation of a drainage system at a cost of $50,000,000. Another factor in the reduction of infant mortality is what is known as the *assistencia publica*, which maintains laboratories, and which is educational also.

Assisting Mothers in the Care of Sick Infants in Their Own Homes

Miss Lillian D. Wald, Nurses' Settlement, New York City: An important factor in lowered infant mortality is the skilled district nurse who gives serious nursing care in the homes viz.: The daily thorough bathing, the antiseptic care of mouth, nasal passage, eyes and external excretory organs; application of medical treatment, of hydrotherapy, dressings, etc.; who keeps records and makes observations, teaches the members of family how to ventilate, prepare diet, maintain the best available surroundings, and who secures the use of all necessary equipment and appliances for comfort of the patient. An illustration of the value of such service is given by the figures of the settlement of pneumonia and bronchitis in children whose ages ranged from 2 weeks to 2 years, these figures covering only three months' time. Total number cases pneumonia and bronchitis, 156, divided as follows: Lobar pneumonia, 64 patients (died, 9; sent to hospital, 4; cured, 51); bronchopneumonia, 84 patients (died, 6; sent to hospital, 24; cured, 54); pleuropneumonia, 8 patients (died, 2; sent to hospital, 6); bronchitis, 11 patients (sent to hospital, 2; cured, 9). During the same three months there were cases of intestinal disorder of various kinds, diarrhea, dysentery, enteritis, malnutrition, colitis, thrush, etc., etc., in children of the same ages. Total, 72 children: (sent to hospital, 11; died, 7; cured, 54). Hospital cases were usually complicated by some infectious disease. The pneumonia cases were in the large majority of cases of marked severity. Many of the intestinal cases also were serious and required most careful management.

(*To be continued*)

Book Notices

Infinity or Nature's God. By F. J. Duggan, M.D., Grand Forks, N. D. Flexible Leather. Pp. 136. Price, $1.50.

If the unconscious be the highest type of humor, then in this book we have something that will inevitably add to the gaiety of nations. Not that it is written with any such intent; the author takes himself and the universe far too seriously to be guilty of perpetrating a joke intentionally. The reader is informed in the preface that this work is "a prose composition, poetic in form and scientific in character." It was written "under the impulse of an irresistible influence" while the author was "in a pleasant semiconscious reverie." Still further to divide the parental responsibility for this epic, the author states that a "strange muse, whose promptings made the task easy" is really the being "who must, most assuredly, be held responsible for the existence of the poem." In closing the preface and foreseeing the effect that his verse may have on those whose mentality is not the most stable, the author expresses the hope "that detention hospitals may be established in every county in the land for the treatment of incipient insanity." The poem begins at the Beginning. Of the creation of matter we read:

> "Ever was and is to be," describes the situation.—
> The technical terms, wrongly used, were for elucidation.

Matter having been satisfactorily accounted for, a description of the natural forces seems rational. For instance, a tornado in the author's town:

> . . . . sweeps down the street,
> With planks, chairs, and debris dancing on its spray four feet deep;
> Tin roofs, whole blocks of sidewalk are flying in the air,
> With small houses scattered to the wind my heart despairs.

Much havoc was wrought, apparently, for we read that there were

> Three killed, many injured, the train from off the track was blown;
> This certainly was the swiftest storm that ever I have known

But it is when that mystery of mysteries—life—is touched on that the sublimest heights are reached.

> Who views the fishy tadpole would connect him with the frog,
> Anxious watching o'er his progeny while sitting on the log?
> Who sees the wriggling wiggler in the rain-barrel, ne'er at rest,
> Can see yellow fever and ague in the mosquito pest?

Nor is therapeutics forgotten; quinin is apostrophized thus:

> The parasite, the hematozoon at home in human blood,
> Is poisoned by the Jesuit-bark; it killed him where he stood.

These quotations must suffice. To analyze the entire work would require much time—and paper. As its author says, "it is readily seen the immense possibilities attending such a work." The book "was not written for remuneration" and must be read to be fully appreciated.

A Text-Book on Practical Obstetrics. By Egbert H. Grandin, A.B., M.D., Gynecologist to the Columbus Hospital. With the Collaboration of George W. Jarman, M.D., Gynecologist to the General Memorial Hospital and Simon Marx, M.D., Late Surgeon to the New York Maternity Hospital. Edition 4. Cloth. Pp. 538, with illustrations. Price, $4.50. Philadelphia: F. A Davis Co., 1909.

This edition has been revised by Dr. Simon Marx. It aims at the greatest possible directness in the statement of clinical facts and omits all anatomic, embryologic and pathologic data that are not essential. It omits all literature reference and statistical data except such as are necessary to elucidate disputed facts. Brevity, accuracy and practicability, with the avoidance of theory and hobby, are the aims striven for by the authors.

These objects have been attained with a fair degree of success and the revision has much improved the book. Certain defects have escaped the reviser. In Chapter 4 the definitions and usage of the terms "presentation," "position" and "attitude" are confused and incorrect, as for example, when the position is said to be transverse or the attitude of the fetus is transverse or longitudinal. Figure A in Plate VIII, showing the method of making abdominal palpation at the pelvic brim, is incorrect. The hands should press into the sides so as to grasp the head or presenting part instead of pressing it back. On page 152, the definition of the pelvic outlet is mistakenly given for that of the "inferior strait." On page 154, in the description of the attachments of the levator ani, it is said that this muscle is attached to the lateral walls of the vagina and to those of the bladder, a statement quite contrary to the fact. On page 159 it is correctly stated that "under normal conditions the head does not become perfectly flexed until the membranes have ruptured." then is added the obscure and incorrect statement "that is to say, descent does not begin." It is impossible to understand why Plates 23, 24 and 25, showing ungowned assistants and flexion maintained by the bare finger in the rectum, should be retained. Very few nurses would be willing to adopt the advice on page 244 to bathe the infant in water at the temperature of 80 to 90. The advised treatment of puerperal endometritis and metritis by thorough examination and intrauterine injections and curettage is opposed to the views of most modern teachers.

These faults should not disfigure a modern work on obstetrics. Their presence indicates too low an estimate of the critical demands of modern teachers of obstetrics. A greater thoroughness in the revision should have eliminated them and have left a book that would merit high commendation for its laudable aims and valuable contents.

Rational Immunization in the Treatment of Pulmonary Tuberculosis and Other Diseases. By E. C. Hort, B.A., B.S.C., M.R.C.P. Cloth. Pp. 75, with illustrations. Price, $1.50. New York: William Wood & Co., 1909.

The main motive in this publication of seventy-five pages appears to be the belief that those interested in immunization, particularly vaccine therapy, do not take into sufficient consideration the possibility that disturbed enzymic action of the body cells is responsible for much of the injury which attends infections. So far as can be gathered from the somewhat involved phraseology. the assumption appears to be made that in health the enzymes of the body are held in equilibrium by antienzymes, and that in infections this equilibrium is disturbed; that the antienzymes appear to be ineffective or deficient as a consequence of bacterial action; and that this state of affairs leaves the autolytic, and perhaps other enzymes free to injure the cells of the body. On the basis of this assumption, which the author appears to accept as a fact, he deplores that we do not immunize with enzymes and emulsions of the body cells as a means of causing the further formation of antienzymes, to the end that the pernicious action of the enzymes during infection may be antagonized.

After considering briefly the subject of vaccination with cultures of bacteria (hetero-inoculation) the subject of autoinoculation is discussed. Counter-irritation. Bier's methods, active and passive movements. light and heat. respiratory exercises, radium and *x*-rays, and high altitudes, are cited as means of producing autoinoculation artificially. In such procedures, Hort believes, the micro-organisms become more or less disseminated and stimulate the formation of antibodies.

The author prefers the method of autoinoculation whenever practicable, because, in addition to causing the formation of bacteriotropic substances, it also causes the production of those substances which inhibit the pernicious activities of the body ferments. The data cited to justify the latter conclusion are far from convincing in character. The unusual position is taken that the temperature curve is a measure of the process and extent of immunization. The opsonic index is considered as an unreliable indicator of the state of the patient's resistance.

In conclusion the author states: "Full conviction I can hardly hope to carry on the slender evidence here produced, but the attempt will not be fruitless if the attention of the makers of modern medicine be for the moment diverted to issues other than the merely bacterial."

Obstetrics. A Manual for Students and Practitioners. By David James Evans, M.D., Lecturer on Obstetrics and Diseases of Infancy, McGill University, Montreal, Canada. Second Edition. Cloth. Pp. 440, with 172 illustrations. Price, $2.25 net. Philadelphia: Lea and Febiger, 1909.

In this edition of Evans' "Obstetrics," several changes have been made and certain sections rewritten. The book is now one of the best of the smaller works on the subject; it is scientific and shows the mature judgment of a large and clear observation. The various subjects are presented in a concise manner with due regard to the relative importance of the various divisions.

In the presentation of some of the debated questions of obstetrics the author in a few instances adopts views that some would criticize as insufficiently established or antiquated. For example, Williams' classification of pernicious vomiting of pregnancy into toxemia and other forms which can be distinguished by the urine examination is hardly so well established as to form an indication for treatment of the former by such a radical method as the induction of abortion.

On the other hand no well-authenticated evidence authorizes attributing "congestion or engorgement" of the breasts to exposure to cold and hypersecretion of milk. The treatment of this condition with massage, the breast-pump and pressure bandage does not furnish as satisfactory results as the more simple and rational methods of support and the application of cold. The indication for abortive treatment of mastitis, to secure complete rest for the affected gland, would prohibit the use of the second method, namely, removal of the contents of the gland by means of massage and the breast-pump. So also the arrest of lactation by compression of the breast, purgation, and the restriction of fluids ingested. the use of massage and the breast pump and the application of glycerite of belladonna is not only pretty well-known to be unnecessary. but needlessly meddlesome and unpleasant, if not harmful.

American Practice of Surgery. A Complete System of the Science and Art of Surgery, by Representative Surgeons of the United States and Canada. Edited by Joseph D. Bryant, M.D., LL.D., and Albert H. Buck, M.D. Complete in Eight Volumes. Volume VI. Cloth. Pp. 916, with 624 text illustrations, and 39 plates. Price, $7. New York: William Wood & Co., 1909.

Volume 6 of this work. the previous volumes of which have already been mentioned in these pages, treats of "Prothesis in its Relation to Surgery of the Face. Mouth. Jaws and Nasal and Laryngeal Cavities," "Surgical Diseases and Wounds of the Nasal Cavities and Accessory Sinuses," "Surgical Diseases and Wounds of the Mouth, Tongue and Salivary Glands," "Surgical Diseases and Wounds of the Neck," "Surgical Diseases and Wounds of the Thyroid and Thymus," "Surgery of the Thorax and Spinal Column," "Surgical Diseases and Wounds of the Female Breast," "Surgical Diseases and Wounds of the Genitals and Vagina of the Female," "Surgical Diseases and Wounds of the Male Genital Organs," and "Chancroid, Gonorrheal Urethritis, Surgical Diseases and Wounds of the Jaw."

Some of the subjects are so comprehensively handled that the chapters amount to real monographs, thus making this volume of great value to the specialist as well as to the general surgeon. This is particularly true of the chapters on the surgical diseases and wounds of the nasal cavities and accessory sinuses. Great advances have been made during the past few years in the diagnosis and treatment of infections of the sinuses accessory to the nasal cavities, and the editors did well in allowing so much space to these important subjects.

The genitourinary surgeon likewise will find the subjects pertaining to his department very well presented. The publishers have maintained the same good standard of work as shown in the previous volumes.

A Text-Book of Surgery. By George Emerson Brewer, A.M., M.D., Professor of Clinical Surgery at the College of Physicians and Surgeons, Columbia University, New York. Second Edition. Cloth. Pp. 875, with 415 engravings and 14 plates in colors and monochrome. Price, $5. Philadelphia: Lea & Febiger, 1909.

Judging from the increased size of this book over the previous one, the author agreed with his critics that for a practical working text-book in surgery the brevity of the former edition was not commendable. In it the effort to condense was carried too far. Many important subjects were treated too briefly, and others were omitted. This fault has been remedied in the present edition. For instance, whereas only twenty lines were given to the subject of gangrene in the first edition, four pages are now devoted to it. Seven pages have been added to the chapter on tumors. The treatment of empyema is discussed far more fully than before. The same is true of many other subjects, so that the work can now be recommended as a really excellent text-book in surgery, standing midway between the brief manuals and the more voluminous treatises. No attempt is made to discuss fully all improved methods of surgical treatment, but they are mentioned; one method, the one most in vogue, is given the preference in description. In one particular the book is open to criticism: when a drug is mentioned in connection with treatment, the dose is not given. In some instances this is a serious oversight. For example, in the treatment of aneurisms by means of the injection of gelatin, it is merely stated that the subcutaneous injection of a 1 per cent. solution of gelatin in normal salt solution is useful. Nothing is said as to the dose or as to whether the treatment is to be repeated. The chapter on anesthesia is brief but good. The chapters on surgical pathology are excellent, and the chapter on shock cannot fail to prove useful to both student and practitioner.

Atlas of External Diseases of the Eye. By. Dr. Richard Greeff, Professor of Ophthalmology in the University of Berlin and Chief of the Royal Ophthalmic Clinic in the Charité Hospital. Only Authorized English Translation by P. W. Shedd, M.D., New York. Half leather, with 54 plates and 84 figures in color. Pp. 135. Price, $10. New York: Rebman Co.

This is an almost literal translation from the text of Greeff's "Atlas der äusseren Augenkrankheit," and contains prints from the original plates illustrating that well-known work. While a careful comparison of the two atlases is not to the advantage of the American edition, either in type or paper, yet practitioners interested in external diseases of the ocular apparatus, but not familiar with German, will find in the English edition of Professor Greeff's works a most valuable aid in the diagnosis of those affections.

The German color-printer has faithfully portrayed the soft, almost indescribable, appearances of the diseased tissues—so difficult to present by any of the color schemes at our disposal. In this connection too much cannot be said commendatory of the remarkable fidelity with which the author, the sculptor (Herr Kolbow) and the optical firms (Mueller of Wiesbaden and Höning of Berlin) who supplied the artificial eyes for the models, and the printers have caught and fixed the pathologic alterations in such difficult subjects as eye patients. These illustrations, from the Berlin Pathoplastic Institute, are the best of their kind that have come to our notice.

By these means almost every ordinary and most of the rare diseases affecting the eyelids, the conjunctiva, the sclera, cornea, iris and lacrimal apparatus are portrayed, while many concurrent lesions on the face and head chiefly of dermatologic interest, are pictured.

A System of Medicine. By Many Writers. Edited by Sir Clifford Allbutt, K. C. B., M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge, and Humphrey Davy Rolleston, M.A., M.D., F.R.C.P., Senior Physician, St. George's Hospital. Vol. VI, Diseases of the Heart and Blood-Vessels. Cloth. Pp. 844, with illustrations. Price, $1.50 net. New York: The Macmillan Co., 1909.

This volume is devoted entirely to a discussion of the diseases of the heart and blood-vessels. It contains nearly 850 pages, and the discussion of the subjects contained therein is full and complete. The first chapter, which is especially well worth reading, is devoted to a consideration of the physics of the circulation by Sherrington. It is a fitting introductory to the study of valvular lesions. Osler contributes a new article on Stokes-Adams disease. M'Crae has revised the original article by Dreschfeld on acute simple endocarditis. William H. Welch contributes the articles on thrombosis and embolism. There is little to criticize and much to commend in a work of this kind because it is complete. By no means the least of the valuable features of this book is the list of references appended to each article, although it is unfortunate that American medicine is mentioned so seldom.

The Practitioner's Visiting List for 1910. Flexible leather. Wallet-shaped, with flap, pocket, calendar for two years and valuable data. Price, $1.25. Philadelphia: Lea & Febiger.

This visiting list is especially adapted to the wants of the general practitioner; it is well bound, compact, and contains matter well selected to give the puzzled doctor the hint that he needs. Doses and therapeutic reminders are given of which the physician should ordinarily be independent, but which he may occasionally find useful.

Medicolegal

Principles of Constitutional Law Governing Health Regulations —Board Enjoined from Sending Elderly Woman with Anesthetic Leprosy to Pesthouse—Personal Liability of Members of Health Board

The Supreme Court of South Carolina says, in the case of Mary V. Kirk vs. Wyman and others, constituting the Board of Health of the City of Aiken (65 S. E. R. 387), that the principles of constitutional law governing health regulations by statute and municipal ordinance may be thus stated:

First. Statutes and ordinances requiring the removal or destruction of property or the isolation of infected persons, when necessary for the protection of the public health, do not violate the constitutional guaranty of the right of enjoyment of liberty and property, because neither the right to liberty nor the right of property extends to the use of liberty or property to the injury of others.

Second. The creation by legislative authority of boards of health, with the discretion lodged in them of summary inquiry and action, is a reasonable exercise of the police power and the rules and resolutions within the scope of the authority of such boards have the force of legislative enactment. Legislative power lodged by the Constitution exclusively in the General Assembly is not delegated to such boards, but they are merely the agency for carrying out the legislative enactment.

Third. Arbitrary power over persons and property could not be conferred on a board of health, and no attempt is made in the Constitution or statutes to confer such power. On the contrary, it is implied in all such legislation that the board shall exercise the police power conferred in view of the constitutional guaranty that no person shall be deprived of life, liberty or property without due process of law, or be denied the equal protection of the laws. It is always implied that the power conferend to interfere with these personal rights is limited by public necessity. From this it follows that boards of health may not deprive any person of his property or his liberty, unless the deprivation is made to appear, by due inquiry, to be reasonably necessary to the public health; and such inquiry must include notice to the person whose property or liberty is involved, and the opportunity to him to be heard, unless the emergency appears to be so great that such notice and hearing could be had only at the peril of the public safety.

Fourth. To the end that personal liberty and property may be protected against invasion not essential to the public health—not required by public necessity—the regulations and proceedings of boards of health are subject to judicial review, by an action for damages or for injunction or other appropriate proceeding, according to the circumstances. In passing on such regulations and proceedings, the courts consider, first whether interference with personal liberty or property was reasonably necessary to the public health, and second, if the means used and the extent of interference were reasonably necessary for accomplishment of the purpose to be attained.

Fifth. In exercising the jurisdiction to review the regulations and actions of such boards by injunction or other proceeding, the courts cannot invade the province of the legislative branch of the government. Inasmuch as it is the province of the legislative branch to determine what laws and regulations are necessary to the public health, statutes and regulations made, and measures taken under such statutes, and intended and adopted to that end, are not subject to judicial review; but the courts must determine whether there is any real relation between the preservation of the public health and the legislative enactment, or the regulations and proceedings of boards of health under authority of the statute. If the statute or the regulations made or the proceedings taken under it are not reasonably appropriate to the end in view, the necessity for curtailment of individual liberty, which is essential to the validity of such statutes and regulations and proceedings, is wanting, and the courts must declare them invalid, as violative of constitutional right.

Sixth. In all judicial inquiry, with respect to health laws and regulations, every intendment is to be allowed in favor of the validity of the statute and the lawfulness of the measures taken under it.

In this case it was admitted that Miss Kirk, who was not only a lady of refinement, highly esteemed in the community, but who was quite advanced in years, was afflicted with anesthetic leprosy contracted while engaged in missionary work in Brazil. The evidence furnished of the opinions of both specialists and general practitioners of medicine was quite full, and led to the conclusion that there was hardly any danger of contagion from Miss Kirk, except by touch, or at least close personal association. What was more important than these opinions was the uncontroverted fact that she had for many years lived in the city of Aiken, attended church services, taught in the Sunday school, mingled freely with the people in social life, resting on the opinion of a distinguished London specialist that her disease was not contagious, and in all that time there had been nothing to indicate that she had imparted the disease to any other person.

But while there was a strong showing that the anesthetic form of the disease was only slightly contagious, the court considers that when the distressing nature of the malady was regarded, it was manifest that the board was well within its duty in requiring the victim of it to be isolated. However, it does not think that there was any necessity to send such a patient to the pesthouse, which in this instance was a structure of four small rooms in a row, with no piazzas, used previously for the isolation of negroes with smallpox, situated within a hundred yards of the place where the trash of the city, except its offensive offal, was collected and burned. Nothing but necessity would justify the board of health in requiring even temporary isolation in such a place for an elderly lady, enfeebled by disease, and accustomed to the comforts of life, and the court thinks there was a strong prima facie showing that there was no good reason to conclude that such necessity existed.

For these reasons the court affirms a decree granting a temporary injunction restraining the board of health from removing Miss Kirk to the city hospital for infectious diseases, or pesthouse, the order containing the condition that it was not to be understood as interfering with the board of health in maintaining such quarantine regulations as they might deem necessary for the public safety. Still the court wishes it understood that it cannot too strongly emphasize the caution which courts should exercise in entertaining applications for injunction against boards of health.

The court agrees, it says, with the circuit judge, also, on the point that an action for damages against the members of the board of health as individuals would not afford Miss Kirk an adequate remedy. In some jurisdictions it has been held that the members of a board of health incur personal liability for a mistake in destroying property on the ground that it is dangerous, when in fact it is not. But in South Carolina it must be held, on the authority of White vs. City of Charleston, 2 Hill, 576, that the members of a board of health are not personally liable for errors in their official conduct, when they exercise their honest judgment. Personal liability depends on proof of bad faith. True, bad faith may be shown by evidence that the official action was so arbitrary and unreasonable that it could not have been taken in good faith. But if there were such showing, the remedy by action for damages would not be adequate where the health or life of the citizen is by force unnecessarily imperiled. Protection from the loss of health or life is the only adequate relief in such a case.

"Partial" Versus "General" Insanity as a Defense to Crime

The Supreme Court of Kansas holds, in the homicide case of State vs. Moore (102 Pac. R. 475), that, if the trial court see fit, it may recognize monomania, or so-called "partial insanity," as distinguished from "general insanity," when instructing the jury in a criminal case involving that form of mental derangement as a defense; but it is not imperative that it should do so, and, if the proper tests of criminal responsibility for the act in question be stated in the instructions, the substantial rights of the defendant are sufficiently protected.

To destroy criminality, monomania, or so-called "partial," as distinguished from "general insanity," must dethrone the reason and judgment to the extent the law requires with reference to the act which is the subject of prosecution. The verdict must always be determined by the quality of that act. That act is the product of "insanity," as the law defines that term, or not. The person committing it is either sane or insane for all purposes of the verdict and judgment.

It is true that the law recognizes every form of insanity or delusion which renders an accused mentally incapable of knowing the nature and quality of the act done, and that it was wrong; but it is also true that the law recognizes no form of insanity, although the mental faculties may be disordered or deranged, which will furnish one immunity from punishment for an act declared by law to be criminal, so long as the person committing the act had the capacity to know what he was doing and the power to know that his act was wrong.

Therefore the form or species of insanity with which it is claimed a defendant was affected is not, in the last analysis, material, and need not be discriminated in the instructions; and, if the proper test of criminal responsibility for the act in question be given, the substantial rights of the defendant have been protected. In some cases it might be helpful, and in others it might be confusing, to the jury, for the court to open up the subject of the various forms in which mental derangement may be manifested. The refusal to do so can scarcely ever be erroneous, if otherwise full and proper instructions be given.

Current Medical Literature

Medical Record, New York

December 4

1 *Fundamental Functions of the Muscle-Cells of the Cardiovascular System. With Suggestion of a Classification of Arterial Disorders. L. F. Bishop, New York.
2 Early Trephining for Severe Injuries of the Skull with Report of Patients Operated on. M. S. Kakels, New York.
3 Cancer of the Female Breast. J. N. Jackson, Kansas City, Mo.
4 Operative Treatment of Gonorrheal Epididymitis. F. R. Hagner, Washington, D. C.
5 Urinary Protein Resembling Bence-Jones Albumose: Clinical History and Post-Mortem Findings. J. E. Dale, Fort Collins, Colo.

1. Functions of Muscle Cells of Cardiovascular System.—Bishop says that cardiac muscle cells have retained some of the properties of nerve fibers. They have five sorts of properties, stimulus production, excitability, conductivity, contractility and tonicity. If supplied with appropriate nutriment the heart-muscle cells possess a power to secrete internally a material capable of causing contraction. This is stored up, and is exhausted by the beat. A specialization of function is necessary for the coordination of the heart action. Rest and proper nourishment are essential factors in heart treatment. The classification of arteriosclerosis is founded on the tonicity of the median coat. Hypertrophy of the media is the principal factor in many cases of atheroma and arteriosclerosis. Hypertonicity leads to sclerosis and hypertrophy of the media, and atheroma is apt to be engrafted on the diseased artery.

Boston Medical and Surgical Journal

November 25

6 *Diagnosis of Ulcer of the Duodenum. E. A. Codman, Boston.
7 Points in the Diagnosis of Injuries. F. J. Cotton, Boston.
8 *Variations in the Posterior Horn of the Lateral Ventricle. E. J. Curran, Boston.
9 Chemical Examination of the Feces of Infants and Children After Gastroenterostomy. F. B. Talbot, Boston.

December 2

10 *One Hundred Cesarean Sections Performed in the Boston Lying-In Hospital. C. M. Green, F. S. Newell, L. V. Friedman, N. R. Mason, J. R. Torbert and R. L. de Normandie, Boston.
11 Diagnosis of Ulcer of the Duodenum (continued). E. A. Codman, Boston.
12 Interstitial Pregnancy. F. W. Johnson, Boston.

6. Abstracted in The Journal, July 17, 1909, p. 226.

8. Variations in Posterior Horn of Lateral Ventricle.—Out of 64 adult brains, not specially chosen, examined by Curran, all grades of variation were encountered, from the dilated ventricle of hydrocephalus internus to complete occlusions of the posterior horns, and these were numerous. In a large percentage of brains the tip of the posterior horn of the lateral ventricle is cut off from communication with the rest of the ventricle by a constriction and adhesions about the calcar avis. In many cases the adhesion of the walls is complete throughout the occipital lobe, making the so-called short horn. The ependyma, however, remains on the two adherent walls and can always be seen in this position, proving that this part at one time during development was occupied by the cavity which has since become obliterated. In many cases the tip of the posterior horn has a very narrow communication with the rest of the lateral ventricle, and, on account of the thinness of the wall about the calcar avis, any change in pressure is likely to close this aqueduct and produce a temporary disturbance in the circulation of cerebrospinal fluid, and might give rise to pain or other symptoms. Any of the above conditions would obstruct the circulation of cerebrospinal fluid. When the posterior horn is entirely or partially closed by adhesion of the walls, any increase of internal pressure would tend to break the adhesions and reestablish the normal posterior horn. Might not such straining on the adhesions, asks Curran, give rise to pain or other symptoms?

That the calcarine fissure and the cerebellum, which modify so much the shape of the posterior horn, are developing rapidly about the time of the appearance of convulsions in infants is an interesting coincidence. The large proportion of anomalies in the posterior horns of brains from institutions is significant. In all cases the ventricle should extend far into the occipital lobe, and traces of its having been there at one time during development are always to be found. The relationship of the optic radiation and other structures to the posterior horn are important facts for consideration in connection with the causes of temporary scotoma and migraine, and possibly other conditions. The condition of the posterior horn should be examined in all cases of obscure cerebral diseases or mental disorders.

10. **Cesarean Section.**—In general, the results in this series of 100 cases were as follows: Eight patients died, a mortality of 8 per cent. There were 43 primary operations in the series. One mother died, and one baby was lost. The cause of the maternal death was general peritonitis, probably due to some slip in the operative technic. One child died a few minutes after delivery after breathing well; the cause of death was congenital heart disease. One patient ran a moderate febrile temperature for the first few weeks after operation, but recovered without pelvic or other symptoms. In other words, among the primary operations there was one maternal and one fetal death, 2.3 per cent., and one patient who had an abnormal convalescence. Twenty-six cases were included in the secondary class. One mother died, on the eighth day following operation, of pyemia. At the time of operation it was known that she was a poor risk, as she was suffering from chronic nephritis, but the condition which demanded operation was an extreme degree of vaginal atresia following an old laceration, so that abdominal delivery was imperative. Two children died following delivery. One small, poorly developed child, the mother being a rachitic dwarf, died four hours after delivery, and the other died on the seventeenth day following delivery, of inanition.

The complications following operation were distinctly more marked in the secondary cases than in the primary. Three women suffered from phlebitis of one or both legs. One patient ran a febrile convalescence, but eventually recovered completely. In 3 cases the abdominal wound broke down and the convalescence was necessarily prolonged. In the secondary cases, then, we find a maternal mortality of approximately 4 per cent., and a fetal mortality of 8 per cent., while the complications which appeared during the convalescence were much more prominent than in the primary operation. In the late cases there were 31 operations. Among these there were 6 maternal deaths, approximately 19 per cent. The cause of death in all cases except one was general peritonitis. Five babies were lost, either being dead before operation was begun or dying shortly after delivery. Of the 6 mothers who died, 3 had been in labor twenty-four hours or more. In one, high forceps had been tried and failed. One patient was suffering from acute nephritis as a complication, and in one a sponge was left in the abdomen at the time of operation.

New York Medical Journal

December 4

13 Influence of Diet on Infantile Mortality. J. P. C. Griffith, Philadelphia.
14 *Immunizing Treatment of Hay Fever. W. Scheppegrell, New Orleans.
15 Resection of Five Feet of Intestine Following Thrombosis of the Mesentery. G. E. Shoemaker, Philadelphia.
16 Typhoid From the Surgical Point of View. A. E. Isaacs, New York.
17 *Amebic Enteritis with Uncinaria, Trichocephalus, and Trichomonads: Results of Treatment after Four Years. J. G. Gage, Ann Arbor, Mich.
18 Carcinoma in Early Life. H. T. Karsner, Philadelphia.
19 Fracture-Dislocation of the Spine. H. S. MacLean, Richmond, Va.
20 Management of a Cholera Campaign in the Philippines. A. J. McLaughlin, U. S. P. H. and M.-H. S.
21 *A New Artificial Leech. A. M. MacWhinnie, Seattle, Wash

14. **Treatment of Hay Fever.**—In about 80 cases which Scheppegrell has observed, ragweed was the causal factor in every case except one, which was undoubtedly due to the goldenrod. The pollen of the ragweed is not simply a mechanical irritant, like dust, as is usually supposed, but it contains a pungent aromatic compound which acts as an irritant on the nasal mucosa. As a scientific basis for the prevention of hay fever, one must either cause the entire disappearance of the plant which produces the causative factor of the disease, or must artificially develop in patients susceptible to it that degree of tolerance which naturally exists in persons not suffering from hay fever. The former is neither possible nor practicable. The alternative, therefore, is the development of an artificial tolerance to the irritating pollen in persons subject to hay fever. Such a tolerance is gradually developed in the progress of the disease.

As the staminate flowers of the ragweed contain its pollen, these are made use of by Scheppegrell. At a period of time varying from two to six weeks the pollen of the staminate flowers are inhaled by the patient. These inhalations are at first made two or three times a day, and later, as the time of the usual development of the disease approaches, more frequently. The inhalation is followed by a slight attack of sneezing, some lachrymation, and a watery discharge from the nose, and then a congestion of the mucous membrane of the nostril. As no inflammation exists, these effects are not disagreeable or painful, and ordinarily pass off in the course of an hour. If the patient takes a walk or other form of exercise immediately after the application is made, the congestion of the mucous membrane is less marked. In a few days, the applications produce less reaction, and more pollen may be inhaled and the inhalations made a greater number of times. Gradually the reactions become less and finally are not observed by the patient. When this is the case the patient is immune to an attack of hay fever at this time.

This immunity, Scheppegrell finds, is not permanent, and therefore the treatment should not be discontinued until the regular advent of the hay-fever season, when it should be entirely discontinued, as the natural pollen of the air takes the place of the artificial inhalations. Scheppegrell believes that if the staminate inhalations are resumed after the cessation of the hay-fever period, a permanent tolerance will gradually be developed which will give the patient permanent immunity.

17. **Amebic Enteritis.**—The case reported by Gage was one of amebic dysentery of about two years' standing, and could not be considered a very promising one for treatment. The results show, however, that in some chronic cases the patients can be permanently cured by medical treatment, and they also illustrate the value of the ipecac treatment. The cure in this case is permanent, as shown by the freedom from symptoms in four years and the results of examinations of the stools. The character of the stools shows some intestinal indigestion, which may be the result of the former dysentery. The uncinariasis was very mild. There were only eight worms in the intestine, there was no distinct anemia, the eosinophilia was not marked, and there were no symptoms of the disease. The thymol treatment was successful in getting rid of all the worms. The trichomonads were evidently not greatly affected

by the thymol. They were present in the stools afterward, but apparently not as numerous. They were not present in the stools after the ipecac was given. The trichocephalus eggs were found on only one occasion and then only four. No worms were seen in the stools.

21. **New Artificial Leech.**—MacWhinnie uses a sterile artificial leech made of glass, which is so shaped as to show the exact amount of blood being extracted, and can be used at any particular point that is desired. It has three openings, the larger being for abstraction on the temple, while the smaller one on the same plane is made for attachment either with a large rubber bulb, or direct connection with a Pynchon pump. The large end has a diameter of 1¼ inches, and is adapted for the temple, cheek, or, in fact, any part of the face. The two small openings are arranged for the tragus, while the larger one may be used for the mastoid as well. When the surfaces are irregular the small opening is desired. Being of glass it can be sterilized, and its size is convenient. At the lower end of the bulb a cork is inserted which is removed when the proper amount of blood is obtained, and the whole instrument is then sterilized. No guess is needed as to whether the blood is being withdrawn or not, or in what amount. The artificial leech is first applied for several minutes to create a congestion, which will raise the part from 2 to 5 millimeters. Several small punctures are then made, preferably with a cataract knife. The artificial leech is then applied as described.

Lancet-Clinic, Cincinnati

November 27

22 *Burn which Involved One-half the Body Area; Recovery. A. H. Barkley, Lexington, Ky.
23 The Submerged Tonsil. W. Mithoefer, Cincinnati.
24 Abuse of the Obstetrical Forceps. J. O. Jenkins, Newport, Ky.

22. Abstracted in The Journal, Nov. 20, 1909, p. 1709.

Kentucky Medical Journal, Bowling Green

November 1

25 *Medical Organization and Work. I. A. Shirley, Winchester.
26 *Plea for the Surgery of Our Small Hospitals. J. L. Phythian, Newport.
27 *Prophylaxis in Medicine. C. G. Stephenson, Becknersville.
28 *Surgical Treatment of Cancer. A. J. Ochsner, Chicago.
29 Plea for the Protection of the Unborn Child in Kentucky. T. C. Holloway, Lexington.

November 15

30 Etiology, Pathology, and Symptomatology of Diabetes Mellitus. J. S. Lutz, Louisville.
31 Treatment of Diabetes Mellitus. J. B. Lukins, Louisville.
32 Control of Tuberculosis in Children. B. C. Frazier, Louisville.

25, 27, 28. Abstracted in The Journal, Nov. 27, 1909, pp. 1851, 1852, 1853.

26. Abstracted in The Journal, Nov. 13, 1909, p. 1651.

Journal of Experimental Medicine, Lancaster, Pa.

November

33 *Resistance to a Specific Hemolysin of Human Erythrocytes in Health and Disease. P. Rous, Baltimore.
34 Mechanism of the Reaction Between Bile Salts and Blood Serum and the Effect of Conjugation in the Formation of Bile Salts. A. W. Sellards, Baltimore.
35 *Influence of Thyroidectomy on Alimentary Glycosuria. J. McCurdy, Baltimore.
36 *Therapeutic Immunity Reaction in Differentiation of Trypanosome Species. B. T. Terry, New York.
37 *Parabiosis as a Test for Circulating Antibodies in Cancer. P. Rous, Baltimore.
38 *Phagocytic Immunity in Streptococcus Infections. J. C. Meakins, New York.
39 *Character of Protein Metabolism in Chronic Nephritis. P. A. Levene, L. Kristeller and D. Manson.

33. **Specific Hemolysin of Human Erythrocytes.**—Disease appears to change the resistance of red cells to specific hemolysin only in special cases. Of 41 cases of secondary anemia, 1 only showed a decrease. In 2 of 3 cases of pernicious anemia and in 2 cases of leucemia resistance was decreased also, and a decrease occurs sometimes in obstructive jaundice. An increase in resistance was seen in 2 cases of hemophilia and in 1 of chronic parenchymatous nephritis and in 1 of congenital icterus (Minkowski). The resistance of human corpuscles to hypotonic salt solution and to specific hemolysin are entirely independent of each other and the resistance to salt solution is much the more variable.

35. **Influence of Thyroidectomy on Alimentary Glycosuria.**—Removal of the thyroid glands causes a rise in the assimilation limit for dextrose, and if the parathyroids are left this result is permanent. The thyroids probably inhibit normally the direct combustion of the sugar in the muscles.

36. **Differentiation of Trypanosome Species.**—The experiments show that the guinea-pig is an unfavorable animal in which to preserve trypanosomes if the therapeutic immunity reaction is to be employed in the differentiation of trypanosome species, because trypanosomes of common origin which had not come in contact with medicaments of any sort behave like different species after having been passed through guinea-pigs for twelve months.

37. **Test for Circulating Antibodies in Cancer.**—The growth of adenocarcinoma in white rats was unaffected when the tumor animal was joined experimentally (parabiosis) with a resistant animal.

38. **Streptococcus Infections.**—In certain streptococcus infections, such as acute endocarditis and tonsillitis, there may be considerable increase in the opsonin for the streptococcus causing the infection and little or no increase for streptococci from other sources. Hence it is argued that but little benefit may be expected from the inoculation with bacteria killed by heat unless with streptococci causing the infection.

39. **Protein Metabolism in Chronic Nephritis.**—Results indicate that it may be important for dietetic-therapeutic purposes to establish the eliminating efficiency of the kidneys for nitrogenous substances.

Medical Herald, St. Joseph, Mo.

November

40 *Cancer a Constitutional Disease: Its Rational Treatment. J. E. Summers, Omaha, Neb.
41 Diseases of Metabolism as a Group. A. C. Croftan, Chicago.
42 Management of Enlarged Spleens. T. E. Potter, St. Joseph.

40. Abstracted in The Journal, Sept. 25, 1909, p. 1049.

Archives of Pediatrics, New York

November

43 Finkelstein's View of Infantile Alimentary Intoxication. I. M. Snow, Buffalo.
44 *Relation of Exercise to Adolescent Heart Development. W. L. Foster, Brooklyn.
45 Congenital Cyst of Liver. H L. K. Shaw and A. W. Elting, Albany, N. Y.
46 Embryonal Adenosarcoma of the Kidney. M. Wollstein, New York.
47 *Investigations on the Irritating Effects of Cathartic Drugs. I. A. Abt, Chicago.
48 Cerebral Hemorrhage (Birth) with Operation. F. S. Meara and A. S. Taylor, New York.

44. **Exercise and Adolescent Heart Development.**—Foster claims that vigorous exercise is necessary for the boy at puberty to secure the normal heart development. During the training of athletics and in contests allowance should be made for the fact that the lesser muscular development of the prepubescent heart makes it unfit for prolonged violent exercise. Hearts of all school boys should be examined and suitable regulation of exercise suggested when necessary. No boys with heart murmurs should be allowed to indulge in the physical training work involving decidedly increased heart action or to enter any athletic contests.

47. Abstracted in The Journal, July 10, 1909, p. 140.

Yale Medical Journal, New Haven, Conn.

November

49 *Medical Aspect of Gastric Insufficiency. H. F. Stoll, Hartford, Conn.
50 Typhoid Spine. P. P. Swett, Hartford, Conn.
51 Cystoscopy: Its Technic and Diagnostic Uses. P. D. Littlejohn, New Haven.
52 *Dermatitis Following Local Application of Cow's Milk. H. M. Steele, New Haven.
53 *Ocular Evidences of Systemic Disease. M. H. Gill, Hartford, Conn.
54 *Partial Responsibility of the Insane. F. T. Simpson, Hartford, Conn.
55 *Hemolysis in Diagnosis of Malignant Neoplasms. H. S. Arnold, New Haven.

49. **Medical Aspect of Gastric Insufficiency.**—Stoll has found the following regimen to be satisfactory in these cases: Massage along the course of the colon before rising each morning; a glass of cold water before dressing; eat liberally of vegetables and fruits, especially stewed prunes and figs; drink two glasses of water between meals, and most important of all, have a regular time for going to stool whether the inclination is

present or not. The crouching position, as when a chamber is used, is sometimes of advantage, and colonic massage at that time is very efficacious. The food should be of a kind which leaves considerable residue in the intestine. Sour milk, buttermilk or cider may be drunk between meals and at bedtime. Agar-agar in amounts of from one-half to one ounce daily is effectual. Bran in place of breakfast food may be used, and a small amount of olive oil taken at meal times will very often be all that is required to insure a daily stool. Olive-oil injections given just before retiring are the most satisfactory means of obtaining a cure in very chronic cases; given at first every night; later, every other night, and so gradually make the interval longer until they are no longer required. With very weak abdominal muscles, exercises and electricity are indicated.

52. **Dermatitis Following Local Application of Cow's Milk.**—The rash in Steele's case occurred with perfect regularity, coming out about fifteen minutes after the milk touched the skin, lasting at first an hour, then gradually existing a shorter and shorter time until after twenty-one days it ceased to appear. In appearance it was a bright red blush, not raised, at times sharply circumscribed, at others with fading pink edges to normal skin. In extent it conformed quite closely to the area touched by the milk, either by running over the chin or cheek from the mouth or on the area to which milk was purposely applied. At no time did it resemble urticaria or cause apparent itching. With the exception of being a deeper red, it exactly imitated areas of skin often noted in babies where, for instance, the inner aspects of the knees have been pressed together for some considerable time during sleep, which on separation show a transient blush, lasting perhaps longer than the same condition in adults and being more brilliant in color.

53, 54, 55. Abstracted in The Journal, June 25, 1909, p. 2125.

Atlanta Journal-Record of Medicine

November

56 Etiology of Pellagra. R. T. Dorsey, Atlanta, Ga.
57 The Plea of Insanity and Some Pointed Tests. J. C. King, Atlanta.
58 Flatfoot and its Treatment. T. Toepel, Atlanta.
59 Symptomatology of Pellagra. E. C. Thrash, Atlanta.
60 Similarity in Symptoms of Pellagra, Leprosy and Tertiary Syphilis. C. M. Curtis, College Park, Ga.
61 Education and the Social Evil. A. W. Stirling, Atlanta.
62 Use of Fats in Tuberculosis. L. C. Roughlin, Atlanta.
63 Alveolar Pyorrhea and its Relation to Other Diseases. R. R. Adair, Atlanta.

Archives of Ophthalmology, New York

November

64 Extraction of Cataract in the Capsule. A. E. J. Lister, London, England.
65 Concretion in the Lower Canaliculus without Characteristic Signs; Concretion in the Upper Canaliculus. G. S. Derby, Boston.
66 Congenital Fistula of the Lachrymal Canaliculi. M. Carvill, Somerville, Mass.
67 Subconjunctival Cysticercus Cellulosæ. A. N. Alling, New Haven, Conn.
68 Hemorrhagic Central Chorioretinitis in Non-Myopic Eyes. C. J. Kipp, Newark, N. J.
69 *Differentiation of the Diphtheria Bacillus from Organisms Morphologically Similar. C. Fisher, Rochester, Minn.
70 Improved Apparatus for Localizing Foreign Bodies in the Eyeball by the Roentgen Rays. W. M. Sweet, Philadelphia.
71 Significance and Treatment of Traumatic Prolapse of the Iris. E. Gruening, New York.

69. **Differentiation of Diphtheria Bacillus.**—As the result of much experimental work, Fisher concludes that the diphtheria bacillus cannot be identified accurately by its morphology and its cultural characters alone. True diphtheria bacilli always ferment dextrin within forty-eight hours and never saccharose. This reaction, however, is not distinctive of the virulent bacillus diphtheria, since it is also given by certain non-pathogenic organisms, having the same morphology. Out of 13 unselected races which fermented dextrin, 5 were totally avirulent. Since bacilli which fail to ferment dextrin are much more commonly encountered, the fermentation test would, in the majority of cases, be conclusive. Practically, it is of little value on account of the necessity of obtaining the bacilli in absolutely pure culture. Animal inoculation is, at present, therefore, the only reliable practicable method of identifying the diphtheria bacillus. To exclude the virulent diphtheroids, a guinea pig immunized with diphtheria antitoxin must be inoculated also.

Western Medical Review, Omaha

November

72 Army Sanitary Administration in the United States and Tropics. J. M. Banister, U. S. Army.
73 Senile Dementia. F. H. Kuegle, West Point, Neb.
74 Therapy of Rheumatism. L. Crummer, Omaha, Neb.
75 Hemorrhoids. S. W. Phifer, Wheatland, Wyo.

Journal of Infectious Diseases, Chicago

November

76 *Fecal Bacteria of Healthy Men. W. J. MacNeal, L. L. Latzer and J. E. Kerr, Urbana, Ill.
77 *Proportion of Granular and Barred Forms of *Bacillus Diphtheriæ* in Throat Cultures. O. T. Schultz, Cleveland, Ohio.
78 Bleeding to Death to Obtain Maximum Amount of Antidiphtheritic Serum from Horses. P. G. Heinemann and A. C. Hicks, Chicago.
79 *Use of Anhydrous Sodium Sulphite in the Preparation of Endo's Medium. J. H. Kastle and E. Elvove, Washington.
80 Experiments on Vaccination Against Rat Leprosy: Extraction of Rat Lepra Bacilli from Watery Emulsions by Chloroform. W. B. Wherry, Oakland, Cal.
81 Effect on Mice of Minute Doses of *B. Anthracis.* M. A. Barber, Kansas City, Kan.
82 *Effect of Reaction and of Certain Salts on Normal Opsonins. H. E. Eggers, Chicago.
83 Subacute Plague in Man Due to Ground Squirrel Infection. G. W. McCoy and W. B. Wherry, U. S. P. H. and M.-H. S.
84 *Pathology and Bacteriology of Plague in Squirrels. G. W. McCoy, U. S. P. H. and M.-H. S.
85 *Resistance of Human Erythrocytes to Cobra Venom. R. Weil, New York.

76. **Fecal Bacteria of Healthy Men.**—The number of fecal bacteria that grow on artificial media is only a small fraction of the bacteria microscopically visible in feces. In addition to the colon bacillus group, sporogenic aerobic bacilli and sporogenic anaerobic bacilli are normally present in human feces. *B. welchii* is normally present in the feces. It is to be noted, however, that the total number of sporogenic bacilli is much greater than indicated by the cultures, and there are a number of bacterial species in normal feces not yet cultivated.

77. **Bacillus Diphtheriæ in Throat Cultures.**—Granular forms of diphtheria bacillus in throat cultures appear to be increasing in frequency in Cleveland, whereas the barred forms have almost disappeared. The presence of these granular forms renders the distinction between genuine diphtheria bacillus and a granular non-pathogenic bacillus more difficult.

79. **Anhydrous Sodium Sulphite in Endo's Medium.**—Wherry was unable to arrest the progress of inoculation leprosy in a white rat by means of injections of rat lepra bacilli killed by heat. Injections of killed bacilli some days previous to the injection of living bacilli resulted in marked delay in the progress of the disease.

Leprosy tissue from a rat on being ground up with powdered glass and extracted with salt solution and then shaken up with commercial chloroform, the chloroform then being evaporated, gives a residue containing millions of bacilli free from all cellular elements and other bacteria. The method might be of assistance in detecting lepra bacilli in human cases.

82. **Effect of Salts on Normal Opsonins.**—The maximum opsonification occurs at the normal (alkaline) reaction of the serum, and any change of this reaction in either direction diminishes the opsonic effect. This result of altered reaction is due in large measure to its effect on the thermolabile element of the opsonin. Magnesium chlorid appears to stimulate phagocytic action of leucocytes.

83. **Subacute Plague in Man.**—The first case of undoubted squirrel plague in man which has come to autopsy in America is reported. The lesions were similar to those of subacute plague in guinea-pigs, rats and squirrels. The authors have not seen any lesions like those observed in this case—lobular pneumonia and multiple abscesses of the lymph nodes, lungs, liver and kidneys—in any other case of human plague.

84. **Plague in Squirrels.**—The commonest lesion of plague in the ground squirrel is a bubo and this may be the only one. There may be also purulent foci in the spleen, the liver, the lung and the kidney. Smears from purulent material fail to show pest bacilli in the majority of cases. The diagnosis was made by inoculation.

85. **Resistance of Human Erythrocytes.**—Weil has tested the resistance of human red corpuscles to a number of hemolytic agents, and of these agents cobra venom has given results of special interest. The condition which presents the most marked degree of resistance is syphilis after it has passed the

primary stage. Normal individuals and various diseased conditions give variable resistance within certain narrow limits, but this does not approach the degree of resistance characteristic of syphilis. The practical application of the reaction remains to be worked out. Theoretically, it is interesting because it illustrates a definite alteration in cells in response to an infection.

Journal Tennessee State Medical Association, Nashville

November

86 Congenital Calculus in Prostatic and Membranous Urethra of a Seven-Year Old Boy. W. D. Sumpter, Nashville.
87 Smallpox in Shelby County. N. F. Raines, Raines.
88 Treatment of Typhoid. J. T. Moore, Algood.
89 Diagnosis and Treatment of Eczema. J. M. King, Nashville.
90 The Neuroses. J. Lanski, Chattanooga.
91 Early Diagnosis of Gall-Stone Disease. J. E. Cannaday, Charleston, W. Va.

Journal of Cutaneous Diseases, New York

November

92 *Etiology of Psoriasis. S. Pollitzer, New York.
93 *The Parasitism of Psoriasis. J. F. Schamberg, Philadelphia.
94 *Idiopathic Multiple Hemorrhagic Sarcoma (Kaposi): Trauma an Etiologic Factor (?). D. Lieberthal, Chicago.

92. **Etiology of Psoriasis.**—According to Pollitzer, rheumatism, gout, neurosis and heredity are not direct etiologic factors in the production of psoriasis, but in the present state of our knowledge it can neither be denied nor affirmed that they may have some bearing on the obscure conditions of the system which render it more or less susceptible to this especial infection. Psoriasis is one member of a group of parakeratoses to which seborrhea corpis, and, in part, eczema seborrhœicum, belong, and is most probably due to an external microbic infectious agent.

93. **Parasitism of Psoriasis.**—Schamberg says that it might be argued that the failure to autoinoculate psoriasis in the vast majority of subjects,operates against the assumption that psoriasis is a local parasitic disease due to an exogenous organism. It might, furthermore, be argued that if the lesions of psoriasis are due to the implantation of a parasite on the skin of a susceptible individual, inoculation with lymph, blood and scales from a diseased patch on the healthy skin in the same patient might be reasonably expected to reproduce psoriasis lesions. Lack of knowledge, however, concerning possible conditions of immunity in this connection, makes it unwarranted to deduce any positive conclusions of the character indicated. The inability to autoinoculate psoriasis patients would not at all affect the hypothesis that psoriasis is a constitutional, infectious disease. From what has been stated, it is obvious that no definite conclusion as to the parasitism of psoriasis is warranted. The mode of growth and configuration of the patches, the occasional instances of apparent communication of the disease, and the Destot inoculation are arguments in favor of parasitism which cannot be decisively brushed aside. On the other hand, the general behavior of the disease, the common experience of observers as to absence of contagion and the almost uniform failure of inoculation experiments constitute strong evidence against parasitism.

94. **Multiple Hemorrhagic Sarcoma.**—This is the fourth case of this disease reported by Lieberthal. The three previous cases were reported in The Journal, Dec. 6, 1902, and Oct. 10, 1908.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

November 20

1 Greek Medicine in Rome. T. C. Allbutt.
2 *Relation Between the Time of Rupture of the Fetal Membranes and Lacerations of the Cervix Uteri. S. Colyer.
3 A Short Criticism of the So-called Rational Puerperium. H. T. Hicks.
4 *The Blood-Tight Uterus and its Influence on Involution. C. N. Longridge.
5 Lymphangioplasty for Solid Edema. A. B. Mitchell.
6 Intestinal Obstruction from Traumatic Rupture of Blood-Vessel. R. Stewart.
7 Early Recognition and Treatment of Acute Intestinal Obstruction. J. Hartley.
8 *A Method of Intestinal Drainage. M. Mamourian.
9 Severe Eclampsia in Early Pregnancy: Recovery. A. S. Campbell.

2. **Laceration of Cervix Uteri.**—Colyer states that when the first stage of labor is normal, the presenting part descends into a dilated cervix by which it is not tightly grasped, and hence no lacerations are likely to ensue. But should it so happen that the membranes rupture before the end of the first stage, then the presenting part will descend into an incompletely dilated cervix by which it will be tightly grasped. In the latter case, second-stage pains will ensue, and the uterus will transmit a force to the presenting part, which will stretch the cervix at a rate in excess of its physiologic yielding power, and, as a rule, beyond its momentarily elastic limit, and thus lead to its laceration. The nearer the os approaches to full dilatation the greater will be the force exerted on it by the presenting part, because not only does the angle between the two become increasingly acute, but the pains will be stronger. It is not uncommon when the membranes rupture late to find that the presenting part is driven through an incompletely dilated cervix in one or two pains, thus proving how rapidly the stretching may take place. In those cases in which the membranes rupture early, we should not find lacerations of the cervix so common, for in them, as a rule, labor is slow until the cervix is sufficiently dilated to allow the presenting part to enter, and when it does enter the pains gradually change in character from those of the first stage to those of the second. In the second stage contraction and retraction of the longitudinal fibers become marked, and thus tend to draw up the cervix and lead to a more rapid dilatation of the os. But even with these compensations a slight rupture appears to occur in most cases.

4. **Blood-Tight Uterus and Involution.**—Physiologically, Longridge says, involution of the uterus may be considered as an acute autolytic degradation of the muscular tissue. It takes place in two stages, a rapid and a slow stage. The rapid stage differs from the slow, in that in the former the uterus is practically anemic and the reaction of the tissue is acid, whereas in the slow stage the reaction is alkaline and the blood is slowly percolating through the vessel walls. The transition from one stage to another is marked by an increased excretion of nitrogen.

8. **Intestinal Drainage.**—The method employed by Mamourian consists in utilizing the Murphy button with a piece of soft rubber tubing (about a yard or more long) as follows: A purse-string suture of silk is passed round one of the ends of the rubber tube, the male or female half of the button is introduced into the lumen and the thread tightened so as to grip the neck of the button. Next, a segment of the distended bowel is clamped and a linear purse-string suture inserted. The gut is incised, the other half of the button placed in position, and finally the two sections of the instrument united in the usual way. The anastomosis between bowel and rubber tube is complete, and on removing the clamp there is no leakage, and the fecal contents pass out of the tube into a jar containing some kind of deodorant well away from the area of operation. The purse string on the bowel need only be secured by a temporary knot so that the suture may be tightened and the incision instantaneously closed after the withdrawal of the button, the bowel being reclamped before the button is removed. If one opening does not give satisfactory drainage, the process can be repeated with as many coils as the surgeon desires, or a piece of drainage tubing can be passed up the soft tube through the button into the bowel and the intestines "milked" without the hands coming into contact with fecal matter.

This method is, perhaps, more serviceable in cases which require immediate colotomy. The Murphy button, this author considers, is superior to Paul's tubes, as its use involves no danger of detachment or leakage. The soft tube, with half the button in position being ready, the operation can be completed in a few minutes. The button, as a rule, remains *in situ*, affording good drainage for at least four days, during which time there is no necessity even to inspect the wound. When the button comes away the peritoneal cavity is completely shut off and the wound partially healed. The artificial anus thus made leaves nothing to be desired.

Lancet, London

November 20

10 Malaria in India. J. T. W. Leslie.
11 *Myotonia Atrophica. F. E. Batten.
12 Intestinal Obstruction in Which Double Resection of Intestine was Performed. H. M. Rigby.
13 *Streptococcal Infection in Eighty Consecutive Cases of Diphtheria. D. M. Mathieson.
14 Case of Thoracostomy for Heart Disease. A. Morison.
15 Kala-Azar in Madras, Especially its Connection with the Dog and the Bug (Conorrhinus). C. Donovan.
16 Acute Torsion of the Splenic Pedicle, Recovery after Splenectomy: Case of Floating Liver Cured by Operation. P. Patterson.

11. **Myotonia Atrophica.**—The leading features of this disease are summarized by Batten as follows: A patient, usually a male, between the twentieth and thirtieth year of life, begins to complain of weakness of the limbs and wasting of muscles. Some stiffness of muscles may also be complained of. On examination he is found to have weakness, and atrophy of the facial muscles, of the sternomastoids, of the flexors and extensors of the wrist, of the extensors of the leg or dorsiflexors of the foot, and the striking myotonic phenomenon that after grasping an object he has difficulty in relaxing his grasp. Pathologically, there is a general cirrhotic condition of the muscles, such as is found in muscular dystrophy. The spinal cord may show some degeneration in the posterior column, but the other portions of the nervous system are normal.

13. **Streptococcal Infection in Diphtheria.**—Mathieson records observations made in 80 consecutive cases of diphtheria admitted to the Infectious Disease Hospital, Leith. A bacteriologic examination of the throat of each patient was made on admission and at intervals during the stay in hospital, and the clinical progress was recorded. In 9 out of 80 cases a marked streptococcal infection of the throat was found at one time or other in the course of the disease. Out of these 9, 5 developed symptoms corresponding to those described by Sevester and Martin about the thirteenth day. In the remaining 71 patients in whom no streptococcal infection of the throat was at any time found, 2 showed epiphenomena about the thirteenth day. In other words: (a) 55 per cent. of the streptococcal cases developed "thirteenth-day" symptoms; and (b) 2.8 per cent. of the non-streptococcal cases developed these symptoms.

The following is a brief summary of the 7 cases in which "thirteenth-day" phenomena were observed: (a) Streptococcal cases: (1) punctate erythema + albuminuria; (2) sore throat + joint pains + rise in temperature (100.8 F.); (3) otorrhea; (4) punctate erythema; and (5) punctate erythema + rise of temperature (99.4 F.); (b) Non-streptococcal cases: (1) erythema multiforme; and (2) punctate erythema + rise of temperature (99.8 F.).

Medical Press and Circular, London

September 22

17 Decalcified Dietary in Arterial Atheroma. M. Loeper and X. Gourand.
18 Adoption of Notification of Tuberculosis by Local Authorities. G. C. Trotter.
19 *How to Deal with the Quack Medicine Traffic. J. C. McWalter.
20 The Relation of Health to Industry. B. A. Whitelegge.

19. **Quack Medicine Traffic.**—According to McWalter, the solution of the quack medicine problem is simply this—that makers of the nostrums should be required to set forth the ingredients on the label. He says: This is practically the American remedy, but, after all, the problem in the United States has been very much like the problem with us; the results appear to be satisfactory, and we should not be too proud to follow a good example from a kindred people. Assuming that the disclosure of the ingredients is the remedy for the quack medicine trouble, how can we insist on it? An act of Parliament at once suggests itself, and would be the procedure if we had a minister of public health; but we have no such minister, and the difficulty of procuring such a bill might be insuperable. All the power and influence of our association has not been able to bring the new medical act into being, and if we cannot suppress open unqualified practice of medicine by law, we can scarcely hope to interfere with an insidious form of the evil which brings the treasury in 340,000 pounds a year. The indications for the treatment of the quack medicine trouble are, then, to get statutory powers to insist that the ingredients be set forth on the label—and pending legislation to that effect to have the various medical officers of health to deal with the makers under the food and drugs act, with the help of the analytical records of the British Medical Association. The association might well help the campaign by other means—namely, by furnishing chemists with printed results of the analysis of the nostrums on which most of the public money is being spent at the moment. These should be sent out under the authority of the association, otherwise they would surely be questioned by the quacks. In addition to chemists, this might also be distributed to all doctors in the country, whether members of the association or not, as well as to the public analysts, sanitary authorities and the clergy.

Clinical Journal, London

November 3

21 Prognosis in Inflammatory Diseases of the Lungs and Pleura Commonly Treated Surgically. R. J. Godlee.
22 Retention of Menses. H. R. Andrews.

Practitioner, London

November

23 *Treatment of Inoperable Sarcoma by Bacterial Mixed Toxins. W. B. Coley.
24 Current Theories Regarding Arteriosclerosis: Symptoms. J. Cowan.
25 Ocular Manifestations of Arteriosclerosis. A. T. Ballantyne.
26 *Rheumatic Heart Disease in Children. J. W. Carr.
27 Acute Peritonitis. E. S. Bishop.
28 Indications for Operation in Tuberculosis of the Kidney. J. W. T. Walker.
29 *Intermittent Claudication. D. M. Greig.
30 Points in the Surgical Treatment of Goiter. T. P. Legg.
31 Treatment of Scarlatinal Otitis; with Special Reference to the Value of the Radical Mastoid Operation. A. K. Gorden.
32 Musculospiral Nerve Injury; Report of Two Cases. E. Harrison.
33 Mucous Colitis Considered as a Nervous Disease, with Special Reference to Treatment. F. Hernaman-Johnson.
34 A Rheumatic Toxemia. C. D. Musgrove.
35 Diseases of the Nervous System. H. C. Thomson.
36 Modern Assistancy. A. Sheperd.

23. **Treatment of Inoperable Sarcoma.**—Up to the present time Coley has had 52 cases of inoperable sarcoma successfully treated with the mixed toxins of erysipelas and *bacillus prodigiosus.* Of these, 35 patients have remained well from 3¼ to 16 years; 28 from 5 to 16 years; and 14 from 10 to 16 years.

26. **Rheumatic Heart Disease in Children.**—When a child is attacked by rheumatism, no matter in what form, it is comparatively exceptional for the heart to escape, while the whole brunt of the disease may fall on that organ, other evidences of rheumatism being either absent or so slight as to pass unnoticed. In other words, the heart is in early life the most vulnerable part of the body to the rheumatic poison. Moreover, when the joints escape, it by no means follows that the cardiac affection is likely to be slight; in fact, the reverse is often the case, and the poison seems to spend itself on the heart. In many of the most severe and intractable examples of rheumatic carditis which Carr has seen, joint affection has been conspicuous by its absence.

Another possible reason why the serious character of rheumatism in childhood is not sufficiently appreciated is, perhaps, because the cardiac lesion often seems at first so insignificant. Valvular disease in a child is a much more serious thing than in an adult because it interferes so materially with the nutrition of the growing tissues. Hence it is one of the wasting diseases of childhood, and when at all severe leads to marked stunting of growth, anemia and actual wasting; the rapid development at puberty imposes an especial strain on such children. The danger is greatest in cases of mitral obstruction, because the orifice becomes surrounded by a ring or curtain of fibrous tissue, which tends slowly to contract, like newly formed fibrous tissue in any other part of the body. Thus the orifice, instead of enlarging proportionately to the increased quantity of blood which has to pass through it as the body grows, may slowly become smaller, and to this extent, therefore, the lesion is progressive, although, as a rule, endocarditis due to rheumatism differs from that due to degeneration in tending to remain stationary when once the secondary results of the inflammation are complete. In children, when once the heart has been damaged, relapsing, subacute attacks of endocarditis and pericarditis and also of myocarditis, are prone to occur, often in the most insidious fashion and quite independently of any obvious joint inflammation. Consequently they are very liable to be overlooked and are a common cause of irreparable damage to the heart.

The following are the evidences on which Carr chiefly relies in forming an opinion in these cases: 1. The presence of subcutaneous rheumatic nodules; (2) any pyrexia, especially in the evening; (3) joint pains; (4) any sudden development of, or increase in, anemia; (5) excessive and persistent rapidity of the pulse. The first and most essential point on which to insist in the treatment of such a case is the paramount importance of prolonged and complete rest. The child must not merely be kept in bed, but must remain absolutely recumbent for a period depending on the severity of the attack, but for not less than several weeks. During this time, the child should be kept on very light diet, for his bodily needs are reduced to a minimum, and it is desirable to avoid anything calculated to raise the arterial tension, and so throw additional strain on the left ventricle. Constipation is often very troublesome and most undesirable, so that laxatives must be given frely, as required. Great caution must be exercised in allowing the child increased freedom of movement, as very little exertion or excitement will markedly quicken the pulse and may even lead to a sharp rise in temperature. Sodium salicylate or aspirin, heart stimulants and the ice bag over the precordium are employed as occasion arises.

29. **Intermittent Claudication.**—Greig reports a case due to a venous, not an arterial, affection, which was followed by recovery.

Annals of Tropical Medicine and Parasitology, London

October

37 The Flagellates Occurring in the Intestine of *Glossina Palpalis* and in the Intestine and Proboscis of *G. Morsitans*. A. Kinghorn and R. E. Montgomery.
38 Human Trypanosomiasis in North-Eastern Rhodesia and Nyasaland: Second Report. A. Kinghorn and R. E. Montgomery.
39 Idem: Third Report. R. E. Montgomery and A. Kinghorn.

November

40 Sanitary Measures and Malaria Epidemics of Athens. J. Cardamatis.
41 An Account of a Form of Splenomegaly with Hepatic Cirrhosis, Endemic in Egypt. H. B. Day and A. R. Ferguson.
42 Biochemical and Therapeutic Studies on Trypanosomiasis. A. Breinl and M. Nierenstein.

Journal Laryngology, Rhinology and Otology, London

November

43 Treatment of Cicatricial Stenosis of the Larynx by the Methods of O'Dwyer and Rogers. D. B. Delavan.
44 Hughlings-Jackson-Mackenzie Syndrome. J. D. Lithgow.

Archives Générales de Chirurgie, Paris

October, III, No. 10, pp. 991-1100

45 *Hernia of the Ureter. (L'urétérocèle.) P. Caccia.
46 *End-Results of Operative Treatment of Mammary Cancer. (Résultats éloignés de l'ablation du sein pour cancer.) Fidelin.
47 *Operative Inoculations of Cancer. (Les inoculations opératoires du cancer.) F. Jacoulet.

45. **Ureterocele.**—Caccia warns that this rare condition should be suspected when a cord is found in a hernial sac. The diagnosis is made most readily in femoral hernia when access is obtained through the inguinal canal. He reports 2 cases and reviews the 22 which he has found on record and also 4 others in which an extraperitoneal cystocele was combined with the hernia of the ureter. A lipoma seems to be a frequent factor in dragging the ureter down in this way.

46. **History after Removal of Mammary Cancer.**—Fidelin's article is based on the experiences in five important French surgical clinics, the ultimate outcome being known in 234 cases of cancer of the breast, which he compares with others' statistics. A final cure is rare; recurrences are known twenty and thirty years after the operation without symptoms in the interim. An important lesson from his investigations is the benefit that may be derived from several successive operations in certain cases with multiple local recurrences. Life is prolonged, and the patient's courage maintained. The proportion of recurrences has dropped from 76 per cent. in 1865 to 25 per cent. by 1905 in certain large statistics, but the best technic to prevent recurrence is still undecided. Fidelin thinks that Handley's suggestions that the cancer spreads as a vine grows and that the technic should be based on this principle, certainly deserve attention.

47. **Inoculation of Cancer During its Removal.**—Jacoulet is convinced that study of operative inoculation will explain many cases of recurrence of cancer. The soil seems to be especially favorable for the development of cancer germs in certain patients. He has known of two unreported cases and reviews three others in which cancer of the tongue recurred from inoculation of cancer cells, by the instrument in some of the cases. The site, the size and the shape of the recurring nodule and the absence of recurrence in the scar, all point to inoculation by a solution of continuity in the mucosa, the result of application of the forceps to draw the tongue out, the recurring nodule developing at the point where the tongue was seized while the primary growth on the base of the tongue or roof of the mouth was being excised. In another case, the bistoury with which a cancerous gland had been cut out was used to make a vertical incision to liberate the lip drawn up too much by the suture after removal of an epithelioma on the lower lip. Several months later the patient returned with a recurring nodule at the point where the bistoury had been used first. The symmetrical incision was free from recurrence as the bistoury had been wiped free from contamination by the first incision.

Archives des Maladies du Cœur, etc., Paris

October II, No. 10, pp. 545-608

48 Digestive Enzymes (Protease and Lipase) of the Leucocytes, Their Properties and Importance in General Pathology. N. Fiessinger and P. L. Marie.
49 *Experimental Research on Functional Mitral Insufficiency. C. Lian.

49. **Experimental Mitral Insufficiency.**—Lian's research on dogs has confirmed the fact that dilatation of the left ventricle may entail functional mitral insufficiency revealed by a systolic souffle at the apex. It may subside and reappear, with the heart apparently normal in the intervals. The condition most liable to entail it is when extreme dilatation is accompanied by factors inducing simultaneous overexertion of the left heart and fatigue of the myocardium.

Bulletin de l'Académie de Médecine, Paris

November 2, LXXIII, No. 35, pp. 213-258

50 *Acceleration of Gaseous Interchanges and Organic Demineralization in the Pretuberculous and Tuberculous Condition. (L'accélération des échanges respiratoires et la déminéralisation organique chez les prétuberculeux et chez les phtisiques.) A. Robin.
51 Production of Heat by Living Beings and Influence of Food. (La production de la chaleur par les êtres vivants et la théorie de l'isodynamie alimentaire.) Weiss.
52 *Suprarenal Therapy. (Opothérapie surrénale.) E. Boinet.

50. **Early Differentiation of Tuberculosis.**—Robin's statements in regard to the increased intensity of the nutritional processes in the tuberculous are contrary to the generally accepted ideas as to the necessity for stimulating the biochemical processes in the tuberculous. He insists that treatment should be directed to retard instead of stimulating them, and presents here new arguments to sustain his position, among them a table showing the average consumption of oxygen and production of carbon dioxid in 24 healthy and 44 tuberculous individuals: 3.446 and 3.789 c.c. of oxygen being consumed in the healthy and 5.16 and 4.714 in the tuberculous, and 2.620 and 2.931 carbon dioxid produced in the healthy, and 3.785 and 3.569 in the 35 tuberculous men and 19 tuberculous women per kilogram of weight and per minute. The difference is still more striking in the tables that are computed per minute irrespective of the body weight. The difference grows constantly greater as the tuberculosis progresses, and this acceleration of the respiratory interchanges is frequently observed in the offspring of the tuberculous and also in alcoholism, in extreme fatigue from any cause, in worry and in all the predisposed. The "predisposition" to tuberculosis is thus seen to be a nutritional anomaly identical in all the predisposed and capable of being recognized and measured. Robin's further research has also confirmed the fact that the proportion between the inorganic residue of the urine and the total residue (in normal conditions 30 to 32 per cent.) is unusually large just preceding and during the first and second stages of tuberculosis, dropping below normal in the terminal stage. The bones of tuberculous individuals show abnormally small proportions of phosphoric acid, lime

and silica. The consumptive seems to drain the bones of the mineral elements to eliminate them in excessive proportions, while the tissues need these very elements to sustain them in their struggle against the tubercle bacillus. The points for diagnosis of the predisposition or early infection and for prognosis are thus: (1) increased production of carbon dioxid and consumption of oxygen; (2) organic demineralization; (3) reduction in the "coefficient of robustness" (estimated by Pignet by subtracting from the height the sum of the chest measure and weight. For example: height 1.69 meters, minus the chest measure 0.73 meters, plus the weight 82 kilograms, gives 14 as the *coefficient de robusticité.*); (4) abnormally rapid growth; (5) unusual thinness in proportion to the food ingested; (6) early fatigue; (7) long, narrow and shallow chest, small xiphoid angle, the ribs oblique, etc.; (8) exaggeration of the cutaneous radiation of heat; (9) sensation of internal heat, the average temperature generally above the average, and rapid rises of temperature; (10) abnormally small difference between the temperature in the axilla and the temperature of the skin elsewhere; (11) abnormally rapid rate of respiration and pulse; and (12) abnormally low arterial pressure. In the neurotic-gouty type, on the other hand, the pulse and respiration rate is abnormally low and the arterial blood pressure high, while the radiation of heat and the average temperature are below normal. It is thus possible, Robin declares, to recognize the pretuberculous and the incipient stages of tuberculosis and by appropriate measures to transform the soil and thus reenforce the natural defensive processes.

52. **Organotherapy of Suprarenal Disease.**—Boinet reports the postmortem findings in 44 cases of various suprarenal affections, all confirming the existence of a sclerous inflammation of the suprarenals in the syndrome of Addison's disease as also with mere bronzing of the skin and mucosæ and with the abnormal pigmentation sometimes observed in the tuberculous. In 20 other cases of sclerosis of the suprarenals, encountered in the course of 900 autopsies of adults at the Hotel Dieu, the diagnosis had been uncertain on account of the absence of pronounced bronzing. Suprarenal insufficiency is suggested by a combination of one or more circulatory disturbances (small unstable pulse, low arterial tension, the "white line" or track of pallor that follows when a blunt instrument is drawn along the abdominal wall, tachycardia and chilliness); digestive disturbances (anorexia, vomiting, diarrhea or constipation); toxic nervous disturbances resulting from irritation of the various nerve plexus around the suprarenal capsules, and general disturbances (anemia, emaciation, considerable and progressive amyotrophy). The diagnosis is confirmed by the benefit from organotherapy; benefit is also liable in cases of inoperable cancer in the suprarenals. He advises ingestion of sheep or calf suprarenal capsules fresh or desiccated in a vacuum, or subcutaneous injection of extract of the whole gland. The diagnosis may be facilitated by hastening the development of bronzing by measures for revulsion. Boinet's first communication on this subject was summarized in these columns Nov. 20, 1909, page 1743.

Lyon Médical, Lyons

September 2, XLI, No. 39, pp. 501-540

53 *Importance of Sterilizing Infants' Clothing. (Emploi des linges stérilisés chez le nourrisson.) E. Weill.

October 17, No. 42, pp. 633-688

54 *Treatment of Pulmonary Tuberculosis by Compression from Pneumothorax Artificially Induced. (Traitement de la tuberculose pulmonaire par la mise au repos du poumon au moyen de l'injection d'azote dans la cavité pleurale.) Balvay and Arcelin.

October 24, No. 43, pp. 689-728

55 Acute and Curable Form of Tic Douloureux of the Face. M. Lannois.

53. **Importance of Sterilizing Infants' Clothing.**—Weill has found that the steam laundry cannot be relied on to render infants' diapers and other clothing absolutely sterile. They are liable to acquire germs even on their passage from the laundry to the infant. From a nurse's apron, fresh from a steam laundry in the building, streptococci, staphylococci, diplococci and other germs were cultivated, as also diplococci and bacilli from an infant's cap, laundered and kept two days in the ward linen closet. Weill now insists on having the infants' clothing sterilized by steam under pressure for twenty minutes, the clothing sorted out into sets after laundering, placed in bags and sterilized and kept in the bags until used. One bag contains the inner garments, another the slips and caps; a third, a complete outfit for one infant, and a fourth the gauze sponges used in washing the child. These bags are sterilized and not opened till needed. The bag with the complete outfit is hung on the bedstead, to be used in a hurry at need; the other bags are kept in the linen closet. The nurses are trained never to let their hands come in contact with the part of the linen that comes next the infant's skin. The infant is washed with the gauze sponges taken from the bag, dipped in boiled water, and a little sterilized olive oil poured on them. The nurse's hands are scrubbed and dipped in bichlorid solution before she takes anything out of the bag; she then closes the bag or metal box again at once. The diapers are changed as soon as they are wet. When a bed is vacated, the mattress is disinfected and the iron singed with alcohol. When steam disinfection is not practicable, he has the linen moistened well and ironed till dry. On introducing these strict measures, the mortality in his service dropped from 41.87 per cent. in 1901 to 26.7 per cent. in 1903 and it has been declining since, while the number of cases of acquired cutaneous affections has dropped almost to zero. The infants are all in the same ward, but he tries to keep those with skin diseases at one end of the ward, with separate nurses, and all the nurses are trained to wash their hands with a bichlorid solution before feeding or changing the diaper of an infant. Each child has its own rubber blanket, washed in bichlorid solution each morning; this is spread over a pillow and the infant is placed on it for the physician's inspection. But these precautions failed to ward off infection until the linen was systematically sterilized, when all trouble from this source ceased at once. Not only in prophylaxis but in promoting the healing of cutaneous lesions the sterilized linen has had a good effect. The skin of an infant, he declares, is so sensitive and receptive that it should be regarded and treated just like an open wound. It should be kept covered up, dry and aseptic, while it obeys its inherent tendency to spontaneous anatomic and physiologic repair. This article was presented at the recent international medical congress at Budapest.

54. **Immobilization of Lung by Injection of Nitrogen.**—Balvay and Arcelin have applied this method of treatment in several cases of open tuberculosis and have obtained good results. They injected at first 400 c.c. of nitrogen, repeating the injection four days later with 1,000 c.c., reinjecting about the same amount at similar intervals until the lung was completely immobilized. The pleura absorbs daily from 50 to 80 c.c. of the gas. The febrile temperature drops to normal almost at once, and in the afebrile cases there is no longer a rise of temperature on moderate exertion. By renewing the injection before each menstrual period, it proved possible to render it afebrile in patients who had fever usually at this time. The cough was increased at first after the injections, inducing expectoration. Benefit was observed only in the unilateral cases, however; when both lungs were involved the process in the non-compressed lung became rapidly aggravated, but laryngeal complications were no contraindication. Syncope occurred sometimes in patients with unusually small hearts, but never otherwise. One very anemic patient with multiple lesions and abnormally small heart, died in syncope a few days after a single tentative injection of 500 c.c. of the nitrogen. The principal advantage of the treatment is the way in which it drains the lung and favors cicatrization while preventing secondary infection from inhaled germs and congestion liable to entail hemoptysis.

Presse Médicale, Paris

October 27, XVII, No. 86, pp. 753-760

56 *Treatment of Nephritis with Serum from Renal Vein. P. Spillmann and J. Parisot.

October 30, No. 87, pp. 761-776

57 Dust in Transmission of Tuberculosis. (Contagion de la tuberculose par les poussières sèches.) P. Le Noir and J. Camus.

58 The Generally Disregarded Organic Elements in the Urine in Diabetics. (L'indosé urinaire chez les diabétiques.) H. Labbé and G. Vitry.

59 Adherence of Molecules and Its Importance in Various Biologic Phenomena. (Étude de l'adhésion moléculaire et de son intervention dans divers phénomènes biologiques.) M. Mayer.

56. **Treatment of Nephritis with Serum from the Renal Vein.**—Spillmann reviews the evidence that has been accumulating in the last few years in regard to the efficacy of treatment of nephritis with the internal secretion of the kidney as obtained from the blood issuing out of the organ, in the renal vein. He here reports in addition careful research on a number of patients under this treatment, recording day by day the metabolic findings, etc. Goat serum was used, taken from the renal vein, and from 10 to 50 c.c. was the usual dose. The action of the treatment seems to be about the same as that of ordinary organotherapy and the indications are the same for each, that is, conditions suggesting insufficiency of the kidneys. The effect is prompter and more pronounced the milder the kidney affection. The specific effect is seen instructively when the serum is injected into healthy persons, the amount of urine and proportion of chlorids eliminated increasing notably under its influence. His cases included 4 patients with acute and 6 with chronic nephritis, uremic coma or nephritis from corrosive sublimate poisoning in 1 case each, and 2 patients with an intercurrent kidney lesion during pneumonia. Under the influence of the injections the diuresis increased to 6, 8 and even 10 liters during the twenty-four hours; the edema and dyspnea subsided and the heart was markedly relieved. The effect was evidently the result of a specific stimulating action on the kidneys, far more effectual than ordinary diuretics, and effective in many cases in which no benefit was apparent from the latter.

Semaine Médicale, Paris

November 10, XXIX, No. 45, pp. 531-540

60 *Median Suprahyoid Phlegmons. F. Lejars.

60. **Phlegmon Below the Floor of the Mouth.**—Lejars has encountered a number of cases of severe diffuse phlegmon in the floor of the mouth, sometimes pushing up the tongue and sometimes only discoverable by palpation with one finger in the mouth and the other under the chin. At first he treated them by incising in the floor of the mouth but found that this did not reach the root of the evil, while a median incision under the chin, above the hyoid bone, answered the desired purpose most effectually, incising from the tip of the chin nearly to the hyoid bone. He does not wait for pus to collect, the rapid swelling and its extension testifying to the gravity of the infection. The greatest danger is from half measures and delay, and he cites one case in a vigorous man of 65. The swelling was not very pronounced and there was little pain and fever. As the general condition continued good nothing was done for several days, and then a little blood was evacuated through an incision through the floor of the mouth; no pus was discovered but some relief followed. The swelling kept up, however, until the entire chin was involved. The actual cautery was applied and a little pus and serous fluid escaped. Considerable relief followed for two days, but then the tumefaction spread on both sides and an incision showed considerable destruction from the infectious phlegmon and the patient soon succumbed. All this would probably have been averted if the focus had been opened from below in time and amply drained. An incision in the mouth is adequate only when the abscess is circumscribed and, protruding into the mouth, is thus easily accessible.

Berliner klinische Wochenschrift

November 1, XLVI, No. 44, pp. 1965-2004

61 *Chlorinated Lime in Dermatology. (Anwendung des Chlorkalks in der Dermatologie.) C. Binz.
62 Quantitative Determination of Inhibiting Body in the Wassermann Reaction. (Quantitative Hemmungskörperbestimmung bei der Wassermann'schen Reaktion.) J. Zeissler.
63 *Derangement of Suprarenal Functioning in Infectious Diseases. (Störung der Nebennierenfunktion bei Infektionskrankheiten.) F. Lucksch.
64 *Importance of Bronchoscopy for Internal Medicine. A. Ephraim. Commenced in No. 43.

November 8, No. 45, pp. 2005-2044

65 *Early Operation in Appendicitis. (Die Frühoperation bei Appendicitis.) E. Sonnenburg.
66 Cholera Not a Nitrous-Acid Intoxication. (Ist die Choleraerkrankung eine Nitritvergiftung?) A. A. H. van den Bergh and A. Grutterink.
67 Decline in Tuberculosis Mortality. (Weitere Mitteilungen zur Abnahme der Tuberkulosesterblichkeit.) B. Fränkel.
68 Allowing Parturients to Get Up Early. (Frühaufstehen der Wöchnerinnen.) R. Müllerheim.
69 *Serodiagnosis of Syphilis of the Aorta. (Ueber die Wassermann'sche Reaktion bei Aortenerkrankungen und die Bedeutung der provokatorischen Quecksilberbehandlung für die serologische Diagnose der Lues.) K. Donath.

61. **Bleaching Powder in Dermatology.**—Binz reports further success from the method of treating chilblains with chlorinated lime, mixed with 9 parts of paraffin ointment, and he here reviews Ehrenberg's application of this treatment in 15 cases of intractable erysipelas. He advises commencing with a 5 per cent. ointment at first, applying it once a day, gently, to a small part of the focus, then increasing to 10 per cent. if there is no idiosyncrasy. Sodium thiosulphate may be used in a 1 to 1,000 solution to rinse off the chlorin, if required. No by-effects were observed in the 15 erysipelas cases except injury of the linen if the part was not sufficiently protected.

63. **Disturbances of Suprarenal Functioning in Infectious Diseases.** Lucksch reports experimental research which confirms his assumption that defective or lacking suprarenal functioning is an important factor in infectious diseases. The injurious influence of the infectious toxins on the chromaffin system should be borne in mind, and the advisability of giving adrenalin to combat the diminishing blood-pressure should be considered.

64. **Bronchoscopy in Internal Medicine.**—Ephraim has found bronchoscopy useful in 95 cases in revealing the cause for the puzzling phenomena observed. In some cases a varix in the trachea explained hemoptysis and permitted a cure. In one case a syphilitic tumor was discovered as the cause of a peculiar cough and the patient was promptly cured. Killian once found and removed a sarcoma in the lower third of the trachea which had caused no symptoms except recurring hemoptysis. Anesthesia is not required for bronchoscopy unless possibly in children.

65. Address at the recent International Medical Congress at Budapest.

69. **Mercurial Test in Serodiagnosis of Syphilis.**—Donath reports a positive serodiagnosis in 85.3 per cent. of 27 cases of pure aortic insufficiency, mesaortitis, or aneurism. Among the 27 cases were 3 in which there was a history of articular rheumatism, but the features of the joint affection showed that it must have been of syphilitic nature rather than true rheumatic polyarthritis. The gummatous form of syphilitic synovitis and ostitis may be accompanied with disturbances suggesting rheumatism. The aortic affection in these cases had previously been regarded as the consequence of infectious articular rheumatism, and in 4 other cases abuse of tobacco and in 2 abuse of alcohol suggested the toxic form of mesaortitis until the serodiagnosis gave the clue. In many patients suspected of syphilis but giving a negative reaction, it is possible to transform the negative into a positive response by a tentative brief course of mercury. He calls this the "provocatory mercurial treatment." After inunction of 12 gm. of gray ointment during the week the Wassermann reaction became positive. This is similar to what is observed in chronic malaria when small doses of quinin may induce an acute phase of the disease.

Deutsche medizinische Wochenschrift, Berlin

November 4, XXXV, No. 44, pp. 1905-1952

70 *Diagnosis and Treatment of Tumors in Spinal Canal. (Geschwülste innerhalb des Wirbelkanals.) H. Oppenheim.
71 *Pathology and Treatment of Sympathetic Ophthalmia. C. Horstmann.
72 *Serodiagnosis in Syphilitic Eye Lesions. (Serodiagnose der Syphilis in der Augenheilkunde.) G. Schumacher.
73 *Relations Between Tuberculosis and Syphilis in Eye Lesions. (Beziehungen der Tuberkulose zur Syphilis bei Augenleiden.) Id.
74 *Tumor in Frontal Sinus. (Zur Kasuistik der Stirnhöhlengeschwülste.) R. Herzenberg.
75 Seroreaction in Leprosy with Syphilis Antigen. (Komplementablenkung bei Lepra mit syphilitischem Antigen.) J. Eliasberg.
76 Non-Reliability of Blood-Pressure in Prognosis of Diphtheria. (Prognostische Bedeutung des Blutdrucks bei der Diphtherie.) M. Brückner.
77 Tuberculosis in Infants. (Zur Klinik der Säuglingstuberkulose.) K. Mallinckrodt.
78 *Correction of Stiff Hip Joint. (Zur Mobilisierung ankylosierter Hüftgelenke.) O. Meyer.

70. **Intraspinal Tumors.**—Oppenheim has been able to cure 13 out of 25 patients with tumors in the spinal canal, thus restoring 52 per cent. to comparative health, including 40 per cent. in which the cure may be called complete. From helpless paralytic cripples they have been restored to active life; one young woman has married since. In 6 of these more favorable cases, the tumor was in the dorsal, in 4 in the cervical, and in 1 in the lumbar region, and in 2 in the cauda equina. He operates even when he is unable to determine the exact location of the tumor within a few segments, as by intradural probing above or below it is possible to disclose the tumor. When the location is very uncertain, it may be wise to wait until the anesthesia has reached a constant upper level, the patient being kept under constant supervision. If the diagnosis wavers between a tumor, circumscribed spinal serous meningitis and hypertrophic pachymeningitis, laminectomy is indicated for all if antisyphilitic treatment affords no relief. He does not advocate surgical intervention on tumors in the spinal cord itself, although benefit may be derived from laminectomy and slitting the dura to give the growth more room.

71. **Sympathetic Ophthalmia.**—Horstmann advises prompt enucleation in prophylaxis of sympathetic inflammation, as no other measures guarantee against it.

72-73. **Serodiagnosis in Syphilitic Eye Affections.**—Schumacher reports examination of 215 ophthalmologic patients and emphasizes the value of the Wassermann test for differentiation, although a positive reaction is rare with inherited syphilis free from recent acute symptoms. His research shows that tuberculosis may develop in the internal eye on the basis of some anomaly due to inherited syphilis. In some cases general tuberculin treatment should be combined with the ordinary antisyphilitic measures. The latter alone suffice when the tuberculous process is latent, but when the syphilis is latent and the tuberculosis manifest, both should be treated to increase the resisting power of the organism and thus render conditions unfavorable for the progress of the tuberculosis.

74. **Tumor of the Frontal Sinus.**—Herzenberg's patient was a man of 56 with a cystic tumor for fifteen years, for which he refused operation until it measured 38 by 35 cm. An incision released 1,800 gm. of a reddish brownish fluid and the brain was found much compressed, while the bone had been worn away. The case is remarkable from the absence of brain symptoms and of pain or other sensation except the discomfort from the large tumor, although after its removal there was room for the fist between the skull and the brain.

78. **Mobilization of Ankylosed Joints.**—Meyer expatiates on the fine results to be attained by excision of part of the joint and interposition of a flap consisting of fat tissue and a thin layer of muscle, fastened with silk sutures to form a cushion between the two bones. He gives a detailed account of a case of ankylosis of the hip joint in which application of this technic restored a cripple to active life. The patient was a woman of 38, with kyphosis from spondylitis in childhood; the coxitis entailing the ankylosis had healed about the age of 14.

Münchener medizinische Wochenschrift

November 2, LVI, No. 44, pp. 2249-2296

79 *Experimental Research on the Growing Eye. (Versuche am wachsenden Auge.) K. Wessely.
80 Acquired Diverticula of the Appendix. (Zur Pathologie und Klinik der erworbenen Wurmfortsatzdivertikel.) G. E. Konjetzny.
81 Antitrypsin Content of Blood Serum in Mental Derangement (Ueber Antitrypsingehalt des Blutserums bei Geisteskranken.) Jach.
82 The Cerebrospinal Fluid in Experimental Trypanosomiasis. (Untersuchungen des Liquor cerebrospinalis auf Vermehrung der Zellelemente und Eiweisskörper bei Trypanosomiasis der Hunde.) F. Apelt.
83 A Diplococcus Epidemic Resembling Influenza. C. Rose.
84 Electrocardiograms of Irregular Heart Action. (Die Arythmie des Herzens im Elektrokardiogramm.) A. Hoffmann.
85 *Primary Pyelitis. L. Saathoff.
86 *Successful Serotherapy of Severe Tetanus. L. Simon.
87 *"Tuberculin Vaselin" for the Ocular Diagnostic Reaction. (Modifikation der Konjunktivalprobe für die Praxis.) A. Wolff-Eisner.
88 Improved Roentgen-Ray Technic. F. Dessauer and B. Wiesner.
89 Mobility of the Corpuscles in Vaccine and Smallpox. (Ueber die Beweglichkeit der Körperchen der Vakzine und der Pocken.) G. Volpino.
90 Fitness for Military Service of German Recruits. (Zur Frage der Militärtauglichkeit der zum einjährigfreiwilligen Dienst berechtigten Wehrpflichtigen Deutschlands.) Schwiening.

79. **Experiments on the Growing Eye.**—Wessely has been examining the influence of various operations on the eye before it has reached its full development. The results show that by transferring experimental research from adult to very young animals a new field is thrown open for investigation in various lines, not only for the eye but for other organs. The growing organ reveals the action of external influences much more instructively than the mature.

85. **Primary Pyelitis.**—Saathoff reports 2 cases of pyelitis with a special Gram-negative bacillus responsible for the process. The special feature of the cases was the involvement of the adjacent tissues in the infectious process; in one patient the infiltration spread through the entire upper left abdomen, in the other the inflammation spread to the veins in the thigh and leg. Notwithstanding this extensive spread of the process, the virulence did not seem to be very great; the general condition persisted remarkably good and there was no loss in weight during the four weeks of fever until the venous thrombosis developed. Suspicion of tuberculosis of the kidney proved unfounded.

87. **Tuberculin Vaselin for the Ocular Test.**—Wolff-Eisner now uses a 1 or 2 per cent. tuberculin vaselin for the ocular test, and states that the mixture keeps perfectly for months, while it is fully as convenient as a solution for the ocular test.

Therapie der Gegenwart, Berlin

November, L, No. 11, pp. 505-552

91 *Treatment of Obesity by Vegetable Diet. (Entfettung durch vegetarische Diät.) A. Albu.
92 *Serum Sickness. (Zur Aetiologie und Prophylaxe der Serumkrankheit.) H. Ohnacker.
93 *Combined Electric Method of Treating Cancer. (Neue Behandlungsmethode bösartiger Geschwülste.) C. Müller.
94 Diagnosis and Treatment of Injuries of the Eye. (Augenverletzungen.) C. Adam.
95 Radioactive Therapy. (Erfolge mit Kreuznacher Radium-Emanationsbädern und lokal angewandten Radiol-Präparaten.) Kemen.
96 Local Massage of Rectum in Treatment of Habitual Constipation. (Schwedische manuelle Mastdarmbehandlung als Therapie bei sehr hartnäckigen Fällen der habituellen Obstipation.) von Akerhielm.
97 Circumcision. E. Schlechtendahl.

91. **Treatment of Obesity by Withdrawal of Meat.**—Albu has found a strict vegetable diet extremely useful in obesity. He believes that it is the easiest, safest and most effectual means of correcting the tendency to undue corpulence without impairing the general health. The aim is to satisfy without giving many calories, and beverages are allowed unrestricted. He gives tables of the calorific value of vegetables with menus for the various seasons. Vegetarians never present the picture of full cheeks and rounded outlines, the difference being mainly in lesser deposits of fat, just what is needed in treatment of obesity. Albu keeps the patient on a strict vegetable diet for from 4 to 6 weeks, then allows from 150 to 200 gm. of lean boiled meat 3 times a week or once a day. This diet is kept up for months without trouble, and protects those inclined to obesity from returning corpulence. If the weight begins to increase he drops the meat again for 4 or 6 weeks. He generally supplements the dietetic regulations by exercises and hydriatic procedures, but these alone are insufficient. He gives the records of several cases in which the weight dropped nearly 40 pounds in the course of a few months by this dieting alone. Fatty heart and digestive disturbances are the main contraindications.

92. **Serum Sickness.**—Ohnacker noted that 21 out of 40 diphtheria patients showed signs of serum sickness, all being injected with No. 178 antitoxin. Tests of this antitoxin showed a peculiar tendency to induce a reaction beyond that of other numbers, the tests showing exanthem in 74 per cent., while it occurred in only 4 per cent. with antitoxin of another date. The antitoxin was tested by injecting 0.1 c.c. into the skin by the Schleich infiltration technic. Besides the 100 cases thus treated, a number of control tests were made on other persons with salt solution and human serum, with and without a preservative. In another series the antitoxin No. 178 was injected into the left arm and antitoxin of another date into the right; a reaction was observed in 77 per cent. on the left and in only 5 per cent. on the right arm. He concludes from all this research that the serum sickness is due to some prop

erty of the serum used and not to any property on the part of the one injected, although some patients are naturally a little more sensitive than others.

93. **Combined Electric Method of Treating Cancer.**—Müller reports a case which has attracted attention, as the tumor on the back of the head had been examined by a number of physicians in Berlin, the general verdict being inoperable sarcoma. The tumor was as large as a child's head, and the glands in the neck were swollen. The cachexia and loss of 41 pounds in a few months, and inefficacy of potassium iodid confirmed the assumption of malignant disease, but the extension from the vertex to the neck and over the parietal region forbade the thought of an operation. Roentgen treatment was energetically applied, combined with application of high-frequency electric currents of high tension. Müller has been successful with this combined method in a number of small superficial tumors and in this case the tumor retrogressed after the third sitting so that the skin lay in folds, and by the tenth the entire tumor had vanished, nothing being left after the twelfth sitting but a minute nodule behind one ear. The glands in the neck had subsided to normal size by the eighth sitting. He used water-cooled tubes so that there was no sign of an x-ray burn. The scalp was rubbed with alcohol and greased during the treatment, but this was the only medication. The hat band of 65 cm. is now reduced to 58 cm., and the patient has gained 24 pounds in weight. Klemperer confirms Müller's statements, having had the patient in his charge and having informed the family of the fatal prognosis. The greater was his astonishment when the patient returned four months later in robust health and no trace of the tumor. No microscopic examination was made. In this preliminary communication Müller gives no more than the above description of his technic.

Wiener klinische Wochenschrift, Vienna

November 4, XXII, No. 44, pp. 1507-1546

98 *Relations of the Internal Secretions to Surgical Conditions. Roswell Park.
99 *Stenosis of the Pylorus and Roentgen-Ray Diagnosis. (Entwicklungsstadien der Pylorusstenose und ihre klinisch-radiologische Diagnostik.) S. Jonas.
100 Sporotrichosis. O. Kren and M. Schramek.
101 Improved Technic for Determination of Hemoglobin. (Eine Verfeinerung der Fleischlschen Hämoglobinmessung.) M. Herz.
102 *"Thermopenetration." E. v. Bernd, W. v. Preyss and E. Eitner.

November 11, No. 45, pp. 1547-1584

103 *Opsonic Index and Technic of Tuberculin Treatment of Tuberculosis. (Opsonischer Index und Tuberkulosetherapie nebst Beiträgen zur Technik und Dosierung der Tuberkulininjektionen.) K. K. Kössler and W. Neumann.
104 *Transmission to Monkeys of Ophthalmia Neonatorum without Gonococci. (Uebertragungsversuche von gonokokkenfreier Blenoorrhoea neonatorum auf Affen.) K. Lindner.
105 Experimental Research on Kidney Functioning. (Experimentelle Studien zur Nierenfunktion.) R. Lichtenstern and A. Katz.
106 Unusual Dislocations. (Zur Kasuistik der Luxationen.) M. V. von der Lilie.
107 Flagellates in Human Intestine. (Flagellaten im menschlichen Darme.) U. Guastalla.
108 Scleroma and Osteoma of the Trachea. H. Peters.

98. This is a translation of an article published in *Northwest Medicine*, August, 1909.

99. **Stenosis of the Pylorus and Roentgen-Ray Examination.**—Jonas writes from the Roentgen laboratory of the general hospital at Vienna to call attention to the importance of the discovery of antiperistalsis as a sign of incipient stenosis. It is readily distinguished with Roentgen examination and the bismuth taken for the purpose supplies the best conditions for determining the peristalsis if the patient has eaten a roll or its equivalent before taking the bismuth. The antiperistalsis is the radiologic equivalent of the impending but not yet developed "rigidity of the stomach" (*Magensteifung*). This first stage of pyloric obstruction consists merely in moderate distention of the caudal part and antiperistalsis, but there is as yet no atony of the fundus, no profuse vomiting nor colic. As compensation fails, vomiting occurs and the fundus shows atony, while in the ultimate stage the caudal part is extremely dilated, with other signs of stagnation.

102. **Thermopenetration.**—Considerable interest has been aroused by this method of inducing heat in the depths of the tissues by the local resistance to the passage of high-frequency currents. Bernd has applied the measure 2,000 times, but warns that the technic requires practice on the cadaver and on animals before it can be safely applied to man. He uses it in gonorrheal, rheumatic and other affections in which local application of heat promises good results. Tuberculous affections do not seem to be influenced, and it does not seem to be able to destroy the gonococci in the urethra but is proving useful in the complications of gonorrhea in the male.

103. **The Opsonic Index During Tuberculin Treatment.**—Kössler and Neumann tabulate the findings in 18 cases which seem to show that the opsonic index is of comparatively little moment as a guide in tuberculin treatment.

104. **Non-Gonococcus Ophthalmia in the New-Born.**—Lindner reports from Fuchs' eye clinic that he has been able to infect monkeys with the secretions from ophthalmia neonatorum, free from gonococci but containing cell inclusions, such as Prowazek has described as trachoma bodies. The course of the transmitted affection resembled in every respect that of transmitted trachoma. Consequently, he asserts that in these cases of ophthalmia neonatorum, the trouble is evidently a form of trachoma affecting the conjunctiva of the new-born, no matter whether the granules of the inclusions are to be regarded as a specific product of the reaction to the causal agent or as the causal agent itself.

Zentralblatt für Chirurgie, Leipsic

November 6, XXXVI, No. 45, pp. 1529-1568

109 Successful Rectococcygopexy for Prolapse of Anus and Rectum. E. Bircher.

Zentralblatt für Gynäkologie, Leipsic

November 6, XXXIII, No. 45, pp. 1553-1584

110 Management of Childbirth with Moderately Contracted Pelvis. (Therapie bei Beckenverengungen mittleren Grades.) H. Kupferberg.
111 Medicinal Treatment of Sterility from Infantile Conditions. (Vorschlag zur medikamentösen Therapie der infantilistischen Sterilität.) H. Bab.
112 Formation and Significance of Lacteal Glands in Axilla. (Zur Bildung und Bedeutung der Achselhöhlenmilchdrüsen.) Geyl.

Gazzetta degli Ospedali e delle Cliniche, Milan

October 26, XXX, No. 128, pp. 1353-1360

113 *Neurosis of Sympathetic System during Measles. (Di alcune nevrosi del simpatico riscontrate durante l'infezione morbillosa.) S. Licciardi.

October 28, No. 129, pp. 1361-1368

114 Alopecia from Experimental Freezing. (Alopecia temporanea nel coniglio da congelazione.) A. Fontana.
115 Spinal Anesthesia in 579 Cases. (Contributo clinico alla rachistovainizzazione.) O. Ortali.

October 31, No. 130, pp. 1369-1384

116 Diagnostic Importance of Indican in the Urine with Obstruction of Pancreatic Duct. (Comportamento dell'indacano urinario nell'occlusione del dotto pancreatico.) Zuccola.

November 2, No. 131, pp. 1385-1392

117 *The Mechanical and Biologic Factors in the Pathology of Pregnancy. (Il fattore meccanico ed il fattore biologico nella patologia della gravidanza.) L. Mangiagalli.

November 4, No. 132, pp. 1393-1400

118 Antitoxic Action of Calcium Salts in Parathyroid Intoxication T. Silvestri and R. Montorsi.
119 *Sign of Stenosis of Descending Colon. (Nuovo segno diagnostico delle stenosi neoplastiche del colon discendente.) C. Minerbi and D. De Giacomi.

November 7, No. 133, pp. 1401-1416

120 *Possibility of Immunization against Syphilis by other Venereal Affection. (Sulla eventuale immunizzazione della sifilide.) B. Calabrese.

113. **Neuroses of the Sympathetic System in Measles.**—Licciardi discusses a recent epidemic of measles at Catania which involved young and old: in one family two men of 40 and 47, with a baby had the disease, and several instances were known in which the disease had occurred for the third time. Bronchitis and pneumonia were frequent and severe complications, as also gastrointestinal catarrh, sometimes presenting a syndrome suggesting typhoid and accompanied by signs of meningeal irritation. In several cases he encountered a neurosis of the sympathetic system as he describes in detail in 3 typical instances. One was in a child, nearly 2 years old; during the eruptive stage of measles spasm of the larynx developed. The vocal cords seemed to contract slowly to close the throat completely until the carbon dioxid accumulating in the blood stimulated the respiration center and induced a profound inspiration. The spasm was then suspended for an instant. While considering intubation, mustard to the chest, and bromids, cannabis indica and belladonna were given and in the

course of a few hours the spasm subsided. It returned again two days later when it yielded as before to the same measures. Another child had attacks of typical asthma for the first time during measles: nothing of the kind was known in the family before. In a third child the spasm affected the intestines; the intense pain was not accompanied by any objective signs of trouble but continued unmitigated until relieved by the same measures used in the other cases, bromids, cannabis indica and belladonna.

117. **Biologic Factors in Pathology of Pregnancy.**—Mangiagalli does not regard heart disease as such a serious factor in the pathology of pregnancy as some assume. In his experience the mortality has been only 6.5 per cent. and this only when the food and conditions in general were very unfavorable. The placenta is no longer considered as merely an osmotic and dialyzing membrane interposed between the mother and fetus; it is now known to be an organ with important functions, and biologic factors alone can explain the changes in the kidney with pregnancy. All the organs seem to have their resisting powers in respect to infections reduced during pregnancy, but pneumonia seems to be the most threatening of all. The prognosis is always grave and the effect of artificial interruption of the pregnancy is not felt in time to be of much use in this self-limited disease. This measure, however, he declares, is frequently indicated in case of renal or hepatic complications, but only exceptionally in heart disease.

119. **Sign of Intestinal Stricture from Neoplasm.**—Minerbi reports a case of tumor palpable to the left of the umbilicus with other phenomena suggesting a tuberculous process involving the intestine and peritoneum except for the absence of ascites, fever and response to the tuberculin test. This threw the balance of the diagnosis in favor of cancer, and this assumption was confirmed by the behavior of the tumor when air was blown into the rectum from a bicycle pump. At each stroke of the piston the palpating hand on the tumor felt a kind of expansive pulsation in the tumor similar to the pulsation in the wall of an aneurism in an artery at each systole. This prompt action of the insufflated air was felt only in one side of the tumor, which confirmed the assumption that the growth was a lymphosarcoma in the retroperitoneal glands which in the course of its three years of growth had involved and finally induced stenosis in the descending colon. The factors indispensable for this air-pump sign of stenosis are continence of the sphincter, stenosis not far above and sufficiently pronounced to confine the air, with the walls of the bowel infiltrated with the growth so as to be palpated while some of the wall still retains sufficient elasticity to yield to the pressure of the insufflated air. The discovery of a second small tumor in the epigastrium suggested the lymphatic nature of the cancer in this case.

120. **Immunization Against Syphilis by Other Venereal Disease.**—Calabrese states that he has been impressed with the fact that among a thousand individuals with constitutional syphilis examined who had contracted some other venereal disease during the secondary phase of their syphilis, none had been infected with these other affections before except in a very small proportion, not over 7.5 per cent., and in these there had been an interval of several years before the syphilitic infection. He calls attention to this fact in his experience and urges others to collect information on this point, his impression being that individuals infected with gonorrhea or soft chancre are immune to infection with syphilis. The toxins elaborated by the gonococcus and the Ducrey bacillus, while harmless, comparatively speaking, for the bearer, seem, he asserts, to exert an immunizing power against the pale spirochete capable of aborting incipient syphilis entirely. He is now conducting research in this line, striving for eventual immunization against syphilis by this means.

Policlinico, Rome

October 31, XVI, No. 44, pp. 1381-1412

121 *Carbolic Treatment of Traumatic Tetanus. (Su tre casi di tetano traumatico. Delirio postetanico: cura alla Baccelli.) U. Conforti. Commenced in No. 43.

November 7, No. 45, pp. 1413-1444

122 Modification of the Zammit Milk Test. (Di una modificazione alla lattoreazione de Zammit: Siero-lattoreazione.) G. Pulvirenti.

121. **Phenol in Tetanus (Baccelli Method).**—Conforti remarks that the Baccelli method of treating tetanus is in such general use in Italy and with such constantly good results that no one thinks now of reporting cases any more than instances of recovery from diphtheria under antitoxin treatment. All accept the favorable outcome as a matter of course: the record includes now several hundred cases, with or without associated antitetanus serum. It was his unusual experience to encounter 3 typical cases of traumatic tetanus in the course of one month recently, and he reports them in detail to show the workings of the Baccelli method. [It was described in THE JOURNAL, June 3, 1899, page 1249. The main features are first to cleanse the wound thoroughly with strong antiseptic solution, place the patient in a quiet dark room, plug the ears to keep out unavoidable noises, and give subcutaneous injections of a 2 or 3 per cent. solution of phenol at two or three hour intervals, generally along the spinal column. If the case is of moderate severity, Baccelli commences with 0.2 gm. (3 grains) of the phenol in the 24 hours, rapidly increasing to double or triple this amount. The patient in the grip of tetanus bears astonishingly large amounts of phenol. He claims that it antagonizes the tetanus toxin and quiets the nervous system. In one of his cases 0.72 gm. of phenol was given daily for 6 days, the patient receiving 54 separate injections with lesser amounts in the course of 36 days with final recovery. The text-books mention the Baccelli method, but without much comment, as a rule. Green's Encyclopedia of Medicine, 1908, states that experimental research seems to prove the method valueless, citing Courmont, 1899, von Török, 1900, and Guillaumin, 1902. But French in his "Practice of Medicine," Babes in "Twentieth Century Practice of Medicine," Woods and others have reported encouraging results with the phenol. Woods' article was summarized in THE JOURNAL, Sept. 16, 1899, page 727.—ED.] Conforti supplemented the carbolic injections with the usual sedatives, bromids, chloral or morphin. The incubation had been two weeks in the first 2 cases and the patients, men of 18 and 62, recovered: about 22 gm. of the carbolic acid had been injected in 24 days in the first and 18 gm. in 21 days in the other case. In the third case the patient, a man of 57, succumbed in less than 48 hours after the first symptoms of tetanus after an incubation of one week. The youngest patient exhibited a tendency to hallucinations and mild delirium after subsidence of the convulsions, without fever. Zeri has reported a similar case of a mild, transient psychosis following the tetanus in a patient treated by this method, but Conforti knows of other cases in which the tetanus toxin alone could be incriminated; no carbolic acid had been used.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

INDEX-CATALOGUE OF MEDICAL AND VETERINARY ZOOLOGY. Part 24 (Authors: R to Rizzo.) and Part 25 (Authors: Roack to von Rzewuski). By C. Wardell Stiles, Ph.D., Consulting Zoologist of Bureau of Animal Industry, and Albert Hassall, M.R.C.V.S., Assistant in Zoology, Bureau of Animal Industry. Paper. Washington: Government Printing Office, 1909.

LABORATORY METHODS FOR THE EXPERIMENTAL STUDY OF IMMUNITY. By Eugene F. McCampbell, Associate Professor of Bacteriology, Ohio State University, Columbus, Ohio. Cloth. Pp. 197. Price, $1.25. Columbus: The F. J. Heer Printing Co., 1909.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Vol. XXVII. Edited by Richard H. Harte, M.D., Recorder of the Association. Cloth. Pp. 628, with illustrations. For sale by Wm. J. Dornan, Philadelphia, 1909.

FIFTH ANNUAL REPORT OF THE HENRY PHIPPS INSTITUTE, for the Study and Prevention of Tuberculosis. Feb. 1, 1907, to Feb. 1, 1908. Edited by Joseph Walsh, A.M., M.D., Paper. Pp. 463.

THE PRACTITIONER'S VISITING LIST for 1910. Flexible leather, wallet-shaped, with flap and pocket and calendar for 2 years. Price $1.25. Philadelphia: Lea & Febiger.

TRANSACTIONS OF THE THIRTY-FIRST ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION. Held at Boston, 1909. Cloth. Pp. 406, with illustrations.

INDEX DU PROGRÈS MÉDICAL, 37 e. Année, 1909-1910. Cloth. Pp. 1016. Paris: Progrès Médical, 41 rue des Ecoles.

MORTALITY STATISTICS: 1908. Bulletin 104. Paper. Pp. 133. Washington: Government Printing Office, 1909.

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Original Articles

PUS TUBES IN THE MALE

SURGICAL AND VACCINE TREATMENT *

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CHICAGO

The pus infections of the urinary duct have been for centuries the object of clinical study and surgical exploration: those of the less conspicuous seminal duct remained virtually unexplored until the twentieth century. Pus tubes in the male are to-day as generally unrecognized and surgically ignored as were the pus tubes of the female thirty years ago. Even the accessible epididymis has constantly harbored gonorrheal pus, until recently undetected and undisturbed by surgery.

CLINICAL ANATOMY

Four anatomical features of the seminal duct are clinically important:

1. Ampulla and vesicle are closed by a sphincter of smooth muscle. This muscle, generally ignored by clinicians and anatomists alike, was first described by Kölliker,[1] was named by Hyrtl[2] the "adductor" of the seminal vesicles, and is figured by Bardeleben and Haeckel[3] as the "interampullary muscle." Careful dissection, however, reveals it as a true "compressor ductium seminalium," whose contraction closes the orifices of ampullæ and vesicles. The existence of this sphincter explains the clinically important fact that liquids injected into the vas enter and distend the vesicle before they escape through the ejaculatory duct. This was first demonstrated on the cadaver by de Graaf, and on the living subject by myself.

2. The distensibility of the seminal duct beyond the epididymis is slight; for vesicle and ampulla are enclosed in an unyielding envelope, and the vas has a thick covering of circular muscle fibers. When, therefore, the minute natural outlet, the ejaculatory duct, is occluded by inflammatory swelling or otherwise (and this often happens) the seminal bladder does not expand indefinitely as does the urinary bladder. When the accumulating pus exceeds the limited capacity of ampulla and vesicle, their contractions force the excess contents through the only other outlet, the vas. Since the vas is powerfully contractile, the epididymis far less so, the tail of the epididymis becomes the catch-basin for pus from the vesicle—not only in gonorrhea, but in other urethral infections. This is the pathology of epididymitis, and of the so-called reflex peristalsis of the vas.

Pus infection of the vesicle plus occlusion of the ejaculatory duct, therefore, soon converts the entire seminal duct into a closed abscess. Hence an opening into the vas (vasostomy) affords relief of tension and exit for pus from the entire duct, vesicle and epididymis included, as well as a means of medicating vas and vesicle by injections.

3. Ampulla and vesicle are closely bound to the base of the bladder; infections of the former may, therefore, induce bladder contractions. Cases of "irritable bladder" and "chronic cystitis" without discoverable cause in the urinary tract are thus explained; and these may be promptly relieved by draining the seminal duct, though treatment directed to the bladder be futile. For example, a man 68 years old, referred for prostatectomy to relieve cystitis, was found to have merely a pus infection of left vesicle and epididymis. The vas was opened and pus escaped; the interval between urinations, previously less than an hour, at once lengthened to four hours.

Seminal retention without infection may also induce "irritable bladder." In one such case a distended vesicle was discovered and emptied by the finger in the rectum, a mass of inspissated mucus and spermatozoa being expressed into the urethra; the symptoms of bladder irritation immediately ceased. Doubtless the relief of such irritation, often secured through massage of the prostate (and vesicles), is thus induced.

In "prostatism without prostatic enlargement," the partial retention of urine is at times due to adhesions between the base of the bladder and the adjacent seminal duct.

The symptoms of "cystitis" may, then, proceed from lesions of the seminal as well as of the urinary channel; clinically these two ducts are Siamese twins.[4]

4. Ureter, vesicle and vas are in intimate relation in what I long ago demonstrated to be the "broad ligament of the male."[5] This is a sac of the rectovesical fascia which covers vesicles, ampullæ, ejaculatory ducts and utricle, and which is in the new-born male—as in the adult female—a fold of peritoneum; in early childhood the serous covering recedes to the top of the vesicles. My designation of seminal duct suppurations as "pus tubes in the male," criticized in certain quarters, is then anatomically well founded.[6]

At the upper angle of the masculine broad ligament on each side, the ureter is crossed by the vas deferens and is separated from the top of the seminal vesicle only by fascia. Adhesions following infections of vas and vesicle may, therefore, bind and obstruct the adjacent ureter. Morgan[7] found exactly this condition on exploratory operation, and cured the patient by liberating the ureter from its adhesion to the vesicle; and Young[8] later reported a similar case in which adhesions to the vesicle had produced occlusion of the ureter and destruction of the kidney, compelling nephrectomy.

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* President's address before the American Urological Association, June, 1909.

[1] Kölliker: Gewebelehre des Menschen, iii, 466

[2] Hyrtl: Lehrbuch der Anatomie, ii, 80.

[3] Bardeleben and Haeckel: Atlas of Applied Anatomy, Fig. 158.

[4] The production of bladder symptoms by lesions of the seminal vesicle has been emphasized by Fuller also (Post-Graduate, January, 1906).

[5] Park: Treatise on Surgery, 1896, ii, 494

[6] The homology of this fascia with the broad ligament of the female is proved by the embryological studies of Cunéo and Veau (Journal de l'Anatomie et de la Physiologie, 1899, p. 235), who state that "the seminal ducts, thus included between two peritoneal culs-de-sac, are contained in a transverse fold, a *veritable masculine broad ligament.*"

As Tandler and Zuckerkandl note, the ureter dilatation incident to prostatic hypertrophy occurs above the point where the ureter is crossed by the vas deferens, and is obviously due to pressure by the latter; hence division of both vasa should be a part of surgical attempts to relieve the results of such hypertrophy, when renal retention exists.

This intimate relation between the juxtavesical ureter and the seminal duct seems, therefore, responsible for considerable kidney and ureter disease hitherto unexplored.

Renal pain—"lumbago" or "nephralgia"—often occurs when the vesicle is distended, and is promptly relieved by emptying the vesicle either through massage or vasostomy. Apparently simple distention of the vesicle may compress the ureter and thus distend the renal pelvis.

IMPOTENCE AND STERILITY

The juxtaposition of the seminal ducts to bladder and rectum renders the relation of pus tubes to vesical and rectal tenesmus sufficiently obvious. The abdominal pain from an infected vas simulates that of ureteral calculus and of appendicitis, and in at least one instance led to a mistaken diagnosis and futile operation for appendicitis by a competent surgeon. The "neurasthenia" caused by prostatovesiculitis, commonly explained by an obscure nervous influence, seems rather a toxemia from the local infection: for it is often relieved by evacuation of pus from the genital tract.

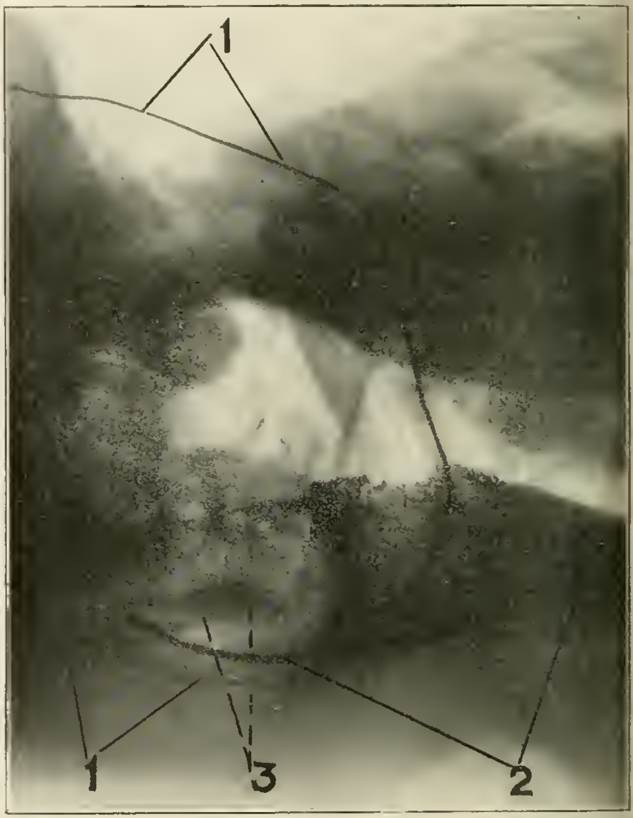
Frequent nocturnal emissions (even in married men), the "hair-trigger" premature emission, and hematospermia are common results of chronic prostatovesiculitis. Extension of chronic infection to the epididymis results in thickening of this tube and chronic hydrocele, which is especially common in elderly men.[9] Extension to the testis induces the sclerosis of that organ studied by Ries,[10] which results in azoöspermia.

Impotence and sterility are especially frequent and important results of pus infections of the seminal tubes. Impotence, when not due to spinal-cord disease or diabetes, is commonly the result of prostatovesiculitis, and is for a long period amenable to intelligent local treatment, though refractory to the routine administration of phosphorus, strychnin, electricity, etc. Sterility may result not merely from mechanical occlusion of epididymes or vasa, but also from infections of the seminal duct, the spermatozoa being non-motile or disintegrated, but regaining form and motility after these infections have been abolished. In fact, the entire pathology of functional derangements and so-called neuroses of the male sexual organs becomes intelligible only through a study of the infections of the seminal ducts. It is well known clinically that early impotence has been sometimes relieved by massage of the prostate, though this is but a crude means of treating chronic prostatovesiculitis; to more efficient methods this hitherto refractory affection is more frequently amenable; for "chronic prostatitis," so-called, notoriously refractory to standard therapy, is usually prostatovesiculitis, needing treatment directed to the vesicles as well as to the prostate.

SURGICAL TREATMENT

The Vesicle.—Incision of the suppurating vesicle from the perineum was made by Lloyd (1889); Dittel, the father of perineal prostatectomy, used his dissection to expose and incise the vesicle (1894). This operation has been improved and used by Fuller[11] in over 100 cases. It is bloody, imperils the integrity of the retum, but has been in his hands devoid of mortality.

Injection of the vesicle through the ejaculatory duct was first performed in the living subject by Klotz,[12] who introduced the nozzle of a special syringe through the endoscope into the urethral end of the ejaculatory duct, and injected liquid into the vesicle. Epididymitis promptly followed, presumably from forcing infected material through the vas. Catheterization or sounding of the ejaculatory duct has been rendered feasible by the modern irrigation urethroscopes of the Goldschmidt pattern. Yet in practical utility I have found this measure far inferior to vasostomy, which, moreover, involves no expensive instrument, technical skill, injury to verumontanum or ejaculatory ducts, or epididymitis.



Radiogram of median section of male pelvis, showing relation between urinary and seminal ducts in the broad ligament, and accessibility of both through a perineal incision; 1,1, wire in vas deferens; 2, probe in ureter; 3, terminal phalanx of first finger, resting on the seminal vesicle.

The Epididymis.—Early in the last century the infected epididymis was punctured by Vidal and others, not for the evacuation of pus, but for the relief of tension. Incision of the non-fluctuating epididymis and tunica vaginalis was introduced independently by Escat[13] and by Belfield,[14] the latter using the incision to inject vas and vesicle at the same time. The epididymis incision has been advocated by Bazet and by Hagner also. But since non-tuberculous infections reach the epididymis by way of the vesicle and vas, acute suppuration of the epididymis proves existing infection of the vesicle; obviously, then, the latter should be drained and medicated by opening the vas (vasostomy) whenever the suppurating epididymis is incised. To incise the epididymis and neglect the infection persisting in ampulla and vesicle seems scarcely rational.

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[7] Morgan: Ann. Surg., 1902, p. 528.

[8] Young: Ann. Surg., 1903, p. 689.

[9] Belfield: Indiana Med. Jour., November, 1893.

[10] Ries: Medicine, July, 1900.

[11] Fuller: Am. Jour. Urol., December, 1906.

[12] Klotz: New York Med. Jour., Jan. 26, 1895.

[13] Ann. d. mal. d. org. genito-urin., 1903, p. 1664.

The advantages of this procedure over the medical treatment of epididymitis are: (1) shortening the period of pain, fever, swelling and confinement; the patient is ready to resume ordinary avocations in three to five days; (2) avoidance of the usual chronic, tender induration in the tail of the epididymis, which sometimes contains pus and gives rise to recurrent epididymitis. Whether the chance of permanent occlusion of the epididymal canal is increased or diminished by the incision itself remains for larger experience to determine. Moreover, the intelligent use of vaccine therapy distinctly diminishes the frequency and the severity of gonorrheal epididymitis and correspondingly restricts the field of the epididymis incision.

Vasostomy.—Four years ago[14] I published the method of draining and medicating vas, ampulla and vesicle through an incision into the vas (vasostomy) and extending the incision into the epididymis when the latter contains pus. I have now opened the vas 149 times in 107 patients, usually in the office under cocain anesthesia, often without assistance.

By this trivial operation the entire duct—a closed abscess—is relieved of pus tension, vas and vesicle are drained and medicated, the epididymis is protected from infection or, if already infected, from pressure infection, for pus drains through the vas incision from the epididymis also. Medication of the ampulla and vesicle is effective because the injected solution remains in their cavities for days; thus, after injection of the vesicle with argyrol solution, a nocturnal emission two nights later was so black as to frighten the patient into the fear that his future children would be negroes.

Many cases refractory to standard treatment, including "chronic cystitis," "irritable bladders," gleet, admixture of blood with semen, premature ejaculation, recurrent epididymitis, have been promptly relieved.[15] In certain other conditions, notably the pelvic pain due to perivesiculitis, the operation has failed to afford relief. Its utility is measured by the accuracy of diagnosis.

In two cases in which injection of the vesicle was prevented by a stricture of the vas, the occluded portion of the vas was excised and the cut ends anastomosed, restoring the lumen of the canal. In one of these a chronic "neuralgia of the testis," apparently caused by distention of the epididymis with spermatozoa, vanished after the natural exit was restored through this resection.

In the technic of vasostomy three features are important: (1) fixation of the vas, which otherwise may drop into the scrotum and be recaptured with difficulty; (2) raising the vas through the skin-cut for accurate manipulation; (3) exploration of vas for obstruction by sounding with a silkworm thread. Details may obviously be varied at the discretion of the operator. When resection of the vas is performed, a silkworm of catgut thread is passed into the lumen and out through the wall of each cut end and the ends tied above the skin, the thread serving as an axis splint which secures exact apposition of the cut ends of the vas. This method of anastomosis, first published by Mayo,[16] supersedes all other methods of reuniting the divided vas. Incidentally I have observed that after resection of a half inch of the vas the cut ends have reunited spontaneously with a patulous lumen. This is important to remember.[17]

Pelvic abscess in the male, anterior to the rectovesical fascia, is a frequent extension from infected appendices, seminal ducts or lymph-glands; it may open spontaneously into the rectum, sometimes indeed undetected. When recognized, pelvic abscess may be incised from the rectum, provided bulging is felt there; otherwise through the ischiorectal fossa or the triangular ligament (the ischiobulbar triangle). Two years ago I opened a large pelvic abscess, which proceeded from an infected vesicle, through a curved incision beginning in the median line three inches above the symphysis and carried downward and outward above Poupart's ligament. The curved flap was turned upward, the rectus pulled toward the median line and abscess and vesicle reached by blunt dissection; drainage was secured through the perineum. This curved incision exposes also the juxtavesical portion of the ureter, perhaps as well as does Israel's iliac or Gibson's[18] flap incision.

VACCINE TREATMENT OF PUS TUBES

The frequent failure of vaccine therapy against infections of the male genital tract is undeniable; its occasional spectacular success, unknown through other means, is equally indisputable. The successes warrant the suspicion that the failures are not the fault of the principle but of the efforts to apply the principle—in other words of inaccurate treatment.

My own experience has been a steady improvement, from customary failure especially with stock vaccines, to customary benefit especially with autogenous vaccines, against infections of the seminal duct by the tubercle bacillus, gonococcus, staphylococcus, streptococcus and colon bacillus. Against these infections accurate vaccine therapy impresses me as the most valuable of all constitutional aids to local treatment.

SUMMARY

1. Pus infection of the seminal tract plus occlusion of the ejaculatory duct soon converts vesicle, vas and finally epididymis into a closed abscess.

2. Vasostomy is the simplest and least objectionable means of evacuating pus, relieving tension and medicating vas and vesicle.

3. Among the effects of these infections on the urinary organs are bladder iritation and obstruction of the ureter with consequent kidney lesions.

4. Impotence, sterility and sexual neuroses in the male are frequent results of pus infections of the seminal tract and amenable to appropriate treatment thereof.

5. Vaccine therapy, accurately applied, is the most valuable internal measure against the infections which produce pus tubes in the male.

100 State Street.

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[14] Belfield, W. T.: Pus Tubes in the Male and Their Surgical Treatment, THE JOURNAL A. M. A., April 22, 1905, xliv, 1277.

[15] The value of vasostomy in relieving recurrent epididymitis was shown in eleven cases reported to the recent German Urological Congress by Picker (Ztschr. f. Urol., 1909, No. 6).

[16] Mayo: Ann. Surg., January, 1895; this publication has been ignored by certain later writers.

[17] The sterilization by vasectomy of confirmed criminals, imbeciles and other defectives, already performed in Indiana on a thousand convicts, is generally approved wherever the public has been taught by physicians that vasectomy, unlike castration, does not unsex a man, does not impair his sexual power. Its effect is merely that of occlusion from bilateral epididymitis. As these defectives have increased twice as fast as has the total population, this simple method of checking their propagation seems worthy of general attention.

[18] Ann. Surg., 1908, p. 445.

TRUE TIC DOULOUREUX OF THE SENSORY FILAMENTS OF THE FACIAL NERVE

I. CLINICAL REPORT OF A CASE IN WHICH CURE WAS EFFECTED BY PHYSIOLOGIC EXTIRPATION OF THE GENICULATE GANGLION *

L. PIERCE CLARK, M.D.

II. REPORT OF SURGICAL TREATMENT

ALFRED S. TAYLOR, M.D.
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I. CLINICAL REPORT AND REMARKS BY DR. CLARK

It has been fairly well proved by recent investigation that the facial nerve, like the trifacial, is a mixed nerve. Its sensory ganglion is the geniculate. The motor root of the geniculate is the facialis proper, and its sensory root is the nerve of Wrisberg. Below the ganglion the peripheral divisions are the facialis proper, the greater and lesser superficial petrosal, external petrosal and chorda tympani. This ganglion is of the spinal type, consequently liable to inflammations, as herpes zoster, and degenerations, as in tic douloureux. The zoster zone of the geniculate lies just in the interior of the auricle and external canal. This zone is interposed between the zone for the Gasserian in front and the cervical behind. In either zoster or neuralgias we may have one or all three zones affected at once. There is also a considerable degree of overlapping in these three zonal areas, so that a diagnosis of a definite lesion of one zone is often a clinical nicety not easily attainable. Varying clinical syndromes of inflammation and degeneration of these zonal areas have already been described in literature (Hunt).

More accurate studies in the anatomic areas involved in the otalgias will probably show that not a few of these neuralgic disorders are derived from disease of the sensory fibers of the facialis, either in the roots or ganglion, or both. Indeed, it is logical to think of the geniculate sensory system and its disorders as analogous to those of the Gasserian of the trifacialis. What the geniculate system may lack in clinical importance in its smallness of peripheral distribution may be compensated for by the complexity of its ramifications and associations with adjacent sensory systems.

No doubt the complexity of the sensory system in and about the ear is largely responsible for the bewildering array of reflex and idiopathic otalgias. Text-book descriptions of the otalgias are but repetitions of our earlier knowledge of trigeminal neuralgias. Our modern understanding of the latter but points the way in which the idiopathic otalgias must be studied and analyzed. While the reflex causation of the idiopathic otalgias probably has a somewhat better basis in actual material than have facial neuralgias, one cannot help being impressed with the idea that carious teeth have been overcharged with responsibility, and that dental obsessions are as keenly in evidence here as eyestrains and the like defects in the visual apparatus for trigeminal neuralgias. The apparently quick relief of idiopathic otalgias by tampering with the teeth, throat or nose may be explained by the more or less certain self-limiting course of acute posterior poliomyelitis. In other words, the evidence of cure of idiopathic otalgias by various operative procedures in the throat, mouth or nose is no better than that of cure by similar operations on the eyes or nose in idiopathic facial neuralgias. Many otologists do not hesitate to say that what we now know to be a genuine posterior poliomyelitis shown in classic herpes zoster is due to irritation of a carious tooth. There can be no doubt that a reflex cause for idiopathic otalgias may be, and indeed is, found in disease of the teeth, throat and nose, but that these peripheral sources have been overestimated there can be no doubt.

The difficulty of disentangling that form of idiopathic neuralgia of geniculate ganglion disease which immediately concerns our purpose is at present due to a separation of that otalgia which is confined to the anterior wall of the external auditory meatus and the skin just in front of the ear. As is well known, this area is supplied by the auriculotemporal branch of the trifacial as well as the sensory filaments of the geniculate ganglion. More rarely it is supplied by the second branch of the trifacial. The absence of tenderness and pain in the other divisions of the first branch of the trifacialis should exclude this sensory system from involvement. This is not always easy to determine when, as often happens, there is reflex involvement in the trifacial. Usually, however, the reflex disturbance in the trifacial, as well as that in the cervical nerves, can be eliminated by appropriate antineuralgic treatment. There is no reason to think that the prognosis or treatment of idiopathic otalgia of the geniculate system should be different from that of the trifacial. Once the diagnosis is made and the usual antineuralgic remedies have been tried, operative interference is indicated. There is but one procedure practicable—that of physiologic extirpation of the geniculate ganglion, a division of the posterior root of the ganglion, the nerve of Wrisberg.

I will give in brief the history of a case of tic douloureux of the sensory filaments of the facialis and its outcome as follows:

Patient.—Mrs. E. T., aged 28. Aside from the history of morphinism, contracted since the neuralgia began, the family and personal history previous to present illness are negative.

Present Illness.—In February, 1907, the patient experienced paroxysmal, intermittent pain without known cause, just in front of the left ear. The pain occurred for half an hour almost weekly. Two months afterward the pain in front of the ear was of daily occurrence of a typical neuralgic character, sometimes lasting for two and three hours. In the following October, eight months after the onset, the pain had increased constantly so that there was not only a stabbing pain in front of the ear, but also a steady pain in the depths of the ear, on the anterior wall of the external meatus. At times there was a moderate degree of neuralgic pain in all three distributions of the trifacial and in the occipital region. The latter distribution of pain in the trifacial and occipitocervical nerves decreased in five or six months, was intermittently present during the following year, but was never so severe as in front of the ear and in the anterior wall of the external meatus. The patient was taking about twelve grains of morphin daily when I first saw her. Hygienic and electrical treatment very soon removed all the neuralgic pain except that in the region of the ear. All ear, eye and throat and general medical examinations proving negative, the conclusion was unavoidable that the lesion was a true tic douloureux of the geniculate system of the facial nerve, and that the proper remedy was a physiologic extirpation of the ganglion, which I recommended. Later I learned that Dr. Starr had practically come to the same conclusion and recommendation.

The operation was performed at the New York Hospital by Dr. Taylor, April 23, 1909. Dr. Taylor will give the details concerning the operation which he performed.

Postoperative History.—Immediately after the operation all pain ceased. The patient had some ataxia, cerebellar in type, which steadily improved. The hearing, slightly impaired at first, owing to slight damage of the acoustic, was reported normal by an otologist one week after operation. The division of the facialis has given us a complete peripheral palsy which we trust will undergo spontaneous recovery in time; if not, a faciohypoglossal anastomosis may be undertaken. A slight redness of the external auditory meatus at the junction of the anterior wall with the tympanum, observable before operation, has since disappeared. All sensory examinations of the face and external ear proved negative three days after operation. The former area of pain seemed to the patient to be a little less sensitive in the tests. Since the operation patient has reduced her morphin from twenty-five grains to about six or eight grains daily. A steady withdrawal is in progress.

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* Read at the Thirty-fifth Annual Meeting of the American Neurological Association, May 27-29, 1909.

To summarize: We have here a true tic douloureux of the sensory filaments of the facial nerve, apparently cured by a physiological extirpation of the geniculate ganglion.

Note.—Oct. 10, 1909: Examination of the patient to-day, a little more than five months since the operation, shows the following: The patient has had no pain in the ear; hearing is nearly, if not, quite normal and the conjunctival dryness on account of the facial palsy is much less troublesome. The normal muscle tone of the paralyzed face is present and slight but distinct voluntary contraction in the face is observable at the superior and inferior angle of the mouth and in the zygomatici and buccinator muscles. The electrical reactions have improved. Reaction of degeneration is no longer present and faradic response is obtainable in the before-mentioned muscles that show voluntary power about the mouth. The cerebellar ataxia is no longer present.—L. P. C.

II. REPORT OF SURGICAL TREATMENT BY DR. TAYLOR

This case was referred to me by Dr. Clark with the request that the geniculate ganglion itself be removed. A brief study on the cadaver showed that the ganglion could be removed, but that, from its close anatomic relations with the cochlea, the semicircular canals, the carotid artery and the motor trunk of the facial nerve, irreparable damage would probably be done to any one or all of these structures.

After reading the very convincing exposition of Dr. J. Ramsay Hunt, which demonstrates the geniculate ganglion and the "pars intermedia" to be the sensory mechanism of the seventh cranial nerve, the idea suggested itself to me that the sensory root might be divided in the posterior fossa of the skull. Numerous trials on the cadaver proved the feasibility of the operation. The technic so developed was then demonstrated to Dr. Clark, who consented to its trial upon his patient.

The patient had been told frankly that the operation was experimental. Her suffering had been such that she was anxious to have it done.

Operation.—On April 23, 1909, operation was done under ether anesthesia administered by Dr. George M. Creevey, whose method worked so admirably as to deserve special mention. Rubber tubes, passed through the nares to the laryngeal entrance, were connected to a single tube which ran to the etherizer, who was thus able to get out of the way of those working at the operative field, while keeping track of his patient by means of the radial pulse.

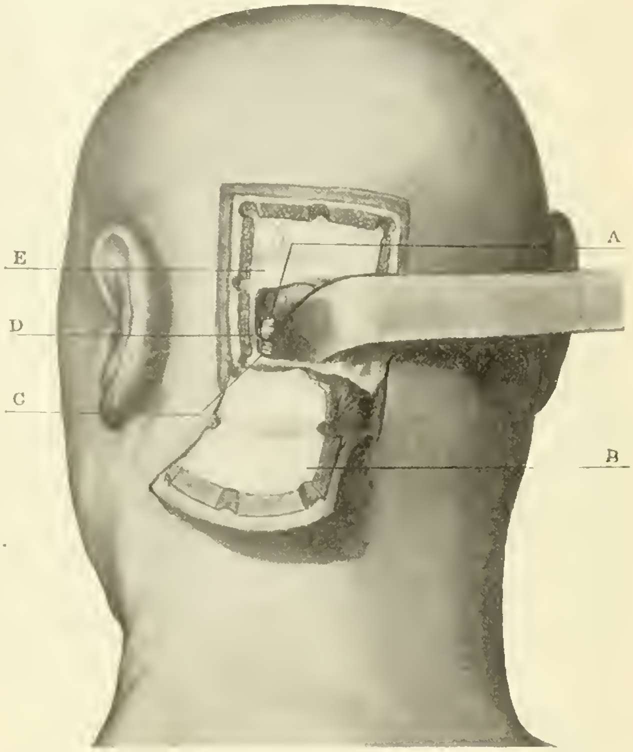
The patient was prone on the table with cushions under the upper part of the chest and shoulders and the head hanging forward so as to give a good exposure of the operative field.

An osteoplastic flap was turned down. Its outer edge was just within the posterior border of the left mastoid, the upper border about 2 cm. above the line of the lateral sinus, and the inner border just to the left of the median line. The lower, or hinge border, was well down toward the foramen magnum. When the flap was turned down the dura was tense everywhere. A dural flap was cut with its base turned toward the median line, its upper edge just below the lateral sinus, its outer and inferior edges just within the corresponding bone edges. The cerebellum protruded at once. A flat blunt retractor was passed to the outer side of the cerebellum to the base of the petrous bone, along which it was gently pushed, retracting the cerebellum, until the cerebrospinal fluid at the base of the brain escaped in considerable quantity with a rush. Immediately the cerebellum retracted easily and the nerve field was exposed. At this time the left shoulder jumped several times and it was found that the end of the retractor was resting against the ninth, tenth and eleventh cranial nerves as they were passing through the posterior lacerated foramen. (Illustration, C.) Just above and to the inner side of these was found the internal auditory meatus with the nerves sought. (Illustration, A.) The seventh, the pars intermedia, and the upper fasciculus of the eighth nerve were cut. The retractor was slowly withdrawn, allowing the cerebellum to return to its proper space. The dura was closed by a continuous catgut suture. The bone flap was laid back in place. The periosteum was sutured with twenty-day chromic catgut. The muscles were sutured with plain gut, and the skin with a continuous silk suture. A small drain passed from the surface of the dura, out through the lower left angle of the wound. Sterile dressings were applied and the patient returned to bed in good condition.

DISCUSSION OF TECHNIC

The flap was made large so that the cerebellum might be retracted easily and without undue compression. It was carried well above the lateral sinus so as to get bone thick enough to bevel and thus to be able to lay the flap back without bone sutures and without danger of its pressing on the brain. The inferior portion of the occipital bone is quite thin.

The bone flap was cut by the Hartley-Kenyon motor saw, which worked to perfection. The upper border and a part of the two sides were beveled so that the flap could be laid back without bone suture and still maintain its position perfectly. The dura was absolutely uninjured during the cutting and lifting of the flap.



Operation for the relief of true tic douloureux of the sensory filaments of the facial nerve. A, seventh cranial nerve, pars intermedia, fasciculi of the eighth cranial nerve (from above downward); B, osteoplastic flap; C, ninth, tenth and eleventh cranial nerves (from above downward); D, artery entering internal auditory meatus; E, lateral sinus just above the dural opening.

After the dural flap was made and the cerebellum retracted two things were found very useful; a suction apparatus working on the principle of the Sprengel pump which kept the field free from cerebrospinal fluid and blood; and a small cystoscopic bulb-light on a flexible stem, so that the light could be placed right in the operative field.

When the internal auditory meatus was exposed the nerves were seen entering it with an artery of moderate size. This artery was carefully retracted as it would have been rather troublesome to tie in a wound of such depth.

The seventh, the pars intermedia, and the upper fasciculus of the eighth cranial nerve were divided with a scalpel. The result was a complete left facial palsy, some temporary disturbance of hearing, and complete disappearance of the characteristic pain. This wide division was made for the following reasons:

It is known that, while most of them run in the pars intermedia, some of the sensory fibers may run with the facial or the upper part of the auditory nerve or both.

The very severe pain had rendered life a burden and had caused a morphin habit of twelve to fifteen grains a day which gave only partial relief. The patient was willing to have anything done that would relieve the pain.

This was the first operation of the kind ever done and it was absolutely essential to be sure that no sensory fibers remained. To relieve the pain it would have been justifiable to divide every nerve entering the internal auditory meatus.

One of the very important features of the operation is the relation of the line of section to the trophic centers of the nerves involved. The motor portion of the nerve was divided between its trophic center and the periphery, and inasmuch as the ends lie right together, spontaneous regeneration with the return of power in the face may be expected. On the other hand, the pars intermedia was divided between its trophic center (geniculate ganglion) and the brain, so that an ascending degeneration of its fibers will occur; there will be no regeneration and the relief of pain will be permanent.

POSTOPERATIVE HISTORY

Facial paralysis of the left side was present on the operating-table and has persisted. On May 31 (five weeks and four days after operation) the asymmetry was distinctly less noticeable.

Wound Healing.—The sutures were removed on the fifth day, the drainage at the lower angle was discarded, the bone flap was in position, and the wound healed entirely by primary union. The head, which was shaved to a point only 3 cm. above the line of the lateral sinus, can now be entirely covered by dressing the remaining hair properly, so that the patient is not rendered conspicuous.

Pain.—There was considerable pain diffused over the entire left side of the head, but it was most marked in the region of the bone-flap, and, in and behind the left eyeball, there was severe stinging pain. After ten days these pains began to diminish and by the eighteenth day had all but disappeared. On the twelfth day the patient sat up in a chair forty-five minutes. That evening for two hours she suffered severe pain in the left ear which closely resembled the pains before operation. With that single exception she has never for a moment had anything resembling the old pain. Before operation the external auditory canal was very sensitive to touch. On the sixth day after operation she discovered that the finger introduced into the canal caused no discomfort, for the first time in many months.

Hearing.—For the first four days the left ear seemed to be absolutely deaf. From that time on hearing returned, and at the end of ten days seemed normal.

Vision.—Besides pain in the left eye, the patient complained of haziness in its vision. Examination developed nothing abnormal, so that it was attributed to the dryness of the conjunctiva due to the paralysis of the lids. Instillation of liquid petrolatum gave much relief.

Vomiting.—For many months the patient had been subject to vomiting attacks, especially after attempts to cut down the morphin allowance. After operation this tendency was aggravated and most troublesome. For six days after operation any attempt to turn on the left side or to turn the head to the left suddenly was followed by immediate vomiting. This symptom gradually disappeared. Ordinary vomiting has occurred at irregular but frequent intervals. She has gained ten pounds since leaving the hospital (May 13 to 28).

Morphin.—For the first five days the patient received about twenty-four grains in the twenty-four hours. From that time on it was much diminished, reaching a six-grain limit for the twenty-four hours at the time of leaving the hospital, which was the twentieth day after operation.

Miscellaneous.—On the fourth day the patient first mentioned a sensation as of flies or bees buzzing in the hair just above the left ear, and of a pricking sensation in the scalp of the same region. On May 2 (ninth day) these sensations had entirely disappeared. On attempting to walk (from the sixteenth day on) she complained of weak knees. She really has an ataxia of the lower extremities at irregular intervals.

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THE TRANSPERITONEAL OPERATION FOR REMOVAL OF BLADDER NEOPLASMS *

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The first case of intraperitoneal cystotomy was reported by Dr. Francis B. Harrington[1] in 1893. In this instance the operation was performed for ulcerative cystitis.

At this time cystotomy by any route was undertaken only in cases of extreme gravity. The mortality from suprapubic operations, operations through the perineum or urethra was not low; therefore, this apparently more serious procedure was not adopted by any great number of operators, and nothing more appeared in the literature concerning it until about a year ago, when Dr. C. H. Mayo[2] reported five cases of transperitoneal removal of tumors of the bladder which were operated on in St. Mary's Hospital. A few months later Drs. Charles Scudder and Lincoln Davis[3] reported four cases in which bladder tumors were removed through an intraperitoneal cystotomy.

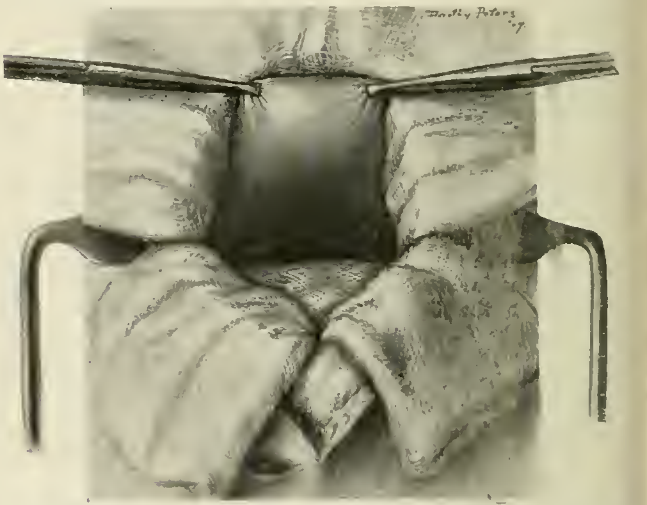

Fig. 1.—Bladder held up into abdominal wound which is spread open with Simpson retractors. Intestines, omentum and abdominal wound thoroughly protected with gauze pads.

One of the greatest difficulties with which earlier workers with lesions of the bladder had to contend was the diagnosis. This obstacle, however, was overcome more than twenty years ago by the invention of the cystoscope, and now in nearly every case a pathologic diagnosis can be made by first removing a specimen of the tumor with the cystoscope. By the aid of this instrument we not only learn the exact nature of the tumor, but we also learn its exact location and extent within the bladder.

Up to the present time the majority of reported cases of tumors of the bladder, both as regards operative mortality and early recurrences, have been very discouraging and some surgeons prefer not to operate in these cases except to relieve temporarily the symptoms of extreme pain or hemorrhage.

In December, 1905, Dr. Francis S. Watson[4] published a study of 653 cases. Combining operative deaths and recurrences under one heading, he found that failures occurred in 28.6 per cent. in benign cases and 46 per cent. in cases of carcinoma.

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* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Harrington, F. B.: The Feasibility of Intraperitoneal Cystotomy with Report of a Case, Ann. Surg., 1893, xviii, 408.

[2] Mayo, C. H.: Transperitoneal Removal of Tumors of the Bladder, Ann. Surg., July, 1908.

[3] Scudder and Davis: Ann. Surg., December, 1908.

[4] Watson, F. S.: Ann. Surg., December, 1905.

Delay in the diagnosis exposes the patient to the danger of an inoperable condition. Dr. Hugh Cabot[5] places the responsibility of such delay on the general practitioner who usually sees the patient first. He warns the practitioner against ever allowing a painless hematuria, which in the majority of instances is the first symptom, to go on while awaiting developments, because it is generally admitted that every papilloma, if not malignant in the beginning, will in time become malignant.

The greater bulk of tumors of the bladder with which we have to deal is made up of the papilloma and carcinoma types. Occasionally a myoma, myxoma, adenoma or angioma is seen, and not infrequently we see sarcoma in children.

During recent years there has been considerable discussion as to whether the papilloma is a benign or a malignant neoplasm. Some pathologists have concluded that the cells in the base of the pedicle are carcinoma cells, while others believe the tumors to be truly benign.

Although we seldom, if ever, see a recurrence at the site of the papillary tumor, it is common to encounter a return of the growth in some other section of the bladder. This may be accounted for by grafting on the mucous membrane from the first tumor, by extension through the submucosa, or by multiple lesions to begin with. From the standpoint of the patient, these tumors are certainly malignant and if not removed will cause death from persistent bleeding and extension. In a few instances, in fact in two of our cases at St. Mary's Hospital, an implantation of the cells occurred in the suprapubic wound through which the tumor had been removed, and a large and inoperable, rapidly growing, malignant tumor sprang up at this point.

Knowing that recurrences are nearly always local, and that extension to the glands and metastasis to other organs is very late, when the conditions do occur, and also that one of our greatest difficulties in handling a tumor of the base of the bladder, where over 90 per cent. of the lesions begin, is the inability to get a good exposure through a suprapubic or perineal incision, we determined to try to better former discouraging results by incising the bladder so as to get a good exposure of any part, and doing a more technical and radical operation. The first step is to make the incision into the bladder through its posterior wall near the base, in this way rendering all parts accessible. After closing the suprapubic incision in the bladder we have occasionally had the wound open and the urine drain for some time through this opening, but in no instance have we had leakage from the incision through the peritoneal surface, which is no doubt owing to the firmer and more rapid healing of the peritoneum itself.

Carcinoma with thick indurated base and open ulcer involving the entire thickness of the wall occurs less frequently in the bladder, but the only treatment that offers any permanent relief in either such conditions is a radical removal. The expert cystoscopist tells us the exact size and nature of the growth, also the position and extent of bladder involvement, and it is our endeavor to develop a method of approach and radical removal of the tumor. We must also develop a technic for caring for the injured bladder wall so that we may expect at least as good results as we are now obtaining in cases of similar neoplasms in other organs.

Previously our chief route of attack has been the suprapubic, and this does well in case the lesion is in the dome or superior anterior wall; the majority of these tumors, however, occur either in the base or lateral wall near the ureteral meatus.

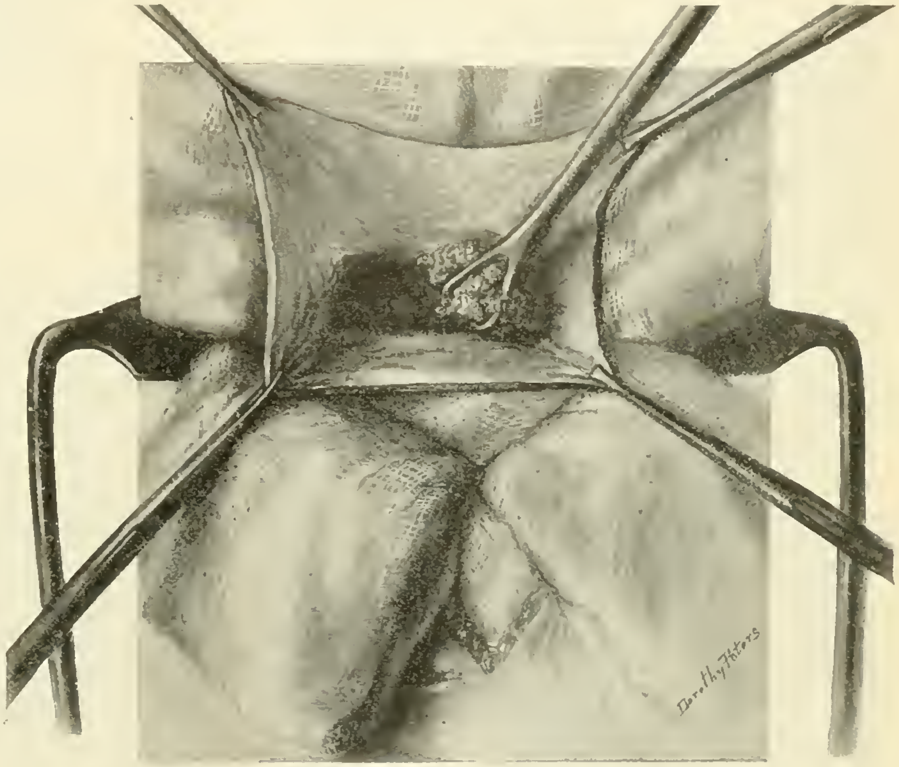

Fig. 2.—Tumor of base of bladder near right ureteral orifice. Incision held open by tacking forceps.

Profiting by the knowledge that the bladder has been accidentally opened many times during abdominal operations, and that the kidneys and ureters have often been exposed through a peritoneal incision without serious consequences to the peritoneum, we determined to open the peritoneal cavity deliberately and pack off the intestines and omentum, preparing this area of the peritoneal cavity for resection in the bladder, in a manner similar to that for resection of any organ.

The patient is placed in the high Trendelenburg position, and on opening the abdomen an opportunity is afforded for exploring the liver, pelvic peritoneum and lymphatics. Although we have never seen an extensive involvement of the lymphatics, in one case a metastasis had already occurred in the liver, and in another case the pelvic peritoneum was involved so that an intravesical operation would have been useless and harmful.

The intestines and omentum are packed into the upper abdomen with several large gauze pads, the packing covering the abdominal wound. The posterior bladder wall is grasped with tenaculum forceps, one on either side of the median line, and the bladder lifted into the abdominal incision. A longitudinal incision is made in the posterior wall of the bladder, beginning on its peritoneal surface in the midline and extending well back to the base of the bladder. The urine is sponged from the bladder as soon as it is opened. This should be done carefully so as not to start a troublesome oozing. If the tumor is on a pedicle, this may be grasped by a pair of curved hemostats and excised with a cautery, leaving the cauterized surface to granulate. The area removed should include a portion of the healthy mucosa and submucosa. When the tumor has an indurated base it will be necessary to excise a portion of all the coats. At times as much as one-half the bladder must be removed. It is essential to preserve as much as possible of the healthy tissue about the urethral orifice. If the bladder is involved at the ureteral opening, after the diseased portion of the viscus is removed, the ureter is divided near the bladder and drawn into the abdomen through a perforation in the peritoneum close to the remaining half of the bladder, into which it is passed and attached with catgut sutures. The peritoneum is closed over the exposed ureter in a fold, to insure rapid healing. The remainder of the bladder is closed, and, though greatly reduced in size, will be serviceable, and its capacity will tend to increase (Harris).[6]

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[5] Cabot: New York Med. Jour., June, 1907.

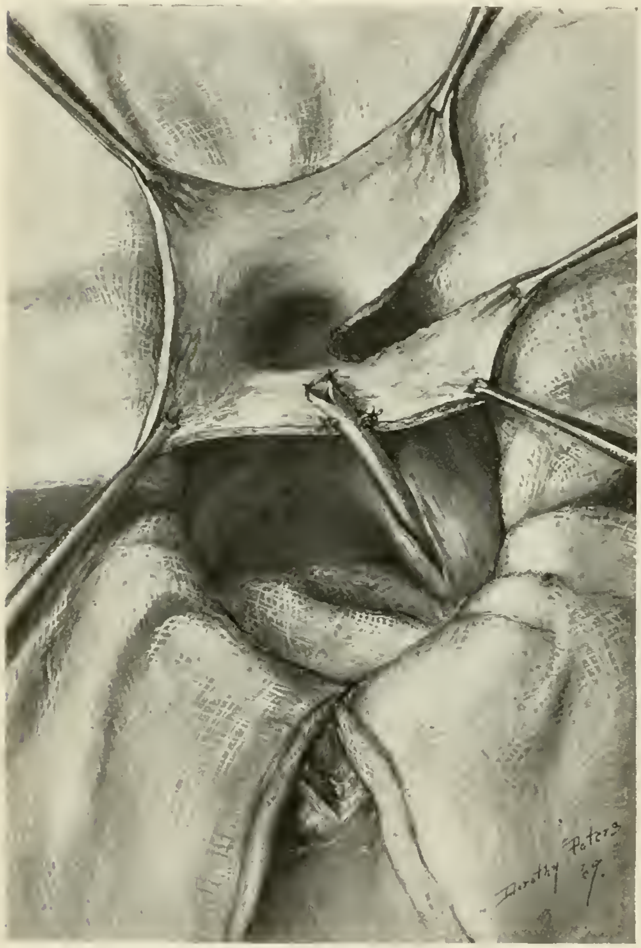

Fig. 3.—Bladder after excision of tumor including parts of bladder wall and right ureter. Ureter pulled through opening in peritoneum some distance from bladder and transplanted within the bladder wall.

Having completed the intravesical part of the operation, the same technic is employed in closing the wound in the bladder as that which would be used in repairing a wound in the intestines or stomach. The first row of sutures begins and ends with the knot inside. These are of chromic catgut placed as a running mattress or Connell stitch, including all the coats. The mucous edges are turned in, not only making an air-tight and water tight closure, but also controlling all bleeding from the edges. This suture line is re-enforced by a linen stitch, including the peritoneum, put in parallel to the previous suture line.

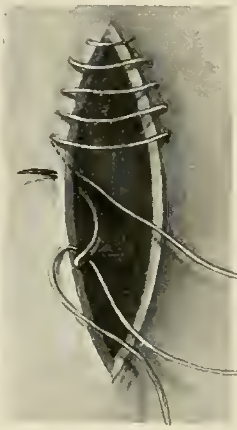

Fig. 4.—Method of closing bladder wound.

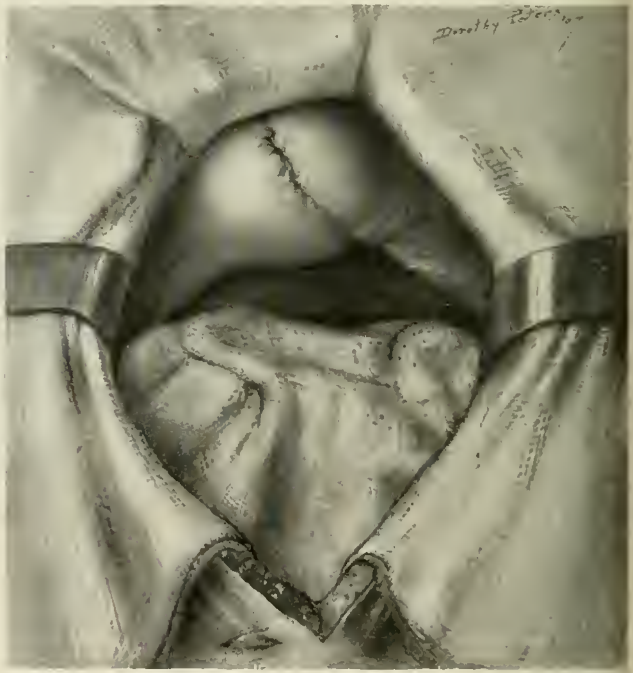

Fig. 5.—Operation finished. Entire incision and ureter closed over with peritoneum.

It is not necessary to drain the peritoneum or the bladder unless the growth involves the ureteral opening, or unless the prostate is removed, when it is best to establish an independent drainage through the space of Retzius after the bladder has been closed. As a rule, these patients void their urine frequently the first few days and are more comfortable without a catheter, though if spasmodic contraction persists in the bladder patients will be made more comfortable by small washings of warm boric acid solution to rid them of clots.

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[6] Harris: Ann. Surg., July, 1902.

Employing this plan of procedure and technic, we have now operated in fifteen cases of tumors of the bladder with one death. In this case the patient was a man, 71 years of age, in whom the carcinoma involved nearly one-half of the bladder, including the left ureteral meatus. One-half of the bladder and the lower end of the ureter, which was greatly dilated, were removed. The excision included all the coats of the bladder wall. The end of the ureter was sutured into the remaining half of the bladder, and the bladder closed entirely. The patient voided urine freely and without aid for the first few days; then the amount gradually diminished, he became uremic and died at the end of the first week. There had been no leakage from the suture line or transplanted ureter, and the peritoneum was clean. The left kidney showed an old hydronephrosis with destruction of almost the entire parenchyma, and the right kidney was swollen and congested from an acute nephritis.

One patient, who had slight involvement of the pelvic peritoneum at the time of operation, died in three months of a recurrence in the peritoneum.

Six patients have lived over one year with no evidence of a return of the trouble. All except two of these patients (one complaining of frequency and one having a stricture which necessitated secondary operation) have been comfortable and apparently well.

One patient has been well ten months, one nine months, one five months and one one month. In this last case nearly one-half of the bladder was removed and the right ureter transplanted into the left half of the bladder. Since one week after operation the patient has passed clear urine. At first he voided very frequently, but the intervals gradually increased, and at the end of one month he averaged one or two times each night.

One patient with malignant papilloma returned in eighteen months showing a similar tumor in the opposite half of the bladder. This patient was reoperated on, and six months later a cystoscopic examination did not show any evidence of trouble.

One case of a large malignant papilloma in the left wall above the ureteral opening, ten months later showed no evidence of return in the old site, but there were many small pedunculated tumors growing from the margin of the urethral meatus. These were removed and the bases cauterized. The patient has been free from symptoms for four months. We were unable to trace two of the cases.

The size of these tumors varied from a few centimeters in diameter to a tumor in one instance occupying nearly the entire space of the bladder.

Four of the fifteen patients had more than one tumor. In nine the pathologist reported malignant papilloma. These included all the cases of multiple growths.

In three of the cases the pathologic report was papilloma, probably malignant.

Three cases were of the straight carcinoma type with indurated base involving the deeper coats and having the open ulcer on the mucous membrane surface.

Of the 15 cases, in 12 the trouble originated in some point of the base of the bladder, and in the remaining 3 it began in the lateral wall about one-half inch from one ureteral opening. In three instances the ureteral orifice itself was involved and it was necessary to transplant the ureter.

Although we do not advise or believe it necessary to go through the peritoneum in removing tumors in the upper quadrants of the bladder, our experience would lead us to believe that the greater number of neoplasms of this viscus begins in or near the base, and that we can, with very little if any greater risk to the patient do a much more technical and radical operation through the peritoneal incision.

EXTIRPATION OF THE UNOPENED HYDROCELE *

WILLARD BARTLETT, M.D.
ST. LOUIS

There is nothing new about a radical idea in the treatment of hydrocele of the tunica vaginalis testis; that condition which Virchow mentions as the most perfect example of exudation cyst. Almost fifty years ago Gross wrote on excision: "It is of the greatest antiquity, and was revived by Mr. Douglass, of England, in 1755." Since Gross' time various authors have written more or less concerning so-called radical treatment, but surgeons do not seem to have been actively interested in the matter until 1885, when von Bramann published the suggestion of Professor von Bergmann that the sac be excised. It was first to be opened and then its wall isolated as far as the testicle, or, in Bramann's own words, "bis an den Hoden," showing that a complete extirpation of the sac was not even attempted by the originator of the procedure.

Various authors state that there have been recurrences after even this excellent method, as there have after every other that has been proposed up to date. Hence it is not amiss to advance an idea which goes still further and obviates this possibility by disposing of every particle of excreting surface. This is most easily done with the sac intact; otherwise it is the old story over again; the leaving behind of a portion of cyst wall as in any other part of the body after accidental tearing of the same has occurred during its removal.

The following text-books on general surgery and surgery of the genitourinary tract make no mention of complete excision with the sac unopened: von Bergmann, von Brunns and von Mikulicz, Rose and Carless, Monod and Vanverts, Bryant, Kocher, Tillmanns, Fowler, Cheyne and Burghard, Zuckerkandl, Bickham, "American Text-Book," Gross, Vaughan, Pick, Koenig, Wharton, Keen, Dennis, Brewer, Esmarch and Kowalzig, Wyeth, Stewart, "International Text-Book," Watson and Cunningham, Casper, Bryant and Buck, Waring, Wharton and Curtis, White and Martin.

In addition to this Dr. Bassieur and Dr. Seelig, of St. Louis, have very kindly searched the literature for me, and, to the surprise of us all, found no reference to this very simple and logical idea. It surely must have been used; hence it seems strange that no publication of it can be found.

The technic of the operation is as follows: After turning out the sac in the ordinary manner it is easiest to begin its removal at the spermatic cord; the loose areolar tissue connecting these two structures can readily be separated by blunt dissection, as can the tumor from the testicle everywhere except at its lateral reflections from that organ, where some cutting must be

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* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

done. No fluid need be lost, and one will be surprised at the ease and quickness with which this dissection can be accomplished. It must be stated, in passing, that quite a number of small blood vessels will have to be ligated. After the testicle has been replaced metal clips are placed on the wound in the scrotum so closely as to touch one another; they are quickly covered with powder and no dressing applied. The patient is up and about in four days, and the postoperative effects have differed in no wise from those immediately following other methods. I have tried this only on adults and in thin-walled cysts; it was contemplated on one baby, but was not carried out because I could not accurately locate the testicle before the sac was opened, and after that found it impossible to remove the visceral layer of serous membrane, i. e., to do more than the Bergmann operation. Perhaps the method would not be practicable in a very thick-walled tumor in which inflammation or severe injury had played a rôle. Puncture of the testicle is said to occur in emptying the fluid; this, too, could prevent the proper stripping of the surface of this member.

Removal of the unopened sac can truly be termed radical in the same sense as a Halsted or Bassini hernia operation, which removes the sac, as opposed to the Kocher operation, which brings a portion of the sac up through a split in the abdominal wall.

It is a little more difficult and takes a little longer to extirpate a hydrocele completely in the manner indicated, but it seems to guarantee the patient against a recurrence.

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[Editor's Note: The two preceding articles were discussed with that of Dr. Pederson, which, with the discussion, will be published next week.]

ALGID MALARIAL FEVER

WITH REPORT OF CASES *

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AUGUSTA, GA.

The pernicious types of malaria are of absorbing interest because of their diverse clinical features and their high mortality. Complex problems are attractive, and a high death-rate in any disease is apt to stimulate the energies even of the slothful.

Pernicious malaria presents such problems, and their solution deserves the study of our best clinicians, for much more work is required to be done in their fuller elucidation. The term "pernicious malaria," while conveying an impression more or less definite, to the rank and file of the profession, and, therefore, to that extent serving a useful purpose, has none the less impressed me as being indefinite.

Perniciousness is a quality that may characterize any disease, and is doubtless dependent on a number of conditions. One might just as well speak of pernicious scarlet fever, pernicious measles, pernicious smallpox. Instead, however, we speak of malignant scarlatina, black measles, hemorrhagic smallpox.

CLASSIFICATION OF FORMS OF MALARIA

While these qualifying adjectives have in the main been inherited, and are not of the highest scientific value, they carry a sort of universal significance, which is, in a measure, understood. In this sense, therefore, certain types of malaria have been described in all languages—at least in all countries in which they occur—as pernicious. I think that the tendency on the part of some clinicians to subdivide minutely this class is as confusing as unnecessary.

For instance, I think one might just as well speak of the diarrheal form of typhoid fever, or of the constipated form of pneumonia, as the diarrheal or dysenteric form of pernicious malaria, as contrasted with the algid form. The simpler the classification of any disease the more effective it is. There is a type of malaria that is always serious and in many instances fatal. To this, for want of a better name, the term pernicious has been given, and is everywhere generally accepted.

From my study of the classifications of others and from my own experience with this type of the disease, I think that a subdivision into the comatose, hemorrhagic and algid varieties is all that is needed either for accuracy or elasticity. I have seen no variety that could not be placed under one of these subdivisions. A multiplication of them is, therefore, not only unnecessary but confusing.

With the term "pernicious" more or less definitely understood, it is interesting to inquire into the causes of pernicious malaria. It is generally conceded that this type is produced by the action of the estivoautumnal variety of the *Plasmodium malariæ*. Why, then, are some of the cases produced by them mild or benignant and others severe or pernicious? Unfortunately, we must depend here on analogy and our knowledge of the life-history of the parasite.

First, we may assume that a great number of the invading parasites, with the toxins secreted by them, is sufficient to bring about the pernicious symptoms. Against this it may be argued that in many fatal cases few parasites have been found. In such cases it may be and probably is true that the parasites have collected in the internal organs.

Second, it may be argued that in the severe cases either the parasites possess an unusual virulence or the resisting power of the individual has been lessened by preceding attacks of this or some other disease, or some vice of constitution.

Third, it may be supposed that the parasites, for reasons unknown to us, tend to accumulate in some portions of the anatomy, interfering with the circulation there and causing greater absorption of their toxins, and that the character of the attack varies according to the point of chief attack.

This is not unknown in the case of other organisms and has been actually shown in this. I refer to what has been described as an apparently unusual stickiness of the organisms and sluggishness of the circulation in the part.

It may be that a part or all of these factors are operative. At any rate they furnish a not unreasonable working hypothesis for the varying clinical pictures as we encounter them. For instance, when the cerebral cortex is invaded through its circulation we have the comatose variety produced. When the basal ganglia and medulla are chiefly attacked we have the algid variety. When a more general (even though in cases less active) invasion occurs we have great corpuscular destruction, and hemorrhagic malaria or blackwater fever results.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

All the pernicious forms of malaria are interesting, for they cry aloud for further study, but for the present our deliberations shall be limited to the algid type.

THE ALGID TYPE OF PERNICIOUS MALARIA

Algid malaria may be defined as a pernicious type of malaria, caused by the estivoautumnal form of the *Plasmodium malariæ* and characterized by profound prostration, cold and clammy skin, and an unclouded intellect; this latter in strong contrast with the comatose variety.

Geographic Distribution.—It occurs in all tropical and subtropical countries where malaria is found, occurring in Africa, Asia, southern Europe, the southern United States, Central America and South America. In predisposition, in age, sex and race, it does not differ from other forms of malaria. In subtropical countries it occurs chiefly in the late summer or early autumn and in all cases there is either the history or strong presumption that it has been preceded by other attacks of malaria; in other words, that it is a sequel or termination of a more or less chronic malaria, recognized or unrecognized. In all cases it is produced by the tertian and crescentic forms of the *Plasmodium malariæ.*

Pathology.—In cases in which autopsies have been performed, the pathology does not differ in any essential particular from that of other forms of pernicious malaria, with the single exception of hemorrhagic malaria, in which the urine is more or less surcharged with hemoglobin, giving to it its red and darkened color, and also its name, blackwater fever.

Symptomatology.—The symptoms of algid malaria are clear-cut and definite, and from them it gets its name. In some cases a definite malarial history will be elicited; in others the patient may not have been conscious of other malarial paroxysms, but he lives in a malarial section or has recently come from one.

The attack may be preceded by feelings of malaise, loss of strength, weight and appetite. A more or less torpid liver and constipation are also precursors, though more usually choleraic symptoms usher in the attack. The attack is often preceded by a more or less torpid liver and constipation. The immediate attack is ushered in by a chill or a general sense of chilliness and discomfort, in which event the chill is usually neither so decisive nor so long as in the intermittent variety. Following this there is a rise of temperature, which is usually not great; in most cases it is not present, and cases have been recorded in which the temperature remained subnormal.

The tongue is usually dry and coated and thirst is great. With the onset of the paroxysm pronounced nausea, vomiting and diarrhea set in. The general prostration is profound, and, while headache, pains in the back and limbs are usually present, they are not so marked as in many of the more benign varieties.

The facies is that of a patient suffering from cholera. The face wears a pinched look; the eyes are abnormally bright with hollows and circles around them; and, singularly enough, the brain remains abnormally bright even unto the end. The conjunctivæ and skin are often yellow. The skin is cold and clammy and shrivelled and almost constantly bathed in sweat, so that, to the touch, the patient feels as if he did not have any fever. It is this phase of the condition which gives to the disease its name. The mouth and rectal temperature may, however, show an elevation of temperature varying from 99 to 103 F. The pulse is small and thready and toward the end may be imperceptible. There is usually loss of appetite, and great thirst exists. The urine is usually scanty, high-colored and may show albumin and casts, but does not contain hemoglobin. The diagnosis is made from the history, which naturally includes the patient's past history, the presence or absence of cholera in the region and cholera morbus or ptomain poisoning. After all has been said, the diagnosis will necessarily hang on the blood examination or the autopsy; and even these may be misleading, for a patient may develop ptomain poisoning and still have been already infected with severe malarial poisoning. Cases for reasonable doubt, however, are exceptional.

Prognosis.—The prognosis is generally grave. In my experience the mortality has been, I regret to say, 100 per cent.

Treatment.—In all forms of pernicious malaria quinin seems singularly ineffective. I still adhere to the administration of quinin in the type under consideration, believing that it is a matter of the amount given and its subsequent absorption. For this reason I administer it hypodermically. The rest of the treatment is supporting and symptomatic.

REPORT OF CASES

CASE 1.—*History.*—H. D. V., white, aged 57, American, book agent, entered the City Hospital Oct. 13, 1902. His mother died of bilious fever, and one of his children died of malarial fever; otherwise the family history and personal medical history were negative. For about nine days previous to the patient's entrance into the hospital, he had been suffering from more or less nausea, vomiting, and swimming in the head, muscular weakness, and loss of appetite, which he attributed to the eating of some ham, which disagreed with him; following the nausea and vomiting, he developed diarrhea.

Examination.—On admission the patient was found to be a man of medium build, imperfectly nourished and anemic. The pallor of his skin was quite marked, the tongue coated and the conjunctivæ slightly tinged yellow. The lungs were normal, as was also the heart, except for diminished muscular power. The liver was slightly enlarged and the spleen considerably so. The skin was cool and clammy to the touch, being bathed in more or less profuse sweat; so that to feel the patient in any portion of his body, whether head, hands or feet, he seemed to be free from fever, and this continued steadily until the end. The temperature by mouth was 97.06 F.

Course of Disease.—On the next day the temperature rose to 98; then came a sudden drop to 93.06 at which time the patient developed a hiccough which persisted practically without intermission until his death. Nausea and diarrhea were pronounced. Following the drop in temperature there was a rise to 102.04 (by the rectum) although when the internal temperature was this high the surface was blanched, moist to the touch, and cool. Following this rise the temperature dropped to normal, and continued so until the morning of the fourth day. Just before death, the rectal temperature registered 100. The patient's mind continued unnaturally bright until the end. The case presented a picture not unlike that of Asiatic cholera, except for the fact that the stools were not so numerous or profuse. The diagnosis of algid malaria was made from the blood-smear, in which great numbers of estivoautumnal tertian organisms with crescents were found. Treatment was unavailing; at the beginning he was given broken doses of calomel at fifteen minutes' interval until he had received a grain and a half; he was given, hypodermically, ten grains of acid quinin hydrochlorid with urea three times a day, and a supporting treatment, including high salt enemas. Unfortunately, an autopsy was not allowed by the family.

I find a case recorded[1] by Dr. R. H. von Esdorf which presents many points of resemblance to the case just recorded by me, except for the more pronounced choleraic discharges in Dr. von Esdorf's case. Fortunately in that case an autopsy was thoroughly performed and recorded.

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[1] Von Esdorf: Boston. Med. and Surg. Jour., June 18, 1908, clviii, 937.

Case 2 (von Esdorf's).—In brief there was a history of an illness of about six hours; symptoms of cholera, no fever, syncope and death.

Autopsy.—Enlarged liver and spleen; discolored mucous membrane of stomach; discolored mesentery and omentum, section of liver and spleen showed hemozoin in large and small masses, young small ring form of malarial parasites in red blood cells, lymphocytosis; free hemozoin in blood.

In a letter Dr. Rosenau makes this pertinent remark to Dr. von Esdorf, and the deduction seems reasonable: "He surely had an access of pernicious [malaria]. Don't you suppose, however, that he might have been sick on the trip, and that when you saw him he was suffering with the stupor due to the clogging of the capillaries of the brain with malarial pigment and parasites?"

Case 3.—*History.*—Mr. B., aged 60, white, traveling salesman, admitted to City Hospital, Oct. 16, 1902. His previous history was negative. On admission patient had severe bilious vomiting, copious diarrhea, and pains in stomach and intestines.

Examination.—The patient's temperature was 95 F. on admission and remained subnormal until death. The pulse was small and thready; respiration 28 to 40. The skin was cold, moist, clammy. The intellect was clear.

Course of Disease.—The patient was given acid quinin hydrochlorid hypodermically, Fowler's solution and a supporting treatment, but died on the third day. An autopsy could not be obtained.

For the report of the following case I am indebted to my friend, Dr. Murphy:

Case 4.—*History.*—John W., colored, aged 19, laborer in brickyard, was admitted to Lamar Hospital Sept. 26, 1902, in profound collapse.

Examination.—The patient was with a history of having had one chill eight days before admission, when diarrhea and nausea set in after a chill; conscious; his skin was cold and clammy; there was nausea, vomiting of green material, and copious watery diarrhea. The spleen was enlarged; the abdomen retracted; there was marked pallor of mucous membrane. Pulse was 124 to 126; temperature 97.8. Blood examination showed profuse infection with estivoautumnal ring forms, also a few crescentic and ovoid forms.

Course of Disease.—The patient was treated with calomel and magnesium sulphate after washing out stomach, and given acid quinin hydrochlorid gr. xv. hypodermically every three hours for three doses. Remittent fever set in after patient rallied from collapse, but yielded to treatment without any return of algid symptoms after twelve days.

Case 5.—*History.*—Susan Jones, colored, aged 56, laundress, was admitted to Lamar Hospital, August 1900, with history from family of "dysentery," with nausea and vomiting for three days. Coma had set in three hours before admission to hospital.

Examination.—The patient was unconscious on admission. Temperature was 98; pulse 108; respirations 20. Blood examination showed numerous pigmented leucocytes, but no intracellular parasites.

Patient sank into deeper and deeper coma and died nine hours after admission to hospital.

Autopsy.—This showed enlargement of liver two fingers' breadth below costal border, spleen just below costal border, dark red in color; capsule tense, soft in consistency; no changes of importance in other organs; liver and kidneys showed cloudy swelling. Smears from spleen showed enormous quantities of estivoautumnal parasites and pigmented cells, also much free malarial pigment.

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ABSTRACT OF DISCUSSION

Dr. John A. Witherspoon, Nashville, Tenn.: While I do not practice in a malarial section of the country, I see much pernicious malaria in Nashville. The cases described by Dr. Coleman are comparatively rare and seemed to be those that are overwhelmed by the toxemia of malaria. Algid malaria, strictly speaking, is the type of malaria he described; in this type of the disease we find choleraic diarrhea, nausea, vomiting, colic, rice-water vomiting, purging and cholera. Fortunately, these cases are rare. In all malarial countries there are latent malarial cases; the infection invades the blood, especially of the spleen; the peripheral circulation may be examined carefully and no plasmodium found. Yet there is a low grade of infection and occasionally the temperature and chill will repeat themselves. Any man who undertakes to handle latent malaria should remember that it requires four or five months' constant treatment, and even then he may have relapses. One of the greatest mistakes a person may make in the treatment of this disease is to give quinin for two or three weeks and expect to cure the patient. Again, it should be borne in mind that these walking cases of latent malaria cannot be properly cared for while the patient is up and about his business. I have seen but two cases of the type described by Dr. Coleman. The first patient died one hour after I reached the bedside; the other lived thirty-six hours. Both patients were overwhelmed by the toxemia of malaria. The pupils were dilated, the rectal temperature was subnormal, the diarrhea was profuse and emaciation was rapid; yet the intelligence was perfect until the last. It is strange that with such a degree of prostration, with the pulse almost imperceptible at the wrist, the intelligence remained good. These patients rapidly became cyanotic and died in a state of extreme toxemia and exhaustion. It seems to me that the only hope for treatment in the type described by Dr. Coleman is to recognize the fact that the person has come to a malarial portion of the country, has come to an infected district where such severe forms of malaria develop, and that the only hope lies in trying to prevent the disease occurring. After the disease has developed, I believe that the only hope lies in the use of saline irrigations, transfusions and injections. I believe that the deep hypodermic injection of quinin, which gives such beautiful results in other forms of malaria, is absolutely useless here. Our only hope in curing these patients, I believe, rests in the intravenous injections of solutions of quinin. If the solution of quinin is injected into the tissues, into the muscular structures, the quinin will not be taken up by the circulation.

For those who are not used to giving quinin I should like to mention one practical point. I believe that quinin is used in too large doses. From 15 to 20 grains is sufficient in most cases, although I have given as much as 140 grains in three hours. But I insist on giving quinin hypodermically, putting it deep into the tissues. I cannot hope to get such good results by simply putting it under the skin. There will not be any abscess or irritation of the skin and the quinin will be better absorbed. Those men who have condemned the hypodermic method in the treatment of these cases did not use quinin in a proper acid solution and did not insert the needle deeply enough in the tissues. If I get another case of algid malaria I shall introduce the quinin into the veins. Some patients recover because of their strong resisting power, so it is said; but I think if they do recover it is by the grace of God.

Malaria throughout the South is decreasing; the number of cases occurring is growing less and less. Clearing up the swamps in certain districts has lessened materially the number of cases of pernicious malaria. The disease is now practically limited to the swampy districts; it is here that blood becomes contaminated after the individual has been put to sleep by the melodious song of the mosquito.

Dr. James B. McElroy, Memphis, Tenn.: I should like to speak about the classification of pernicious malaria and the treatment of the special form under discussion. The best classification probably is that given by Dr. Coleman, that is, comatose, algid and hemorrhagic. I think, however, that "blackwater fever" should be excluded from the latter. Blackwater fever differs from pernicious malaria in the mode of occurrence, in clinical manifestations and in parasitology. "Blackwater fever" occurs most frequently in old residents in malarial districts; pernicious malaria most frequently in children and newcomers to infected districts. In pernicious malaria, paroxysms occur at regular intervals of rarely less than twenty-four hours, and each paroxysm tends toward death. In hemoglobinuric fever the paroxysms usually come at shorter intervals, and, unless the first paroxysm ends fatally, death is not usually produced by the associated malaria. As a rule, pernicious attacks of malaria are associated with numerous parasites, with a tendency to increase with each succeeding paroxysm. Large phagocytes are also frequently seen. In blackwater fever parasites are few, and frequently absent; they tend to disappear early from the peripheral blood and internal organs as well; large phagocytes are seldom seen. While blackwater fever is most frequently of malarial origin, I do not think it should be regarded as a pernicious attack in the sense in which the comatose, algid and hemorrhagic are. The pernicious hemorrhagic group should be reserved for those pernicious attacks of malaria associated with real hemorrhages. The treatment best adapted for the algid forms is the prompt administration of quinin by hypodermoclysis in normal salt solution. The prognosis is always grave in these; but on several occasions I have seen recovery follow this measure in severe algid attacks.

Dr. Thomas D. Coleman, Augusta, Ga.: I should like to call attention to the fact that in the cases I have reported the duration of the disease was short. In one case the patient died within a few hours after the onset. No case lasted more than four days. The duration was short and, of course, the symptoms were correspondingly severe and pronounced.

I prefer the bimuriate of quinin with urea, from 10 to 15 grains to the dose, repeated as the symptoms require. I think that Dr. McElroy's point on blackwater fever is a good one. I have never approved of the term "blackwater fever."

THE NOTIFICATION TO THE HEALTH AUTHORITIES OF CASES OF ABORTION AND MISCARRIAGE *

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Physicians are not permitted to disclose any information that they have acquired in attending a patient in their professional capacity and which was necessary to enable them to act in that capacity. Professional secrets belong to the patient and can not be disclosed without the patient's consent. It is but right and proper that information acquired for a specific and humane purpose should be put only to the use for which it was obtained. Many sick and injured persons otherwise would deceive their physician or forego medical attention altogether, especially if guilty of crime.

Exceptions to this rule, however, do exist. Whenever the interests of the people as a whole are paramount, the individual rights of the patient are set aside. In many states, for instance, physicians are required to report to the health authorities all cases of tuberculosis. In others before a marriage license is issued the absence of venereal disease must be certified to. All births must be reported, even when illegitimate, the name and address of the unfortunate mother being given in such cases, and that of the father also, when known. The question, therefore, is not whether the professional secret is inviolable, but under what circumstances it should be disclosed.

So far as I have been able to learn, nowhere is abortion or miscarriage a notifiable condition. Cases that end fatally come to the knowledge of the authorities through the death certificate, which under some laws must mention the fact when death is due directly or indirectly to this cause. A district attorney, however, speaking at a medical meeting, held that self-induced abortion should not be reported, whether the patient lived or died. In cases of criminal abortion some believe that a physician is not permitted to disclose any information he may possess, even on the witness-stand, whether the patient be living or dead. On the other hand, in some states a physician is compellable by law to testify in the witness-box—not voluntarily—what he knows indicating the commission of criminal abortion when the victim of that abortion is dead; but must keep silent when the patient survives and does not waive her privilege. In the latter instance some think that the physician should endeavor to procure the consent of the patient to inform the authorities, even though she survives. Others say that the law forbids only the disclosing of such information as is necessary to enable a physician to treat his patient, which does not include evidence of wrongdoing. It has been maintained, moreover, that a physician summoned to a case of criminal abortion has a duty to fulfil to the community, as well as to his patient. I would add that he also has a duty to himself.

Every physician who attends a case of abortion or miscarriage, whether accidental, self-inflicted, or brought on by another, lays himself open to the charge of having committed a criminal operation, especially if he had been in attendance on the patient previously. Should the woman die, suspicion points to him still more strongly and if a coroner's autopsy shows that a crime has been committed, he is placed in a decidedly awkward position. An innocent physician could easily be made the subject of blackmail.

It has been suggested that in all cases of suspected criminal abortion the general practitioner safeguard himself by calling in as early as possible another independent medical witness. But it is difficult to see how this would remove the suspicion. The consultant would have no personal knowledge as to how the abortion occurred. In fact, an abortionist could then avoid suspicion by merely calling in another physician, who even might be a fellow-criminal. And surely it is no less a breach of professional confidence to make known a patient's condition to a physician who is called in, not to assist in the treatment, but merely to protect the attendant, than to report the case to the health officer, the one who is responsible for the health and the vital statistics of the community.

Compulsory notification might act as a deterrent to the abortionist, as suspicion would naturally fall on those who fail to report their cases or who report a great many.

Undoubtedly vital statistics lack important data when they fail to include the number of abortions, miscarriages, and still-births. Such information is necessary to the study of the problems of fecundity, depopulation and race suicide, matters of the greatest importance to the nation.

Census reports would be more valuable, physicians would be protected, and crime discouraged if the occurrence of abortion or miscarriage were made reportable by law. On the other hand, no breach of professional confidence will occur if the name and address of the patient be not given, the location merely being indi-

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

cated in a general way. Nevertheless I see no reason why the same procedure should not be followed that obtains when a birth occurs, namely, the reporting of the patient's name and address. This naturally should be regarded as a privileged communication, to be kept secret by the health officer or registrar, unless a good and sufficient reason exists for disclosing it.

Should the report contain more than the mere statement of the occurrence of the abortion? It might be advisable for the physician to give his opinion as to the cause, whether accidental or criminal, and in the latter instance whether self-induced or brought on by another. My own opinion is that no details should be given and no suspicions mentioned, unless the patient dies, in which event the attendant should be compelled to communicate all the information in his possession.

Who is the proper official to be notified? The coroner is suggested by most writers. That he should be informed when death ensues goes without saying. But there is a question in my mind whether he should be made acquainted with any cases except those ending fatally. I fail to see why convalescent and uncomplicated, accidental cases should be reported to the coroner, whose duty is to investigate the cause of death. Mere detection of crime properly belongs to the prosecuting attorney of the county. It would appear more fitting to report to this officer when a crime has been committed. But it hardly seems right to notify him in the absence of crime.

In my opinion, physicians should be required to report cases of abortion and miscarriage to the same official to whom they report all other notifiable conditions, namely, the health authorities. The health officer, who usually records the deaths and births and the existence of contagious disease in a community, should also be notified of the premature births, the still-births, the miscarriages and the abortions. He can then inform the coroner or the prosecuting attorney when in his judgment this seems indicated. In those states, however, where births and deaths are reported to a state or district registrar, it might be well to report to him all abortions and miscarriages.

It would, therefore, be well for the Committee on Legislation of this Association to urge the enactment of a law requiring the physician or midwife attending a case of abortion or miscarriage or still-birth to report such case to the proper health authorities or to the registrar, and if there be no attending physician or midwife, requiring the patient or her husband, or the householder or owner of the premises, or the manager or superintendent of a public or private institution in which the abortion or miscarriage occurred, to give such notice. This is the procedure followed in Pennsylvania in regard to infants born alive. Why should it not be applied to every product of conception that passes through the birth canal?

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ABSTRACT OF DISCUSSION

Dr. W. Forrest Dutton, Walker's Mills, Pa.: I regret to say that the bureau of vital statistics, as conducted by the state of Pennsylvania, is one of the greatest farces ever palmed off on an intelligent people. The physician is required, by law, to report all stillborn and other children; yet a midwife (of which there are very few in Pennsylvania licensed) or any other party can report these cases. Within the last few years hundreds of these cases have come to my notice which were never reported; and after the matter was reported to the state authorities they would write a few letters to these parties, and if these were not answered the prosecution was not carried any further. I think it would be a very good thing to have these cases reported; but unless we can get the laws changed and make them more forcible and see that they are carried out, I think it is only farcical and futile to try to attempt to secure any benefit by the registration of vital statistics, especially in Pennsylvania.

Dr. Marshall Langton Price, Baltimore: I should like to correct Dr. Dutton's misapprehension of the state of affairs in Pennsylvania. The registration area of the United States depends on the registration of births. Most of the state registrars have found it difficult enough to secure them in sufficient extent to meet the requirements of the census. There is not one of the seventeen or eighteeen registration states that now registers births, with the possible exception of Massachusetts, and if Dr. Dutton were acquainted with the difficulties in the registration of births I think he would not be so severe in his criticisms of the Pennsylvania state authorities.

Dr. W. Forrest Dutton, Walker's Mills, Pa.: I may be a little warped, but, nevertheless, it is an exasperating fact that the state authorities arrest physician after physician who possibly has been so busy that he did not have time to register a case, and fine him from $75 to $100 for each case. It would be a different thing if the authorities were not informed that midwives and others do not report the births of children and were not told exactly where these people are located, yet they do not prosecute them.

Dr. Marshall Langton Price, Baltimore: What is the specific case to which you refer?

Dr. W. Forrest Dutton: The non-reporting of births and of stillborn children.

Dr. Marshall Langton Price, Baltimore: So far as I know, only one prosecution has been brought in the United States for the failure to register births, and that was in the state of Minnesota. I mean one successful prosecution. We have frequently all the evidence complete, and present it to the courts, and the courts fail to convict. Now, so far as I am individually concerned as State Registrar of Maryland, I intend to prosecute in the near future for failure to record births. I cannot promise now, or at any future time, that any of these prosecutions will be sucessful.

Dr. W. Forrest Dutton: Within a few months several physicians about Harrisburg have been prosecuted; but it seems an injustice to the physicians to prosecute them and not to prosecute the midwives. Especially people who take care of their own children should be reported.

Dr. J. N. Hurty, Indianapolis: Did I understand there is no place in the United States where accurate statistics of births are collected?

Dr. Marshall Langton Price: There is no registration area in the United States for the reporting of births except Massachusetts.

Dr. J. N. Hurty, Indianapolis: This is the second year we have collected birth statistics in Indiana. We believe we now secure records of within 2 per cent. of the births. This belief is based on a newspaper test. This test consists in taking all the newspapers published in the state, reading them, recording the births noticed therein and then seeing if the certificates have been received. All birth certificates come to the central office and we have found by this test that we receive 1.9 per cent. The doctors of Indiana are aiding the work splendidly. The Indiana State Medical Society passed a resolution strongly favoring the collection of birth records, and pledging its members to do all they could to make the work accurate. All but two or three county medical societies passed similar resolutions. In this way the profession is behind the work. Our trouble lies principally with the licensed midwives, and several of this class have been fined and their licenses taken away, because of failure to report births. There have been two or three successful prosecutions against physicians who have failed in their duty.

Dr. Marshall Langton Price: I am glad to hear this; because successful prosecution is absolutely essential to the recording of births.

Dr. J. N. Hurty, Indianapolis: While I am on the floor I wish to endorse everything that Dr. Cohen has said in his paper. It is an excellent paper. We should report to the coroner every suspicious death. The law requires this in Indiana.

Dr. Seneca Egbert, Philadelphia: I can, perhaps, explain to Dr. Dutton the reason for the rigidity of the Pennsylvania health authorities at present. If I am not mistaken, a few weeks ago a number (I think about six) of Philadelphia's physicians were reprimanded for failure to report births. This brought in a very large number of birth reports that had not previously been sent in. My recollection is, further, that none of those who were remanded were pushed to the extreme of the law's penalty. They simply were cautioned, and the result of the campaign was achieved, because the delinquent reports came in.

Dr. W. M. Brumby, Austin, Texas: Our Texas state registrar has not been able to persuade our state and county authorities to follow the census bureau on the blank certificates of births and deaths, and the reports are by no means complete or accurate. I do not think, however, that we have had much trouble in some of our more essential features of vital statistics. I doubt very much the possibility of being able to get our people, or anybody else, to report on miscarriages, as recommended by Dr. Cohen. In a state where we have such a large percentage of ignorant people ushered into the world without any assistance, and out of it in the same way—no one officiating at either occurrence unless some old woman that we never heard of before—it is difficult to get reliable statistics. Our midwives do not take up that occupation until they reach the age of uselessness for all other purposes.

Dr. W. H. Donaldson, Fairfield, Conn.: I cannot allow to go unchallenged the statement regarding registration. Connecticut does not take a second place with Massachusetts, or any other state in the Union, in the matter of vital statistics. Registration of birth certificates, as well as death certificates and marriages, is as complete in Connecticut as in any state in the Union. I believe that we have a very high percentage. Of course, we do not get in every birth certificate; but we have an excellent health officers' law that has been in force for fifteen years, and I believe that there is a very complete registration of births, marriages and deaths. I do not propose to have Massachusetts placed ahead of us. Connecticut was one of the first to adopt registration and now stands well at the head. I could not get the idea of Dr. Cohen's reason for reporting all the cases that he suggests. As a health officer, I take opposite views with him. I do not believe it is possible, until we get nearer the millennium, to get all these cases. We are fighting for the reporting of tuberculosis and the contagious diseases. Now it is suggested that we have malarial diseases, abortions and all sorts of cases reported. We might as well stop specifying and say that all cases that come to our hands shall be reported to the health officers and the coroner. I do not believe that it is possible to secure the enactment of any such law, and the reporting of any such cases, and I doubt very much the benefit to be derived from it.

Dr. Marshall Langton Price, Baltimore: It seems to me that the Germans have come nearer to recording birth certificates than any other nation in the world. There is a stub attached to the birth certificate which must by law be returned by the parent. The original certificate must be returned either by the midwife or the physician. If the parent's certificate is received and not the physicians, the authorities generally want to know the reason why, and a fine is very apt to be imposed on the offender. On the other hand, if the physician's certificate is received and not the parent's, the authorities likewise make inquiries, with practically the same result. If we could get out laws up to the German standard and use the double certificate it seems to me that the real solution of the problem would be reached.

Dr. Henry B. Hemenway, Evanston, Ill.: I was called many years ago to attend a young lady whom I had always regarded as a model of propriety. She was active in church work, etc.; there was absolutely nothing about her life, as I knew it, to lead to suspicion. The symptoms given were those, more particularly, that might point to typhoid. She stated that she had had her usual menstrual period one week before. She had a temperature of over 102 F.; there was a general abdominal tenderness, and slight tympanitis. In many ways the general symptoms were those of typhoid. I said that the case looked to me suspicious of typhoid. Later, by the merest accident, a note was left where I happened to see it—a note to a legal friend, and from a young man whom I had not the slightest reason to suspect knew this young lady; and the note read something like this: "Dr. Hemenway says my girl is threatened with typhoid. If the truth comes out, what shall I do?" I could read between the lines, and running through all the cases that I had seen I picked out this one case, and the next time I went there I sent the mother out of the room to get something and said to the girl: "You have had an abortion performed." The answer was: "Don't tell mother." Now, that case very likely would have got beyond control before I discovered what the facts were, if it had not been for that note. There was nothing at all in the history as I could get it, or in the examination as I made it, which would point to the actual facts, and if the girl had died under any such circumstances (she might have died very rapidly), it is more than possible that things might have looked very peculiar for me.

Dr. Myer Solis Cohen, Philadelphia: Some one asked, what is the use of reporting cases of abortion? Three things would be accomplished. The first is the perfection of vital statistics. I saw the statement in a government report that in certain sections of the country the birth-rate is diminishing. In France the question of race suicide is most important. There can be no reliable information on the subject when cases of abortion are not reported. The second is the protection of the physician. The physician is often called to attend a married woman in an abortion, which, so far as he knows, is accidental. It sometimes happens that the abortion is self-induced, or brought on by a professional abortionist. In that case, should the woman die, the physician is placed in a rather awkward position. If he is called to treat a fatal case of peritonitis and it is discovered afterward that the woman had an abortion he will have great difficulty in clearing himself. As a matter of fact, many physicians do report cases of abortion. Some report to the coroner, others to the district attorney. Some report all cases, whether they suspect anything criminal or not, in order that they shall be protected should a fatal termination occur; some report only when they suspect that a crime has been committed; some report only when they think the patient is going to die. The question that I would like answered is: Who should be notified when a physician desires to report a case of abortion? In my opinion, it is the registrar, or health officer, rather than the coroner, or district attorney. The third point was brought out by one of the speakers, namely, the education of the people. People have an idea that a fetus is not a living person and does not amount to anything; that to bring on an abortion is of no consequence at all. If every product of conception were regarded the same, if all women were made to realize that the passage of a product of conception through the birth canal is a birth, and the death of the fetus is a death, to be reported just the same as ordinary births and deaths, they would begin to realize that there is something serious in bringing on abortions, and no doubt the morals and the health and the welfare of the community would be advanced.

THE DEAF CHILD AND THE PHYSICIAN *

JOHN DUTTON WRIGHT

NEW YORK CITY

I wish to express my appreciation of the breadth of view shown by your Section in placing this paper on its program. It is an excellent example of the broad-minded attitude of your profession toward your work, showing that you feel that your responsibility to your patients does not end at the office door.

During the twenty-one years that I have been engaged in the education of the deaf by the oral system I have

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

always found physicians much interested in the subject. Every child whose hearing is defective is first taken to the family physician, who is usually a general practitioner, and in most cases sooner or later he advises that a specialist be consulted. On these two men rests in large measure the responsibility for the highest welfare of the child. In some cases the best efforts of the best men can not restore to the child a sufficient degree of hearing to enable it to understand ordinary conversation under everyday conditions, and the parents, in their inexperience, naturally look to the intelligent and experienced physician to show them what course must then be followed.

It is at this point, while medical science continues to do all in its power for the child, that the educator steps in and helps in some measure to overcome the handicap by training the brain, the eye and the imperfect sense of hearing to share in common the increased burden.

We have to deal with three classes of deaf children: (1) those totally deaf, either congenitally or in early infancy, (2) those rendered deaf by accident or illness after speech and some language have been acquired, (3) those partially deaf, but with enough hearing to acquire some speech and language through shouting near the ear.

The first class, those totally deaf from birth or early infancy, must be taught language and speech without the aid of the ear. The other two classes must have their speech preserved and improved by careful instruction. All three classes must be educated and taught to understand the speech of others, either by the sense of sight alone or with the combined assistance of eye and ear.

This is neither the time nor the place to enter into any discussion of the general problems of the education of the deaf. They differ from the ordinary problems of education because the ear is not only the teacher of speech, but it is also the channel through which we get much of our language and the mental development which can alone be attained through language. The general public does not appreciate the greatness of the task of teaching language to a deaf child and presenting to him even a portion of the vast body of facts and ideas that he would get almost without effort if he could hear.

In their effort to express themselves the children often say amusing things. One of my little girls when asked what language is spoken in Spain replied promptly, "spinach."

A little tot in the kindergarten whose vocabulary was as yet very limited returned from the window, whither she had been sent for observation, and reported that she saw "a man broke." Not such an unusual thing, of course, yet the teacher was puzzled. On looking for herself she saw on the other side of the street a man with a wooden leg.

A boy describing a most exciting woodchuck quest, wrote, "The boy holed the ground with his dig, and the dog hurrahed with his wag."

Another chap wrote in his morning journal, "The wind is very blew and I am a little shiver."

The deaf child of 5 starts behind the hearing child of 2. He goes forward slowly and laboriously, but if taught by modern scientific methods, by the age of 15 or 16 has very nearly overtaken his hearing brother, and, besides, has acquired speech, lip-reading and language, a tremendous task in itself.

You are all aware that a child possessing normal speech, even up to 8 years of age, will lose that speech and become a deafmute if hearing is lost and he is not promptly given special attention for the purpose of preserving his speech. It is astonishing how quickly articulation will begin to deteriorate when hearing is lost, unless the greatest care is exercised. In cases, therefore, in which deafness is brought on by illness or accident, after speech and language have been acquired, the physician should insist on special supervision of the speech by a trained instructor even while medical treatment is still going on. I have found that this necessity for prompt action is not always appreciated by physicians.

A physician has few tasks less pleasant than that of telling the parents that their child will probably always be deaf, and he may well be excused for softening the facts so far as possible. Yet he owes it to the child to make the father and mother intelligent on the subject, and should tell them what he himself knows so well, that without special care the child will either not learn to talk and to understand what others are saying, or the speech which it then has will grow gradually indistinct through lack of the guidance of the ear. And he should urge them to give the matter their immediate attention and put themselves in communication with some one experienced in such matters and be guided by their suggestions. If later the child's hearing should show improvement the attention which has been paid to its speech and education will have done no harm; on the contrary, it will have avoided the loss of precious time that can never be recovered. If, on the other hand, the child is never going to hear better, they will have taken the steps necessary to overcome that handicap so far as possible. Therefore, while they may expect the best, they have planned for all possible contingencies.

Parents frequently say to me by way of apology for not having dealt more wisely with their deaf children: "You see, it was all so new to us. We have never had a deaf child before and had no experience to guide us. We could only grope our way along and do the best we knew." Yet others had learned by bitter experience, and those coming after might easily have profited by their mistakes had the physician put them in communication with someone who knew. Physicians should therefore be able to suggest to parents some way in which they can inform themselves and obtain advice and guidance. Every state in the Union provides for the education of its deaf children to a greater or less extent. I will gladly send to any physician who will drop me a postal, or to any address requested, a list of available schools or teachers in the section of the country specified, and any other information that I think might be helpful.

Personally, I am not an advocate of beginning the actual teaching of speech to a totally deaf child as young as 2 or 3 years of age. Note that I say "totally deaf," for if there is some perception of sound it may be possible to train and develop that imperfect hearing so that it may greatly aid in the acquisition of speech, and this may be begun earlier than articulation teaching to a totally deaf child. It may be done by the mother or the father or older sister of a child if they will undertake it. But the training to understand spoken language by lip reading can not be begun too early in any case, and therefore it is desirable that the parents should know at the earliest possible moment if a child has imperfect hearing. All physicians have undoubtedly seen children in whom deafness was undiscovered or neglected for a surprising length of time, and, on the other hand, they also know the difficulties attending an accurate determination of the degree of hearing of a very young child. But the child should be placed under trained and experienced instruction not later than 6 years of age, and, if physically strong and well developed, it is better to begin at 4½ or 5.

That there is a language learning period is well known to every educator. Centuries of inheritance have rendered the years from 2 to 12 the principal language learning time for the child. The deaf child that has not acquired much language by 12 years of age is doomed to a bitter and discouraging struggle, and it is cruel to let anything interfere with the greatest possible progress in the first ten years of the child's life.

There is no reason for bringing into this paper anything of a controversial nature, but I may say that the educators of the deaf are still somewhat divided, and that while the lines of separation are by no means so sharp as they were, there are still oralists and manualists. Those who employ the manual alphabet and gestural signs in the educational process, and those who exclude all forms of communication not employed by hearing people. I am a pure oralist. My twenty odd years of labor in the work with the deaf have left me still of the opinion that they can be given as good an education by purely oral means as by manual means and, in addition, a priceless boon in the ability to speak and understand the speech of others.

The first school for the deaf in this country was founded in 1817. It was a manual school and the pupils were deaf and dumb. For fifty years all pupils in the schools of this country were taught wholly by signs, manual alphabet and writing. It is for this reason that the terms "deaf and dumb" and "deaf-mute" are so deeply imbedded in the public mind that many people even to-day do not realize that dumbness is not necessarily an accompaniment of deafness. The first school in the United States where the pupils were taught exclusively by means of speech and writing, without signs or the manual alphabet, was established in 1867. Twenty-six years later, in 1893, 25 per cent. of the 8,000 pupils in the schools for the deaf in the United States were taught by the pure oral method. In 1908, fifteen years later, there were 12,000 pupils in school and 56.5 per cent. were taught without the use of signs or the manual alphabet. At the same rate of progress another generation should see the practical disappearance of manual methods from the schoolroom.

It is more expensive to educate a deaf child without recourse to manual methods. It requires a larger proportion of teachers to pupils and a greater degree of training and experience. But it is worth while, and the people of the country are rapidly coming to know it and to decline to accept anything but the best.

Up to fifteen years ago if there came to a family of wealth and refinement a deaf child there were but two alternatives for its education. Either a governess or tutor must be provided at home and the child taught alone, or it must be sent to one of the institutions provided by the states. The same fine private schools that were open to the deaf child's brothers and sisters were closed to him or to her. His or her education had to be obtained under less favorable and agreeable conditions. I was then a teacher in a large public institution for the deaf, having previously served my apprenticeship as a tutor of deaf boys in their homes. It seemed to me that there should be provided, for those deaf children whose means enabled them to avail themselves of the best, as fine a private school as the great city of New York could offer to a pupil with unimpaired hearing. The expense of conducting such a school would necessarily be much greater *per capita* than that of an ordinary school, for a staff of ten or a dozen trained teachers would be necessary for twenty or twenty-five pupils. All the wiseacres shook their heads and said I should be very foolish to undertake such an enterprise. But with the courage of youth I ventured to disregard their advice, and have never had reason to regret my rashness. My most famous pupil, and one of the most interesting, was the most heavily handicapped, for she was the only pupil I have ever had, or probably ever will have, who is both blind and deaf. Yet Helen Keller went through the regular course at Harvard, obtaining her degree, and hers is a household name to-day. Her success has led to the picking up of one more loose thread in our civilization, and to-day there are many deaf blind pupils under instruction in various parts of the country.

Physicians can, if they will, exercise great influence in their own localities. Let me mention two or three points on which there is no time to dwell, but to which attention should be called.

1. The education of the deaf is not a charity any more than the education of your own sons and daughters.

2. All education, and especially the education of the deaf, should be wholly and forever divorced from politics. In too many instances the guidance of institutions for the deaf is entrusted to men of political rather than educational efficiency, and changes in control are made not for the purpose of bettering the school, but for purely political reasons. This is outrageous cruelty to the helpless and dependent child, who innocently suffers for the pride or purse of the politician.

3. The great body of deaf children are bright and normal mentally, and it is unjust to compel the state institutions to include the few abnormal and feeble-minded among the bright ones simply because they are deaf. The feeble-minded deaf should be segregated and taught in schools by themselves as are the hearing feeble-minded.

4. The physician should lend his intelligent aid in placing the deaf child in the school best adapted to his needs.

1 Mount Morris Park, West.

ABSTRACT OF DISCUSSION

Dr. G. Hudson Makuen, Philadelphia: I regret that Mr. Wright's paper has not been more generally heard by members of the section. He has told us things that every otologist ought to know, and I fancy we all do or did know the greater part of it. We know that we have to deal with two classes of deaf children, the congenitally deaf and those who have acquired deafness, and that if the deafness is acquired before the seventh or eighth year, the speech of the child is liable to deterioration. We know also that we have among our little patients those who are only partially deaf and if left to themselves they are but a little better off than totally deaf children, so far as speech is concerned. We know that the modern tendency is distinctly away from the manual and toward the oral method of speech for deaf children. We know that there are public state institutions in which the various methods are taught in various ways, and that there are private institutions such as the one which Mr. Wright has founded.

We know all these things, but what we do not know and what we would like to know is just what these methods are, and how they are applied in the education of the deaf. Now I know nothing of the school over which Mr. Wright presides, and therefore what I shall say does not apply to it, but it has been my fortune to see a great many pupils both during and after their course in other institutions, and I must say that I rarely see one whose speech quite comes up to the standard which I would set for the deaf. I have therefore come to the conclusion that there must be something wrong with their methods. From what I have heard, Mr. Wright's must be in all respects a model school for the deaf, and therefore I am the more disappointed because he did not give us an opportunity to-day to discuss the methods which he employs. I am aware that the oral method of teaching deaf children is a comparatively new thing, and for this reason, I suppose, teachers have not acquired the necessary skill to enable them to accomplish the best results. Too much time, it seems to me, has been given to the teaching of the understanding of language through the visual organs, and not enough to its natural expression through the vocal organs, and too many children who are only partially deaf, are placed in the first or totally deaf class, and receive the same kind of treatment, no effort at all being made either to develop their hearing or to make use of the little hearing they have in the development of speech. It is quite as important, I think, to develop good voice, natural intonations and inflections, in the deaf, as to teach them to understand the language of others, and the teaching of these intonations and inflections, by the way, is a very effective means of helping them to develop an understanding of the speech and language of others.

The other day a small boy was brought to me in consultation who had been for four years in one of our largest institutions for the deaf, and his speech was almost entirely unintelligible, notwithstanding the fact that he had a very considerable amount of hearing power, for the development of which, by the way, absolutely nothing was being done, nor indeed was any use being made of his hearing power in the development of speech.

Mr. Wright says that the feeble-minded deaf should be segregated. I would say that the totally deaf should likewise be segregated, and the hard of hearing, and partially deaf, should be taught to hear as well as to speak, after the manner of Urbantschitsch, of Vienna, and myself of Philadelphia. Their speech should be developed as much as possible through the hearing. I have seen better results obtained with dispensary cases in my own clinic than with the pupils of the large institutions. Moreover, a large proportion of these deaf children are found in poor families who can not pay for any kind of instruction or treatment, and here is an opportunity for a splendid charity. The whole work, in my opinion, should be in the hands of the physician with whom teachers should be directly associated. The teacher, it is true, can do much for these deaf children, but the physician can do quite as much and often more for all those who are only partially deaf and who are acquiring deafness. The teacher can do more than the physician for those who are totally and irretrievably deaf, but they constitute, in my experience, only a small percentage of the entire number coming under our attention and care.

The progressive otologist and laryngologist, therefore, should make himself familiar with the methods of teaching deaf children, and he should have associated with him in his office a teacher to assist him in the practical application of these methods. The physician can not do it of himself, nor indeed can the teacher, but physician and teacher should work in immediate conjunction if the best results are to be obtained.

Dr. Dennis J. McDonald, New York: Two years ago I took up this work with the city authorities of New York, but, strange to say, large cities like New York were the last to take up improvements. I managed to get an appropriation of $50,000 last year for the cases referred to by Dr. Makuen. I have visited many institutions in this country to observe the methods of teaching and could not help but be impressed with the sacrifices of these educators.

I disagree with Dr. Makuen in the statement that physicians have the time to go into this work. The state should be made to understand that these children are as much entitled to education as any others. It behooves otologists to take a special interest in the advancement of this work. In every great school there should be an otologist who should determine the condition of these children on admission and who could examine and report every six months on the condition of these children in regard to the perception of language. If the members of this Section would enter into the spirit of the matter before this time next year great advances in the work would have been made.

Dr. Maury M. Stapler, Macon, Ga.: Deafness in some of these children is caused from the fact that the Eustachian tubes are closed and the air pressure forces the ossicular chain out of position; it is held so until the stapedius muscle is overcome. There is no method of pulling these bones out from the oval window. I have opened up the tubes, applied the suction apparatus and obtained good results in some of these cases. In five minutes some of the children could get up and repeat words. I think that the otologists should take up this work.

Dr. J. Holinger, Chicago: In 1897 I examined the ears of the 504 deaf children in an institution at Jacksonville, Ill. The findings were extremely varied and interesting, and if for no other reason than this, I think attention should be drawn to the fact that a vast amount of knowledge can be acquired in examining the inmates of an institution for the deaf. The results of my examination turned out to be a perfect pathologic museum of all kinds of otologic conditions imaginable. From one ear, for example, a large cholesteatomatous mass was removed containing a sequestrum in the center, leaving a perfectly smooth cavity of the size of a walnut, consisting of external meatus, middle-ear, antrum, mastoid cells and the labyrinth which was lost, together with the other bony parts. Any number of other equally interesting findings might be described. We should try whenever we have the opportunity to make such examinations. Then we will be led to the fundamental work of Bezold, who shows that children who hear tuning forks from b′ to g″ can be taught to use their hearing for talking. It is surprising that these tests are not made more regularly in the institutions.

Mr. John D. Wright, New York: As to Dr. Makuen's regret that I did not take up the methods of teaching, I would say that I shall be glad at any time to read a paper before this Section on that subject. The failure that Dr. Makuen has spoken of in the large institutions for the deaf to develop the imperfect hearing of the pupils is due to lack of sufficient teachers. This Section is influential and should take up this matter. The education of deaf children is not a charity, but is their right just as much as the education of your child is a right. And do not call the schools for the deaf asylums; they are no more asylums than are the public schools; they are schools for the deaf.

AN IMPROVED METHOD OF APPLYING THE PLASTER JACKET

K. D. PANTON, M.B., M.R.C.S. (Eng.), L.R.C.P. (Lond.).
VANCOUVER, B. C.

The following method of applying the plaster jacket in cases of Pott's disease was developed in the emergencies of practice and proved so simple and satisfactory that I have since used it in preference to the older methods:

The plaster jacket must be so applied that it will prevent any movement of the bones in the diseased part of the spine and will also hold the spine in a hyperextended position. The hyperextension transfers the superimposed weight of the head and shoulders from the diseased bodies of the affected vertebræ to the articular processes. In this way all possible movement and pressure are taken from the diseased parts of the vertebræ and resolution is promoted. It is a fallacy to suppose that the jacket can support the weight of that part of the body lying above the diseased area by being built high in the axillæ and holding up the shoulders. Such a cast would cause unbearable pressure and pressure sores in the axillæ. All jackets must fit snugly and have a good grip on the pelvis.

There are various satisfactory methods of applying plaster jackets to children, but to the adult the application is more difficult. The usual method of partial suspension, with the Sayre apparatus, is most uncomfortable for the patient, and he has sometimes to be taken down before the plaster is well set, which results in a poor jacket. It is also difficult for the operator to apply the bandages snugly, for he has to work fast and the patient's body sways more or less. In the following method the patient lies comfortably on his back, his body is quite steady, and the operator can take all the time necessary to apply the bandages with accuracy.

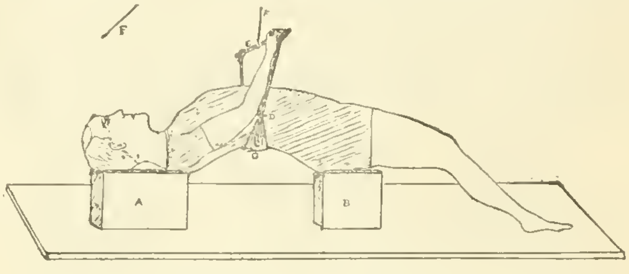
Briefly, the patient lies in the dorsal position, raised about a foot above the operating table. His hips and neck rest on suitable supports and his back is supported on a canvas sling which goes around his back under the kyphosis. The ends of the sling are attached to a spreader. The spreader has a rope and pulley attachment fastened to the ceiling by which it can be raised or lowered. With this apparatus the sling is drawn upward until the back of the patient is sufficiently hyperextended, and the plaster bandages are then applied. The central part of the sling is included in the jacket, while the ends emerge at each side. Although holes are necessarily left at these points, they are small and in no way affect the efficiency of the cast. When the plaster is well set, the ends of the sling are cut across at their points of exit from the mold and the patient is transferred to bed. The central part of the sling remains permanently in the jacket.

The sling is made of stout canvas about 5 feet long, 5 inches wide at the center and narrower toward the ends where it will penetrate the cast. After the patient is in position on the sling, the latter can be made still smaller at these points by tying pieces of string tight around it. The padding of the sling must be very carefully done, for if it does not fit the kyphosis accurately a pressure sore may occur. Horse-collar felt or silence cloth should be used and several pieces sewed to the sling so that they will form two ridges with shelving edges that will lie along each side of the kyphosis and approach the middle line above and below it. Care should be taken to be sure that there is equal pressure all around the kyphosis, that its tip does not project through the padding and press against the sling, and that there are no abrupt edges of felt against the skin.

The spreader, a stout stick about 2 feet long, when in position, lies across the body of the patient. To its ends are attached the ends of the sling and to its center is attached a rope with a pulley attachment in the ceiling by which it can be raised or lowered. Two boxes, a foot high and padded on top, make good supports. The upper one supports the head, neck and tips of the shoulders, while the lower one lies under the lower part of the buttocks. The heels rest on the table. If the jacket is to be made unusually high or low, of course, special supports will be needed.

As for the actual operation, the stockinette shirt is put on the patient, the sling and spreader are adjusted and he is raised onto the supports. The pads are next sewed to the shirt. Then the sling is drawn up further until the back is well hyperextended. It is surprising how secure the patient will feel. The sling grips the back and sides of his body and holds him firm. After making sure that the sling is in exact position and the body is not twisted in any way, the plaster bandages are applied. This is done without hurry; they are put around the body in layers, going from bottom to top. An assistant follows the operator, rubbing the bandages well together and adding more water or plaster as may be needed. I prefer home-made bandages, 5 inches wide and 6 yards long. No salt or alum is needed in the water, as the plaster sets better without any such addition. When the bandages are all on, hollows are cut to allow of movements of the limbs, and, after the plaster is well set, the sling is cut across on each side where it emerges from the cast and the patient is transferred to bed.

For the advantages of this method it may be said that the patient lies in an easy and firm position and the operator can take all the time necessary to do his task thoroughly and make a snug cast. The back can be hyperextended as much as is necessary to be sure that the body weight will be transferred from the diseased bodies of the vertebræ to their articular processes. The body weight is transferred by the whole breadth of the back to the sling, and there is no undue pressure on the kyphosis. There is no hard breathing of the patient with movement of the chest and shoulders, which sometimes occurs when the suspension apparatus is used, causing the upper part of the cast to be loose. The patient can lie on the sling for hours if necessary until the plaster is set. The apparatus can be made anywhere out of common materials.



Patient in position on the sling; a, neck support; b, pelvic support; c, sling going around back under the kyphosis; d, string tied around the sling at the point where it will go through the cast; e, spreader, 2 feet long; f, rope which goes through a pulley in the ceiling; g, site of kyphosis.

261 Hastings Street, East.

REPORT OF FIFTEEN CASES OF PELLAGRA

EDWARD B. BAILEY, M.D.
DEMOPOLIS, ALA.

The following observations have been made on fifteen cases of pellagra which have occurred in my practice during the last eighteen months.

As to etiology, all the patients gave the history of having eaten corn-bread. The usual symptoms of pellagra were exhibited in most instances, so that a mere summary of the observations will be given here. The previous health had been good in most cases, except that there was a history of alcoholism in two, and one patient had been confined to bed for four years with multiple spinal sclerosis. In some cases I saw the patient in a second attack. Of the fifteen patients, twelve were females. The ages varied from 7 to 60 years. Most were adults of middle age. There was fever in most cases ranging from 99 to 101 F.; in one case the temperature reached 103. The pulse varied from 100 to 130. Marked weakness characterized the general condition in most of the cases. The mind was somewhat affected in three cases. There was diarrhea in fourteen cases, stomatitis in eleven and an eruption in fourteen. The eruption was marked on the legs in one case and did not appear in one case until other symptoms were pronounced. There was vaginitis in three cases, accompanied by edema of the vulva in one.

There were ten deaths, three apparent recoveries, and two patients are at present improved.

Arsenic in the form of Fowler's solution or of atoxyl was given in five cases, but in several it was begun only a few days before death, so that no conclusion as to its value can well be drawn. Transfusion of blood from a recovered pellagrin was performed in one case, but was unsuccessful, death following in less than five hours.

APPARATUS FOR PROCTOCLYSIS AT AN EVEN TEMPERATURE

R. M. HARBIN, M. D.
ROME, GA.

There are certain requirements in the use of salt water by the rectum in peritonitis that must be met: (1) an even temperature for the solution; (2) slow instillation; (3) provision for an escape of rectal gases and the regurgitant flow. Numerous forms of apparatus have been devised, but because of the expense and difficulty of obtaining them they have not come into general use. The apparatus here described was improvised and put into operation in thirty minutes. The ordinary bottle, made on the principle of vacuum non-conductor, found in nearly every drug store, will keep the solution at even temperature. A perforated rubber cork, glass tubes, and a discarded stomach-douche with a rubber funnel are all that are needed in addition.

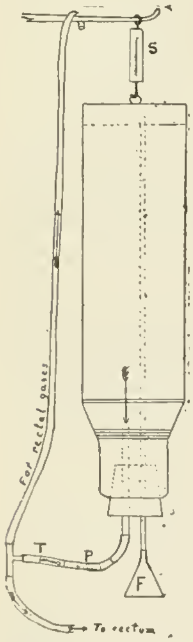


Diagram of apparatus for the instillation of physiologic salt solution into the rectum at an even temperature; S, scales; T, tube thermometer; P, joint; F, soft rubber funnel.

The introduction of the solution, drop by drop, is accomplished by making a joint at P with a small glass dropper or pipette. A tube thermometer may be inserted at T. The ventilator-pipe will dispose of the rectal gases without contaminating the reservoir; it applies the same principle as the ventilating-pipes of plumbing. The end of this ventilator-pipe must be slightly higher than the reservoir. The small caliber of the joint P seems to prevent overdistention of the rectum; but if this should occur the escape-pipe could be made to empty into a basin. Ordinarily there is a slightly intermittent flow, but as intrarectal pressure increases it becomes more marked, and for that reason offers an advantage. Scales may be used and the nurse can chart by weight the solution consumed. This serves as an indicator for refilling. The loss of heat from the supply-tube is practically *nil*, but the latter may be kept covered with blankets. The apparatus should be inverted and disconnected at P for filling.

A patient with perforative appendicitis took, between 2 and 6 p. m., 8 pints of normal saline solution, then perhaps 1 or 2 pints escaped and the patient complained of fulness and slight dyspnea. A soapsuds enema was given and four hours later proctoclysis was resumed. During the next twelve hours $3\frac{1}{2}$ pints were taken with no regurgitation. This made about 10 pints for twenty-four hours. The patient's improvement was such that the salt water was used intermittently.

In another case of acute appendicitis, without drainage, 8 pints were consumed during the first six hours with no return. These preliminary observations were made at my private hospital. The simplicity of this apparatus, the various methods of adjustment to meet certain indications and the ease with which it may be procured warrant further trial.

100 Third Avenue.

AN IMPROVED SALINE TRANSFUSION APPARATUS

JOHN M. GARRATT, M.D.
BUFFALO, N. Y.

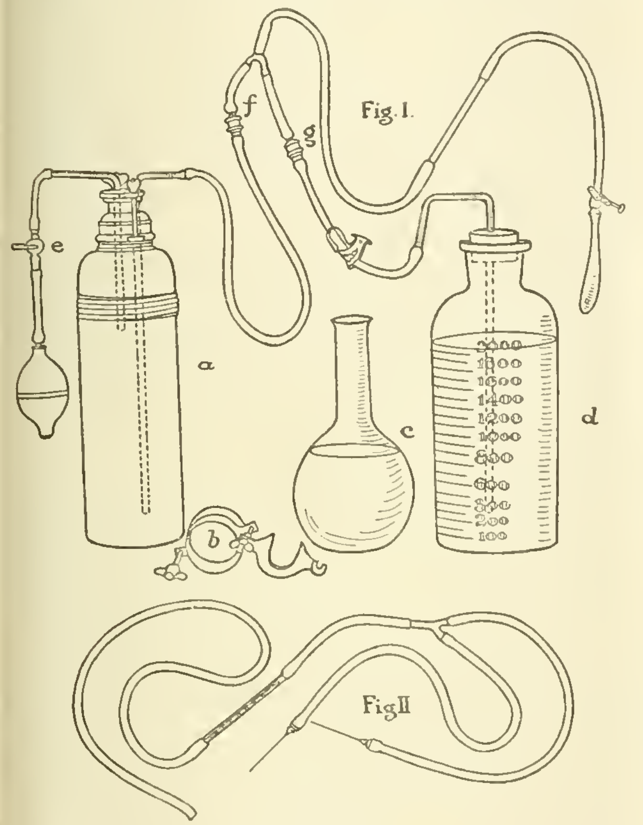
The introduction of saline solution subcutaneously, intravenously or per rectum, to support the circulation in shock and collapse, is markedly efficacious, and if properly given is perhaps the most valuable treatment for these conditions. Intra-abdominal transfusion of salt solutions into the peritoneal cavity, as advocated by Lawson Tait, is of undoubted value to combat shock following abdominal operations, as is also the employment of proctoclysis in the treatment of peritonitis and general toxemic conditions, as suggested by Dr. J. B. Murphy of Chicago.

Aside from the fact that the solution must be aseptic, the temperature of the solution as it enters the tissues is of the utmost importance. With the usual solution-containers—the fountain syringe, glass flask and glass pressure bottle—there is difficulty in maintaining an equable temperature, for they rapidly radiate heat, and usually there is considerable drop in the temperature of the fluid from the start to the finish of the treatment.

Since November of last year I have used as a container a vacuum bottle (originally suggested by myself) of sufficient capacity. The heat-retaining properties of this bottle makes it an ideal container. The apparatus here illustrated has been in use about a year and has proved very satisfactory.

The apparatus for tissue saline transfusion consists of parts adjusted as follows: The cork of the vacuum pressure bottle (a) is fitted with glass tubes, one long and one short. To the long end which dips into the solution is connected a rubber tube (Fig. 2), through which the fluid passes to the needle or needles inserted in the tissues. Near the needle is placed an infusion thermometer by which the temperature of the solution can be observed. The rubber tube attached to the short glass tube has at the end a pressure bulb. Near the pressure bulb a stop-cock is placed for the purpose of relieving the air-pressure on the solution when it is desired to check the flow of the fluid. A cork-holder (b) specially devised holds the cork in place. A small-necked flask (Koch form) of 950 c.c. capacity (c), in which the fluid is raised to the proper temperature, and a graduated bottle (d), capacity 2,000 c.c., in which is stored the saline solution when the apparatus is not in use, complete the outfit. These are placed in a box 8 by 10 by 14 inches. For emergency use are placed in the box also a glass jar containing a sterilized hypodermic syringe with needle and useful hypodermic tablets, and bottles containing adrenalin solution, spirits of ammonia, etc.

For rectal saline transfusion separate apparatus is desirable. The pressure bottle fittings are similar to the other apparatus, the difference being in the arrangement of the tubing attached to the long glass tube which is fitted with two valves, one (f) placed so as to prohibit the back flow of contaminated solution into the pressure bottle and to direct flatus gases to the bottle provided to receive them. The second valve (g) prevents fluid from the flatus bottle mixing with the clean solution. Figure 1 is self-explanatory.



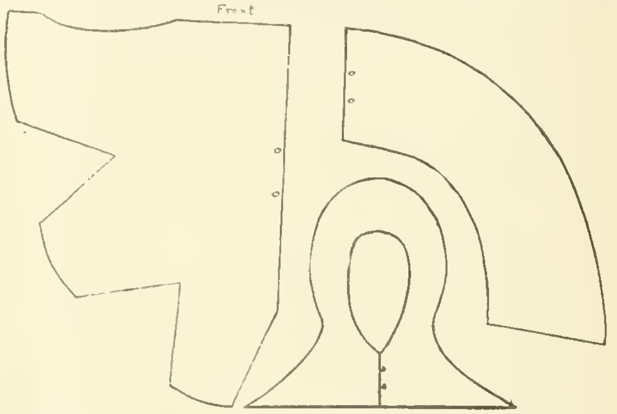
Figs. 1 and 2.—Apparatus for the introduction of saline solution at an equable temperature subcutaneously, intravenously, or per rectum.

Snap-Shot Radiograms.—One drawback to using Roentgen rays to photograph living subjects has been the time exposure required. To overcome this, says the *Scientific American*, a German inventor has devised an induction coil which produces one sudden and intense spark, making it possible to take an instantaneous radiogram. The effect is produced by using a fuse of small silver or copper wire in place of the interrupter in the primary circuit. This is melted when the proper intensity of the current is reached, thus suddenly breaking the circuit and producing an intense discharge. The exposure is from 1/50 to 1/120 of a second; and as it is a simple matter to replace the fuse, a large number of exposures can be made in the course of an hour.

A CAP FOR OUTDOOR SLEEPING

THOMPSON FRAZER, M.D.
ASHEVILLE, N. C.

When sleeping outdoors it is essential that the head and neck be protected from draughts; these are responsible for most of the colds caught by the inexperienced out-of-door sleeper. A knitted or woolen cap made according to the accompanying pattern will be found satisfactory. It covers the head completely except for a narrow oval for the face; in addition, it has a long tail which may be pushed under the pajama coat, thus affording protection to the neck.



Pattern for cap for outdoor sleeping, and diagram of finished cap; left, pattern of head-piece; right, pattern of collar; center, diagram.

TREATMENT FOR CHRONIC CONSTIPATION

GEORGE EDWARD BARNES, B.A., M.D.
HERKIMER, N. Y.

Although various methods of applying medication—diet, hydrotherapy, massage, etc.—in the treatment of chronic constipation have long been employed to the great benefit of multitudes of the afflicted, there has been lacking a treatment that is simple, convenient, effective and easy to be practiced by the patient. Of course, the treatment to be recommended to individuals must often vary. This is true, not only as regards their form of constipation, but also as regards all the abnormal conditions which accompany it and which should be given simultaneous attention. But it is of prime importance that all constipated individuals (especially children) should daily drink sufficient water and should, at the corresponding hour each day, visit the stool and there allow the slow, natural forces sufficient time to act, for in this way there is often established a habit of daily evacuation which is curative.

In cases in which a moderate amount of straining in a stooping posture is not effective the inadequate powers may often be successfully reinforced by a new application of massage. While still seated, the patient places the palmar surface of the fingers of his right hand over the upper part of the descending colon and, making slight pressure, massages with a spiral, descending movement that tube and part of the sigmoid flexure. The finger should preferably be cold. If they are warm they may be cooled in cold water or, in their stead, a suitable cold object, such as a small, smooth glass paperweight, may be used. The cold massage applied at this time initiates a peristalsis which propels the fecal contents downward forcibly into the ampulla recti and thus sets up the normal reflex of defecation. In practice the bowel may be massaged as described three or four times and then an effort at expulsion in stooping posture may be made, and these procedures should be alternately repeated, increasing gradually the pressure of the massage, until there is a successful issue. In order to increase abdominal pressure while straining, the folded fist may be placed two to four inches above the left Poupart's ligament and held there firmly while the soft abdomen above the fist makes gentle pressure on it as the body flexes forward. There is little danger of massaging too hard, but, of course, too strong pressure should not be made, especially when the bowel is filled with hard feces. But such a condition will not occur with daily evacuations. The pressure should be graded somewhat according to the thickness of the abdominal parietes. Of course, this method may be used to supplement or to follow other methods.

This cold massage treatment is not applicable to cases complicated with certain growths, hernias, pregnancy, or certain acute and chronic inflammations of the abdomen and pelvis. In cases of visceral ptosis it is often not advisable, especially in prolapse or displacement of the female generative organs, although it may be used in moderate gastroenteroptosis, provided the left kidney is not descended.

The value of this method is due to the fact that not only is a daily movement produced, but also the whole descending colon and rectum are assisted and trained to empty themselves more or less completely every day, thus to save the patient from the greatest chances of incurring autointoxication and appendicitis.

Therapeutics

TUBERCULOSIS OF THE JOINTS

During the last twenty-five years it has been definitely established that a large proportion of chronic suppurative inflammations of joints are tuberculous in character. These tuberculous joints are sufficiently frequent for every general practitioner, at least occasionally, to have a patient with this disease, and he should be prepared to apply correct treatment, or at least to know what is correct.

Certain general principles of treatment are applicable to all cases:

First.—The patient should be surrounded with the best possible hygienic conditions. He should have abundance of fresh air, preferably out of doors, for a large part of, or the entire day. He should be liberally provided with nourishing and easily digested food, including milk and eggs, to the extent of his tolerance for them. He should be warmly clothed in order to prevent internal congestions due to cooling of the surface of the body. Massage should be employed to prevent atrophy of the muscles while he is at rest.

Second.—The affected joint should be placed at rest, or, as many say, immobilized. This rest or immobilization may be secured in a variety of ways, depending on the particular joint affected and the stage of the disease. At the beginning of the treatment it is generally wise to confine the patient to bed and to employ such immobilization and extension as is practicable. In the case of the hip-joint this may be secured by Buck's extension method and a long side splint. After a few weeks it will generally be found that the inflammation in the joint has become less active and that the general constitutional symptoms have improved. Then it is desirable, in most cases, to take the patient out of bed and to permit him to move about. But the immobilization must be maintained by suitable apparatus. Steel splints or braces, carefully padded, are generally preferred to those made of wood, leather, or plaster, because slender rods of this material possess great strength and practical inflexibility and allow of frequent inspection of the part under treatment and readjustment of the apparatus.

Most American surgeons believe that, when practicable, extension should be combined with immobilization, but some British surgeons believe that this is not so absolutely indispensable that other desirable factors of the treatment should be neglected, when it is impracticable to make use of all at the same time. Certainly immobilization is more important than extension when both cannot be secured simultaneously. In advanced cases, especially when the vertebræ are affected, extension is sometimes injurious and should not be attempted.

The various phases of the subject were exhaustively discussed before the British Medical Association, a report of which appeared in the *British Medical Journal*, Oct. 2, 1909.

The determination of the opsonic index and inoculation with tuberculin were spoken of by Mr. Maynard Smith, of London, who reported 34 patients treated in the inoculation department of St. Mary's Hospital, of which 21 were cured; 9 were improving and still under treatment; 2 had been under treatment for only 2 or 3 months, and 2 failed to show any improvement after six and ten months' treatment.

After a tuberculous abscess has formed, the question of opening it must be considered. Concerning these Mr. Robert Jones, of Liverpool (*British Medical Journal*, Oct. 2, 1909), said: "Experience has convinced me of the value of leaving certain types of tuberculous collections alone as long as possible. I disregard them if they give rise to no symptoms. They are only serious or urgent if they are infected from within or without. It is a mistake to attach the clinical importance to a tuberculous abscess that we do to a collection of pus. The tubercle bacillus we know is not pyogenic. When true suppuration occurs, it is due to a secondary infection. Efficient fixation undoubtedly lessens the liability to abscess formation and also facilitates their disappearance. In a well-immobilized spine a large proportion of these abscesses disappear. Writers who do not observe this obviously never give time for it to occur. In the hip-joint they are especially apt to become nomadic, changing their residence from within the joint to residence without. They become extra-articular in the sense of having no connection with the joint. Often I have noticed collections having appeared from the joint travel down the thigh, become isolated, and then gradually dwindle away. The process of absorption is not characterized by any clinical manifestation. I refuse to open tuberculous abscesses early, not because I dislike a radical operation, but because an operation is necessarily incomplete and ineffective if it cannot remove the disease of which the abscess is but a symptom. If opening the abscess meant the eradication of the disease, clearly the problem would be solved.

"In many cases, however, the abscess is not absorbed, but travels toward the skin. An abscess which forms early in tuberculous disease and is evacuated is, in my opinion, a more serious affair than the abscess treated in this later stage. Simple aspiration of a distended sac will prove of value, and this may have to be repeated frequently. Usually, however, I prefer allowing the abscess to invade the surface, when I make a small puncture ½ inch in length (or less), using the strictest aseptic precautions, scrupulously avoiding the Volkmann's spoon or irrigator, for I do nothing to interfere with the thick sac wall, which provides so admirable a barrier against infection. If these abscesses be attacked in this way, the terrors of infection are assuredly much diminished, for the delay of many months in opening the abscess has given the joint time to make progress, the supply of débris is shut off, and the long, exhaustive discharge which follows early incision is curtailed. I have no conviction more settled in my mind than that of the value of a conservative attitude toward tuberculous abscesses. When we remember that hospital surgeons, with all the facilities for the practice of a rigid asepsis, see only an infinitesimal proportion of these cases, and that the overwhelming number are in the hands of practitioners in slums and country places, handicapped by their environment, totally unable to insist on surgical cleanliness, the policy I advocate seems to me of great importance. My experience warrants me in saying that numbers of children die in all parts of England and Wales because we do not realize the many responsibilities involved in the routine opening of tuberculous abscesses.

"If, however, with the presence of fluid, discomfort, pain, and temperature are present, or if the patient rapidly or steadily declines in condition, then the abscess may be suspected and attacked by good incision, bone searched for, and antiseptic irrigations adopted. Here there will be found a mixed infection, and surgical interference is urgent and most effective where most radical. Again, for geographical reasons, a retropharyngeal abscess demands immediate incision, preferably behind the sternomastoid, and in those rare instances of collections in the posterior mediastinum where one finds spasmodic attacks of dyspnea, evacuation should be immediate by costotransversectomy over the affected articulation."

With regard to resection of tuberculous joints the teachings of Jones show evidence of wise conservatism based on wide experience. He points out that tuberculosis produces very different effects in children from those observed in adults. In the child, when judiciously treated, its progress is benign. In the adult, on the other hand, it is more intractable and more likely to result disastrously.

In children an early excision is usually unwise, being followed by great deformity from interference with the growth of the limb. A late excision is usually useless, an amputation being generally necessary.

In adults general dissemination is more likely to occur, and consequently an early operation is more urgently demanded. This results in earlier and noncomplete fixation of the joint, which is the object which Nature strives to attain in cases not subjected to operation.

In advanced cases of tuberculosis of the joints discharging sinuses are often present, and these frequently persist for years.

Emil G. Beck, Chicago (*British Medical Journal*, Oct. 2, 1909), has proposed to treat these sinuses by injections of a paste made by mixing, while boiling, bismuth subnitrate and petroleum, the resulting paste containing 33.3 per cent. of bismuth subnitrate. These injections, supplemented by Roentgen-ray examination, afford important aid in diagnosis. In many instances they also result in a cure of the sinus. Their use has sometimes been followed by untoward results, the paste blocking up the sinus and damming back the pus, so that septic infection has resulted. In some instances bismuth poisoning has occurred. It has happened that the bismuth injection in a thin-walled sinus near a joint has caused accumulation of pus near the joint, which has ruptured into and caused infection of the joint.

Bearing in mind the necessity for caution in order to avoid these unfortunate results, Baer, of Baltimore (*Bulletin Johns Hopkins Hospital*, October, 1909), believes that injection of Beck's bismuth paste will cause diminution of the discharge and healing of the sinus in many instances.

In connection with the evacuation of tuberculous abscesses, resection of the joints, and the treatment of tuberculous sinuses, mention must also be made of the use of iodoform.

Sir William Macewen, of Glasgow (*British Medical Journal*, Oct. 2, 1909), recommends the injection of sterilized iodoform emulsion, introduced into the center and immediate vicinity of the tuberculous part. This treatment is especially applicable while the disease is still discrete and confined to the epiphyses. It also acts favorably, but more slowly in the second stage, when the tubercles have become confluent, and caseation and liquefaction have occurred.

Macewen advises, after the radical removal of a local lesion, the application of a mixture of iodoform and boric acid, 1 to 4. He deems it important in this mixture for the iodoform to be in large crystals instead of in fine powder. The crystals are not readily absorbed, and are, therefore, not so likely to cause toxemia, and their local effect is continued for a longer time. The finely powdered iodoform, on the other hand, is rapidly absorbed, and may cause serious poisoning, while at the same time its local effects pass off quickly. The iodoform may also be injected into abscess cavities from which tuberculous fluid has been drawn off by an aspirator.

In speaking of para-articular tuberculosis, Mr. A. H. Tubby, of London (*British Medical Journal*, Oct. 2, 1909), recommends, after cutting down to the bone, and after evacuating the granulations and pus, and after thoroughly scraping the cavity, the application to all parts of the diseased region of either "camphorated naphthol, or, better still, a solution of chlorid of zinc of a strength of 10 per cent."

Finally arises the question as to what should be done with cured, but deformed, tuberculous joints. Robert Jones (*British Medical Journal*, Oct. 2, 1909) points out that "to break down such adhesions, or to endeavor to enforce 'passive movements,' would be a highly hazardous adventure." In otherwise suitable cases a careful experiment may be made by trying to increase the angle of the joint by five degrees by means of a splint worn for from ten to fourteen days. If this results in increased movement of the joint, a favorable prognosis may be given, and the treatment may be continued. If the joint remains stiff, perseverance may cause disaster.

Tuberculosis in Japan.—Kitasato contributes an article on this subject to the *Zeitschrift für Hygiene*, lxiii, 1909. The conditions in Japan are peculiarly interesting, as there are comparatively no cattle in Japan and consequently human tuberculosis is entirely independent of the bovine type. He examined the sputum of 152 consumptives continuously to detect the possible presence of bacilli of the bovine type but always with negative results, the human bacilli being found constantly in pure cultures. Statistics show that the disease is becoming more prevalent in Japan.

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[*For other information see second page following reading matter*]

SATURDAY, DECEMBER 25, 1909

[The large amount of space occupied by the index this week makes it necessary to omit some departments and to curtail others.]

AMERICAN STANDARDS IN EDUCATION

In an address on "American Standards of Education," given before the American Association for the Advancement of Science,[1] Elmer Ellsworth Brown, United States Commissioner of Education, calls attention to the many efforts, mostly since 1900, made to standardize educational institutions in this country.

The fixing of standards is properly a state function; but no attempts were made by any state to standardize its educational institutions until 1892, when New York adopted a standard requiring that any institution to be ranked as a college (medical colleges seem to have been excepted) should have at least six professors giving their entire time to college and university work, that it should give a four-year course of studies of college grade, that it should require for admission four years of high-school work, and that it should have resources of at least $500,000, together with suitable provision for buildings, furniture, equipment and proper maintenance. In 1895 Pennsylvania adopted a standard requiring a four-year course and six regular professors devoting their entire time to teaching, but left the standards of admission and other matters to the judgment of a university council. In Pennsylvania likewise medical colleges seem to have been excepted from regulation. In 1893, in California, the state board of education was made responsible for the grading and classification of higher educational institutions. In 1907 the state educational board of Iowa was authorized to accept graduation from the courses in the state university and from other institutions of learning of equal rank in the state as evidence of fitness for a teacher's state certificate.

Besides the state efforts, various organizations have been working toward the standardizing of educational institutions. Among the organizations mentioned are the Association of American Universities, the College Entrance Examining Board, the Carnegie Foundation for the Advancement of Teaching, the National Conference Committee, representing several associations of colleges and secondary schools, the National Association of State Universities, and the Council on Medical Education of the American Medical Association. Mr. Brown names these organizations, not as a complete list, but to show how wide-spread is the effort to remove the stigma of reproach from American educational institutions. He then asks why legislatures should incorporate institutions, giving them the right to grant degrees, without making any provision for determining the meaning and worth of those degrees. He continues: "It is not merely an academic question. It is a moral question. False pretenses in the realm of education are a peculiarly flagrant form of fraud, for they cheat our American youth of their American right to a fair chance. They operate no less disastrously when . . . incompetent teachers . . . offer an inferior grade of instruction under the delusion that it is as good as the best. The well-meaning no less than the dishonest need some impartial test by which their educational offering may be proved, of what sort it is."

What Mr. Brown says regarding educational institutions in general applies with particular force to institutions professing to train practitioners in medicine, since the graduates of these institutions go forth with a much greater responsibility than the graduates of other schools. The public has the right to demand that medical colleges shall turn out as graduates only those who are well trained and capable of recognizing and combating disease.

THE CHURCHES AND TUBERCULOSIS

Certain metropolitan churches have organized what they call "tuberculosis classes." These consist of patients suffering from tuberculosis who, because of various conditions, cannot leave home, but who are taught how to live and disciplined in right living by regular attendance on what is called "class day" under the auspices of the church. Each week every patient brings for the inspection of the physician aiding in the work a book supplied for the purpose, in which he keeps an accurate and complete record of his daily habits, diet, weight, sleep and the amount of time he has passed in the open air. This enables the physician to suggest various improvements in the mode of living, to correct errors of diet and hygiene and to recognize early such special symptoms as may require treatment. The daily life of the patient, thus kept under a supervision such as is not possible when only a weekly or even more frequent visit to a dispensary is made, can be regulated almost as in a sanatorium.

A recent report of St. George's Church, New York City, shows how much can be accomplished during the course of a year for a small class of patients to whom individual attention is given. The results, considering that the cases cannot be so carefully selected as in sanatoriums, that the conditions are not so favorable and that there are many disadvantages, compare well with tuberculosis sanatorium statistics. Out of twenty patients, two were discharged as being "apparently cured"; four were "arrested." and five were "improved." More than half of the whole number of patients, though still living at home with their families, their ordinary lives being unchanged except by the advice of the physician, the influence of the example of others and the incentive gained from the movement, have been considerably improved in the course of a single year. The most important factors, of course, are the diet and the fresh air. These patients are taught and encouraged to live in the open as much as possible and to admit fresh air to their houses.

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[1] Brown, E. E.: American Standards in Education and the World-Standard, Science, Oct. 1, 1909, xxx, 417.

The weight statistics are interesting. All except one who had been in the class for more than three months had gained in weight, the gain ranging from one to twenty pounds. The case of the one patient who lost in weight was an especially unfavorable one. Here are some definite results that show how much can be accomplished by instruction, example, discipline and charity for tuberculous patients even in city life. We say charity because some of the patients had to be helped to secure the proper nutrition. Here seems to be a good field for the churches. There can be no doubt of the benefit to be derived from the tuberculosis class movement.

THE INDEX

The index to the current volume of THE JOURNAL appears in this issue. The greatest care has been exercised to make it technically and mechanically perfect. Special effort has been made to bring titles under the fewest possible headings consistent with descriptive accuracy. And herein lies one of the difficulties in making a perfect index: authors frequently employ titles that are not sufficiently descriptive of the substance of their papers. The general plan of the index has not been changed, but it may facilitate its employment to restate it. The index is in three parts—the "General Index" is a complete index to all reading matter that has appeared in THE JOURNAL for the past six months, the "Index to Subjects" is an index of the articles that have appeared in the leading medical journals of the world during the same period, sufficiently complete and exhaustive for all ordinary purposes, and the "Index of Authors" contains the names of all authors whose articles are in the "Index of Subjects." Attention is again called to the "Guide to Current Medical Literature," a separate pamphlet in which is printed all the matter of the index together with the itemized lists of all articles that have appeared in medical periodicals. In this separate form it is extremely convenient and useful and avoids the necessity of handling loose copies or the bound volume. A better acquaintance with it would greatly extend its use.

Yellow Fever.—There has been no yellow fever in the United States during 1909 and a marked absence of it during the quarantine season of this year in Cuban, Mexican, West Indian, Central and South American ports, which is attributed to the greater attention being paid to sanitation.

Medical News

ALABAMA

County Society Meetings. Shelby County Medical Society, at its annual meeting in Calera, December 14, elected Dr. John R. Pow, Maylene, president; Dr. Joel Chandler, Columbiana, vice-president; Dr. Eugene S. Miller, Columbiana, secretary; Dr. James F. Trucks, Helena, treasurer; Dr. Victor H. Williams, Calera, county health officer; and Dr. John I. Reid, Aldrich, censor.——Bessemer Medical Society, at its annual meeting, December 9, elected Dr. Thomas I. Conwell, president; Dr. Lucian A. Spencer, vice-president; and Dr. William Waldrop, secretary.——Colbert County Medical Society, at its annual meeting in Tuscumbia, December 7, elected the following officers: Dr. William H. Green, Tuscumbia, president; Dr. Walter J. Maxwell, Sheffield, vice-president, and Dr. Julius T. Haney, Tuscumbia, secretary-treasurer.——At the annual meeting of Limestone County Medical Society, held in Athens, Dr. Henry A. Darby, Athens, was elected president; Dr. E. Burke Hardin, Athens, vice-president; Dr. C. O. King, Athens, secretary-treasurer; Dr. Benton S. Pettus, Athens, county and city health officer; Dr. J. J. Pettus, health officer of Mooresville; and Dr. William E. Maples, health officer of Elkmont.——Jackson County Medical Society held its annual meeting at Scottsboro, December 10, and elected Dr. J. W. Boggess, president; Dr. William C. Maples, Scottsboro, vice-president; Dr. Edward Boyd, Scottsboro, secretary-treasurer, and county health officer; and Dr. S. H. Jones, censor.——At the annual meeting of Etowah County Medical Association, held in Gadsden, December 1, Dr. John P. Stewart, Attalla, was elected president; Dr. Herschel V. Baskin, Coats Bend, vice-president; Dr. William C. Williams, Gadsden, secretary; Dr. George L. Fawcett, Gadsden, treasurer; Dr. Hartford L. Ison, Gadsden, censor; Dr. Claude L. Murphree, Gadsden, city and county health officer (reelected); and Dr. James W. Cox, Gadsden, county physician, (reelected); Dr. James H. Wood, health officer of Attalla; Dr. William H. Acton, health officer of Alabama City, and Dr. John H. Ellison, health officer of Altoona.——The officers of the Morgan County Medical Society, elected at its annual meeting, December 2, are as follows: President, Dr. William L. Dinsmore, Decatur; vice-president, Dr. Felix B. Hunter, Falkville; secretary-treasurer, Dr. Joseph L. Gunter, New Decatur; censor, Dr. B. Walne Watson, New Decatur; county health officer, Dr. Frank P. Pettey, New Decatur; health officer of Decatur, Dr. William L. Dinsmore; of New Decatur, Dr. Michael W. Murray; of Hartsells, Dr. Hugh C. McRee; of Falkville, Dr. Felix B. Hunter; of Trinity, Dr. Frank Emens; of Austinville and Fairview, Dr. Roy M. Buchanan, New Decatur; of Flint, Dr. J. W. Crow; and of Somerville, Dr. P. W. Brindley; county jail physician, Dr. Henry C. Bracken, New Decatur; and physician to the poor house, Dr. P. W. Brindley.

COLORADO

Consumptive Hospital Report.—The tenth annual report of the Jewish National Hospital for Consumptives shows that 353 patients were treated last year, and that the expenses of the institution were $88,143; of this about one-eighth was used for the purpose of publicity.

El Paso County Physicians Elect.—At the annual meeting and banquet of the El Paso County Medical Society, held in Colorado Springs, December 8, Dr. Gerald B. Webb was elected president; Dr. Zenas H. McClanahan, vice-president; Dr. Lewis H. McKinnie, secretary; and Drs. Peter O. Hanford and Philip A. Loomis, delegates to the state society, all of Colorado Springs, and Dr. George B. Gilmore, treasurer, Colorado City.

ILLINOIS

Insane Endangered by Fire.—The north annex of the Jacksonville State Hospital was partially destroyed by fire December 21. The 200 insane women in that portion of the hospital were removed without casualty. The damage is estimated at $50,000.

Champaign County Physicians Meet.—Champaign County Medical Society, at its annual meeting, held December 9, in Champaign, elected the following officers: President, Dr. John Martin, Tolono; vice-president, Dr. Ellen Miner, Champaign; secretary-treasurer, Dr. Nellie M. Baker, Urbana; censors, Drs. Albert S. Wall and William L. Gray, Champaign, and James S. Mason, Urbana; delegate to the state medical society, Dr. William E. Schowengerdt, Champaign, and alternate, Dr. Clyde D. Gulick, Urbana.

Personal.—Dr. Rufus W. Gillette, Danville, is seriously ill in St. Elizabeth's Hospital, Danville.——Dr. Charles A. Griswold, Fulton, fell in his home, December 7, severely wrenching his right leg.——Dr. James H. Shepperd, Peoria, who has been ill with ptomaine poisoning, has recovered.——Dr. Edwin W. Reagan, Canton, has been elected president, and Dr. LeRoy R. Chapin, vice-president, of the trustees of the Murphy Hospital fund.——Dr. William K. Smith, LaHarpe, was operated on in the Macomb Hospital, December 5.

Chicago

Jonnesco in Chicago.—Dr. Thomas Jonnesco, of Bucharest, visited the city December 21 and 22, demonstrated his technic of spinal anesthesia at the Cook County Hospital, and also delivered an address on the same subject before the Chicago Medical Society.

College Election.—The Chicago Eye, Ear, Nose and Throat College held its annual meeting December 1, and reelected Drs. William A. Fisher, president; Dr. Adolphus G. Wippern, vice-president; Dr. John R. Hoffman, secretary, and Drs. Thomas Faith and Harry W. Woodruff, directors.

Juvenile Home Incorporated.—The Frances Juvenile Home Association was incorporated December 16, with the purpose of providing for, and giving medical treatment to children afflicted with offensive diseases, and of educating and making self-supporting, children entrusted to its care.

Heavy Cut in Health Appropriation.—The city comptroller has asked Dr. William A. Evans, health commissioner, to reduce the estimate of expenses of the health department from $607,000 for the year to $540,000. This, if done, will curtail the work of medical inspection, school nursing, vital statistics, and the activities of the sanitary bureau.

INDIANA

Personal.—Dr. Charles L. Thomas, Logansport, was seriously injured by the overturning of an automobile in Chicago December 6. His shoulder was dislocated, his jaw broken, and he suffered internal injuries.——Dr. Rufus F. Frost has been appointed secretary of the board of health of Huntington and Dr. Daniel Yingling a member of the board.——Dr. David Cohen, Jeffersonville, has resigned as township physician.——Dr. Charles B. Kern, Lafayette, has been reappointed physician of Tippecanoe county.——Dr. Winfield S. Faulds has been elected president, Dr. Harry F. Walsh secretary, and Drs. William P. Lane and I. L. Milstone, members of the Gary Board of Health.——Drs. Oliver P. Graham and Joseph Zuerner have been recommended for appointment as members of the Jeffersonville Board of Health.

Elections.—At the annual election of the Vigo County Medical Society, held in Terre Haute, December 7, the following officers were elected: Dr. J. Rudolph Yung, Terre Haute, president; Dr. Thomas C. Louks, Prairieton, vice-president; Dr. Charles N. Combs, Terre Haute, secretary-treasurer; Drs. Myron A. Boor and Malachi R. Combs, Terre Haute, delegates to the state association; Drs. Ernest W. Layman and J. Rudolph Yung, Terre Haute, alternates, and Dr. Bennet V. Caffee, Terre Haute, censor.——Ripley County Medical Association, at its annual meeting, elected Dr. James M. Pinkston, Holton, president; Dr. Reece C. Townsend, Osgood, vice-president; Dr. Bine Whitlach, Pierceville, secretary-treasurer; Dr. Theodore M. Brenton, Osgood, censor; Dr. John R. Pate, Milan, delegate to the state association; Dr. Edward D. Freeman, Osgood, alternate; Dr. E. D. Freeman, delegate to the district society; and Dr. George T. Beckett, Versailles, alternate.——At the annual meeting of Allen County Medical Society, December 7, the following officers were elected: Dr. Charles E. Barnett, president; Dr. Alfred L. D. Kane, vice-president; Dr. J. Clifford Wallace, secretary; Dr. William P. Whery, treasurer; Drs. Hermann A. Duemling, Samuel H. Havice and Edward J. McOscar, censors; Drs. Miles F. Porter and Charles R. Dancer, delegates to the state association, and Drs. Charles G. Beall and John H. Gilpin, alternates, all of Fort Wayne.——Floyd County Medical Society held its annual meeting December 3, at New Albany, and elected the following officers: President, Dr. Robert W. Harris; vice-president, Dr. Chester C. Funk; secretary, Dr. George E. Dash; censors, Drs. John Hazlewood, Henry B. Shacklett and William C. Winstandley, and delegate to the state medical association, Dr. Elihu P. Easley, all of New Albany.——Lake County Medical Society, at its annual meeting, held in Hammond, December 2, elected Dr. Eldridge M. Shanklin, Hammond, president; Dr. Theodore B. Templin, Gary, vice-president; Dr. Herman C. Groman, Hammond, secretary-treasurer; Dr. John E. Metcalf, Gary, censor, and Drs. William F. Howat and Herman C. Groman, Hammond, delegates to the state medical association.

IOWA

Personal.—Dr. Rosa M. Liebig has been reappointed overseer of the poor of Marshalltown.——Dr. Frederick A. Seemann is reported to be seriously ill at his home in Sioux City.——A fire, resulting from a defective flue, caused a damage of about $2,500 to the home of Dr. Alphonse L. Hageboeck, Davenport.——Dr. Elijah W. Jay, Marshalltown, underwent an operation for gall-stones in Augustana Hospital, Chicago, November 26, and is making a satisfactory recovery.——Dr. and Mrs. Thomas M. Wall, Osceola, have gone to the Isle of Pines for the winter.

Society Meetings.—The Cerro Gordo County Medical Society, at its annual meeting, held in Mason City, December 8, elected Dr. Francis E. McGlone, Mason City, president; Dr. Albin B. Phillips, Clear Lake, vice-president; Dr. Ida G. Rhoades, Mason City, secretary-treasurer. Dr. Walter L. Bierring of the State University held a clinic in the afternoon, and the annual banquet was held in the evening.——At the annual meeting of Johnson County Medical Society, held in Iowa City, December 1, Dr. Clarence E. Van Epps, Iowa City, was elected president; Dr. Calvin W. Harned, Iowa City, vice-president; Dr. Lawrence W. Littig, Iowa City, secretary-treasurer; Dr. Francis L. Love, Iowa City, censor; and Dr. Albertus J. Burge, Iowa City, delegate to the state society.——Iowa County Medical Society, at its annual meeting in Marengo, elected the following officers: President, Dr. Arnold C. Moon, Williamsburg; vice-president, Dr. A. F. Randolph; secretary-treasurer, Dr. Eric N. Brown, Marengo; delegate to the state society, Dr. Jasper L. Augustine, Ladora; censors, Drs. William H. Martindale, Marengo, Thomas J. Shuell, Parnell, and Edgar B. Henderson, Marengo.——Woodbury County Medical Society, at its annual meeting, held in Sioux City, elected the following officers: Dr. J. Herbert Darey, Sioux City, president; Dr. Ernest A. Jenkinson, vice-president; Dr. William J. Cremin, Sioux City, secretary; Dr. Roy M. Conmey, Sergeant Bluff, treasurer; and Drs. James F. Taylor, Salix, and Prince E. Sawyer, Sioux City, delegates to the state society.

KENTUCKY

New City Hospital.—Jefferson County Medical Society, at its last meeting, endorsed the plan of obtaining the passage of an act securing a bi-partisan hospital commission under which the new Louisville City Hospital could be erected by funds provided from a bond issue to be voted at the next general election. To create sentiment in favor of this act, a committee of five was appointed to wait on the commercial bodies, the mayor and the council.

Society Meeting.—At the annual meeting of the Franklin County Medical Society, held in Frankfort, Dec. 6, the society endorsed the bill regulating the sale of opium and its derivatives, and discussed the proposed ordinance regulating the sale of milk. The following officers were elected: President, Dr. Joseph L. Barr, Frankfort; vice-president, Dr. M. C. Darnell; secretary-treasurer, Dr. Urbane V. Williams, Frankfort, and delegate to the state society, Dr. Nevil M. Garrett, Frankfort.

Personal.—Dr. Charles Z. Aud, Cecilian, has been appointed a member of the State Board of Health, vice Dr. Joseph M. Mathews, Louisville, resigned.——Dr. Jefferson D. Pryor, Mayfield, was severely burned on the face in an explosion a few days ago.——Dr. William F. Scott, Somerset, is suffering from a broken nose, caused by a fall recently.——Dr. Robert L. Woodard, Hopkinsville, has been made medical director of the Indiana Industrial Life Insurance Company, Terre Haute.——Dr. James A. Averdick, Covington, is seriously ill with septicemia.——Dr. Thomas J. Glenn has been elected physician of Ludlow.

Milk Regulation.—At a conference between the State Board of Health, the representatives of the Louisville Health Department and the Indiana State Board of Health, it was decided that after the expiration of 90 days all milk being shipped into Louisville must come from herds that have been submitted to the tuberculin test and found free from tuberculosis. Under a regulation already in effect, the cattle shipped into the Bourbon Stock Yards for sale as dairy cattle must bear the stamp of the State Veterinarian as being free from tuberculosis. Much excellent work has been done in the county, but there still remains a large part of the dairy cattle to be tested. About 16 per cent. of those tested have reacted.

Inspection of Bakeries.—At a conference of the State Board of Health, representatives of the State Experiment Station at Lexington, and the city health department, a system of inspection and enforcement of the rules regarding the operation of bakeries was adopted. These regulations define the character of the building to be used as bakeries, lighting, plumbing, drainage, cleaning and care of walls and woodwork; specifies that bakerooms shall be used for that purpose only, not for sleeping, lounging or toilet rooms; spitting in workrooms is prohibited; cleanliness of employees, as to person and clothing, is enjoined: the health of the employees is regulated; the character of the water supply used is defined: well water cannot be used until a certificate of its analysis has been obtained from the State Experiment Station; wrapping of bread and bakery products in newspapers, and affixing tags to bread is prohibited; no flour, preserves, or jellies can be used until they conform to the regulation of the pure-food laws of the state, and the use of oleomargarine is prohibited.

MARYLAND

Personal.—Right Rev. Luther B. Wilson, M.D., will preside at the Baltimore Conference of the Methodist Episcopal Church next spring.——Dr. James H. Stauffer, Baltimore, is ill in Johns Hopkins Hospital, with leukemia.

Found Home for Widows and Orphans.—The Medical and Chirurgical Faculty of Maryland, which has had a fund since 1903 for the immediate relief of the widows and orphans of its deceased members, adopted plans, December 16, founding a home for widows and orphans, and appointed a board of managers to have charge of the home and administer its affairs. Subscriptions are already being received for this home and one gift of $1,000 has been pledged. The home will be located near Baltimore.

Special Legislation.—The Medical and Chirurgical Faculty of Maryland, at its meeting in Baltimore, December 16, considered certain important matters of legislation, and approved the proposed pure food and drug bill and the law to license and regulate midwives. The first of the bills follows closely the national pure food law, and provides for an appropriation of $10,000 a year to the State Board of Health for the enforcement of the law, and makes it mandatory on states attorneys to prosecute alleged violations. The second bill provides that a license be required from all midwives after July 1, 1910. The law is made not retroactive. In cases not normal, or in the case of inflammation of the eyes of the infant, the midwife must call in a regular practitioner.

Society Meeting.—At the annual meeting of the Baltimore City Medical Society, held Dec. 7, Dr. Harvey W. Cushing was elected president; Dr. Charles W. Mitchell, vice-president; Dr. W. Edward Magruder, secretary; Dr. William S. Gardner, treasurer; Dr. Charles E. Brack, censor (reelected); and members of the house of delegates, Drs. Samuel F. Earle, Jr., Herbert Harlan, William T. Lockwood, William S. Thayer, Edward L. Whitney, Richard H. Follis, Archibald C. Harrison, Joseph L. Hirsh, Howard A. Kelly and Arthur M. Shipley. Dr. William Pepper, Philadelphia, delivered an address on "The Medical Life of Benjamin Franklin." A portrait of Dr. F. E. Chatard was presented to the faculty by Dr. John W. Williams, and Dr. Harry Friedenwald presented a portrait of Dr. Nathaniel G. Keirle, and also a copy of "Studies in Rabies," by Dr. Keirle. Dr. G. Milton Linthicum, president of the Medical and Chirurgical Faculty, of Maryland, received the gifts.

MICHIGAN

Case of Leprosy Found.—A case of leprosy is reported in Calumet. The patient is a Finn who was in the government employment in Alaska five years ago. The diagnosis has been confirmed by Dr. A. S. Warthin of the University of Michigan.

Shacks for Tuberculosis Patients.—At a meeting of the executive committee of the Antituberculosis Society of Ann Arbor, November 30, it was voted to erect open-air shacks at the University Hospital with accommodation for eight patients, and one at the Homeopathic Hospital to accommodate four patients.

Personal.—Dr. William A. Stone has resigned as assistant superintendent of the Michigan State Hospital, Kalamazoo, and Dr. Herman Ostrander has been appointed his successor. ——Dr. Allen L. Cory has been elected president of the Stanton Antituberculosis Society.——Dr. James H. Dempster, Detroit, has succeeded Dr. Herbert M. Rich as editor of the *Detroit Medical Journal*. Dr. Rich remains on the staff as collaborator in the department of pediatrics.

County Society Meets.—The annual meeting and election of officers of the Bay County Medical Society was held in Bay City, December 13. The retiring president entertained the society at a banquet, after which the following officers were elected: President, Dr. John W. Hauxhurst; vice-president, Dr. Roy C. Perkins; secretary, Dr. Hubbard N. Bradley; treasurer, Dr. Charles H. Baker; delegate to the state society, Dr. William R. Ballard, and alternate, Dr. John McLurg, all of Bay City.

NEBRASKA

Poliomyelitis Contagious.—The Nebraska State Board of Health has decided that anterior poliomyelitis, which is now prevalent in the state, is contagious and has ordered the establishment of quarantine.

Bequest to Hospital.—M. M. Gregorian, a day laborer who came to this country from Armenia a quarter of a century ago, and who died recently at Norfolk, has bequeathed $1,000 to the Methodist Hospital, Omaha, and $1,000 each to two hospitals in New York City.

Personal.—Dr. Alexander Bear, Norfolk, for forty years a practitioner of north Nebraska, has retired and moved to his old home in Richmond, Va.——Dr. DeWitt C. Bryant, Omaha, is taking a tour of the world.——Dr. John I. McGirr, Beatrice, has been appointed first lieutenant and assistant surgeon Medical Corps, Neb. N. G., and has been assigned to the first machine gun company.——Dr. and Mrs. Walter O. Henry, Omaha, and Dr. Leslie M. Stearns, Kearney, have returned from Europe.

Society Meetings.—At a meeting of the physicians of Jefferson county, in Fairbury, December 3, the Jefferson County Medical Association was reorganized with the following officers: President, Dr. George A. Heath, Fairbury; vice-president, Dr. Thomas J. Andrews, Fairbury; secretary-treasurer, Dr. Samuel E. Hawes, Fairbury; delegate to the state society, Dr. Gibbert Pritchett, Fairbury; alternate, Dr. George A. Heath, Fairbury; and censors, Drs. J. S. Taylor, Steele City; Harry Brown, Daykin, and Herman Kunze, Fairbury.——At the annual meeting of the Lancaster County Medical Society, held in Lincoln, December 4, the following officers were elected: Dr. John T. Hay, Lincoln, president; Dr. Laurence B. Pilsbury, Asylum, vice-president; Dr. Francis A. Graham, Lincoln, secretary-treasurer; and Drs. Francis A. Graham and Edward W. Rowe, Lincoln, delegates to the state medical society.

NEW YORK

To Relieve State Hospitals.—In order to relieve the congestion of the state hospitals for the insane near New York City, the State Lunacy Commission purposes to erect seven large cottages, each capable of housing 200 patients. Six of these cottages will be erected in connection with the Long Island Hospital, three at Central Islip and three at Kings Park; the other one will be on Wards Island. These buildings will cost about $750,000.

Examination of Water Supplies.—At the recent sanitary conference at Rochester, it was announced that the State Hygienic Laboratory had increased its facilities by establishing a station for the sanitary investigation of water supplies, in the more immediate neighborhood, at Cornell University, Ithaca, N. Y. Health officers, who will find this laboratory more conveniently located for examination of the water supplies of their districts, have been notified. The laboratory will endeavor to make examination and control analysis of each water supply in the district at least once a month. Regular reports will be published for the information of citizens. An invitation has been extended to all health officers and others interested in the maintenance and improvement of the potable waters of New York state to visit this laboratory and familiarize themselves with its methods.

New York City

The Guild of St. Luke.—A number of physicians met at Cathedral College, December 8, and organized a society by this name to be in affiliation with similar societies throughout Europe. This organization has for its object the study of the ethical and historical problems connected with medicine. Dr. Charles E. Nammack was elected president; Drs. Thomas Addis Emmet and Jose M. Ferrer, vice-presidents; Drs. Thomas F. Reilly and James J. Walsh, secretaries.

Physical Defects in School Children.—The official report of Dr. Edwards A. Park, in charge of the examination made during the summer of more than a thousand school children from the tenements with the view of determining the need of open-air schools in New York City shows that of 1,233 children examined, 289, or 23 per cent., showed the characteristic reaction after having been subjected to tests for tuberculosis. In many of these, however, the focus of tuberculosis was walled off and was not likely to exert a serious influence on the general health. There were 50 cases of enlarged tonsils and adenoids; decayed teeth were very general with the result that it was difficult to determine whether the numerous cases of enlarged glands of the neck were due to them or to tuberculosis. Five cases of endocarditis were noted.

Art Commission Approves Designs.—At the recent meeting of the Municipal Art Commission, the designs for the new Bellevue Hospital were approved. It is estimated that this group of buildings will cost $2,750,000, and will consist of two surgical pavilions, a building used for operating rooms, surgical wards and rooms for the house staff and an extension to the laundry rooms and store rooms. This group of buildings will be erected on the blocks east of First avenue between Twenty-sixth and Twenty-ninth streets. The commission also approved designs for three open-air concrete tuberculosis pavilions, arranged with movable sashes so that they can be enclosed and used for other contagious diseases at certain times of the year. These pavilions will be placed on the east side of North Brother Island, and will cost about $35,000 each.

OHIO

Medical Society Meetings.—The second annual banquet of the Starling-Ohio Medical Alumni Association of the Miami Valley was held in Dayton, November 30, under the presidency of Dr. Clifton L. Patterson, Dayton, Dr. Francis C. Gray acting as toastmaster. The following officers were elected: President, Dr. John W. Millette; vice-president, Dr. Charles W. Salisbury; secretary-treasurer, Dr. G. W. Richie, and trustee, Dr. Ned D. Goodhue.——Articles of limited partnership have been filed by Dr. George Strobach, John Rawley, and Walter M. Goodwin, Cincinnati, for the American Physicians' Protective Association. The object of the organization is to aid physicians and surgeons in the collection of their accounts, to keep them properly advised as regards non-paying patients, to eliminate fraudulent practitioners, and to keep the profession advised as to all proposed legislation.

PENNSYLVANIA

Personal.—Dr. J. Edward Nickel, who has been for the past year a member of the staff of the State Sanatorium, Mont Alto, has resigned and will resume private practice in Harrisburg.——Dr. David J. McCaa has been reelected president and Dr. John F. Mentzer, treasurer of the Ephrata Borough Board of Health.——Dr. Howard Y. Pennell has been elected secretary of the reorganized board of health of Downingtown.

Officers Elected.—At the annual meeting of the Berks County Medical Society, held in Reading, December 15, the following officers were elected: President, Dr. George W. Kehl, Reading; vice-presidents, Drs. Franklin P. Lytle, Birdsboro, and Clara S. Keiser, Reading; recording secretary, Dr. Henry P. Brunner, Reading; corresponding secretary, Dr. Ralph A. Harding, Reading; reporter, Dr. Rufus E. LeFevre, Reading; censors, Drs. Daniel Longaker, Fremont W. Frankhouser and Israel Cleaver, all of Reading; curator, Dr. Harry F. Rentschler, Reading; librarian, Dr. Clara S. Keiser, Reading, and trustee, Dr. Abraham S. Raudenbush, Reading.——The Jefferson Alumni Association of Northwestern Pennsylvania held its annual meeting and banquet in Scranton, December 16. About forty-five were present, and Professors W. M. Late Coplin and John M. Fisher, of the college, were present and responded to toasts. Dr. John B. Mahon, Pittston, was elected president; Dr. Frederick L. Van Sickle, Olyphant, vice-president, and Dr. J. Norman White, Scranton, secretary.

Philadelphia

Druggists Bid on Work for Poor.—Thirty-one druggists have offered to put up prescriptions issued by the city authorities to poor persons, and their bids were opened December 14 in Director Neff's office. There was $8,000 available for this purpose this year. The basis of the charge is that the drugs are to cost the same as the prices quoted to the municipal hospitals, which is lower than the ordinary wholesale cost.

New Surgical Prize.—A precedent was established in the Medical School of the University of Pennsylvania, December 10, when the Undergraduate Medical Association endowed a surgical prize to be competed for by fourth-year medical classes, beginning 1910. All prizes, heretofore, have been founded by the faculty or alumni. The contest will be for the best essay based on observations of the University Hospital clinics in anatomy, pathology and physiology. The first prize will be $75, and the committee of judges comprises: Drs. Charles H. Frazier, John Speese, and J. Edwin Sweet.

Personal. Dr. W. Harper Sloan was acquitted of the charge of criminal malpractice before the Court of Common Pleas, December 17.——Dr. S. Lewis Ziegler, who has been seriously ill with erysipelas, is convalescent.——Dr. Leo Loeb, assistant professor of pathology at the University of Pennsylvania, has resigned to become director of a special skin and cancer laboratory in St. Louis.——Dr. Arthur J. Davidson has been elected orthopedic surgeon to the Mathilde Adler Loeb Dispensary of the Jewish Hospital.——Dr. William Jackson Merrill has been elected assistant orthopedic surgeon to the St. Agnes Hospital.

WISCONSIN

County Society Meeting.—At the annual meeting of the Waukesha County Medical Society, held at the State Tuberculosis Sanatorium, Wales, Dr. Albert J. Hodgson, Waukesha, was elected president; Dr. Richard E. Davis, Waukesha, vice-president; Dr. Laurel E. Youmans, Mukwonago, censor; Dr. Michael R. Wilkinson, Oconomowoc, delegate to the state society, and Dr. Daniel McL. Miller, Oconomowoc, alternate.

Treatment of Rabies.—The Pasteur Institute for the treatment of those affected with rabies, recently established at the University of Wisconsin, Madison, in connection with the State Hygienic Laboratory, has had 14 patients up to Dec. 10. Dr. Mazyck P. Ravenel, professor of bacteriology at the University of Wisconsin, is in charge of the institute, and Dr. Cornelius A. Harper is making the injections. It is planned to establish a boarding-house for the patients.

GENERAL NEWS AND COMMENT

Conference on Hookworm.—The first conference on the eradication of hookworm will be held in Atlanta, Jan. 18 and 19, 1910. Delegates will be appointed to the conference from Alabama, Mississippi, South Carolina, Georgia and Florida.

Pellagra.—A special commission has been appointed, with the approval of the Secretary of the Treasury, for the investigation of pellagra. Five members are from the Public Health and Marine-Hospital Service, and two from the staff of St. Elizabeth's Insane Hospital at Washington.

Personal.—Dr. Edward C. Ellett, Memphis, Tenn., was elected chairman of the Section on Ophthalmology of the Southern Medical Association, and Dr. Urban S. Bird, Tampa, Fla., secretary.——Dr. John R. Minahan, Green Bay, Wis., has been elected president of the Association of Surgeons of the Chicago, Milwaukee and St. Paul Railway.

Resolutions Regarding Dr. Nauman.—At a recent meeting of the American Medical Association of Vienna, a resolution was adopted setting forth the high appreciation the members of the association have for Dr. Henrick Nauman of the University of Vienna as an investigator and teacher of otology. Dr. Nauman is soon to visit the United States.

Soo Line Surgeons Elect.—At the annual meeting and banquet of the Minneapolis, St. Paul and Sault Ste. Marie Railway Surgical Association, held in Minneapolis, December 16, Dr. Justus Ohage, St. Paul, was elected president; Dr. Herbert B. Crommett, Amery, Wis., vice-president; and Dr. John H. Rishmiller, Minneapolis, secretary-treasurer. The next meeting will be held in St. Paul.

Fake Drug Inspector.—A letter of warning has been sent out by the United States Department of Agriculture, against certain individuals who are falsely representing themselves as agents of the department for the purpose of obtaining money. One John H. Kraft is specifically mentioned as an impostor, whose *modus operandi* is to call on individuals suffering from rheumatism, for whom he offers to provide treatment at a cost of fifty dollars, five dollars of which are to be paid down and the balance within five years.

No Tuberculosis Prize as Yet.—The statement in the newspapers that a prize of $100,000 has been offered to the person who discovers a cure for tuberculosis, that Yale University is custodian, and that members of the faculty of Yale Medical School are to act as trustees, is stated by Prof. Herbert E. Smith, dean of the medical faculty, to be incorrect. The possibility of securing such a fund was suggested and information was asked as to the conditions to be attached to such a prize, but aside from this conference, nothing has been done and the authorities of Yale University do not know that anything further will come of the matter.

Another Scheme to Defraud.—A correspondent from Nebraska City, Neb., calls attention to another scheme to obtain some of the earnings of the hard-working but too good-natured physician. An individual purporting to be a land agent calls on the doctor offering him a lot in a new town in some distant state, as Texas or Oklahoma, on payment of the cost of the abstract and deed ($4 to $7), the latter to be sent later. In return the physician is to speak a good word for, or furnish a list of probable investors in, the project being promoted. The physician gives up the money but the deed is not forthcoming.

Seaboard Physicians Meet.—At the annual meeting of the Seaboard Medical Association. held in Norfolk, Va., Dec. 7. 8. and 9, the following officers were elected: President, Dr. William T. Parrott, Kinston, N. C.; vice-presidents, Drs. Joseph Grice, Portsmouth, Va., B. H. Halsey, Suffolk, Va., and Herbert D. Walker, Elizabeth City, N. C.; secretary, Dr. J. Rainey Parker, Goldsboro, N. C.; treasurer. Dr. Israel Brown, Norfolk, Va. (reelected), and orator, Dr. Joseph H. Hiden, Pungoteague, Va. The chief addresses of the meeting were delivered by Drs. Southgate Leigh, president, Norfolk, Va., on "The Education of the Public on the Cancer Problem," by Dr. William T. Parrott, Kinston, S. C., on "The Student Doctor," and by Dr. Charles P. Wertenbaker, U. S. P. H. and M.-H. Service, on "Pellagra." Kinston, N. C., was selected as the place of meeting for 1910.

Work of the Marine Hospital Service.—The summary of transactions of the Public Health and Marine-Hospital Service for the fiscal year of 1909 shows that during the year no further cases of human plague occurred in San Francisco, but that 4 cases of rat plague were found, the last on Oct. 23, 1898. There were 156,059 rats caught, of which 93,558 were examined. In Oakland no human plague occurred until October 26, when a case was reported that had received its infection in Contra Costa county. In Los Angeles, Aug. 11, 1908, a case of human plague was discovered, and soon after an infected ground squirrel was found. No case of human plague was discovered in Seattle, but out of 48,652 rats examined, 10 were found infected. A widespread plague infection among ground squirrels was found in Contra Costa county, and up to October 30, 44,843 squirrels had been destroyed. During 1908, 111 deaths from rabies were reported, from 534 infected localities. The disease prevailed in 38 states and territories in the eastern three-fourths of the United States, but no cases were reported from the Rocky Mountain or Pacific Coast regions. The report also deals with the investigations now being pursued on pellagra and the hookworm disease. The leprosy investigation station at the Island of Molokai, for which $100,000 was appropriated, is now completed and ready for occupancy. At this station experiments on animals, in which quantities of leprosy material are required, will be carried on, but the investigation of incipient cases will be continued at the temporary laboratory in Honolulu. The problems which leprosy present include the successful growth of the lepra bacillus on artificial media, the successful inoculation of the lower animals, the discovery of a substance analogous to tuberculin to be used as a remedial or diagnostic agent, the discovery of the mechanism whereby the infection spreads from one person to another, and lesser problems that add to the knowledge of the disease, and while apparently of no great immediate importance, may indicate the path leading to the solution of the greater problems. During the year 24,657 cases of smallpox were reported with 75 deaths from 42 states, 1 territory, and the District of Columbia. The additions to the hygienic laboratory, which treble the capacity of that institution, were completed during the year and nine bulletins were issued. The publication of a series of bulletins embodying a digest of comments on the Pharmacopeia was undertaken. There were 966,124 immigrants inspected during the fiscal year, 14,536 of whom were certified for rejection on account of physical defects. At the hospital for immigrants, Ellis Island, 6,186 patients were admitted for treatment during the year. In the 21 marine hospitals owned by the government and at the 126 other stations, where seamen of the merchant marine received hospital and dispensary treatment, there were treated during the year 53,074 patients. Physical examinations were made of 4,980 persons connected with various branches of the service. The personnel of the service at the close of the fiscal year included the surgeon-general, 5 assistant surgeon-generals, 35 surgeons, 66 passed assistant surgeons, and 21 assistant surgeons. There were also 279 acting assistant surgeons and 45 pharmacists.

FOREIGN

Epidemic of Trichinosis in Spain.—The town of Jimena in Spain reports 30 cases of trichinosis in persons who had eaten the pork from a certain hog. Fourteen of the victims had died at the date of the report and trichinæ were found in the muscles.

Medal for Local Health Officer.—The town of Santa Margherita in northern Italy has recently had a medal engraved and presented to Dr. A. Alberti who for fifty years has been the local health officer, in token of appreciation of his long and devoted service to the commonwealth.

Degrees Conferred by University of Brussels.—On its seventy-fifth anniversary recently the university of Brussels conferred honorary medical degrees on Waldeyer of Berlin, Metchnikoff of Paris, the chemist E. Fischer of Berlin, and Duke Karl Theodor of Bavaria, whose death was announced a few days later.

Monument Proposed.—The town of Hilden in Germany plans to erect a monument to its greatest son, Guilelmus Fabricius, the eminent surgeon, who upheld the standard of science after the death of Ambroise Paré in France. It is desired to unveil a statue of Fabricius on the three hundred and fiftieth anniversary of his birth, June 25, 1560.

The Sanitary Aspect of the Russian Political Exiles.—Last September the two editors of the official organ of the Russian National Medical Association were arrested at Moscow for publishing a revolutionary article in their journal. They were acquitted, however, when they produced proof that the article in question was merely the publication of the answers that had been received to a question-blank sent out by the medical association to reliable men, mostly physicians, who had been exiled, inquiring of them in regard to the sanitary conditions of the "deportation system" as they had experienced them. Only 24 replies were received, and all were printed. Among the statements to which the government objected was one to the effect that innocent parties were frequently sent into exile by mistake for the one actually incriminated, and that the guards in charge of the troop of exiles mistreated them and violated the women exiles. These statements were proved true by specific instances. Dr. A. Dworetzky of Moscow writes to the *Münchener med. Wochenschrift*, Nov. 23, on the subject, relating a number of details from the various replies received to the question blanks. Only 11 of the 24 writers had been able to obtain employment in their new home; the government does not permit the exiles to teach or practice law; physicians alone are allowed to practice their profession. A monthly allowance of from $2.50 to $4.00 is given the exiles by the state—their sole support. It is a frequent practice to send exiles from the south of Russia to the far north of Siberia, where almost all soon die of tuberculosis. Medical aid is not obtainable unless one of the party happens to be a physician. In the cemetery at Kolymsk for the exiles, the graves are filled with suicides, the conditions at that terminal station wrecking the strongest nervous system.

LONDON LETTER

(From Our Regular Correspondent)

London, Dec. 11, 1909.

Damages from Hotel for Serving Typhoid Oysters

Lieutenant Cardale of the Royal Navy sued the proprietor of a hotel at Chatham where he and a friend ate oysters. After a fortnight both were taken ill with typhoid fever and the friend died. A month before, the health authorities had warned against the eating of contaminated shellfish from the Medway, the river on which Chatham is built. The jury awarded the plaintiff $1,320 damages and costs.

The Housing and Town Planning Bill

The bill for the regulation of housing and town planning, just passed, is one of the most important advances in sanitary legislation ever made in this country. Previously the building of towns was in no way regulated and property owners were able to construct new streets without any regard for the public interests. By the new act every county council is obliged to have a health officer who must devote the whole of his time to the work and therefore not engage in private practice. At present in many cases the health officer is a general practitioner who devotes only part of his time to his public work. He must be supplied with reasonable information by the health officers of the several districts in the county. According to a previous act houses let to the working classes must be in all respects fit for human habitation, but this applies only where the annual rent does not exceed $100 in London, $65 in Liverpool, $50 in Manchester and Birmingham, and $40 elsewhere. The present act extends this provision to houses with an annual rental not exceeding $200 in London, $130 in a borough or urban district, and $80 elsewhere. These new provisions will render the act applicable to practically all the working class dwellings throughout the country. According to a previous act local authorities were empowered to provide new houses for the working classes, but this clause was only in force where it had been adopted by the local authority. By the present act it is put in force in every district throughout the country. Further, if a local authority does not provide accommodation necessary for the working class of that district, the local government board may hold an inquiry and declare the local authority in default, and order them to do what is necessary. The provisions of the act with regard to town planning mark a new departure in legislation in this country. Hitherto new centers of population have been allowed to grow up and existing urban areas have been allowed to expand without control or prevision. The result has often been the haphazard development of land in the vicinity of urban centers has produced slums, prevented the orderly growth of towns, and later involved enormous expenditure in clearing sites, widening streets, and providing necessary open spaces. The act aims at securing, in the future, sanitary conditions and convenience by enabling schemes to be made under which building land will be developed with due regard for future requirements. Local authorities are empowered to prepare town planning schemes in connection with land likely to be used for building purposes or to adopt any such schemes proposed by the owners of land. But the plans must be approved by the central health authority the local government board.

The Seventeenth International Congress of Medicine

This will be held in London in 1913. The National Committee of Great Britain and Ireland at the last congress, under the presidency of Dr. F. W. Pavy, F.R.S., will be made into a general committee to meet in February. It has been decided that the colonies are to be adequately represented.

The Medical Treatment of London School Children

As stated in previous letters the problem of providing medical treatment for London school children suffering from disease or defects which prevent or interfere with their education, now compulsory, is subject of much controversy. For economical reasons the London County Council has declined to establish school clinics, but instead has come to an arrangement with certain hospitals to treat the children. This arrangement has been censured by the British Medical Association and by medical opinion in general. The council entered into agreements with eight hospitals to provide treatment for 16,000 children suffering from disease of the eyes, ears and skin, and accepted the offer of Charing Cross Hospital to provide *x*-ray treatment for twenty-five children suffering from ringworm. It is remarkable that the council has not seen its way to provide dental treatment, as the prevalence of disease of the teeth is appalling.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Dec. 10, 1909.

Proposed Tax on Mineral Waters

The proposition to tax mineral waters, which has several times been suggested in our country, has always been systematically rejected. It is probable that the same fate awaits the project of the minister of finances, who proposes to introduce a stamp-tax on mineral waters, a label bearing a guarantee being attached to each bottle. This project has called forth numerous protests, not only from merchants, but from the public. Mineral waters, are, in fact, regarded as hygienic drinks. To augment their price is to restrict their use among people of small means. The opponents of the tax point out, moreover, that the official guarantee stamp will have a harmful effect by conferring a sort of equality on all waters of one region and thus creating most regrettable confusion in the minds of the consumers. From the fiscal point of view, the returns from the tax will be very small, the waters subject to the tax amounting to about 30,000,000 bottles. By a tax of 1 cent (5 centimes) a bottle, only about $300,000 (1,500,000 francs) will be raised, and, moreover, the greater part of this amount will be absorbed by the expenses of collecting the tax, which is characterized by its adversaries as "the tax on public health."

An Important Prosecution for Fraud in Flour

A few days ago arguments in an important case of frauds in flour began, before the court of Limoux, department of l'Aude; 32 merchants or middlemen are implicated. The two principals are men of Italian origin settled in the vicinity of Limoux. The 30 others are merchants or brokers of Perpignan, Milhau, Valence and various other cities throughout France. The two manufacturers put on sale products of undefined composition (intended, according to their prospectuses, to whiten flour), in which analysis has revealed the presence of considerable proportion of talc. Over 200,000 pounds (100,000 kg.) have been used in adulteration of flour sold by the accused.

Freedom of Choice of a Physician by Subjects of Charity

At its recent congress, the National Association of Mayors of France passed a resolution that recipients of charity should have the privilege of selecting their physicians and pharmacists.

Measures Against the Illegal Practice of Medicine

In a preceding letter, I mentioned the case of an individual who, though without any diploma, had been able to practice medicine with impunity for several years. Public opinion was strongly aroused by this affair, and the Prime Minister has just called the attention of the mayors to the obligations which rest on them to restrict the practice of medicine to the medical profession. He has particularly recommended that they see that the diplomas of practitioners should be regularly registered within the space of a month as the law prescribes, and that students of medicine called to practice during an epidemic, or to fill a vacancy temporarily, should furnish testimonials of scholarship.

Election of Dr. Mosny to the Academy of Medicine

In the course of its session of December 8, the Academy of Medicine elected an honorary member in the section of hygiene and sanitary police. Dr. Mosny, physician of the St. Antoine Hospital and member of the consulting committee of public hygiene, was elected by 65 out of 78 votes.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Dec. 1, 1909.

Personal

Professor Kern, heretofore subdirector of the Kaiser Wilhelm academy for army medical instruction, who has made a name for himself by the publication of a number of excellent philosophic treatises, will resign his position and will be followed by Dr. Keitel from Breslau.

Professor Wiedersheim at Freiburg has been chosen a member of the newly founded academy of sciences at Heidelberg.

Dr. Jordan, professor extraordinary for surgery at Heidelberg, a talented pupil of Professor Czerny, succumbed at the age of 45 to a recurrence of a mediastinal tumor.

Professor Kraft, formerly conductor of Brehmer's sanatorium at Görbersdorf has taken the directorship of Lahmann's sanatorium, "The White Stag" (*Weissenhirsch*) in place of Professor v. Düring.

Infant Mortality at Charlottenburg

The efforts of our neighboring city Charlottenburg to reduce infant mortality show some success for 1908. The mortality of children for first year of life reckoned for 100 living amounts to 12.5. The following figures show the gradual reduction of mortality in Charlottenburg. For 1880: 33.67; 1885: 28.75; 1890: 25; 1895: 22.60; 1906: 14.16 for 100 born living.

Medical Certificates for Candidates for Matrimony

A petition has been presented to the federal council (*Bundesrat*) and the Reichstag which proposes as a supplement to the legal requirements for marriage license that both of the engaged persons shall present the certificate of a licensed physician, stating that he has been consulted medically by both parties with reference to the contemplated marriage. In this way the result will be reached that those who contemplate marriage will be informed regarding their state of health without any restraint being placed on their free choice in other respects. The petition is founded on the idea that the essential necessity of health in the parties to a marriage should be brought to the consciousness of the public. By the proposed legal regulation many weak and diseased persons would be restrained from matrimony. In this way the previous annual increase of population would be diminished, to be sure, but only to the benefit of the public, for the condition of health would be gradually improved. It is not to be denied that the fundamental idea of this petition is correct. It is very much to be wished that those who desire to enter the marriage state should recognize the duty to inform themselves regarding the health of each other quite as much as regarding the financial relation and other fundamental requisites of a satisfactory marriage. Every physician can cite examples of the carelessness in regard to health with which marriage is often contracted and what serious consequences arise from this neglect.

Tuberculosis Mortality for 1908

According to the latest official information 33,205 men and 30,115 women died of tuberculosis in Prussia in 1908. Reckoned for 10,000 living, this gives for 1908 a proportion of 16.46. This figure is the smallest (except for the year 1906) which has been reached since 1875 when the first Prussian statistics were published. In 1875 the entire number of those who died of tuberculosis in the Kingdom of Prussia was 82.122 or 31.9 per 10.000. The reduction in the absolute number of deaths from tuberculosis is the more remarkable in consideration of the steady increase in population. In 1908 the population amounted to 38,473,129.

Improvement of Village Hygiene

In order to improve the hygiene of the villages which is for the most part in a sad condition, so-called prizes for cleanliness have been founded in certain districts of Alsace which are annually distributed to the villages which have best fulfilled the conditions for that year. Of ten communes which announced themselves for the competition this year, one village obtained the first prize of $250 (1.000 marks) and two communes shared the second prize, $125; in addition each of the three communes received a diploma.

Care for Alcoholic Patients

For about fifty years efforts have been made in Germany to improve the moral and physical condition of those addicted to drink by treatment in inebriate asylums (*Trinkerheilanstalten*) and to restore them to self support. The first of these benevolent establishments was founded by the evangelical deaconess institute of Duisburg in the little Rhenish city of Lintorf. At present there are in Germany 47 inebriate asylums with 1.429 beds in all. Among them are 10 private sanatoria and 6 institutions which receive other patients in addition to alcoholics. In the remaining 31 public institutions about 15.000 patients were received in 1907. Moreover according to official statistics about 12.000 patients with chronic alcoholism were treated annually from 1877 to 1901 in the general hospitals of Germany. If the first three years, 1877 to 1879, inclusive are compared with the last four years, 1898 to 1901, an increase of the annual average of cases of chronic alcoholism from 5.240 to 18.207 is seen. While it must be admitted that with the increase in the number of hospitals and with the decrease in the public dread of such institutions, proportionally more patients undergo treatment in the hospitals, yet on the other hand, it is apparent from the figures given that a very undesirable growth of chronic alcoholism has occurred and it must be concluded that the number of inebriate asylums and the care for inebriety in general are not yet as advanced as is desirable. The newly founded bureau for the instruction and care of alcoholic patients will supply a need in this direction.

The Russian Consultation Bureau

The affair of the Russian consultation bureau which I have repeatedly treated in previous letters, i. e., the charges raised against a number of Berlin professors of paying Russian interpreters and agents for the introduction of Russian patients has reached a termination for some of the affected persons. The physician who brought the whole affair into public notice requested an investigation by the medical court of honor for himself on account of the complaints raised that he had carelessly impugned the honor of his colleagues without sufficient grounds. He was acquitted, the court deciding that his suspicions were not baseless. It appears to be established that several physicians and professors were guilty. Certain accused professors, however, against whom a disciplinary process had been instituted by the department of education have been acquitted of every charge as the official preliminary investigation has shown that there was no sufficient ground for official interference. This result concerns Professors v. Leyden, Ewald, and Senator. The two last named had resigned their offices in the Berlin Medical Society on account of the charges (the first that of librarian, the latter that of the first president). The new election was postponed till the situation should be cleared. Now a new election has occurred and as was to be expected Senator was reestablished. On the other hand to our astonishment Ewald was not re-elected. This most regrettable affair has been settled in a satisfactory manner at least so far as the three accused professors are concerned. It seems, however, that the official process begun against some other professors is to take its course and it is the impression that they will not escape punishment entirely.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Dec. 2, 1909.

Dangerous Trades

In the course of a trial against a firm of celluloid-makers medical experts were heard with a view to ascertaining the dangers of this trade and the best means of preventing accidents. In the case in question a fire broke out on the premises, which were not at all fit for this kind of work; the arrangements for ventilation and removal of celluloid dust were especially unsatisfactory and eighteen persons were suffocated by the poisonous gases before they could escape. As the trade is developing very much lately in this country and several serious accidents occurred, medical societies took the question up and presented a memorandum to the board of trade urging the cooperation of medical men with technical experts being made obligatory in all such manufactories. It has been estimated that the risk run by the laborers in this trade is equaled only by that incurred by the makers of phosphorus matches, but in the latter case slow chronic disablement is produced; in the case of the celluloid workers a quick death ensues. Another point emphasized in the medical memorandum is danger in the employment of juveniles in this trade because of the natural carelessness and the lack of experience among boys and girls of 15 to 17 years. The medical action has been commented on very favorably by the lay press.

Another danger to public health has been brought to the notice of the board of trade by a private action of firms on the occasion of the death of a very influential banker in Vienna, who was said to have been poisoned by the tapestry in his office. Post-mortem examination showed that antimony and arsenic had been inhaled for a long time by the unfortunate money magnate. The only source of the poisonous substances found was traced to the imported heavy tapestry, said to come from England, which was used lavishly in the offices of the bank. Some twenty years ago, wall-paper containing a trace of arsenic in the bright green and red colors was used extensively in this country, and when some deaths were caused by these paper-hangings, its use was forbidden. Nevertheless, strict inspection of the stock in the hands of the firms trading with material for wall-papering was at once instituted recently in order to assure the public that no danger was threatening. This insight into the relation between public health and business is largely due to the presence of a few level-headed men of our profession on the board of health. In this country of the unexpected it is not at all a matter of course that a board of health should comprise any medical men. At all events, attention was directed recently to the necessity of protecting the population against unscrupulous money-making by certain trades at the risk of the health of the consumers.

The Transactions of the Meeting of the Austrian Medical Councils

At the meeting of the above-mentioned bodies which has become a yearly institution welcomed by the profession, several important decisions were adopted. Dr. Grün read a paper on quackery, pointing out that lately several cases of acquittal of quacks had occurred in spite of the proved menace to public health that this meant. The position of the medical profession was seriously compromised unless this condition of the present attitude of the courts was changed. The law was rather elastic on this point. Therefore, he recommended the following amendment to the quackery act to be considered by the meeting. "Whoever undertakes to treat or treats continually, with or without payment, one or more persons, without possessing an inland university medical diploma, or a foreign recognized degree, is guilty of an offence against the law, unless he can prove that his immediate interference was the means of saving the life of the affected person. The penalty inflicted should not be less than one month, and not more than three months' imprisonment."

Several articles of the proposed new *Aerzte Ordnung*, or medical act, were severely criticized which will be discussed shortly in the parliament. Dr. Gruss showed that throughout the entire act the medical practitioner has been put under heavy obligations without receiving an equivalent of rights. Thus the law requires the doctor to report certain diseases, all cases of trauma, of injury, and attempts at suicide, while it does not protect him against claims by patients arising out of his complying with these requirements of the law.

Another point much discussed was the question of specialists. Dr. Löwenstein moved the following resolution: "The titles obtained from an appointment by the state or a municipal institute may be used by the holders of these posts only, and must be relinquished when the appointments cease. A doctor may call himself specialist only after having served at least one year at a special department of a hospital and if he adopts this title, he may not practice anything else but his specialty. If several special branches of the profession belong together, these may be united; local requirements may necessitate the combination of different branches. Such combinations will have to be recognized by the local medical council."

Correspondence

Davis Memorial Fund

To the Editor:—The committee appointed to secure funds for the Davis memorial feels assured that the medical profession is in a large degree ignorant of its scope and purpose. This committee was appointed at the Portland session of the Association and at once organized in the expectation of securing the fund promptly.

The national disaster caused by the destruction of San Francisco induced the committee to defer its work in the interest of the medical profession of California. The financial crisis of two years ago was sufficient reason for causing a still further delay. The committee thinks that the time has now arrived for pushing its work to a completion. The committee has requested of the various state societies to take this matter actively in hand and name the sum which seems to them an equitable apportionment. The committee has suggested that half of the respective sums be furnished by a vote of the society, thus causing indirectly the enrolment of every member of the profession in contributing toward this worthy object. The committee feels sure that the other half of this apportionment will be gladly furnished by private subscription, as a privilege rather than a burden. This plan was adopted in Massachusetts and on a personal appeal of the chairman the subscription greatly exceeded the sum allotted. We feel assured that an effort of this sort, inaugurated by the officers of the state medical societies, will be successful. The committee urges the different state organizations to complete their subscriptions without further delay, knowing that the great body of the medical profession feels a debt of gratitude which can be publicly expressed only in this way.

We would ask every reader of The Journal to take up this matter actively with the officers of the state society. The funds should be forwarded to Dr. Frank Billings, treasurer of the American Medical Association, 100 State Street, Chicago.

Henry O. Marcy, Chairman of the Committee, Boston.

Pharmacology

Radical Revision of the Pharmacopeia

It is interesting to note that pharmacists are moving in the direction of a radical revision of the Pharmacopeia. At the May meeting of the Baltimore branch of the American Pharmaceutical Association the following resolutions were offered and accepted for future discussion:

> *Resolved,* That it is the sense of the Baltimore Branch of the American Pharmaceutical Association that the Ninth Revision of the U. S. Pharmacopeia should not contain formulas for compound preparations and should present matter relating to simples and preparations of simples, only; that the National Formulary should contain only such formulas for compound preparations as are consistent with prevailing advanced knowledge of chemistry, pharmacology, pharmacy and therapeutics and that all titles therein contained should be true to content and in accord with accepted medical and pharmaceutical ethics. It is further
>
> *Resolved,* That the parent body be requested to consider the advisability of publishing a General Receipt Book, with frequent supplements, to contain all formulas dropped from the U. S. P. and N. F., and such other formulas as may be useful to pharmacists.

Mr. H. P. Hynson, a pharmacist of Baltimore, discusses these resolutions in a recent paper (*Bull. Am. Phar. Assn.,* November, 1909) in which he says that the effect of such a rule would be to dismiss about 40 articles from the Pharmacopeia, or 3 per cent. of the pharmacopeial titles, relegating them to the National Formulary. For instance: Cataplasm of kaolin, antiseptic solution, and the compound acetanilid powder would not be admitted, and compound mixture of glycyrrhiza, compound syrup of sarsaparilla and some other well-known mixtures would have to be dismissed. A broad construction of the resolution would not necessitate the dismissal of preparations in which a small amount of another substance is added for the purpose of effecting solution, but slight changes should be made in the titles and formulas, whereby such preparations might be made to comply with the new rule. Solution of iodin in solution of potassium iodid of sufficient strength need not be called compound solution of iodin.

He thinks that it would not be wise to offer argument on either side at the present time. "The whole subject, however, will be more clearly considered," he says, "if we fix in our minds just what the pharmacopeia of to-day should be. Is it to be an authority as to standards, alone: standards of identity characteristics; standards of pharmacodynamic or adjuvant worth; standards of relative potency, or is it to be a book of both standards and suggestions? Its chemistry and pharmacy must be beyond reasonable question, but it can scarcely presume to establish therapeutic standards or even attempt to do so, when so little has been done to make such standards possible."

The proposition is one of considerable importance and may be taken as pointing to a distinction to be made between the Pharmacopeia and the National Formulary. It is questionable if the dismissal of compound formulas from the Pharmacopeia would be desirable if there were no other official standard book. As the National Formulary has been in a sense legally recognized and is now generally accepted as containing official preparations, there could be no objection to assigning all compound mixtures to that book. This would logically involve the authorization of the National Formulary by the same representatives of the medical and pharmaceutical professions as now determine the character of the Pharmacopeia. Or if this is not feasible and it is deemed advisable to continue the work as a publication of the American Pharmaceutical Association, the value of the book might be enhanced if physicians should cooperate in its preparation.

The Public Service

Medical Corps of the Navy

Changes for the week ended Dec. 18, 1909:

Benton, F. L., surgeon, detached from the *Franklin* and ordered to the *Prairie.*

Shippen, L. P., asst.-surgeon, detached from the Naval Prison, Portsmouth, N. H., and ordered to the *Prairie.*

Steep, J., P. A. surgeon, detached from the Naval Station, Newport, R. I., and ordered to the *Franklin.*

Baker, M. C., asst.-surgeon, detached from the *Ohio* and ordered to the Naval Recruiting Station, Cincinnati.

Clifton, A. L., asst.-surgeon, detached from the Naval Recruiting Station, Cincinnati, and ordered to duty in connection with the fitting out of the *Michigan* and to duty on board that vessel when placed in commission.

Public Health and Marine-Hospital Service

List of changes for the seven days ended Dec. 15, 1909:

White, J. H., surgeon, granted 8 days' leave of absence from Dec. 11, 1909.

Stoner, J. B., surgeon, on being relieved by P. A. Surgeon R. H. Creel, directed to proceed to Port Townsend, Wash., and assume command.

Blue, Rupert, surgeon, granted 4 months' leave of absence from Jan. 1, 1910, with permission to go beyond the seas.

Lavinder, C. H., P. A. surgeon, granted 4 days' leave of absence from Dec. 13, 1909, under paragraph 191, Service Regulations.

Lumsden, L. L., P. A. surgeon, granted 7 days' leave of absence from Nov. 29, 1909, under paragraph 191, Service Regulations.

Corput, G. M., P. A. surgeon, granted 16 days' leave of absence from Dec. 15, 1909.

Korn, W. A., P. A. surgeon, granted 1 day's leave of absence, Dec. 22, 1909.

Schereschewsky, J. A., P. A. surgeon, granted 5 days' leave of absence, under paragraph 191, Service Regulations.

Wille, C. W., P. A. surgeon, granted 2 days' leave of absence from Dec. 8, 1909.

Francis, Edward, P. A. surgeon, granted 6 days' leave of absence from Dec. 6, 1909, under paragraph 191, Service Regulations.

Creel, R. H., P. A. surgeon, relieved from duty at Baltimore and directed to proceed to Evansville, Ind., and assume temporary command. Granted 1 day's leave of absence en route to station.

Pettyjohn, Joseph, P. A. surgeon, relieved from duty at San Francisco and directed to proceed to New Orleans and report to the medical officer in command for duty and assignment to quarters. Granted 1 month's leave of absence en route to station.

de Valin, Hugh, P. A. surgeon, directed to proceed to Washington, D. C., and report to the Director of the Hygienic Laboratory for temporary duty.

Hunt, Reid, Chief Division of Pharmacology, Hygienic Laboratory, detailed to attend the meetings of the American Association for the Advancement of Science and affiliated societies, to be held in Boston, December 27, to January 1.

Altree, G. H., acting asst.-surgeon, granted 4 days' leave of absence from Nov. 2, 1909, without pay.

Bailey, C. A., acting asst.-surgeon, granted 20 days' leave of absence from Dec. 12, 1909.

Branham, H. M., acting asst.-surgeon, granted 3 days' leave of absence from Dec. 15, 1909, without pay.

Foster, S. B., acting asst.-surgeon, granted 22 days' leave of absence from Dec. 10, 1909.

Safford, M. V., acting asst.-surgeon, granted 7 days' leave of absence from Dec. 7, 1909, under paragraph 210, Service Regulations.

Watson, H. J., acting asst.-surgeon, granted 19 days' leave of absence from Dec. 13, 1909.

BOARD CONVENED

Board of medical officers convened to meet at Montreal, Canada, Dec. 6, 1909, for the purpose of examining an alien. Detail for the board: Passed Assistant Surgeon Eugene H. Mullan, chairman; Acting Assistant Surgeon C. K. Russel; Acting Assistant Surgeon Handsford McKee, recorder.

Health Reports

The following have been reported to the Public Health Service, during the week ended Dec. 17, 1909:

SMALLPOX—UNITED STATES

Alabama: Montgomery, Nov. 20-27, 23 cases.

California: San Francisco, Nov. 20-27, 1 case.

Colorado: Fruita, Nov. 20-27, 8 cases.

Connecticut: Stamford, Nov. 1-30, 1 case.

Indiana: Marion, Nov. 27-Dec. 4, 1 case; South Bend, Nov. 23-30, 4 cases.

Kansas: Independence, Nov. 27-Dec.4, 2 cases.

Louisiana: New Orleans, Nov. 27-Dec. 4, 1 case.

Michigan. Bay City, Nov. 28-Dec. 4, 3 cases.

Minnesota: Duluth, Nov. 20-Dec. 4, 4 cases.

Mississippi: Brookhaven, Oct. 30-Nov. 6, 1 case; Natchez, Nov 20-27, 5 cases.

Missouri: St. Louis, Nov. 27-Dec. 4, 3 cases.

Montana: Stevensville, Nov. 20-27, 1 case.

North Carolina: Charlotte, Nov. 20-Dec 4, 8 cases; Hickory, Oct. 30-Nov. 6, 1 case; Nov. 20-27, 3 cases.

Ohio: Dayton, Nov. 20-Dec. 4, 6 cases, 1 death.

Tennessee: Memphis, Nov. 20-27, 2 cases; Nashville, Nov. 27-Dec. 4, 1 case.

Texas: Paris, Nov. 20-27, 29 cases.

Vermont: Smithfield, Nov. 20-27, 1 case.

Wisconsin, La Crosse, Nov. 20-27, 1 case; Superior, 1 case.

SMALLPOX—INSULAR

Porto Rico, Nov. 1-30, 10 deaths.

SMALLPOX—FOREIGN

Brazil: Bahia, Oct. 22-Nov. 5, 32 cases, 26 deaths; Rio de Janeiro, Oct. 24-Nov. 1, 3 cases.

Chile: Valparaiso, Oct. 30-Nov. 6, present.

India: Bombay, Nov. 2-9, 1 death; Madras, Oct. 23-29, 1 death: Rangoon, Oct. 16-23, 1 death.

Indo-China: Saigon, Oct. 16-23, 1 case, 1 death.

Italy, general, Nov. 14-21, 16 cases; Naples, 6 cases, 2 deaths; Turin, Oct. 21-28, 1 case.

Java: Batavia, Oct. 16-23, 5 cases, 1 death.

Mexico: Aguascalientes, Nov. 14-21, 3 deaths; Chihuahua, 1 case: Mexico City, Oct. 30-Nov. 6, 1 death; Monterey, Nov. 21-28, 1 death.

Portugal: Lisbon, Nov. 13-20, 11 cases.

Russia; Libau, Nov. 7-14, 5 cases, 1 death; Moscow, Oct. 23-Nov. 6, 4 cases, 1 death; Odessa, Oct. 23-Nov. 13, 19 cases, 4 deaths; Riga, Oct. 23-30, 7 cases; St. Petersburg, Oct. 5-Nov. 13, 94 cases, 36 deaths; Warsaw, Sept. 18-Oct. 9, 10 deaths.

Spain: Almeria, Oct. 1-31, 3 deaths; Barcelona, Nov. 8-22, 2 deaths; Valencia, Oct. 23-30, 1 case.

Straits Settlements: Singapore, Oct. 9-16, 1 death.

Tripoli: Tripoli, Oct. 31-Nov. 13, 7 cases.

YELLOW FEVER

Brazil: Manaos, Nov. 6-13, 1 death; Para, Nov. 6-20, 6 cases, 3 deaths.

Ecuador: Guayaquil, Oct. 31-Nov. 13, 8 deaths.

Mexico: Merida, Nov. 29, 1 case; Peto, Nov. 26, 1 case.

CHOLERA

India: Bombay, Oct. 27-Nov. 9, 4 deaths; Calcutta, Oct. 9-16, 7 deaths; Oct. 23-30, 9 deaths; Rangoon, Oct. 16-30, 7 deaths.

Japan: Osaka, Nov. 17, 1 case.

Java: Batavia, Oct. 26, present.

Manchuria: Dalny, Oct. 9-16, 2 deaths; Oct. 25-Nov. 1, 2 deaths.

Russia in Asia: Vladivostok, Sept. 22-Oct. 21, 115 cases, 83 deaths.

Russia in Europe, general, Oct. 31-Nov. 6, 172 cases, 78 deaths; St. Petersburg, 81 cases, 20 deaths; St. Petersburg, government, 22 cases, 11 deaths.

PLAGUE

Brazil: Bahia, Oct. 22-Nov. 5, 7 cases, 3 deaths; Rio de Janeiro, Oct. 25-Nov. 1, 2 cases.

China: Hankow, Dec. 7, present.

Ecuador: Guayaquil, Oct. 9-23, 21 deaths; Oct. 30-Nov. 13, 34 deaths.

India, general, Oct. 23-30, 4,287 cases, 3,456 deaths; Bombay, Oct. 27-Nov. 9, 11 deaths; Calcutta, Oct. 9-16, 5 deaths; Oct. 23-30, 10 deaths; Rangoon, Oct. 16-30, 6 deaths.

Indo-China: Saigon, Oct. 9-23, 5 cases, 5 deaths.

Japan: Kobe, Nov. 17, present; Osaka, Nov. 17, 1 case.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DENATURED ALCOHOL

To the Editor:—Please tell me what denatured alcohol is, its chemical composition, uses, etc. R. F. Lischer, Mascoutah, Ill.

Answer.—Denatured alcohol is alcohol to which has been added certain materials which destroy its character as a beverage and render it unfit for liquid medicinal purposes, but which do not prevent its employment for industrial purposes. Denatured alcohol is exempt from the internal revenue tax laid on ordinary alcohol, and is sometimes called tax-free alcohol. Under authority of an act of Congress passed in 1907, the Commissioner of Internal Revenue has prescribed that for general purposes alcohol known as completely denatured alcohol must be prepared by either of the following formulas:

1. To every 100 gallons ethyl alcohol (of not less than 180 degrees proof) there shall be added 10 gallons of approved methyl alcohol and one-half gallon of approved benzin.

2. To every 100 gallons of ethyl alcohol (of not less than 180 degrees proof) there shall be added two gallons of approved methyl alcohol, and one-half gallon of approved pyridin bases.

The methyl alcohol, benzin, and pyridin intended for use as denaturants must be submitted for chemical test and must conform to certain specifications. In cases in which the above named substances would render the alcohol unfit for certain industrial uses special denaturants have been authorized.

Tax-free alcohol can be economically used as a fuel or for power in place of gasoline and is used mechanically as a solvent, etc., in various trades. In manufacturing, alcohol is employed in the production of a number of extensively used chemicals, such as ether, chloroform, acetic ether, etc. It finds extensive application in the manufacture of varnishes, photographic dry plates, embalming fluid, lacquers, pastes and varnishes from soluble cotton, thermometer and barometer tubes, celluloid, transparent soap, photo-engravings, fulminate of mercury, watches, purified rubber, imitation leather, and for many other purposes.

Book Notices

Medical Jurisprudence, Forensic Medicine and Toxicology. By R. A. Witthaus, A.M., M.D., Professor of Chemistry, Medical Jurisprudence, and Toxicology in Cornell University and Tracy C. Becker, A.B., LL.B., Counsellor at Law, Professor of Criminal Law and Medical Jurisprudence in University of Buffalo, with the collaboration of various authors. Second Edition. Cloth. Vol. III. Pp. 982, with illustrations. Price, $6 per vol. Sold by Subscription only. New York: William Wood & Co., 1909.

The third volume of this handbook treats of the medicolegal relations of the special senses, of insanity and mental unsoundness of marriage and divorce, of the *x*-rays, and of blood, and other stains and of the hair. The medicolegal relations of insurance also receive a special chapter. The volume is introduced by an extensive list of cases cited in the volume. As in the previous volumes, the work is painstaking and exhaustive. Insanity is treated in two articles, one by E. D. Fisher from a medical point of view and the other by T. C. Becker and C. A. Boston from the legal side. The latter article discusses the relations of mental unsoundness to testamentary capacity and to contracts and other business relations as well as to criminal responsibility. The statutes relating to the care and custody of incompetent persons are given in a separate article. The scientific portion of the book, including *x*-ray examinations and the examination of blood, semen, hair, etc., is well executed and well illustrated. The work terminates with an index to the first three volumes. This volume forms a very important part of this valuable work and it is to be hoped that the succeeding volume will sustain the high standard already set.

Pye's Surgical Handicraft. Fifth Edition. Revised and Largely Rewritten by W. H. Clayton-Greene, B.A., M.B., B.C., F.R.C.S., Surgeon-in-Charge of Out-Patients, St. Mary's Hospital. Cloth. Pp. 576, with 343 illustrations. Price, $4 net. New York: E. B. Treat & Co., 1909.

The standard work of the late Walter Pye, which has gone through several editions, has been revised and largely rewritten. The editor has brought up to date the description, details and application of treatment occurring in surgical practice, at the same time maintaining in great measure the character and style adopted by the original author.

Manual of Diseases of the Ear. By Thomas Barr, M.D., Lecturer on Diseases of the Ear, Glasgow University, and J. Stoddart Barr, M.B., Ch.B., Assistant to Lecturer on Diseases of the Ear, Glasgow University. Fourth Edition. Cloth. Pp. 477, with illustrations. Price, $4.50. New York: The Macmillan Co., 1909.

This book has been largely rewritten, with the aid of J. Stoddart Barr, son of the senior author. It is intended for students, and fulfils its purpose by being short and crisp, but withal really comprehensive and up to date. It presents the characteristics of the better class of books written by English authors in omitting most of the considerations which are not yet ripe for immediate practical application and giving almost exclusively and in a categorical fashion the authors' own views and therapeutic directions. It must, however, be granted that a full familiarity with the literature and current views of others is shown. It is pleasing reading, and can be recommended as a work for the student or for brief references, but not for those who seek fuller details.

An Introduction to Chemical Analysis for Students of Medicine, Pharmacy and Dentistry. By Elbert W. Rockwood, M.D., Ph.D., Professor of Chemistry and Toxicology and Head of Department of Chemistry in the University of Iowa. Cloth. Third Edition. Pp. 241, with 20 illustrations. Price, $1.50. Philadelphia: P. Blakiston's Son & Co., 1909.

The facts of physical chemistry have been freely utilized in this work and ionic explanations given to the analytical reactions. The work is well adapted to the instruction of the medical student who needs in his study of analytical chemistry, not so much to become an expert analyst as to gain a clear insight into the principles of chemistry and sufficient technic to fit him for the simple analytical work which he may have occasion to undertake in his practice. Sufficient quantitative work is given to familiarize the student with some volumetric methods; and some special work in toxicology and sanitary chemistry complete the volume. This work ought to prove very acceptable to teachers of chemistry in medical schools or to students in college preparing for medicine.

Quain's Elements of Anatomy. Editors, Edward Albert Schäfer, LL.D., Sc.D., F.R.S., Professor of Physiology and Histology in the University of Edinburgh, Johnson Symington, M.D., F.R.S., Professor of Anatomy in the Queen's University of Belfast, and Thomas Hastie Bryce, M.A., M.D., Professor of Anatomy in the University of Glasgow. In Four Volumes. Vol. III. Neurology. By E. A. Schäfer and J. Symington. Part II. Containing the Descriptive Anatomy of the Peripheral Nerves and of the Organs of Special Sense. Eleventh Edition. Cloth. Pp. 363, with illustrations. Price, 15 shillings net. New York: Longmanns, Green & Co., 1909.

This volume contains the descriptive anatomy of the peripheral nerves and of the special sense organs. The portion of the book dealing with macroscopic anatomy has been written by Prof. Johnson Symington and the microscopic portion by Professor Schäfer. This edition contains much new matter and a large number of new illustrations, including many original drawings by Prof. Ramon y Cajal. The principal new matter is in the portion devoted to microscopic anatomy, the description of the gross anatomy of the cerebrospinal nerves and their distribution being naturally more conventional. The section devoted to special sense organs is particularly good, especially the chapters on the eye and ear. The plan of issuing the work in small and convenient sections is convenient, especially for students.

The Practical Medicine Series. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol. VII. Pediatrics, Edited by Isaac A. Abt, M.D., Assistant Professor of Medicine (Pediatrics Department), Rush Medical College, with the Collaborations of May Michael, M.D., Orthopedic Surgery, Edited by John Ridlon, A.M., M.D., Professor of Orthopedic Surgery, Northwestern University Medical School, with the Collaboration of A. Steindler, M.D. Cloth. Pp. 234. Price, $1.25. Chicago: The Year Book Publishers.

This volume, intended for the general practitioner, gives a review of the year's literature of the world on the subjects of pediatrics and orthopedic surgery. Under pediatrics, the subject of hygiene and dietetics are especially well represented. Completeness is given to the dietetic section by a translation of an article by Prof. E. Feer, which is credited to the *Bulletin of the Chicago School of Sanitary Science*, July 31, 1909. It comprises eighteen pages in the book and reviews the whole subject in an admirable way. Like the other numbers of the series, this volume will provide the general practitioner with a valuable summary of the year's progress in this special subject.

Sechsundachtzigster Jahres-Bericht der Schlesischen Gesellschaft für vaterländische Cultur. Enthält den Generalbericht über die Arbeiten und Veränderungen der Gesellschaft im Jahre 1908. Paper. Breslau: G. P. Aderholz' Buchhandlung, 1909.

This Silesian society comprises various sections, of which the medical is of the most interest to the physician. The report of the sessions of the medical section begins with an address by Professor Hürthle on the occasion of the unveiling of a bust of Purkinje, giving an account of the life and scientific activities of Purkinje. Among the other notable articles is one by A. Peiser on the therapy of sarcoma and another on the same subject by Goebel, a discussion on the pathology and therapy of chronic cardiospasm by Gottstein, a paper on the pathology of adrenal tumors by Winkler, and a review of the progress in our knowledge of syphilis by A. Neisser.

Marriages

A. R. L. Dohme, M.D., Baltimore, Md., to Miss Paula Carl, at Boston, November 22.

William Emil Durr, M.D., to Mrs. Adeline B. Fink, both of Milwaukee, November 25.

Ella K. Dearborn, M.D., and Arthur G. Herald, both of Portland, Ore., December 1.

David W. Walley, M.D., to Miss Rosa Alperque, both of Richton, Miss., December 12.

George Frederick Reinhardt, M.D., to Miss Aurelia Henry, both of Berkeley, Cal., recently.

Herman Gross, M.D., Metuchen, N. J., to Miss Goldie Altman, of New York City, December 1.

Leland O. Mauldin, M.D., Greenville, S. C., to Miss Carrie Mason Floyd of Woodruff, S. C., October 27.

Edgar H. Lancaster, M.D., Houston, Texas, to Miss Ellen Waggoner, of Austin, Texas, December 2.

Thomas Morris Chaney, Jr., M.D., Old Fort, N. C., to Miss Myrtle McComless, at Asheville, N. C., December 9.

Hal Clarke Smith, M.D., Sunnyside, Neb., to Miss Bertie Isabelle Wilson of Long Pine, Neb., at Omaha, December 1.

Deaths

Frank W. Reilly, M.D. Northwestern University Medical School, Chicago, 1861; Illinois Army Board, 1861; a member of the American Medical Association, American Public Health Association, and Chicago Academy of Medicine; assistant Health Commissioner of Chicago; veteran of the Civil War; pioneer sanitarian and editor; died at his home in Chicago, December 16, from arteriosclerosis and cerebral hemorrhage, aged 73. He was a native of England, and after studying in the Medical College of the State of South Carolina, Charleston, and Rush Medical College, Chicago, graduated from Chicago Medical College, and served that institution as demonstrator of anatomy. At the outbreak of the Civil War he enlisted as a volunteer surgeon and was seriously wounded at the battle of Shiloh; he later served as assistant surgeon of the Forty-fifth Illinois Volunteer Infantry and surgeon of the Twenty-sixth. From 1867 to 1873 he was sanitary inspector and assistant commissioner of the Chicago Health Department; and then entered the United States Public Health and Marine-Hospital Service. After the yellow fever epidemic in Memphis, he was made sanitary inspector of the National Board of Health, and placed in charge of the sanitary regeneration of the city, and of the Mississippi Valley. In 1881 he was made a member of the Illinois State Board of Health, and four years later became an editorial writer on the Chicago *Morning News*, and then was made managing editor. In 1891, he was again appointed a member of the Illinois State Board of Health, and was made its secretary, and three years later he reentered the Chicago Health Department and was made assistant commissioner of health in 1895. In 1873, while assistant commissioner of health, he served as editor of a monthly magazine called *Hygiene*, in which he inaugurated and urged a national campaign for health and hygiene. He was one of the committee of three who directed the educational campaign for a pure water supply, which established the feasibility of the drainage channel. He conceived and carried out the idea of publishing a weekly health bulletin, containing facts about the mortality and morbidity of Chicago, and setting forth the simpler lessons of public hygiene for the education of the public in the prevention of disease. While he was assistant secretary of the State Board of Health, the medical practice act of the state was put in force. Along the lines of sanitation and preventive medicine, Dr. Reilly's achievements were most noteworthy; and his services to public health have been of inestimable value to the city, state and nation.

Ferdinand Charles Valentine, M.D. Missouri Medical College, St. Louis, 1876; a member of the American Medical Association and a well-known specialist in genitourinary diseases, of New York City; died at his home in Belle Harbor, L. I., December 13, from arteriosclerosis and cardiac dilatation, aged 58. He was a native of Havenstadt Leer, Hanover, Germany. After his graduation from Missouri Medical College, he received a degree in medicine from the University of Guatemala, C. A., in 1879, and became a member of the Medical faculty of Guatemala, San Salvador and Honduras, and was for nine years surgeon general of the latter republic. He was emeritus professor of genitourinary diseases in the New York School for Clinical Medicine, and consulting genitourinary surgeon to the Manhattan State and Red Cross hospitals.

James Louis Harrington, M.D. University Medical College of Kansas City, Mo., 1889; a member of the Missouri State Medical Association; instructor in clinical genitourinary surgery in the School of Medicine in the University of Kansas; secretary of the Kansas City Post Graduate Medical College and Hospital since its organization; died at his home in Kansas City, December 8, from heart disease, aged 42. At his funeral the faculty of the Post Graduate Hospital Medical School attended in a body.

Albert Henry Blanchard, M.D. Harvard Medical School, Boston, 1851; a member of the Massachusetts Medical Society; surgeon of the Forty-first Massachusetts Volunteer Infantry and Third Massachusetts Volunteer Cavalry during the Civil War; for nearly 40 years a member of the school committee of Sherborn, and for most of that time its secretary; died at his home, December 5, aged 81.

Charles Henry Bogman, M.D. Jefferson Medical College, Philadelphia, 1871; a veteran of the Civil War; from 1874 to 1881, surgeon of the Union Pacific Railroad at Winnemucca, Nev., and surgeon general of Nevada on the staff of Governor Kincaid; died at his home in Zanesville, Ohio, December 6, from heart disease, aged 66.

David Todd Stuart, M.D. University of Virginia, Charlottesville, 1901; formerly a member of the American Medical Association, and a resident of Paducah; a medical missionary of Soo Chow, China; died November 6, near that city, from an accidental gunshot wound, while hunting, aged 31.

Frank E. Dewey, M.D. University of Buffalo, N. Y., 1873; of Peterboro; a member of the Medical Society of the State of New York; formerly health officer of the town of Smithfield; coroner of Madison county; died suddenly in Oneida, December 6, from heart disease, aged 60.

Robert Earle Conklin, M.D. College of Physicians and Surgeons, Chicago, 1905; a member of the American Medical Association; coroner of Harlan county, Neb.; died at his home in Alma, December 12, from an overdose of atropin, accidentally administered by a nurse, aged 31.

William Newton Klase, M.D. Medical College of Virginia, Richmond, 1889; a member of the American Medical Association; for two years chief examiner of a life insurance company in Cincinnati; died at his home in Carbondale, W. Va., November 26, aged 57.

Thomas Norton, M.D. Long Island College Hospital, Brooklyn, N. Y., 1878; formerly a member of the American Medical Association; a member of the Medical Society of the State of California; died at his home in San Luis Obispo, Cal., October 30, aged 63.

Chauncey Z. Williams, M.D. Tulane University, New Orleans, La., 1890; a member of the Louisiana State Medical Society, and mayor of Covington for nearly fourteen years; died in the New Orleans Sanitarium, December 6, after a surgical operation, aged 44.

George F. Keiper, M.D. Rush Medical College, Chicago, 1865; formerly a member of the state legislature of Nebraska, and superintendent of the Norfolk State Hospital for the Insane; died in San Diego, Cal., December 10, from carcinoma of the stomach.

William Brashear Pusey, M.D. University of Louisville, Ky., 1887; a member of the American Medical Association; a specialist in diseases of the eye, ear and throat; died at his home in Louisville, December 6, from acute nephritis, aged 43.

Thomas Peare Sappington, M.D. University of Maryland, Baltimore, 1869; a member of the Medical and Chirurgical Faculty of Maryland; of Unionville, Md.; died in a sanitarium at Catonsville, Md., December 8, from nephritis, aged 62.

Lindsey S. Brown (license, registration, Wis., 1899); a member of the State Medical Society of Wisconsin; an oculist and for forty-one years a practitioner of Madison; died at his home, November 24, from cerebral hemorrhage, aged 69.

Arthur Page Belew, M.D. University of Virginia, Charlottesville, 1870; a member of the Medical Society of Virginia, and vice-president of the Shenandoah County Medical Society; died at his home in Edinburg, December 4, aged 61.

John Watts Miller, M.D. Medical College of Virginia, Richmond, 1861; surgeon in the Confederate Service during the Civil War; of Sulphur Springs, Tex.; died at the home of his daughter in that place, November 28, aged 77.

Harrison H. Guthrie, M.D. Rush Medical College, Chicago, 1863; a surgeon during the Civil War; and later a practitioner of Minnesota; died at his home in San Bernardino, Cal., November 30, from senile debility, aged 77.

Charles M. Fisher, M.D. Kansas City (Mo.) Medical College, 1900; a member of the Kansas Medical Society; died at his home in Hanover, Kan., December 6, from pneumonia following typhoid fever, aged 35.

Joseph Lester Johnson, M.D. Bellevue Hospital Medical College, New York City, 1891; a member of the Medical Society of the State of New York; died at his home in Riverhead, L. I., December 2, aged 40.

Fidelia Green Campbell, M.D. College of Physicians and Surgeons, Boston, 1890; Salisbury, Mass.; died in the Homeopathic Hospital, Newburyport, Mass., December 4, after a surgical operation, aged 55.

James Pinkerton, M.D. Medical Department of Victoria College, Cobourg, Ont., 1865; a resident of North Dakota for more than a quarter of a century; died at his home in Rolla, December 7, aged 75.

Henry H. Harris, M.D. University of Pennsylvania, Philadelphia, 1860; a member of the Medical Society of the State of North Carolina; died at his home near Wake Forest, December 6, aged 75.

James H. C. Robinson, M.D. Kansas City Hospital College of Medicine, 1885; a practitioner of Missouri since 1856; died at his home in St. Joseph, December 3, from senile debility, aged 77.

John Sylvester Brown, M.D. New York University, New York City, 1891; was found dead in his apartments in Sacramento, Cal., December 1, from dilatation of the heart.

Gilbert Hopkins Swezey, M.D. Bellevue Hospital Medical College, New York City, 1869; of Bay Side, N. Y.; died at North Falmouth, Mass., October 6, aged 68.

Thomas Clark Coleman, M.D. Gate City Medical College, Texarkana, Tex., 1905; of Malta, Tex.; was shot and killed in that place, December 3, in an affray.

George Edmund Husband, M.D. Hahnemann Medical College, Chicago, 1861; died at his home in Hamilton, Ont., October 1, from cerebral hemorrhage, aged 70.

Frank Rieser, M.D. Pennsylvania Medical College, Gettysburg, 1852; died at his home in Reading, Pa., December 4, from heart disease, aged 79.

Thomas Maxwell Carroll, M.D. Cincinnati College of Medicine and Surgery, 1874; died at his home in Springfield, Ohio, December 7, aged 71.

Charles Galen Smith, M.D. Jefferson Medical College, Philadelphia, 1897; died at his home in Beaver Springs, Pa., September 29, aged 34.

Joseph W. Reynolds (registration, Md., 1892); died at his home in New Bridge, Md., November 25, from disease of the stomach, aged 74.

Charles Kelly Myers, M.D. Cincinnati (Eclectic) 1849; died at his home in Stockton, Cal., October 13, from cerebral hemorrhage, aged 81.

Edward Francois Painchaud, M.D. McGill University, Montreal, 1848; died at his home near Klotzville, La., December 5, aged 86.

Cuthbert Reese Barham, M.D. University of Virginia, Charlottesville, 1890; died recently at his home in Boykins, Va., aged 41.

John J. Mitchell, M.D. University of Louisville, Ky., 1875; died recently at his home in Beaver Dam, Ky., aged 62.

George W. Sullivan (license, Mo., 1883); died at his home near La Belle, Mo., December 1.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Lodge Practice in Pennsylvania

Dr. G. D. Thomas, writing from Meadville, Pa., regarding the efforts made by the local physicians to repress lodge practice and contract work, says: "It is surprising how easy it was to convince those physicians engaged in this work that it was wrong in principle, and how readily it was abandoned. Without bitter condemnation, but with friendly reasoning, every doctor in the city signed the resolution agreeing to cease contract practice work for lodges and fraternal societies. The fact that for $2 a physician was expected to treat for a year all members of a family under 18 years of age, be the members two or a dozen, was easily shown to be unfair to the public and an injustice to the profession. The public, with few exceptions, see the matter in the same light, and up to the present, no one has been prevailed on to come from the outside to enter into a contract to do the work abandoned by local physicians."

The essential and distinguishing feature of objectionable contract practice, as shown in last week's JOURNAL, is the existence of a middleman who buys the physician's services at wholesale and sells them at retail, thus farming out the physician to the public under an agreement whereby the physician gets a pittance and the patient gets poor services, while the middleman alone, who reaps the difference as his profit, is the gainer. If the question can be placed in this, the true light, before both the public and the profession, there is little doubt as to the outcome.

Postgraduate Course

The postgraduate program was given last week.

Medicolegal

Suits for Fees and Malpractice Not Allowed to be Consolidated

The First Appellate Division of the Supreme Court of New York says, in the case of Martin vs. Prentice (118 N. Y. S. 215), that the defendant, a physician, sued the plaintiff in the municipal court for professional services. Two days later, and before answer in the municipal court, the plaintiff began this action for damages for malpractice. Thereon an order was made, consolidating the municipal court action with this action, and authorizing the defendant physician to interpose as a counterclaim in this action the matter alleged as a cause of action in the municipal court. But that order could not be sustained. Section 817 of the New York Code of Civil Procedure authorizes a consolidation of two or more actions in favor of the same plaintiff against the same defendant, where the causes of action are such as may be joined. Section 818 authorizes such a consolidation where one of the actions is pending in another court, when this court may remove the action and consolidate it with an action pending here. But the two sections must be read together, and are applicable only where they are in favor of the same plaintiff. Such was not this case, and the sections cited furnished no authority for the order. The defendant had a right to bring his action in the municipal court, a forum of his own choosing, and could not be compelled to abandon that forum and interpose his demand as a counterclaim in an action which he could not control in another forum. But Justice Laughlin, while agreeing that the court was without jurisdiction to consolidate the two actions, says that he is of opinion that the Supreme Court should have stayed proceedings in the action in the municipal court until the trial and determination of this action, because the municipal court did not have jurisdiction to award the plaintiff in this action the judgment which he demanded against the physician for malpractice, and a judgment in the municipal court in favor of the physician for his services would bar the action for malpractice.

Physical Examination Refused as Interference with Trial

The Supreme Court of Georgia holds, on the appeal of Macon & Birmingham Railway Co. vs. Ross (65 S. E. R. 140), that the power of a trial court to require a plaintiff, suing for a physical injury alleged to be permanent, to submit to an examination by a competent physician, at the instance and expense of the defendant in order to ascertain the nature, extent, and probable duration of the injury, is one to be exercised or not according to the sound discretion of the presiding judge, under the facts of the case; and a refusal to require such a submission will not be reversed, unless his discretion has been abused. And where the motion for a new trial showed that a motion of the character above indicated was made several times during the progress of a trial, but was refused by the presiding judge on the ground that he could not grant the application without interfering with and delaying the trial, and there was nothing to show any abuse of discretion in such ruling, a reversal will not be granted on that ground.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

December 4

1 An Appeal. S. A. Knopf, New York.
2 *Infantile Scurvy Involving the Hip Joint. N. Jacobsen. Syracuse.
3 *Disguised Starvation and the Reasoning Faculties. N. Rosewater, Cleveland.
4 *The Present Status of Stomach Lavage. C. D. Aaron, Detroit.
5 *Symmetric Lymphomata of the Lachrymal and Salivary Glands (Mikulicz's Disease). S. L. Ziegler, Philadelphia.
6 Tuberculosis and Pregnancy. M. Fishberg, New York.
7 The Infancy of the Practice of Medicine and Surgery. H. Pomeranz, New York.
8 Surgical Treatment of Atrophic Rhinitis. J. G. Wilson, New York.
9 Bacteriologic Examination of the Mouth and Fauces. B. R. Le Roy, Athens, Ohio.

2. **Infantile Scurvy Involving the Hip Joint.**—Jacobsen reports two cases. The first patient, a boy a little less than a year old, had always been weak, and not until he was seven months old was he able to sit up alone. Prior to that time his back had been too weak to support him, although he was fat and when lying down gave one the impression of being well. On Thanksgiving day, 1908, he fell from a chair, striking on his left hip and thigh, although there had been no evident bruise. The extremity could not be moved or even touched without causing great pain. For several months prior to the receipt of this injury, the child's gums had repeatedly bled. He had also had frequent discharges of blood with the movements of his bowels. The child apparently was well-developed, but pale and fretful. He would begin to cry as soon as he was lifted out of bed. There was no apparent wasting or deformity of the extremities. The left leg and thigh were held in a flexed position. The right leg could be moved freely without causing any pain and no other part of the body was evidently affected. However, the slightest manipulation of the left lower extremity caused him to cry out. There were no changes in the gluteal cheek nor in the creases between the nates or below the buttock. There was, however, marked fixation of the hip associated with exquisite tenderness. The gums were found spongy and bled easily. The child had been brought up on a patent food. Recognizing the condition to be one of scurvy, the dietary was changed. Because of the very acute and evidently marked disturbance in and about the joints weight extension was applied for a time. Immediately improvement followed and within a very short time the child was free from pain, slept naturally, and began to improve in color and vigor.

The first evidence of disturbance in the second case had been observed during the early days of November, 1908. In attempting to put on the child's shoes he would cry, and from this time on there was marked pain in his lower extremities, more pronounced in the right than in the left. While affecting both hip joints, there was also some disturbance in the knee. It was impossible to raise the child out of bed, because at each effort to lift him he cried out. The child had had nose-bleed frequently for about 6 months, and for 2 months there had been daily hemorrhages from the gums. Examination did not disclose any swelling or marked change about the knee joints, except that they were very sensitive. The hip joints, particularly the right one, were rigid and tender. There was no wasting of the thighs or buttocks and no indication of muscular atrophy so characteristic of hip joint disease. The gums were swollen and spongy, especially in the neighborhood of the upper central incisors. This child was being fed on peptogenic milk powder. After the change in his dietary and without any medication or attention to the local condition, the patient improved at once and within a week was entirely free from pain and discomfort.

3. **Disguised Starvation.**—According to Rosewater, disguised starvation is prevalent everywhere from an unconsciously insufficient food intake (mainly from economy, worry, and ignorance), causing an atonic state and rendering the underfed powerless to maintain normal function, susceptible to many intercurrent diseases, unable to resist tuberculous and other infections, while tending toward mental and physical bankruptcy. The lower animals follow instinct, especially instinct of appetite, because possessing no other controlling faculty. Man's highest faculty, reason, presides over his instincts—appetite, fullness, satiety, etc., giving to these due but not undue credence and weight in deciding and controlling his final acts. The application of this hitherto unrecognized principle regarding the control of our wants by reason is as follows: Man's yielding to overindulgence of food through uncontrolled appetite, also his repeated refusal to eat through lack of appetite are, as a rule, physiologic errors and injurious to health. Having no appetite is no excusable criterion for insufficient eating, since man possesses abundant processes for digesting his food, even without appetite, and can force himself to eat, in spite of lack of appetite, fulness, or even disgust, through the supreme control and guidance, by his reasoning faculties, of his force of will.

To save all these classes from the results of disguised starvation, the public should be educated to know by tables of normal weight and height; those too far to either side of the normal range, should be taught to use good reason, judgment, and will, so as to get within the normal range by controlling the quantity, quality, and time of their meals.

Under the supremacy and influence of man's reasoning faculties, his strong desire for drink and drugs, and his other habits are restrained and controlled, his despondency and other vicious mental and nervous states that inhibit or depress his normal functions are overcome by hope assured, cheerfulness, and other human virtues substituted as tonics for his vices.

4. Abstracted in The Journal, Sept. 25, 1909, p. 1047.

5. **Lymphomata of Lachrymal and Salivary Glands.**—Ziegler reports two cases of what is known as Mikulicz's disease. Both patients were colored. In the first case no medicine was administered, but the tonsils were thoroughly excised. Free breathing was at once established. Retrogression of the submaxillaries began promptly, followed by the parotids, and finally included the lachrymals. In the second case, a double tonsillectomy was performed, and the uvula was excised. The throat healed rapidly. Free nasal breathing was established and the physical condition improved. The first retrogressive symptom noted was the softening of the lachrymal and submaxillary glands after about one month. Ziegler holds that the syndrome of the symmetrical enlargement of the lachrymal and salivary glands is sufficiently characteristic to be accepted as pathognomonic of Mikulicz's disease. The enormous lymph cell infiltration into the interstitial tissue, and the relative passivity of the gland structure, demand that this tumefaction shall be classed as true lymphoma or lymph tumor, as distinguished from adenoma or tumor of the glandular substance. Respiratory obstruction not only hinders the evaporation and drainage of these sinus secretions, but also causes suboxidation and other disturbances of metabolism. It should, therefore, be considered a true etiologic factor. The course of Mikulicz's disease is chronic, but the prognosis is favorable, with a tendency to relapse. The treatment aims to improve lymphatic action and systemic oxidation. All respiratory obstructions must be promptly and thoroughly removed. Extirpation is rarely indicated.

Boston Medical and Surgical Journal

December 9

10 *Relation of Posture to Human Efficiency and the Influence of Poise on the Support and Function of the Viscera. J. E. Goldthwait, Boston.
11 *Treatment of Stricture of the Bulbar Portion of the Urethra by Resection, Partial or Complete. H. Cabot, Boston.
12 *New Treatment for Abdominal Surgical Shock. J. R. Hopkins, Denver.
13 Diagnosis of Ulcer of the Duodenum. E. A. Codman, Boston.

10. **Relation of Posture to Efficiency.** It is Goldthwait's belief that the way in which our bodies are used, or the attitudes assumed in the performance of all that goes to make up the routine of life, is of greater importance than is commonly supposed. To stand erect, to walk or move easily, to have the various parts of the body so perfectly adjusted that easy balance and graceful use must result, is to be desired for reasons of far greater importance than the esthetic. Such elements are of absolute importance for perfect health and the fullest economic efficiency, since use of the body in proper poise insures the least friction with consequently the greatest amount of energy available for whatever may be required of the individual. This is of importance not only because of the effect on the framework of the body, but because of the effect which it must have on the body as a whole. The human organism resembles in many ways a delicately balanced machine made up of many parts each related to the others, and that which we call perfect health is simply the proper correlation of all of these many parts. As a machine, it is intended for use, and when working rightly there is the minimum of friction, and consequently the efficiency of the individual is the greatest that is possible. Anything which results in a departure from this correlation or balance means strain or friction and represents a distinct waste of energy so that the efficiency is lessened. Under such conditions some one part may be, and usually is, strained more than the others, but it must be remembered, nevertheless, that no one part can be strained without affecting the whole.

11. **Treatment of Stricture of Urethra.** Originality is not claimed by Cabot for what he describes as a combination of methods used by other operators with such personal modifications as have seemed desirable. With the patient in the lithotomy position, a free median incision is made down to the urethra, dividing the structures of the bulb in the median line and turning them aside. The stricture is then divided by a longitudinal incision about one and one-half inches in length. All excess of scar tissue should be removed, the whole strictured portion excised if necessary, and hemostasis obtained. The anterior segment of the urethra is then freely mobilized by separating the corpus spongiosum from its attachments until it can be joined to the posterior segment without tension. If it is necessary to divide the urethra completely, suturing should be begun on the roof, the sutures being passed from without inward, including all the structures of the corpus spongiosum and the urethra. When it has been found possible to leave the roof of the canal intact, suturing is begun at the sides in such a way that the longitudinal incision in the urethra is brought together transversely, somewhat after the method of a pyloroplasty. After about one-third of the circumference of the canal has been sutured, a No. 28 sound is passed into the urethra and the suture is completed about this so as to be sure that the canal is given full caliber.

The last suture closing the wound unites the two extremities of the longitudinal incision in the urethra, and by lengthening this incision the caliber can be increased to any reasonable extent. Next, the urethra is opened on the sound at a point as far behind the stricture as possible, and just sufficient to admit a No. 12 (English) soft rubber catheter. The wound is then sutured in layers, bringing together the muscular structures of the bulb as accurately as possible with interrupted sutures, and the skin is closed, except for a point at the lower angle through which the catheter is brought out. Resection is said to be applicable to all strictures of the bulbomembranous portion of the urethra not amenable to gradual dilatation and not complicated by infiltration of urine or fistulas.

12. **Abdominal Surgical Shock.**—The treatment advocated by Hopkins is said to be especially suitable for shock during the few hours or days following an abdominal operation, when the patient is not under an anesthetic, although it is probably beneficial when the patient is anesthetized, but not to so great a degree. It is described as follows:

Take out two skin sutures as near the umbilicus as the wound will permit, then pry apart the continuous sutures in the fascia and peritoneum and inject beneath the omentum, if possible behind the transverse mesocolon in the neigborhood of the posterior wall of the stomach, getting as near to the solar plexus as possible, saline solution at a temperature of 112 F. During the first two or three seconds the patient feels little or no pain, only feels that the hot solution is permeating among the intestines, but the remaining two or three seconds is much different; the pain is very severe, for then the splanchnic nerves, the solar and hypogastric plexuses are being strongly irritated by the heat and pressure of the hot salt solution. They are well known to be very sensitive. The patient not being under an anesthetic, the reflexes are not depressed by it. The irritation of the splanchnic nerves and sympathetic ganglia produced by the heat and pressure at once causes contraction of the intestinal arteries, veins and portal vein, and thus a marked rise in blood pressure. Really a shock is produced by the sudden pressure of this hot solution on this great and important part of the vasomotor nerve mechanism, but this shock is a sudden reversal of the phenomena of surgical shock. The radial pulse returns or its pressure is markedly increased. The glass tube is taken out quickly, a small piece of gauze laid over the wound, and a strip of adhesive plaster applied, then a tight abdominal binder to sustain the pressure. If this treatment should not succeed, Hopkins advises repeating it in one or two hours. In addition to the above treatment he uses hot salt solution by rectum, 10 ounces every two hours, principally on account of getting the heat near the hypogastric plexus and splanchnic nerves; also he advises giving full glasses of hot water to drink for similar purposes. Otherwise he does not disturb the patient with hypodermics or even raising the foot of the bed; just keep her warm and as comfortable and peaceful as possible.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

The Lancet, London

November 27

1 *Greek Medicine in Rome (Lectures I, II, III). T. C. Allbutt.
2 *Comparison Between the Antiseptic and Aseptic Methods of Operation, with Special Reference to Occurrence of Suppuration. H. S. Pendlebury and I. Back.
3 *Relation of Alcohol to Immunity. P. R. Parkinson.
4 Complications and Dangers of Nasal Surgery. H. B. Tawse.
5 Severe Case of Exophthalmic Goiter, in which Treatment by *X*-rays and Sour Milk Appeared to be Beneficial. J. C. Newman.

1. Published in *British Medical Journal*, Nov. 20, 1909.

2. **Antiseptic and Aseptic Methods.**—Pendlebury and Back show by a comparison of results the superiority of aseptic over antiseptic methods.

3. **Relation of Alcohol to Immunity.**—Parkinson found that alcohol in small quantities has no action on the phagocytic activity, nor has it any action on the phagocytic activity until it is present in 12.5 per cent. strength. Small quantities of alcohol injected into rabbits may stimulate the production of antibodies temporarily. A large dose lowers the opsonic index for 24 hours. Continuous moderate doses cause a permanent lowering of the opsonic index. Parkinson found that the reacting mechanism to vaccines is much less effective in alcoholized rabbits than in normal rabbits; the difference is still more marked when living micro-organisms are used.

British Medical Journal, London

November 27

6 *Syphilis and Aneurism. W. Osler.
7 *Greek Medicine in Rome (continued). T. C. Allbutt.
8 *An Oxygen Generator and Inhaler; Its Use in Mountain Sickness. L. Hill.
9 Fracture of Radius Treated by Early Massage and Movement. J. P. Hastings.
10 *Employment of Silver Wire to Bridge Gap after Resection of a Portion of the Lower Jaw. S. White.
11 *Case of "Giant Feet." H. Stevenson.

6. **Syphilis and Aneurism.**—Osler says that at a low estimate we may place the mortality from syphilis at between 6,000 and 7,000 annually, about 1 in 80 of the deaths, not taking into account the unestimated and very large number of stillbirths. In about one-seventh of the cases the deaths are due to what we regard as the more direct effects of the disease; aneurism and the enormous group of affections of the nervous system represent later, but none the less definite, effects of the poison. There are four lines of attack possible. The first is a wholesome and healthy education of our youth in matters sexual, pointing out plainly the necessity of continence, though a hard condition; the really terrible risks, and the sad train of events likely to follow an infection. Secondly, steps should be taken to lessen "the sight of means," as the proverb puts it, the open, flagrant whoredom. Thirdly, venereal diseases should be put in the same category as other acute infections of public dangers, and every case should be known, registered and supervised. Lastly, much may be done to lessen the ravages of the disease by increasing everywhere the facilities for early and prolonged treatment.

7. Published in *The Lancet*, Nov. 27, 1909.

8. **Oxygen Generator and Inhaler.**—Hill's apparatus is intended for use in places and under conditions where cylinder oxygen cannot be obtained easily for patients with heart disease, asthma, etc., who are in a state to manipulate the apparatus, and particularly for use in mountain sickness. Its portability and lightness make it suitable for transport, and it can be used wherever a pint or two of water can be obtained. The apparatus is of less use in cases of pneumonia, etc., in which oxygen can only be tolerated when administered through a funnel or a light mask, and away from big cities where oxygen cylinders cannot be obtained, for successive bags full can be made and the gas pressed out through the funnel or mask. The apparatus consists of a small metal box—the generator—connected with a vulcanized rubber bag—the breathing bag. The bag holds about 15 liters, and ends in a rubber mouthpiece. The bottom of the generator is closed by a screw cap and asbestos washer, and a piece of wire gauze is interposed between the generator and the bag. The mouthpiece is closed with a screw-clip during the generation of gas. Oxygen is generated from sodium peroxid by contact with water, and a solution of caustic soda results. The caustic soda solution is used to absorb the exhaled carbonic acid.

10. **Silver Wire After Resection of Portion of Lower Jaw.**—White removed two inches of the lower jaw of a boy 9 years old for sarcoma. The bone was divided in front at the level of the left canine tooth, and behind just above the junction of the body with the left ramus. The periosteum covering the lower border of the excised segment was carefully preserved. The resected surfaces of the lower jaw were pierced with a drill to the depth of ¾ inches. The drill hole in the body was horizontal, and placed near its lower margin so as to miss the teeth roots; that in the ramus was vertical and somewhat posterior to the mandibular foramen. The ends of a suitable length of stout silver wire were jammed tightly into the drill holes, and the wire completely covered by suturing together the mucous membranes of the cheek and the floor of the mouth over it. The boy can open his mouth almost to the full, and when the jaws are closed the teeth on the right side meet accurately those in the corresponding side of the upper jaw. He is able to bite soft things, and has to be restrained from attempting greater masticatory feats.

11. **Giant Feet.**—This boy, now 4 years of age, was apparently a normal child at birth with the exception of deformity of the toes and some enlargement of the ball of the left foot. At the age of 6 months he was vaccinated, and about the same time lumps in the leg and groin appeared. Gradually the enlargement extended toward the armpit; the arms at the same time getting thinner. Present condition: The two inner toes of the right foot are normal in development, the three outer toes are very much enlarged, resembling small tubers; they are acutely dorsiflexed, and arise from a much thickened sole pad. The left foot is even more deformed, only the inner toe escaping, and the characteristics described on the right side

are more exaggerated. The left leg, thigh, groin, and infrascapular regions are sites of large fatty tumors, while a single large one is also present on the right buttock. When the child is standing there is well-marked lordosis, due apparently to the weight of the tumor in the groin, and possibly to some intra-abdominal growths. The skin is everywhere normal in appearance, and a section from one of the tumors had the ordinary characteristics of a lipoma and presented no evidence of angiomatous structure.

Annales de Médecine et Chirurgie Infantiles, Paris

November 15, XIII, No. 22, pp. 757-792

12 Infantile Scorbutus. (Deux cas de maladie de Barlow.) L. Concetti.
13 *Conservative Treatment of Chronic Glandular Lesions in the Neck. (Traitement des adénites chroniques sousmaxillaires et du cou.) B. G. Alvarez.

13. **Treatment of Chronic Inflammation of the Glands in the Neck.**—Alvarez regards the swelling of a gland as a sign of defensive reaction on the part of the organism against the invading germs. The gland may conquer and the germs succumb, and Nature has multiplied the number of glands at the points where infection is constantly threatening the frontiers—the skin and mucosæ. Treatment should aim to destroy the microbes imprisoned in the reacting gland, either by excision of the gland or by medical means. The latter includes the warding off of new infection by asepsis of the environment and antisepsis of the region through which the germs gain access to the glands. For the glands in the neck and under the jaw, this region is the skin and pharynx. The defensive reaction on the part of the gland is promoted, Alvarez asserts, by fomentation of the region with a saturated salt solution, general tonics and the stimulants of nutrition: air, light and electricity. He has frequently succeeded with these simple medical measures in curing groups of inflamed glands in the neck which otherwise would have required mutilating operations on account of their size and number and the long duration of the process.

Annales de l'Institut Pasteur, Paris

October, XXIII, No. 10, pp. 745-840

14 Immunity and Chronic Anaphylaxis in Regard to New Vegetable Toxin: Crepitin. (Toxine de Hura crepitans.) C. Richet.
15 Mechanism of Anaphylaxis. VIII. Besredka.
16 Intestinal Tuberculosis in Cattle. (Tuberculose intestinale chez le bœuf.) P. Chaussé. Concluded.
17 Production of Citric Acid by Citromyces. P. Mazé.
18 Antiphagins of Microbe of Fowl Cholera. N. Tchistovitch.

Revue de Gynécologie, Paris

October, XIII, No. 5, pp. 755-952

19 *The Hymen after Defloration. (L'hymen apres la défloration.) F. Jayle.
20 *Over-and-over Suture of Pedicles, etc., Preferred to Ligatures. (L'hémostase par la suture en surjet pour les pédicules vasculaires et les petits vaisseaux.) H. Chaput.
21 *Acute Hemorrhagic Pancreatitis. R. Leriche and L. Arnaud.
22 Villous Tumor of the Rectum. Vautrin.
23 *Diagnosis and Treatment of Stone in Female Lower Ureter. (Calculs de l'uretère pelvien chez la femme.) S. Pozzi and R. Proust.

19. **The Hymen After Deflowering.**—Jayle's article is accompanied by 33 illustrations. A number of conclusions are drawn which are important for legal medicine.

20. **Over-and-Over Suture Instead of Ligature for Hemostasis.**—Chaput gives illustrations showing the excellent effect obtained by an over-and-over suture and then tying the ends of the thread together. This draws the stump of the vessel up into a cone; this suture is easily applied; never slips, like a ligature; never sloughs off, and this method of hemostasis, he declares, should be preferred for all deep pedicles and small vessels which it is difficult to ligate in the depths of the wound.

21. **Acute Hemorrhagic Pancreatitis.**—Leriche reviews 96 cases of acute hemorrhagic pancreatitis on record, including some from his own practice, in all of which operative treatment was applied, with the cure of 25 patients. The patients not operated on all died. In 2 cases a second operation was required and the patients recovered. A secondary operation may be necessary also on account of gall-stones. In a number of the cases the patients have been in good health for years since the operation, the digestion practically normal. He discusses in detail the etiology, symptoms, diagnosis and treatment, adding four pages of bibliography. The pancreas is generally found more or less pathologic, the influence of gall-stones superposing another prominent factor for the acute syndrome. Changes in the circulation in the gland are the direct cause of the trouble, supplemented by the autodigesting action of the retained kinase of the pancreatic juice. The symptoms at first are generally those of liver colic, but the pain grows worse and persists, the location changing from the liver to the pancreas region; or the trouble may begin without a prodrome with intense pain in the epigastrium. It was so severe in some cases that the patient fainted. Death ensued in less than an hour after the first sign of trouble in Lenormant's case. The pain may radiate extensively but not into the shoulder. The temperature may be above or below normal; the pulse is slow, hard and firm, like the pulse of lead colic. Vomiting may occur at first but ceases later. The affection is rare in France, only 5 or 6 cases having been reported in the last three years, and it is rare likewise in Spain, Italy and Hungary; it seems to be most prevalent among people inclined to corpulence.

23. **Stone in the Lower Ureter in the Female.**—Pozzi gives a profusely illustrated summary of 91 cases in the literature, including 2 from his own experience, with especial regard to Roentgen and other means of differentiation and the best mode of access to the calculus. The calculus in one of his cases weighed 34.57 gm. and was 11 cm. long. He also discusses the cases of inflammation in and around the ureter simulating a calculus in various respects. In one such case two phleboliths cast a single shadow suggesting a ureter stone. Granulations in the bladder wall may also simulate ureter calculi in the skiagraph. Paraintestinal concretions may likewise prove deceptive in this way, as he shows by illustrations. Another source of error in one case was a cyst in the broad ligament with a cheesy center. In the cases reported the calculus was removed by a transvesical operation in 7, by nephrotomy in 8, by ureterotomy in 47, a combination of the 2 latter in 5, and by expulsion or extraction through the natural passages in 6 and 7 respectively.

Semaine Médicale, Paris

November 17, XXIX, No. 46, pp. 541-552

24 *Local Applications of Alcohol in Typhoid. L. Cheinisse.
25 Cleansing and Disinfection of the Sebaceous Glands by the Electric Current. E. H. Blanc.

24. **Advantages of Alcohol Compresses in Treatment of Typhoid Fever.**—Cheinisse protests against the routine use of the cold tub-bath in typhoid fever without individualizing, especially for children. The lifting of the patient is liable to do harm, while the action of the bath on the heart cannot be foreseen. Méry warns that the heart action must be closely supervised in children during the bath treatment, and in typhoid more than in any other disease. Cheinisse quotes Variot, Netter, Barbier and others who go still further and denounce the Brand method completely where children are concerned, on account of the frequency of cardiac complications in typhoid in children. Cheinisse regards the handling of the child in giving the baths as liable to favor hemorrhage and perforation, the emaciated abdominal wall of the child affording comparatively slight protection. He prefers treatment with alcohol compresses applied to the abdomen and has never witnessed any inconveniences from them while the course of the disease was rendered milder, the heart was stimulated instead of depressed, and convalescence was hastened. A pad of absorbent cotton or gauze in eight thicknesses is wrung out of 85 per cent. alcohol (90 per cent. for adults), and applied to the abdomen and covered with a gauze compress or cotton pad wrung out of cold water; over this there is an air-tight covering, the whole being held in place with a flannel band. The water compress is renewed every hour, the alcohol compress every two hours. He has applied this technic in twelve severe cases and has been much gratified with the result, the typhoid being modified into a milder form although no marked effect on the temperature was evident. These alcohol compresses were advocated originally by Salzwedel for phlegmons, and they have been used by Russian physicians and others in treatment of peritonitis and appendicitis with good results. Cheinisse quotes Meyer's report of the cure of tuberculous

peritonitis by this means alone: the active hyperemia induced attracts reserve forces to the disease focus, while the alcohol absorbed has a stimulating action on the heart. Last March Cheinisse witnessed the prompt recovery of a girl of 11 under the alcohol compresses which had evidently been effectual in transforming a severe typhoid with high fever and alarming nervous manifestations into a milder form, in which complete recovery ensued in a month. While in charge of this case he was called to see another child, about the same age, with slight bronchitis, high fever and a little rumbling in the right iliac fossa. He diagnosed typhoid and ordered alcohol compresses. This diagnosis was not accepted by the family and another physician was called who confirmed the diagnosis of typhoid, but ordered Brand treatment which was applied. Cheinisse received an urgent summons ten days later and found the child suffering from perforation peritonitis to which he succumbed notwithstanding immediate removal to a hospital and operation. These two cases occurring simultaneously, one with a threatening onset but prompt recovery under the alcohol, the other commencing mildly but terminating fatally under Brand treatment, have confirmed him in his advocacy of the local application of alcohol.

Beiträge zur Klinik der Tuberkulose, Würzburg

XIV, No. 3, pp. 259-357. Last indexed November 27, p. 1868

26 *Arneth's Neutrophile Leucocyte Formula in Diagnosis of Tuberculosis, etc. (Blutuntersuchungen nach der Arnethschen Methode im allgemeinen und in der Tuberkulose im speziellen: 102 von uns untersuchte Fälle.) K. Dluski and M. Rospedzihowski.
27 *Paravertebral "Bronchial Gland" Dulness in Early Diagnosis of Tuberculosis. (Bronchialdrüsen-Dämpfungen im Interskapularraum und ihre Bedeutung für die Diagnose und spezifische Therapie der Tuberkulose.) C. Kraemer.

26. **Neutrophile Leucocytes According to Arneth's Formula in Tuberculosis.**—This extensive monograph fills 74 pages, giving an impartial summary of the opinions for and against Arneth's explanation of the blood picture in infectious diseases and the proportions of the neutrophile leucocytes as characteristic for various affections. The fundamental idea is that the older polynuclear cells are the antitoxin-bearers or producers and that the degree in which they are destroyed by the action of the infection is characteristic, both for the specific affection and for the resisting powers. Arneth's formula was explained in The Journal in 1904, xlii, 494, and xliii, 577. Dluski reports the findings in respect to this formula in 102 cases of tuberculosis and in a large number of other affections. The bibliography of the subject is also given in full. The findings were constant in the tuberculous patients, while nothing of the kind was observed in 10 healthy controls. The findings were strictly in accordance with Arneth's premises in only 86 of the cases, but this number is too large to be a mere coincidence. His formula has undoubtedly a solid scientific basis. In the 86 cases mentioned the formula varied with the progress of the disease or recovery.

27. **Paravertebral Dulness in the Interscapular Space as Early Sign of Tuberculosis.**—Kraemer has for years noticed in certain cases changes in the resonance between the spine and the angle of the scapula with other signs of a lesion in the lung. The cause of the dulness is some affection in the bronchial glands which does not become manifest by percussion until the circulation of the blood and lymph is interfered with in the region. This "bronchial-gland dulness" between the shoulder blades is one of the most frequent signs of tuberculosis and the findings are confirmed by Roentgen examination. The changes in this dulness under tuberculin treatment are an index of the results being obtained. Discovery of this anomaly in the bronchial glands enables successful tuberculin treatment of the tuberculous process to be applied in its incipiency, without interfering with the usual occupation of the patient. He adds several skiagrams showing the shrinking of the area of dulness in the course of treatment of some patients and its extension in the uncontrollable cases.

Berliner klinische Wochenschrift

November 15, XLVI, No. 46, pp. 2045-2088

28 *Prophylaxis of Tuberculosis. A. Czerny.
29 Gaucher's Type of Splenomegaly. P. Rettig.
30 *Walking Case of Epidemic Cerebrospinal Meningitis. (Klinischer Beitrag zur Kenntnis der ambulatorischen epidemischen Genickstarre.) A. Géronne.
31 Wassermann Reaction in Milk. (Wassermann'sche Reaktion mit Milch.) O. Thomsen.
32 *Favorable Outcome of Forcible Correction of Hump in Pott's Disease. (Resultate des Redressements des Pott'schen Buckels.) G. A. Wollenberg.
33 Finding of Chlamydozoa in Non-Gonorrheal Ophthalmia Neonatorum. (Chlamydozoenbefunde bei nichtgonorrhoischer Blennorrhoe der Neugeborenen.) L. Schmeichler.
34 Bacteriologic Study of the Teeth during Gingivitis and Stomatitis. (Die pleomorphen fadenbildenden Organismen des Zahnbelages und die fusiformen Bacillen.) T. v. Beust.
35 Microscopic-Bacteriologic Diagnosis of Gonorrheal Infection. K. Kutscher.

28. **Prophylaxis of Tuberculosis.**—Czerny thinks that great harm is done by not informing patients that they have tuberculosis when it is discovered. He also insists that the necessity for examining the health of domestics who care for young children is as imperative as in examining for a wet nurse.

30. **Walking Case of Epidemic Meningitis.**—Géronne has encountered a case of epidemic cerebrospinal meningitis which was not so severe as to interfere with the young man's continuing at his business as cashier in a lumber firm. The disease lasted for about two months.

32. **The Results of Correction of Hump.**—Wollenberg gives an illustrated description of two cases in which a severe curvature of the spine from spondylitic kyphosis was successfully reduced. Extension with cautious, graded pressure applied perpendicularly to the hump gave good results.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Surgery, Its Principles and Practice. By Various Authors. Edited by William Williams Keen, M.D., LL.D., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia, and John Chalmers DaCosta, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Volume V. Cloth. Pp. 1274, with illustrations. Price, $7 net. Philadelphia: W. B. Saunders Co., 1909.

Anleitung zur Diagnostik der Abdominaltumoren unter Zugrundelegung der Palpation. Von Prof. Dr. G. L. Sacconaghi, Dozent für innere Medizin an der Kgl. Universität in Pavia. Translated from the Italian and revised by V. Plitek in Triest. Paper. Pp. 418, with illustrations. Berlin: Verlag von S. Karger, Karlstrasse 15, 1910.

A Manual of Normal Histology and Organotherapy. By Charles Hill, Ph.D., M.D., Formerly Assistant Professor of Histology and Embryology at the Northwestern University Medical School, Chicago. Second Edition. Flexible Leather. Pp. 468, with illustrations. Price, $2. Philadelphia: W. B. Saunders Co., 1909.

The American Society of Tropical Medicine: Papers Read Before the Society and Published under its Auspices. Vol. 4, 1909. Paper. [Secretary, Dr. John M. Swan, 1818 Lombard Street, Philadelphia.]

A Text-Book of the Practice of Medicine. By James M. Anders, M.D., Ph.D., LL.D., Professor of Medicine and Clinical Medicine at the Medico-Chirurgical College. Ninth Edition. Cloth Pp. 1326, with illustrations. Price, $5.50 net. Philadelphia: W. B. Saunders Co., 1909.

The Origin and Prevalence of Typhoid Fever in the District of Columbia. (1908.) Report No. 3. Bull. No. 52, Hyg. Lab., U. S. P. H. and M.-H. S. By M. J. Rosenau, L. L. Lumsden and Joseph H. Kastle. Paper. Pp. 160. Washington: Government Printing Office, 1909.

Dose-Book and Manual of Prescription-Writing. By E. Q. Thornton, M.D., Ph.G., Assistant Professor of Materia Medica, Jefferson Medical College of Philadelphia. Fourth Edition. Flexible Leather. Pp. 410. Price, $2 net. Philadelphia: W. B. Saunders Co., 1909.

A Text-Book of Physiology. By William H. Howell, Ph.D., M.D., LL.D., Professor of Physiology in the Johns Hopkins University, Baltimore. Third Edition. Cloth. Pp. 998, with illustrations. Price, $4 net. Philadelphia: W. B. Saunders Co., 1909.

A Text-Book on the Practice of Gynecology. By William Easterly Ashton, M.D., LL.D., Fellow of the American Gynecological Society. Fourth Edition. Cloth. Pp. 1099, with illustrations. Price, $6.50 net. Philadelphia: W. B. Saunders Co., 1909.

Annual Report of the Surgeon-General, U. S. Navy, Chief of the Bureau of Medicine and Surgery to the Secretary of the Navy for the Fiscal Year 1909. Paper. Pp. 199. Washington: Government Printing Office, 1909.

Examen et Séméiotique du Foie et du Pancréas. Par le Dr. Pron, membre adhérent de la Société de Médecine de Paris. Paper. Pp. 178. Price, 3 francs. Paris: Jules Rousset, 12 Rue Monsieur-Le Prince, 1910.

Practical Hydrotherapy. By Curran Pope, M.D., Professor of Physio-Therapy, University of Louisville Medical Department. Cloth. Pp. 646, with illustrations. Price, $6. Cincinnati Medical Book Co., 1909.

GENERAL INDEX

All *reading matter* in The Journal from July to December, 1909, inclusive, is indexed here. (For Current Medical Literature Index see pages 2218 to 2270). "Deaths," "Book Notices" and "Society Proceedings" are indexed under these titles at the ends of the letters "D," "B" and "S." Matter pertaining to the Association is under "American Medical Association." With the above exceptions, all matter is indexed under the most important word of the heading that was used in The Journal, and also under the subject heading. For instance, abscess of brain will be found indexed under "abscess" as well as under "brain." Such titles as "ocular manifestations, etc.," have been indexed under "eye." Cross references have been made wherever this was possible. It is also well to remember that, in looking up a certain subject, related words should be consulted, for example, chest, thorax; skull, cranium; bowel, intestines. The letters used to explain in which department the matter indexed appeared are as follows: "E" editorial; "O" original article; "C" correspondence; and "ab" denotes an abstract of an article that has appeared in full elsewhere. *Names of authors* of original articles appearing in The Journal are not given in this index, but are included in the Index of Authors.

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SOCIETIES

Abbreviations:
  Acad.—Academy.
  Am.—American.
  A.—Association
  Conf.—Conference.
  Cong.—Congress.
  Hosp.—Hospital.
  Internat.—International.
  M.—Medical, Medicine.
  Pharm.—Pharmaceutical.
  Ry.—Railway.
  S.—Society.
  Surg.—Surgical, Surgery, Surgeons.

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CURRENT MEDICAL LITERATURE

INDEX OF SUBJECTS

Explanation: The *reading matter which appeared in* THE JOURNAL *is not indexed here*, except the original articles and the abstracts of original articles. This index refers to the titles and the subjects of original articles published in the leading medical journals of the world, including THE JOURNAL, during the past six months. The titles of the articles and the names of the journals in which they appeared were listed weekly in the Current Medical Literature Department, and it is to them that references are here made. The figure in parenthesis refers to the paragraph; the number following to the page in THE JOURNAL. For instance, "Abdominal Tuberculosis, Surgical Types of, (66) 972—ab," refers to page 972 of THE JOURNAL, on which is found, in paragraph numbered 66, the title of the paper and the name of the author, viz., "Surgical Types of Abdominal Tuberculosis. W. D. Haggard." This title is listed under the journal in which the article appeared, the *Journal of the Tennessee State Medical Association*, August, 1909. When "ab" follows a page number it indicates that the article was abstracted in THE JOURNAL: for instance, "Abdominal Surgery, Prevention of Adhesions in, (54) 323—ab." On page 323, paragraph 54, will be found an abstract of this article, which appeared in *Surgery, Gynecology and Obstetrics* June, 1909. Titles of articles which appeared originally in THE JOURNAL are indicated in the index by an asterisk (*) before the page number; for instance, "Acanthosis Nigricans, *1369," refers to page 1369 of THE JOURNAL, on which is found the complete original article. The index to authors of all articles, both original and those listed under Current Medical Literature, appears separately on pages 2271 to 2286 of this index.

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